PROJECT REFERENCE NO.	SHEET NO.
R-2511	3B-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASPHALT PAVEMENT REMOVAL & BREAKUP SUMMARY

LINE	STATION	STATION	LOCATION	ASPHALT REMOVAL YD^2	ASPHALT BREAKUP YD^2
-L-	7+75	12+89	MED LT & RT	270.90	
-L-	14+19	24+75	MED & RT	2,805.88	
-L-	19+00	79+00	CL		18327.90
-L-	79+00	84+50	RT	1,696.02	
-L-	84+50	93+50	RT		2793.89
-L-	93+50	100+50	RT	2,244.38	
-L-	100+50	130+50	CL		9357.09
-L-	130+50	138+50	RT	2,475.20	
-L-	138+50	194+00	CL		18650.22
-L-	194+00	197+50	LT	1,095.37	
-L-	201+50	203+00	LT	494.54	
-L-	203+00	216+00	CL		4595.55
-L-	216+00	222+50	LT	2,007.38	
-L-	222+50	281+50	CL		16464.26
-L-	281+50	288+00	RT	1,736.79	
-L-	288+00	313+50	CL		7001.56
-L-	313+50	322+50	RT	1,706.87	
-L-	322+50	383+50	CL		17196.37
-L-	383+50	387+50	RT	873.91	
-L-	387+50	416+00	CL		9072.47
-L-	416+00	423+50	RT	2,174.32	
-L-	423+50	426+00	CL		758.28
-L-	426+00	429+00	RT	839.12	
-L-	429+00	451+00	CL		5938.49
-L-	451+00	453+00	RT	557.40	
-L-	455+50	456+50	RT	262.00	
-L-	456+50	480+00	CL		6520.25
-L-	480+00	482+50	RT	678.73	
-L-	484+00	485+50	RT	399.31	
-L-	485+50	490+50	CL		1339.51
-L-	490+50	496+00	RT	1,474.27	
-L-	496+00	517+00	CL		6733.33
-L-	517+00	522+00	RT	1,311.52	
-L-	522+00	544+00	CL		6893.54
-L-	544+00	549+00	RT	131.57	
-L-	549+00	553+50	CL		1497.81
-L-	553+50	568+50	MED	3,327.81	

LINE	STATION	STATION	LOCATION	ASPHALT REMOVAL YD^2	ASPHALT BREAKUP YD^2
-Y1-	10+50	12+80	RT	36.00	
-Y2-	15+00	17+80	RT	1,207.10	
-Y3-	10+50	12+00	MED	381.28	
-Y4-	17+75	18+25	CL	122.22	
-Y4-	18+25	20+40	CL		1023.13
-Y5-	12+75	15+89	MED	1,119.09	
-Y6-	18+20	20+16	RT	346.46	
-Y6-	21+50	23+95	LT & RT	716.65	
-Y7-	18+15	20+85	LT	677.24	
-Y7-	20+78	21+40	LT		745.03
-Y8-	10+60	11+60	CL		695.00
-Y8-	11+60	13+75	LT&RT	331.02	
-Y9-	10+60	11+50	CL		197.35
-Y9-	11+50	12+00	CL	103.40	
-Y10-	13+50	14+60	CL	544.95	
-Y11-	11+50	11+95	CL	90.77	
-Y11-	11+95	12+75	CL		199.21
TEMPORARY PAVEMENT REMOVAL					
-TEMP1-	11+01	15+37	CL	342.22	
-TEMP3-	11+30	17+63	LT	631.01	
-TEMP4-	10+60	17+14	CL	773.45	
-TEMP14-	13+06	19+76	CL	727.69	
-TEMP16-	10+00	17+95	CL	748.97	
-TEMP17-	11+30	20+18	CL	1,114.55	
-TEMP20-	12+40	16+64	CL	378.53	
TEMPORARY PAVEMENT FROM TMP PLANS					
-L- RT	36+60	52+26		1,357.92	
-L- LT	66+58	72+46		180.90	
-L- RT	226+74	232+31		195.26	
-L- LT	466+35	478+27		1,604.85	
-L- LT	508+75	514+06		140.11	
			TOTAL	42,434.91	136,000.23
			SAY	**42,440.00**	**136,010.00**

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PROJECT REFERENCE NO.	SHEET NO.
R-2511	3B-3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUARDRAIL SUMMARY

ALN.	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS					REMOVE EXISTING GR	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPROACH END	TRAILING END	APPR. END	TRAIL. END	B-77	CAT-1	GREU TL-2	GREU TL-3	AT-1		
-L-	66+70.61	69+14.36	RT	243.75	56.25		68+66.83		10	13		50		1		1			1		
-L-	153+73.77	156+34.14	RT	260.37			156+34.14		8	11	50		1		1			1			
-L-	153+67.75	156+28.12	MED RT	260.37			156+28.12		4	7	50		1		1			1			
-L-	198+43.50	200+54.81	RT	231.25	12.50			200+22.35	9	12	50		1					1	1		
-L-	303+13.75	306+20.00	MED RT	306.25				306+00.00	6	9	50		1			1		1			
-L-	343+24.50	346+30.75	RT	306.25			345+93.67		10	13	50		1			1		1			
-L-	362+81.25	368+00.00	RT	518.75	56.25		365+32.31		10	13						1			1		
-L-	368+43.75	371+26.50	RT	282.75				370+00.00	10	13	50		1			1		1			
-L-	69+30.00	72+36.25	LT	306.25			69+78.07		10	13		50		1		1		1			
-L-	156+75.15	157+61.03	LT	122.88	37.50				7	10		25		0.5	1		1				
-L-	156+81.56	159+41.93	MED LT	260.37			156+81.56		4	7		50		1	1			1			
-L-	305+81.00	308+87.25	MED LT	306.25				306+00.00	6	9		50		1		1		1			
-L-	345+32.00	348+38.25	LT	306.25			345+69.69		10	13		50		1		1		1			
-L-	365+68.00	371+86.75	LT	618.75			370+50.00		10	13		50		1		1		1			
-L-	154+27.90	157+76.46	EX. BRIDGE																	584.8	
			SUBTOTAL:	4,330.49	162.50										4	9	1	11	3	584.8	
			ANCHOR UNIT DEDUCTIONS:																		
			B-77 4 @ 22.875' Each	-91.50																	
			TL-2 1 @ 50' Each	-50.00																	
			TL-3 11 @ 50' Each	-550.00																	
			CAT-1 9 @ 6.25' Each	-6.25																	
			AT-1 3 @ 6.25' Each		-18.75																
			LESS GUARDRAIL DEDUCTIONS:	3,632.74	143.75																
			PROJECT TOTAL:	3,637.50	150.00										4	9	1	11	3	584.8	

TEMPORARY GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS					REMOVE EXISTING GR	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	B-77	CAT-1	GREU TL-2	GREU TL-3	AT-1		
-L-	66+68.00	73+30.50	LT	662.50			69+53.68		2	5	50	50	1	1				2			
-L-	153+23.25	155+92.00	LT	268.75			155+92.00		4	7		50		1	1			1			
-L-	153+23.25	155+96.75	MED LT	273.50			155+96.75		2	5		50		1	1			1			
-TEMP4-	10+00.00	11+56.25	RT	156.25			10+00.00		2	5		50		1	1			1			
-L-	249+55.00	253+55.00	MED RT	400.00			251+76.03	252+45.22	2	5	50	50	1	1				2			
-L-	364+34.00	379+34.00	MED RT	1500.00			365+72.06		2	5	50	50	1	1				2			
-L-	495+44.00	500+44.00	MED RT	500.00			498+76.12	496+53.26	2	5	50	50	1	1				2			
SHEET 1 TOTALS				3761.00	0.00										3	0	0	11	0		
LESS ANCHOR DEDUCTIONS																					
		QUANTITY	LF PER EA	TOTAL LF																	
	GREU TL-3	11.00	50	550.00																	
	B-77	3.00	22.875	68.63																	
	CAT-1	9.00	6.25	56.25																	
	AT-1	3.00	6.25	18.75																	
	GREU TL-2	1.00	50	50.00																	
TOTAL TEMPORARY GUARDRAIL (LF)				3025.00	0.00	0									3	0	0	11	0	0	
TOTAL GUARDRAIL (LF)				6662.50	150.00	0.00									7.00	9.00	1.00	22.00	3.00	584.77	
SAY (LF)				**6662.50**	**150.00**										**10.00**	**9.00**	**1.00**	**33.00**	**3.00**	**584.77**	

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3B-4

WOVEN WIRE FENCE SUMMARY

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
7+75 to 8+70	LT.	92.27	2			4	4
7+83 to 9+10	RT.	130.18	2		1	6	7
9+30 to 14+76	LT.	596.20	2	2	1	36	13
9+70 to 14+80	RT.	511.04	2	3	1	28	16
15+40 to 16+20	RT.	79.23	2			4	4
16+80 to 23+00	RT.	672.38	2	4	1	38	19
15+39 to 16+60	LT.	203.17	2	2		9	10
17+30 to 19+70	LT.	255.63	2	2		13	10
20+30 to 22+95	LT.	268.58	2			17	4
24+60 to 26+65	LT.	209.27	2		1	11	7
25+45 to 28+00	RT.	253.09	2			16	4
27+25 to 29+50	LT.	234.13	2			15	4
30+11 to 36+95	LT.	676.37	2		2	43	10
28+00 to 30+00	RT.	130.26	2			7	4
30+50 to 31+80	RT.	125.00	2			7	4
33+75 to 34+90	RT.	114.99	2			6	4
23+60 to 24+85	RT.	123.67	2			7	4
37+55 to 46+80	LT.	948.71	2	4	1	57	19
38+60 to 41+05	RT.	241.41	2			15	4
41+65 to 54+15	RT.	1,285.39	2	2	3	81	19
55+04 to 60+85	LT.	684.86	2	1	1	43	10
56+15 to 60+65	RT.	450.00	2		1	28	7
61+45 to 64+50	LT.	305.33	2		1	18	7
63+30 to 65+95	RT.	262.46	2			17	4
65+10 to 69+40	LT.	469.13	2	1	1	28	10
66+55 to 68+67	RT.	214.44	2	1		12	7
69+78 to 76+95	LT.	724.57	2	1	2	45	13
69+15 to 70+00	RT.	96.94	2	1		3	7
70+25 to 72+10	RT.	150.00	2			9	4
73+70 to 77+55	RT.	385.00	2		1	24	7
79+55 to 92+85	LT.	1,330.00	2		4	86	16
87+85 to 91+35	RT.	350.00	2		1	21	7
SHEET 1 SUBTOTAL		**12,573.70**				**752**	**269**

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
92+60 to 94+60	RT.	180.00	2			11	4
93+45 to 97+00	LT.	355.04	2		1	22	7
96+70 to 98+45	RT.	175.95	2	1		9	7
97+60 to 105+90	LT.	835.80	2	4	1	49	19
101+59 to 102+70	RT.	112.34	2			6	4
103+30 to 108+90	RT.	602.49	2	3	1	34	16
108+85 to 114+45	LT.	560.00	2		1	36	7
109+50 to 114+20	RT.	497.36	2	2	1	28	13
114+80 to 125+40	RT.	1,060.00	2		3	69	13
115+05 to 125+45	LT.	1,040.00	2		3	67	13
126+05 to 140+50	LT.	1,445.00	2		4	95	16
129+95 to 132+77	RT.	345.43	2	1		21	7
133+60 to 138+70	RT.	562.28	2	1	1	35	10
139+30 to 156+45	RT.	1,778.25	2	3	4	113	25
142+05 to 153+40	LT.	380.88	2	2		22	10
153+98 to 156+16	LT.	1,038.23	2	1	3	65	16
156+66 to 157+74	LT.	263.13	2	2		13	10
156+95 to 166+45	RT.	973.87	2	1	3	61	16
158+27 to 164+90	LT.	745.53	2	1	2	46	13
165+56 to 167+25	LT.	169.19	2			10	4
167+05 to 186+55	RT.	1,981.59	2	1	5	130	22
167+85 to 170+80	LT.	349.59	2	4		16	16
172+50 to 175+90	LT.	339.57	2		1	20	7
178+00 to 182+85	LT.	504.60	2	2		31	10
183+45 to 184+93	LT.	148.00	2			8	4
185+53 to 191+80	LT.	627.00	2		2	39	10
187+15 to 195+60	RT.	864.21	2	2	2	53	16
192+40 to 200+48	LT.	906.29	2	2	2	56	16
196+20 to 201+16	RT.	529.04	2	2	1	31	13
201+11 to 206+10	LT.	582.23	2	2	1	35	13
201+65 to 225+95	RT.	2,491.98	2	3	7	159	34
206+70 to 223+90	LT.	1,758.45	2	3	4	112	25
SHEET 2 SUBTOTAL		24,203.32				1,502.52	416.00
SUBTOTAL		**36,777**				**2,255**	**685**

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
224+50 to 245+75	LT.	2,114.47	2		7	137	25
226+55 to 231+35	RT.	485.28	2		1	31	7
231+95 to 239+40	RT.	748.20	2		2	48	10
240+00 to 242+10	RT.	208.68	2			13	4
242+71 to 244+20	RT.	148.68	2			8	4
246+35 to 253+80	LT.	767.63	2	2	2	46	16
244+80 to 255+35	RT.	1,071.00	2	3	2	66	19
254+40 to 259+15	LT.	470.44	2		1	30	7
255+95 to 257+75	RT.	151.62	2			9	4
258+35 to 272+30	RT.	1,426.18	2		4	93	16
259+75 to 262+00	LT.	220.05	2			14	4
262+60 to 264+90	LT.	223.18	2			14	4
267+95 to 275+00	LT.	689.49	2		2	44	10
272+90 to 276+73	RT.	390.40	2		1	24	7
272+90 to 282+30	RT.	415.00	2		1	26	7
275+60 to 278+30	LT.	268.83	2			17	4
278+90 to 288+80	LT.	1,010.69	2	2	2	63	16
282+90 to 288+80	RT.	590.00	2		1	38	7
289+40 to 294+95	LT.	553.18	2		1	36	7
289+40 to 299+85	RT.	1,066.18	2	2	2	67	16
295+55 to 306+10	LT.	1,038.42	2		3	67	13
300+45 to 302+65	RT.	223.46	2			14	4
303+25 to 310+25	RT.	705.81	2		2	45	10
306+70 to 316+00	LT.	940.18	2	4	2	55	22
311+50 to 315+50	RT.	400.48	2		1	25	7
316+10 to 319+00	RT.	153.41	2			9	4
316+60 to 319+10	LT.	244.50	2			15	4
319+60 to 329+55	RT.	1,001.96	2		3	64	13
322+50 to 328+25	LT.	464.44	2		1	29	7
330+87 to 332+70	RT.	175.46	2			10	4
333+30 to 337+05	RT.	366.38	2	2		21	10
337+65 to 339+10	RT.	144.97	2			8	4
SHEET 3 SUBTOTAL		18,878.65				1,187.90	296.00
SUBTOTAL		**55,656**				**3,443**	**981**

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
330+95 to 338+40	LT.	808.57	2	2	2	49	16
339+70 to 345+94	RT.	645.66	2	1	1	41	10
339+00 to 345+32	LT.	647.91	2	1	2	39	13
345+70 to 353+30	LT.	804.98	2	1	2	50	13
346+38 to 348+60	RT.	222.35	2	1		12	7
349+20 to 362+35	RT.	1,299.67	2		4	84	16
354+55 to 361+90	LT.	728.35	2		2	47	10
362+95 to 365+50	RT.	265.77	2	1		15	7
364+25 to 365+86	LT.	154.56	2	1		7	7
365+72 to 368+05	RT.	265.03	2	1		15	7
366+09 to 371+75	LT.	517.22	2	1	1	32	10
368+65 to 372+20	RT.	369.60	2		1	23	7
372+35 to 374+75	LT.	131.25	2			7	4
372+80 to 373+70	RT.	88.84	2			4	4
374+30 to 385+25	RT.	1,080.84	2		3	70	13
375+35 to 379+25	LT.	536.41	2	2	1	31	13
379+85 to 387+15	LT.	728.61	2		2	47	10
387+40 to 23+06	RT.	381.28	2	1		23	7
387+76 to 389+41	LT.	172.71	2	1		9	7
389+93 to 394+45	RT.	470.47	2	1	1	28	10
390+01 to 395+20	LT.	525.22	2	1	1	32	10
395+81 to 399+25	LT.	343.92	2		1	21	7
399+85 to 402+95	LT.	310.02	2		1	18	7
400+50 to 405+35	RT.	484.61	2		1	31	7
406+00 to 413+35	RT.	734.61	2		2	47	10
403+55 to 405+60	LT.	205.00	2			13	4
406+20 to 412+60	LT.	670.48	2	2	1	41	13
413+20 to 420+50	LT.	734.68	2		2	47	10
413+95 to 435+35	RT.	2,149.56	2		7	140	25
424+00 to 424+85	LT.	85.00	2			4	4
425+45 to 427+22	LT.	177.00	2			11	4
427+82 to 442+10	LT.	1,444.98	2	3	3	91	22
SHEET 4 SUBTOTAL		18,185.16				1,128.51	314.00
SUBTOTAL		**73,841**				**4,571**	**1,295**

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
438+00 to 445+10	RT.	735.43	2	2	2	44	16
443+75 to 447+25	LT.	350.00	2		1	21	7
447+59 to 465+45	RT.	1,780.83	2		5	117	19
447+85 to 450+80	LT.	296.53	2			19	4
452+05 to 461+79	LT.	232.94	2			14	4
454+30 to 461+79	LT.	749.68	2		2	48	10
464+50 to 470+45	LT.	531.78	2		1	34	7
466+05 to 469+90	RT.	384.44	2		1	24	7
471+05 to 471+85	LT.	417.73	2		1	26	7
472+45 to 481+05	LT.	562.63	2		1	36	7
474+10 to 491+35	RT.	1,700.27	2	3	4	108	25
481+65 to 497+71	LT.	1,351.18	2	3	3	85	22
491+95 to 497+00	RT.	505.00	2		1	32	7
497+60 to 500+63	RT.	336.89	2	1		20	7
498+16 to 502+35	LT.	480.00	2	1		31	7
501+15 to 508+80	RT.	694.28	2	1	2	43	13
503+60 to 507+00	LT.	339.74	2		1	20	7
507+60 to 514+00	LT.	666.04	2	3	1	39	16
509+40 to 512+70	RT.	324.55	2	2		18	10
513+30 to 518+90	RT.	569.40	2		1	37	7
516+05 to 526+35	LT.	1,021.14	2		3	66	13
519+50 to 523+96	RT.	502.63	2	1	1	30	10
524+57 to 530+10	RT.	720.19	2	1	1	46	10
526+95 to 534+17	LT.	821.38	2	2	2	50	16
533+95 to 550+60	RT.	1,669.93	2	2	5	106	25
534+65 to 535+65	LT.	182.84	2	2		8	10
536+25 to 550+25	LT.	1,426.41	2	2	4	90	22
550+85 to 554+21	LT.	342.09	2	1		21	7
551+20 to 558+20	RT.	735.64	2		2	47	10
555+00 to 568+50	LT.	1,332.81	2	3	3	83	22
562+30 to 564+00	RT.	175.91	2			10	4
564+60 to 566+00	RT.	140.01	2			8	4
566+60 to 568+50	RT.	190.00	2			11	4
SHEET 5 SUBTOTAL		22,270.32				1,348.06	350.00
TOTAL		**96,111**				**5,919**	**1,645**

SHOULDER BERM GUTTER SUMMARY

LOCATION	SIDE	BEG. STA.	END STA.	LENGTH
-L-	RT	154+25.00	156+09.00	184.00
-L-	LT MED	155+87.00	155+97.00	10.00
			TOTAL	**194.00**

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dhelfer

COMPUTED BY:	MJB	DATE	1/29/2021
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM REQUIRED SLOPE	TEMP DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 2B-10																																																																
-TEMP2- 10+35.00	85	RT	X102							56								X																																												0.798	56	
-TEMP2- 10+51.00	21	RT	X101							12								X																					2												2			2									12	
SHEET 2B-12																																																															
-TEMP5- 13+48.00	-23	LT	X106																																				1											1				1										
			X106	X142												20		X																																													20	
-TEMP5- 13+28.00	-23	LT	X142																																				1											1				1										
SHEET 2B-13																																																															
-TEMP6- 17+31.00	-24	LT	X107																																				1																		1							
			X107	X143								40						X																																													40	
-TEMP6- 17+67.00	-25	LT	X143																																				1																		1							
SHEET 2B-14																																																																
-TEMP19- 10+17.00	-41	LT	X108																																				1												1			1										
			X108	X144								28						X																																													28	
-TEMP19- 10+42.00	-39	LT	X144																																				1												1			1										
-TEMP19- 19+11.00	28	RT	X109									20						X																																												0.553	20	
SHEET 2B-15																																																																
-TEMP7- 16+87.00	0	CL	X112										52					X																					1																		1		10					
-TEMP7- 16+85.00	-25	LT	X119																																				1												1			1										
SHEET 2B-18																																																																
-TEMP10- 14+00.00	-25	LT	X206																																				1												1			1										
			X206	X207						112								X																																													112	
-TEMP10- 16+48.00	-19	LT	X208																																				1												1			1										
			X208	X207						128								X																																													128	
-TEMP10- 15+16.00	-18	LT	X207																																				1												1			1										
-TEMP10- 15+15.00	-7	LT	X120																																				1																		1							
-TEMP10- 20+75.00	-49	LT	X121									24						X																																													24	
SHEET 2B-19																																																																
-TEMP10- 28+93.00	-31	LT	X133																																				1												1			1										
			X133	X149						132								X																																													132	
-TEMP10- 27+57.00	-24	LT	X149																																				1												1			1										
-TEMP10- 27+58.00	-13	LT	X122																																				1												1			1										
			X122	OUT							72							X																																									5					
SHEET 2B-20																																																																
-TEMP12- 14+01.00	-62	LT	X125									64						X																					1																		1						64	
-TEMP12- 12+63.00	-43	LT	X131																																				1												1			1										
			X131	X151						140								X																																													140	
-TEMP12- 14+06.00	-33	LT	X151																																				1												1			1										
-TEMP12- 14+12.00	0	CL	X126									56						X																					1																		1						56	
SHEET 2B-22																																																																
-TEMP3- 20+38.00	21	RT	X103													8		X																																													8	
SHEET TOTALS									0	580	72	232	52	0	0	28					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	6	0	15		0	1.351	840	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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COMPUTED BY:	MJB	DATE	1/29/2021
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-2

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM REQUIRED SLOPE	TEMP DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"	
SHEET 2B-26																																				
-TEMP16- 12+51.00	-43	LT	X209																																	
			X209	X210						384								X																		
-TEMP16- 16+34.00	7	RT	X210																																	
SHEET 2B-27																																				
-TEMP17- 19+01.00	-42	LT	X211																																	
			X211	X212						112								X																		
-TEMP17- 20+15.00	-41	LT	X212																																	
SHEET 2B-28																																				
-TEMP18- 11+63.00	35	RT	X128																																	
			X128	X220									40					X																		
-TEMP18- 12+03.00	39	RT	X220																																	
-TEMP18- 21+30.00	34	RT	X129									8						X																		
SHEET 2B-29																																				
-TEMP20- 11+97.00	-16	LT	X213																																	
SHEET 2B-30																																				
-L- 136+119.00	5	RT	X104									56						X																		
-L- 212+30.00	1	RT	X105									12						X																		
-L- 280+38.00	0	CL	X110										88					X																		
-L- 315+57.00	0	CL	X113												108			X																		
-L- 327+42.00	-2	LT	X114								12							X																		
-L- 401+18.00	0	CL	X116									8						X																		
-L- 405+95.00	0	CL	X117								8							X																		
-L- 452+32.00	0	CL	X123											44				X																		
-L- 386+75.00	0	CL	X127									8						X																		
-L- 529+84.00	0	CL	X130								96							X																		
SHEET TOTALS									0	496	116	92	128	44	108	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TEMP DRN TOTALS									0	1076	188	324	180	44	108	28					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 2B-26																												
-TEMP16- 12+51.00			1												1			1										
																											384	
-TEMP16- 16+34.00			1																			1						
SHEET 2B-27																												
-TEMP17- 19+01.00			1												1			1										
																											112	
-TEMP17- 20+15.00			1												1			1										
SHEET 2B-28																												
-TEMP18- 11+63.00			1											1				1										
																											40	
-TEMP18- 12+03.00			1											1				1										
-TEMP18- 21+30.00																											8	
SHEET 2B-29																												
-TEMP20- 11+97.00			1												1			1										
SHEET 2B-30																												
-L- 136+119.00																											56	
-L- 212+30.00																											12	
-L- 280+38.00																											88	
-L- 315+57.00																											108	
-L- 327+42.00																											12	
-L- 401+18.00																											8	
-L- 405+95.00																											8	
-L- 452+32.00																											44	
-L- 386+75.00																											8	
-L- 529+84.00																											96	
SHEET TOTALS	0	0	7	0	0	0	0	0	0	0	0	0	0	2	4	0	0	6	0	0	0	1	0		0	0	984	
TEMP DRN TOTALS	0	0	28	0	0	0	0	0	0	0	0	0	0	4	17	0	0	21	0	0	6	1	15		0	1.3506	1824	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
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bhuskey

8/17/99

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-3

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM REQUIRED SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC
SHEET 4																				
- L- 12+83.52	-8	LT	402		37.2															
- L- 12+83.52		LT	402	411		34.5	34.3	0.5%												
- L- 13+35.00	-1	LT	411		38.3															
- L- 13+35.00		LT	411	403		34.3	34.2	0.4%												
- L- 13+67.97	-20	LT	403		38.5															
- L- 13+67.97		LT	403	404		34.2	34.1	0.4%												
- L- 13+89.86	1	RT	404		38.0															
- L- 13+89.86		RT	404	405		34.1	32.1	0.5%												
- L- 15+63.97	0	CL	405		34.8															
- L- 15+63.97		CL	405	406		31.8	26.6	0.7%												
-L- 09+00.00	-87	LT	412							40								X		
-L- 09+46.00	93	RT	413							32								X		
-L- 15+10.00	84	RT	414							48								X		
-L- 16+48.00	88	RT	415							36								X		
-Y1- 11+65.00	22	RT	416							32								X		
-Y1- 11+66.00	-23	LT	417							64								X		
SHEET 5																				
- L- 22+50.00	0	CL	501		40.7															
- L- 22+50.00		CL	501	502		36.5	27.4	0.6%												
-L- 23+25.00	-121	LT	504							32								X		
-L- 24+30.00	-112	LT	505							32								X		
-L- 23+32.00	95	RT	506								40							X		
-L- 25+15.00	81	RT	507								24							X		
-L- 27+00.00	-87	LT	508							48								X		
-L- 29+67.00	-84	LT	509							48								X		
-L- 30+18.00	93	RT	510							36								X		
-L- 28+28.00	87	RT	511							36								X		
SHEET TOTALS									0	484	64	0	0	0	0	0				

STATION	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02
SHEET 4																						
- L- 12+83.52																			1			
- L- 12+83.52								52														
- L- 13+35.00																			1			
- L- 13+35.00								36														
- L- 13+67.97																			1			
- L- 13+67.97								32														
- L- 13+89.86																			1			
- L- 13+89.86								172														
- L- 15+63.97																			1			
- L- 15+63.97		108																				
SHEET 5																						
- L- 22+50.00																			1			
- L- 22+50.00	128																					
SHEET TOTALS	128	108	0	0	0	0	0	292	0	0	0	0	0	0	0	0	0	0	6	0	0	0

STATION	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 4																						
- L- 12+83.52									1			1									142	
- L- 12+83.52																						
- L- 13+35.00				1		1	1															
- L- 13+35.00																						
- L- 13+67.97				1		1	1															
- L- 13+67.97																						
- L- 13+89.86				1		1	1															
- L- 13+89.86																						
- L- 15+63.97									1			1										
- L- 15+63.97																					40	REMOVE PIPE: -L- 17+43, 9 RT
-L- 09+00.00																						REMOVE EXISTING PIPE
-L- 15+10.00																					60	
SHEET 5																						
- L- 22+50.00									1			1										
- L- 22+50.00																					55	REMOVE PIPE: -L- 19+34, 90 LT
-L- 24+30.00																					32	
-L- 23+32.00																					44	
-L- 25+15.00																					40	
-L- 29+67.00																					21	REMOVE PIPE: -L- 31+10, 6 RT
-L- 28+28.00																					18	
SHEET TOTALS	0	0	0	3	0	3	3	0	3	0	0	3	0	0	0	0	0		0	0	452	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-4

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"	PIPE AS NOTED	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 6																																																																
- L- 34+50.00	0	CL	601		45.7																																		1													1		1										
- L- 34+50.00		CL	601	602		43.8	42.8	0.4%													84																																										
- L- 38+00.00	0	CL	603		44.6																																		1													1		1										
- L- 38+00.00		CL	603	604		42.5	41.7	0.5%														96																																									
- L- 42+85.00	82	RT	605	OUT		40.7	40.1	0.4%																	352												3.8																									122	
- L- 44+34.00	2	RT	606		49.0																																		1							1		1	1															
- L- 44+34.00		RT	606	607		45.2	40.5	0.5%																				128																																			
- L- 44+50.50	-1	LT	608		49.1																																		1							1		1	1															
- L- 44+50.50		LT	608	606		45.3	45.2	0.5%																				16																																			
-L- 33+55.00	81	RT	609							80								X																																												33	
-L- 35+23.00	82	RT	610							48								X																																												16	
-L- 36+20.00	85	RT	611							36								X																																												17	
-L- 37+24.00	-95	LT	612								32							X																																												22	REMOVE PIPE: -L- 36+90, 6 RT
-L- 37+71.00	84	RT	613								36							X																																												22	
-L- 38+29.00	82	RT	614								36							X																																													
-L- 41+21.00	88	RT	615									28						X																																												16	
SHEET 7																																																																
- L- 45+25.00	-1	LT	703		49.5																																		1							1		1	1															
- L- 45+25.00		LT	703	608		45.5	45.3	0.5%																				72																																			
- L- 45+57.00	20	RT	702		50.1																																		1							1		1	1															
- L- 45+57.00		RT	702	703		45.6	45.5	0.5%																				36																																			
- L- 46+05.00	9	RT	701		48.5																																		1												1			1										
- L- 46+05.00		RT	701	702		45.8	45.6	0.5%																				48																																			
- L- 53+91.50	-1	LT	712		46.9																																		1							1		1	1															
- L- 53+91.50		LT	712	704		43.2	43.1	0.4%																				40																																			
- L- 53+49.00	2	RT	704		46.8																																		1							1		1	1															
- L- 53+49.00		RT	704	705		43.1	42.8	0.5%																				96																																			
- L- 52+50.00	-8	LT	705		45.7																																		1												1			1										
- L- 52+50.00		LT	705	711		42.8	42.6	0.5%													48																																										
- L- 52+00.00	-7	LT	711		46.2																																		1												1			1									21	
- L- 52+00.00		LT	711	706		42.6	40.5	0.6%													80																																										
- Y2- 17+24.74		RT	707	OUT		38.0	36.0	0.4%																84																																									
-L- 47+06.00	-96	LT	713								52							X																																												21	
SHEET TOTALS									0	164	156	28	0	0	0	0					212	96	0	84	352	0	0	436	0	0	0	0	0	0	0	0	3.8	0	11	0	0	0	0	0	0	6	0	6	6	0	3	2	0	5	0	0	0	0	0		0	0	290	

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bhuskey

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-5

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"	PIPE AS NOTED	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0' (*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B'))	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 8																																																																
- L- 61+50.00	0	CL	801		42.5																																		1												1			1									23	
- L- 61+50.00		CL	801	802		39.7	37.2	0.5%													96																																										
- L- 68+44.87	1	RT	805		42.5																																		1							1		1	1															
- L- 68+44.87		RT	805	804		38.8	38.7	0.4%																				36																																			
- L- 68+14.00	-20	LT	804		43.0																																		1							1		1	1															
- L- 68+14.00		LT	804	806		38.7	38.6	0.5%																				28																																			
- L- 67+90.64	-1	LT	806		42.7																																		1							1		1	1															
- L- 67+90.64		LT	806	803		38.6	38.5	0.5%																				32																																			
- L- 67+60.00	-9	LT	803		41.5																																		1												1			1										
- L- 67+60.00		LT	803	808		38.5	33.7	0.6%													128																																									20	
- L- 69+07.50	0	CL	807		40.1																																		1	1.2										1				1										20	
- L- 69+07.50		CL	807	807A		33.9	33.8	0.4%																			92																																			101	
-L- 69+07.500	0	CL	807B	807		33.9	33.9	0.4%																			100										6																										
-L- 61+18.00	-97	LT	809							48								X																																												45	
-L- 64+76.00	-102	LT	813								28							X																																												63	
-L- 60+93.00	92	RT	810								40							X																																												21	
-L- 61+66.00	92	RT	811								40							X																																													
-L- 63+02.00	95	RT	812								32							X																																													
-L- 66+26.00	101	RT	814									28						X																																												22	
-L- 58+76.00	-96	LT	815							28								X																																												17	
-L- 68+16.71	86	RT	816	OUT		33.9	33.8	0.3%																			188										6																										
-L- 70+31.00	100	RT	817										28					X																																													
-L- 65+90.00	-105	LT	818								48							X																																													
SHEET 9																																																																
- L- 74+00.00	0	CL	901		42.5																																		1												1			1										
- L- 74+00.00		CL	901	902		40.2	35.5	0.5%													104																																										
- L- 80+00.00	0	CL	903		46.1																																		1												1			1										
- L- 80+00.00		CL	903	904		43.8	40.9	0.5%													96																																									20	
-L- 72+42.00	97	RT	905										32					X																																												14	
-L- 73+42.00	95	RT	906										36					X																																												20	
-L- 77+25.00	-99	LT	907								40							X																																													
-L- 77+90.00	97	RT	908									44						X																																												56	
-L- 78+73.00	99	RT	909									40						X																																												21	
-L- 79+26.00	98	RT	910									32						X																																												19	
-L- 79+68.00	97	RT	911									36						X																																												21	
-L- 82+00.00	-94	LT	912								36							X																																													
-L- 80+61.00	95	RT	913								36							X																																												20	
-L- 82+24.00	89	RT	914							32								X																																												48	
-L- 83+66.00	85	RT	915							52								X																																													
SHEET TOTALS									0	160	300	180	96	0	0	0					424	0	0	0	0	0	380	96	0	0	0	0	0	0	0	0	12	0	8	1.2	0	0	0	0	0	3	0	3	3	1	4	0	0	5	0	0	0	0		0	0	571	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY: LJB		DATE 12/9/2020
CHECKED BY: RBH		DATE 9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-6

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 10																																																																
- L- 92+50.00	0	CL	1002		47.2																																		1												1			1										
- L- 92+50.00		CL	1002	1003		44.5	42.7	0.5%													96																																										
- L- 90+50.00	86	RT	1001	OUT		42.2	41.6	0.5%																	204												3.4																									53	
-L- 85+08.00	89	RT	1004							32								X																																												20	
-L- 86+33.00	94	RT	1005							28								X																																												19	
-L- 87+58.00	96	RT	1006								32							X																																												37	
-L- 91+75.00	92	RT	1007							40								X																																												35	
-L- 92+27.00	90	RT	1008							40								X																																												39	
-L- 94+66.00	84	RT	1009							52								X																																												19	
-L- 95+49.00	85	RT	1010							36								X																																												119	
-L- 96+41.00	86	RT	1011							40								X																																													
SHEET 11																																																																
- L- 97+00.00	0	CL	1101		45.9																																		1												1			1									19	
- L- 97+00.00		CL	1101	1102		43.1	39.8	0.6%													104																																										
- L- 98+96.00	83	RT	1103	OUT		40.3	38.7	0.5%																		344											6																									102	
- L- 105+05.00	9	RT	1104		48.6																																		1												1			1										
- L- 105+05.00		RT	1104	1105		45.9	45.8	0.5%																				28																																		20	
- L- 104+78.42	1	RT	1105		49.8																																		1							1		1	1																
- L- 104+78.42		RT	1105	1106		45.8	45.7	0.5%																				28																																		20	
- L- 104+55.00	20	RT	1106		50.1																																		1							1		1	1																
- L- 104+55.00		RT	1106	1107		45.7	45.6	0.5%																				36																																			
- L- 104+22.66	-1	LT	1107		49.6																																		1							1		1	1																
- L- 104+22.66		LT	1107	1109		45.6	45.3	0.5%																				72																																			
- L- 103+50.00	-1	LT	1109		49.4																																		1							1		1	1																
- L- 103+50.00		LT	1109	1110		45.3	45.3	0.6%																				16																																			
- L- 103+34.00	20	RT	1108		49.7																																		1							1		1	1																
- L- 103+34.00		RT	1108	1110		46.0	45.3	0.7%																				16																																			
- L- 103+34.00	2	RT	1110		49.4																																		1							1		1	1																
- L- 103+34.00		RT	1110	1111		45.3	41.6	0.6%																				124																																			
-L- 98+79.00	96	RT	1112											28				X																																												21	
-L- 99+32.00	63	RT																																																												24	
-L- 101+33.00	98	RT	1113							28								X																																												40	
-L- 107+25.00	93	RT	1114							44								X																																												37	
-L- 97+30.00	-92	LT	1115							36								X																																													
-L- 100+38.00	64	RT																																																												19	
SHEET TOTALS									0	376	32	0	0	28	0	0	0	0	0	0	200	0	0	0	204	344	0	320	0	0	0	0	0	0	0	0	9.4	0	9	0	0	0	0	0	0	6	0	6	6	0	3	0	0	3	0	0	0	0	0		0	0	643	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY: LJB DATE 12/9/2020

CHECKED BY: RBH DATE 9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION (SIZE / THICKNESS OR GAUGE)	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE
SHEET 12								
- L- 111+50.00	0	CL	1201		49.4			
- L- 111+50.00		CL	1201	1202		46.6	44.9	0.5%
- L- 121+50.00	0	CL	1203		48.4			
- L- 121+50.00		CL	1203	1204		45.6	42.3	0.5%
-L- 114+76.00	-100	LT	1205					
-L- 114+62.00	99	RT	1206					
-L- 120+00.00	-97	LT	1207					
SHEET 13								
- L- 126+16.02	0	CL	1307		47.1			
- L- 126+16.02		CL	1307	1308		44.4	41.1	0.5%
- L- 132+60.00	0	CL	1302		46.1			
- L- 132+60.00		CL	1302	1303		43.4	43.1	0.4%
- L- 133+48.55	1	RT	1303		48.2			
- L- 133+48.55		RT	1303	1304		43.1	43.0	0.5%
- L- 133+91.00	-2	LT	1304		48.0			
- L- 133+91.00		LT	1304	1305		43.0	42.6	0.5%
- L- 135+00.00	8	RT	1305		46.4			
- L- 135+00.00		RT	1305	1306		42.6	39.1	0.5%
- L- 128+27.35	86	RT	1301	OUT		41.2	40.4	0.4%
-L- 125+70.00	96	RT	1310					
-Y3- 12+68.00	-27	LT	1311					
-Y3- 12+97.00	-24	LT	1312					
SHEET TOTALS								

STATION	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC
SHEET 12												
- L- 111+50.00												
- L- 111+50.00												
- L- 121+50.00												
- L- 121+50.00												
-L- 114+76.00			32							X		
-L- 114+62.00		56								X		
-L- 120+00.00				36						X		
SHEET 13												
- L- 126+16.02												
- L- 126+16.02												
- L- 132+60.00												
- L- 132+60.00												
- L- 133+48.55												
- L- 133+48.55												
- L- 133+91.00												
- L- 133+91.00												
- L- 135+00.00												
- L- 135+00.00												
- L- 128+27.35												
-L- 125+70.00				52						X		
-Y3- 12+68.00		28								X		
-Y3- 12+97.00		20								X		
SHEET TOTALS	0	104	32	88	0	0	0	0	0	0	0	0

STATION	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" (TRENCHLESS W.S. 0.500")	
SHEET 12																
- L- 111+50.00																
- L- 111+50.00	92															
- L- 121+50.00																
- L- 121+50.00	96															
-L- 114+76.00																
-L- 114+62.00																
-L- 120+00.00																
SHEET 13																
- L- 126+16.02																
- L- 126+16.02	96															
- L- 132+60.00																
- L- 132+60.00	88															
- L- 133+48.55																
- L- 133+48.55	40															
- L- 133+91.00																
- L- 133+91.00	108															
- L- 135+00.00																
- L- 135+00.00	116															
- L- 128+27.35							392									
-L- 125+70.00																
-Y3- 12+68.00																
-Y3- 12+97.00																
SHEET TOTALS	636	0	0	0	0	0	392	0	0	0	0	0	0	0	0	0

STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN
SHEET 12											
- L- 111+50.00			1								
- L- 111+50.00											
- L- 121+50.00			1								
- L- 121+50.00											
-L- 114+76.00											
-L- 114+62.00											
-L- 120+00.00											
SHEET 13											
- L- 126+16.02			1								
- L- 126+16.02											
- L- 132+60.00			1								
- L- 132+60.00											
- L- 133+48.55			1	0.1						1	
- L- 133+48.55											
- L- 133+91.00			1	0.0						1	
- L- 133+91.00											
- L- 135+00.00			1								
- L- 135+00.00											
- L- 128+27.35	8										
-L- 125+70.00											
-Y3- 12+68.00											
-Y3- 12+97.00											
SHEET TOTALS	8	0	7	0.13	0	0	0	0	0	2	0

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 12																	
- L- 111+50.00				1			1										
- L- 111+50.00																	
- L- 121+50.00				1			1										
- L- 121+50.00																	
-L- 114+76.00																21	REMOVE PIPE: -L- 113+04, 4 RT
-L- 114+62.00																38	
-L- 120+00.00																20	REMOVE PIPE: -L- 118+90, 4 RT
SHEET 13																	
- L- 126+16.02				1			1										
- L- 126+16.02																	
- L- 132+60.00				1			1										
- L- 132+60.00																	
- L- 133+48.55	1	1															
- L- 133+48.55																	
- L- 133+91.00	1	1															
- L- 133+91.00																	
- L- 135+00.00				1			1										
- L- 135+00.00																89	
- L- 128+27.35																56	
-L- 125+70.00																	
-Y3- 12+68.00																90	
-Y3- 12+97.00																	
SHEET TOTALS	2	2	0	5	0	0	5	0	0	0	0	0		0	0	314	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY: LJB DATE 12/9/2020

CHECKED BY: RBH DATE 9/9/2021

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-8

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 14																																																																
- L- 136+29.38		RT	1401	OUT		41.4	38.9	0.6%															176																																								48	
- L- 143+65.00	-9	LT	1402		49.6																																		1												1			1										
- L- 143+65.00		LT	1402	1403		45.9	45.8	0.5%																				24																																				
- L- 143+90.51	-1	LT	1403		50.2																																		1							1		1	1															
- L- 143+90.51		LT	1403	1404		45.8	45.6	0.5%																				56																																			32	
- L- 144+45.56	1	RT	1404		49.5																																		1							1		1	1															
- L- 144+45.56		RT	1404	1405		45.6	44.8	0.5%																				72																																				
- L- 145+19.50	1	RT	1405		48.5																																		1							1		1	1															
- L- 145+19.50		RT	1405	1406		44.8	44.6	0.5%																				16																																			60	
- L- 145+36.00	-2	LT	1406		48.3																																		1							1		1	1															
- L- 145+36.00		LT	1406	1407		44.6	41.9	0.5%																				84																																				
-L- 140+81.00	-102	LT	1409							44								X																																													185	
-L- 141+74.00	-103	LT	1410							36								X																																														
-L- 146+07.00	-86	LT	1411								48							X																																														
-L- 137+57.00	-98	LT	1412							40								X																																														
-L- 137+64.00	81	RT	1413							52								X																																														
SHEET 15																																																																
- L- 153+09.86	0	CL	1501		37.8																																		1												1			1										
- L- 153+09.86		CL	1501	1511		35.0	34.8	0.5%													56																																											
- L- 152+50.00	0	CL	1511		37.8																																		1												1			1										
- L- 152+50.00		CL	1511	1502		34.8	34.0	0.6%													96																																											
- L- 155+90.00	-19	LT	1503		41.4																																		1														1											
- L- 155+90.00		LT	1503	1504		36.4	35.5	0.5%																				72																																				
- L- 155+90.00	54	RT	1504		40.3																																		1												1		1											
- L- 155+90.00		RT	1504	1505		35.5	34.7	0.5%																				160																																				
- L- 154+27.00	58	RT	1505		39.5																																		1												1		1											
- L- 154+27.00		RT	1505	1506		34.7	34.6	0.5%																				24																																			17	
- L- 161+08.50	0	CL	1507		38.9																																		1												1			1										
- L- 161+08.50		CL	1507	1508		36.2	35.0	0.6%													88																																										18	
- Y4- 19+48.00	-49	LT	1509	OUT		32.9	32.6	0.4%																	300													5.6																												TRIPLE HEADWALL SEE SHEET 2C-2
-Y4- 18+89.00	-41	LT	1510							36								X																																													29	
-L- 152+11.00	83	RT	1513											48				X																																												63	
-L- 149+78.00	81	RT																																																													20	
SHEET TOTALS									0	208	48	0	0	48	0	0	0	0	0	0	240	0	176	0	300	0	0	508	0	0	0	0	0	0	0	0	5.6	0	11	0	0	0	0	0	0	4	0	4	4	0	6	0	3	4	0	0	0	0	0		0	0	472	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-9

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE
SHEET 16								
- L- 168+50.00	9	RT	1603		43.1			
- L- 168+50.00		RT	1603	1604		39.3	39.2	0.5%
- L- 168+19.61	1	RT	1604		44.0			
- L- 168+19.61		RT	1604	1605		39.2	39.0	0.5%
- L- 167+64.43	-1	LT	1605		43.7			
- L- 167+64.43		LT	1605	1606		39.0	37.9	0.5%
- L- 166+00.00	0	CL	1606		40.6			
- L- 166+00.00		CL	1606	1607		37.9	36.1	0.5%
- L- 174+00.00	-1	LT	1601		45.0			
- L- 174+00.00		LT	1601	1602		42.3	38.7	0.5%
-L- 165+24.00	-96	LT	1608					
-L- 166+81.00	90	RT	1609					
-L- 167+57.00	-91	LT	1610					
-L- 171+14.00	-92	LT	1611					
-L- 172+16.00	-91	LT	1612					
SHEET 17								
- L- 180+55.00	0	CL	1703		46.4			
- L- 180+55.00		CL	1703	1704		43.7	43.4	0.5%
- L- 179+63.50	-1	LT	1704		48.5			
- L- 179+63.50		LT	1704	1705		43.4	43.3	0.5%
- L- 179+47.05	2	RT	1705		48.5			
- L- 179+47.05		RT	1705	1706		43.3	43.2	0.5%
- L- 179+00.00	-9	LT	1706		47.2			
- L- 179+00.00		LT	1706	1707		43.2	40.4	0.5%
- L- 185+50.00	0	CL	1701		48.4			
- L- 185+50.00		CL	1701	1702		45.7	42.5	0.5%
-L- 176+15.00	-92	LT	1708					
-L- 177+73.00	-95	LT	1709					
-L- 183+16.00	-99	LT	1710					
-L- 185+23.00	-96	LT	1711					
-L- 186+87.00	87	RT	1712					
SHEET TOTALS								

STATION	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC
SHEET 16												
- L- 168+50.00												
- L- 168+50.00												
- L- 168+19.61												
- L- 168+19.61												
- L- 167+64.43												
- L- 167+64.43												
- L- 166+00.00												
- L- 166+00.00												
- L- 174+00.00												
- L- 174+00.00												
-L- 165+24.00				48						X		
-L- 166+81.00				44						X		
-L- 167+57.00				44						X		
-L- 171+14.00				40						X		
-L- 172+16.00				40						X		
SHEET 17												
- L- 180+55.00												
- L- 180+55.00												
- L- 179+63.50												
- L- 179+63.50												
- L- 179+47.05												
- L- 179+47.05												
- L- 179+00.00												
- L- 179+00.00												
- L- 185+50.00												
- L- 185+50.00												
-L- 176+15.00				44						X		
-L- 177+73.00				44						X		
-L- 183+16.00				40						X		
-L- 185+23.00				36						X		
-L- 186+87.00				40						X		
SHEET TOTALS	0	0	0	420	0	0	0	0	0	0	0	0

STATION	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.
SHEET 16																		
- L- 168+50.00																		
- L- 168+50.00								28										
- L- 168+19.61																		
- L- 168+19.61								56										
- L- 167+64.43																		
- L- 167+64.43								164										
- L- 166+00.00																		
- L- 166+00.00	92																	
- L- 174+00.00																		
- L- 174+00.00	96																	
-L- 165+24.00																		
-L- 166+81.00																		
-L- 167+57.00																		
-L- 171+14.00																		
-L- 172+16.00																		
SHEET 17																		
- L- 180+55.00																		
- L- 180+55.00	88																	
- L- 179+63.50																		
- L- 179+63.50	16																	
- L- 179+47.05																		
- L- 179+47.05	48																	
- L- 179+00.00																		
- L- 179+00.00	108																	
- L- 185+50.00																		
- L- 185+50.00	96																	
-L- 176+15.00																		
-L- 177+73.00																		
-L- 183+16.00																		
-L- 185+23.00																		
-L- 186+87.00																		
SHEET TOTALS	544	0	0	0	0	0	0	248	0	0	0	0	0	0	0	0	0	0

STATION	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN
SHEET 16									
- L- 168+50.00	1								
- L- 168+50.00									
- L- 168+19.61	1							1	
- L- 168+19.61									
- L- 167+64.43	1							1	
- L- 167+64.43									
- L- 166+00.00	1								
- L- 166+00.00									
- L- 174+00.00	1								
- L- 174+00.00									
-L- 165+24.00									
-L- 166+81.00									
-L- 167+57.00									
-L- 171+14.00									
-L- 172+16.00									
SHEET 17									
- L- 180+55.00	1								
- L- 180+55.00									
- L- 179+63.50	1	0.1						1	
- L- 179+63.50									
- L- 179+47.05	1	0.1						1	
- L- 179+47.05									
- L- 179+00.00	1								
- L- 179+00.00									
- L- 185+50.00	1								
- L- 185+50.00									
-L- 176+15.00									
-L- 177+73.00									
-L- 183+16.00									
-L- 185+23.00									
-L- 186+87.00									
SHEET TOTALS	10	0.27	0	0	0	0	0	4	0

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 16																	
- L- 168+50.00				1			1									18	REMOVE PIPE: -L- 169+79, 64 LT
- L- 168+50.00																	
- L- 168+19.61	1	1														96	
- L- 168+19.61																	
- L- 167+64.43	1	1															
- L- 167+64.43																	
- L- 166+00.00				1			1										
- L- 166+00.00																	
- L- 174+00.00				1			1										
- L- 174+00.00																	
-L- 165+24.00																18	
-L- 166+81.00																	
-L- 167+57.00																21	
-L- 171+14.00																36	
-L- 172+16.00																34	
SHEET 17																	
- L- 180+55.00				1			1										
- L- 180+55.00																	
- L- 179+63.50	1	1															
- L- 179+63.50																	
- L- 179+47.05	1	1															
- L- 179+47.05																	
- L- 179+00.00				1			1										
- L- 179+00.00																	
- L- 185+50.00				1			1										
- L- 185+50.00																	
-L- 176+15.00																20	
-L- 177+73.00																49	
-L- 183+16.00																	
-L- 185+23.00																17	
-L- 186+87.00																	
SHEET TOTALS	4	4	0	6	0	0	6	0	0	0	0	0		0	0	309	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY: LJB DATE 12/9/2020

CHECKED BY: RBH DATE 9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

Station, structure, elevations

STATION (SIZE / THICKNESS OR GAUGE)	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE
SHEET 18								
- L- 192+18.00	9	RT	1801		52.6			
- L- 192+18.00		RT	1801	1802		48.8	48.6	0.6%
- L- 191+92.50	1	RT	1802		53.5			
- L- 191+92.50		RT	1802	1803		48.6	48.4	0.6%
- L- 191+37.40	-1	LT	1803		53.2			
- L- 191+37.40		LT	1803	1804		48.4	47.7	0.7%
- L- 190+50.00	0	CL	1804		50.4			
- L- 190+50.00		CL	1804	1805		47.7	46.0	0.7%
-L- 192+10.00	-87	LT	1806					
-L- 195+93.00	96	RT	1807					
SHEET 19								
- L- 201+75.00	9	RT	1901		60.1			
- L- 201+75.00		RT	1901	1902		56.3	56.0	0.6%
- L- 201+18.50	1	RT	1902		60.8			
- L- 201+18.50		RT	1902	1904		56.0	55.8	0.7%
- L- 200+85.00	-20	LT	1903		61.1			
- L- 200+85.00		LT	1903	1904		57.2	55.8	0.5%
- L- 200+65.71	-1	LT	1904		60.7			
- L- 200+65.71		LT	1904	1905		55.8	55.4	0.7%
- L- 200+05.79	-1	LT	1905		60.5			
- L- 200+05.79		LT	1905	1906		55.4	55.0	0.8%
- L- 199+63.00	-20	LT	1907		60.7			
- L- 199+63.00		LT	1907	1906		56.1	55.0	0.5%
- L- 199+63.00	2	RT	1906		60.3			
- L- 199+63.00		RT	1906	1908		55.0	54.4	0.9%
- L- 199+00.00	-8	LT	1908		58.8			
- L- 199+00.00		LT	1908	1909		54.4	52.9	1.0%
- Y5- 16+85.00		LT	1910	OUT		54.8	54.2	0.6%
- Y5- 13+50.00		LT	1911	OUT		57.5	57.3	0.5%
- L- 209+00.00	-8	LT	1912		65.3			
- L- 209+00.00		LT	1912	1913		61.6	61.5	0.5%
- L- 209+33.00	-1	LT	1913		66.2			
- L- 209+33.00		LT	1913	1914		61.5	61.3	0.4%
- L- 209+88.13	1	RT	1914		66.1			
- L- 209+88.13		RT	1914	2002		61.3	61.1	0.4%
-Y5- 13+12.00	-29	LT	1915					
-Y5- 17+69.00	-30	LT	1916					
-L- 206+40.00	-98	LT	1917					
-L- 200+14.00	121	RT	1918					
SHEET TOTALS								

SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC)

STATION	12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC
SHEET 18												
- L- 192+18.00												
- L- 192+18.00												
- L- 191+92.50												
- L- 191+92.50												
- L- 191+37.40												
- L- 191+37.40												
- L- 190+50.00												
- L- 190+50.00												
-L- 192+10.00		36								X		
-L- 195+93.00				48						X		
SHEET 19												
- L- 201+75.00												
- L- 201+75.00												
- L- 201+18.50												
- L- 201+18.50												
- L- 200+85.00												
- L- 200+85.00												
- L- 200+65.71												
- L- 200+65.71												
- L- 200+05.79												
- L- 200+05.79												
- L- 199+63.00												
- L- 199+63.00												
- L- 199+63.00												
- L- 199+63.00												
- L- 199+00.00												
- L- 199+00.00												
- Y5- 16+85.00												
- Y5- 13+50.00												
- L- 209+00.00												
- L- 209+00.00												
- L- 209+33.00												
- L- 209+33.00												
- L- 209+88.13												
- L- 209+88.13												
-Y5- 13+12.00		44								X		
-Y5- 17+69.00		44								X		
-L- 206+40.00		32								X		
-L- 200+14.00				80						X		
SHEET TOTALS	0	156	0	128	0	0	0	0	0	0	0	0

R.C. PIPE CLASS III / R.C. PIPE CLASS IV / PIPE AS NOTED

STATION	R.C. PIPE CLASS III 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36" TRENCHLESS W.S. 0.500"	
SHEET 18																
- L- 192+18.00																
- L- 192+18.00								24								
- L- 191+92.50																
- L- 191+92.50								56								
- L- 191+37.40																
- L- 191+37.40								88								
- L- 190+50.00																
- L- 190+50.00	92															
-L- 192+10.00																
-L- 195+93.00																
SHEET 19																
- L- 201+75.00																
- L- 201+75.00								56								
- L- 201+18.50																
- L- 201+18.50								52								
- L- 200+85.00																
- L- 200+85.00								28								
- L- 200+65.71																
- L- 200+65.71								60								
- L- 200+05.79																
- L- 200+05.79								40								
- L- 199+63.00																
- L- 199+63.00								20								
- L- 199+63.00																
- L- 199+63.00								64								
- L- 199+00.00																
- L- 199+00.00	112															
- Y5- 16+85.00		96														
- Y5- 13+50.00									76							
- L- 209+00.00																
- L- 209+00.00								32								
- L- 209+33.00																
- L- 209+33.00								56								
- L- 209+88.13																
- L- 209+88.13								72								
-Y5- 13+12.00																
-Y5- 17+69.00																
-L- 206+40.00																
-L- 200+14.00																
SHEET TOTALS	204	96	0	0	0	0	0	648	76	0	0	0	0	0	0	0

ENDWALLS / QUANTITIES FOR DRAINAGE STRUCTURES / FRAME, GRATES, AND HOOD / CONCRETE TRANSITIONAL SECTION

STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN
SHEET 18											
- L- 192+18.00			1								
- L- 192+18.00											
- L- 191+92.50			1							1	
- L- 191+92.50											
- L- 191+37.40			1							1	
- L- 191+37.40											
- L- 190+50.00			1								
- L- 190+50.00											
-L- 192+10.00											
-L- 195+93.00											
SHEET 19											
- L- 201+75.00			1								
- L- 201+75.00											
- L- 201+18.50			1							1	
- L- 201+18.50											
- L- 200+85.00			1							1	
- L- 200+85.00											
- L- 200+65.71			1							1	
- L- 200+65.71											
- L- 200+05.79			1	0.1						1	
- L- 200+05.79											
- L- 199+63.00			1							1	
- L- 199+63.00											
- L- 199+63.00			1	0.3						1	
- L- 199+63.00											
- L- 199+00.00			1								
- L- 199+00.00											
- Y5- 16+85.00											
- Y5- 13+50.00											
- L- 209+00.00			1								
- L- 209+00.00											
- L- 209+33.00			1							1	
- L- 209+33.00											
- L- 209+88.13			1							1	
- L- 209+88.13											
-Y5- 13+12.00											
-Y5- 17+69.00											
-L- 206+40.00											
-L- 200+14.00											
SHEET TOTALS	0	0	15	0.42	0	0	0	0	0	10	0

INLETS, FRAMES, MISCELLANEOUS AND PIPE REMOVAL

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
SHEET 18																	
- L- 192+18.00				1			1										
- L- 192+18.00																	
- L- 191+92.50	1	1															
- L- 191+92.50																	
- L- 191+37.40	1	1															
- L- 191+37.40																	
- L- 190+50.00				1			1										
- L- 190+50.00																	
-L- 192+10.00																96	
-L- 195+93.00																	
SHEET 19																	
- L- 201+75.00				1			1										
- L- 201+75.00																	
- L- 201+18.50	1	1															
- L- 201+18.50																	
- L- 200+85.00	1	1															
- L- 200+85.00																	
- L- 200+65.71	1	1															
- L- 200+65.71																	
- L- 200+05.79	1	1															
- L- 200+05.79																	
- L- 199+63.00	1	1															
- L- 199+63.00																65	
- L- 199+63.00	1	1															
- L- 199+63.00																18	
- L- 199+00.00				1			1										
- L- 199+00.00																	
- Y5- 16+85.00																30	
- Y5- 13+50.00																33	
- L- 209+00.00				1			1										
- L- 209+00.00																	
- L- 209+33.00	1	1															
- L- 209+33.00																19	
- L- 209+88.13	1	1															
- L- 209+88.13																	
-Y5- 13+12.00																	
-Y5- 17+69.00																19	
-L- 206+40.00																	
-L- 200+14.00																	
SHEET TOTALS	10	10	0	5	0	0	5	0	0	0	0	0		0	0	280	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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bhuskey

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-11

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') | LIN. FT. A | LIN. FT. B | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-12

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION / SIZE / THICKNESS OR GAUGE | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-13

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE, PP, OR PVC	R.C. PIPE CLASS III SIZE 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV SIZE 15"	18"	24"	30"	36"	42"	48"	PIPE AS NOTED 36"		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0')	A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.19 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL	J.B. STD. 840.31 OR 840.32	TBJB STD. 840.34	FLOWABLE FILL (CY)	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
THICKNESS OR GAUGE																																		TRENCHLESS W.S. 0.500"																													
SHEET 25																																																													
- L- 277+00.00	0	CL	2501		59.1																																		1														1			1								
- L- 277+00.00		CL	2501	2517		56.4	56.1	0.5%													96																																									
- L- 276+00.00	0	CL	2517		59.5																																		1														1			1								
- L- 276+00.00		CL	2517	2502		56.1	54.2	0.5%													96																																									
- L- 282+33.68	0	CL	2505		58.7																																		1														1			1								
- L- 282+33.68		CL	2505	2506		54.6	54.3	0.5%													88																																									63	
- L- 287+00.00	0	CL	2511		61.2																																		1														1			1								
- L- 287+00.00		CL	2511	2515		58.5	57.5	0.5%																			92																																			61	
- L- 286+04.72	-1	LT	2515		61.7																																		1							1		1	1															
- L- 286+04.72		LT	2515	2513		57.5	57.4	0.5%																			16																																			20	
- L- 285+88.29	2	RT	2513		61.7																																		1							1		1	1															
- L- 285+88.29		RT	2513	2514		57.4	55.3	0.5%																			92																																				
- L- 280+53.81		LT	2504	OUT		51.6	49.9	0.4%																		168												6																									REMOVE EXISTING PIPE
-L- 275+15.00	-93	LT	2503								32							X																																													
-L- 278+51.00	-87	LT	2508							36								X																																												
-L- 276+42.00	94	RT	2516							32								X																																												
-L- 282+60.00	85	RT	2507								48							X																																											21	
-L- 286+25.00	86	RT	2518								36							X																																											20	
SHEET 26																																																													
- L- 299+50.00	0	CL	2601		62.2																																		1											1			1				11					
- L- 299+50.00		CL	2601	2602		57.9	54.5	0.5%													100																																									32	
- L- 294+85.00	0	RT	2608		63.8																																		1											1			1									
- L- 294+85.00		RT	2608	2609		61.0	60.7	0.5%																			92																																				
- L- 295+79.57	1	RT	2609		66.0																																		1	0.2							1	1															
- L- 295+79.57		RT	2609	2610		60.7	60.7	0.5%																			16																																				
- L- 295+96.00	-2	LT	2610		65.9																																		1	0.2							1	1															
- L- 295+96.00		LT	2610	2611		60.7	60.6	0.5%																			20																																				
- L- 295+96.00	20	RT	2611		66.3																																		1	0.7							1	1															
- L- 295+96.00		RT	2611	2612		60.6	56.4	0.5%																			112																																				
-L- 290+36.00	94	RT	2604							32								X																																												41	
-L- 289+22.00	-90	LT	2606							32								X																																												21	
-L- 295+24.00	-102	LT	2603							36								X																																												
-L- 300+14.00	103	RT	2607								28							X																																												32	
SHEET TOTALS									0	168	144	0	0	0	0	0	0	0	0	0	380	0	0	0	0	0	168	440	0	0	0	0	0	0	0	0	6	0	11	1.186	0	0	0	0	0	2	0	5	5	0	6	0	0	6	0	0	0	0	11		0	0	311	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-14

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TB.JB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-15

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-16

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.19 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-17

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-18

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.19 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-19

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-20

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-21

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

COMPUTED BY:	LJB	DATE	12/9/2020
CHECKED BY:	RBH	DATE	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-22

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| STATION | OFFSET | | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE, PP, OR PVC | R.C. PIPE CLASS III SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 15" | 18" | 24" | 30" | 36" | 42" | 48" | PIPE AS NOTED 36" | TRENCHLESS W.S. 0.500" | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES "TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B')" PER EACH (0' THRU 5.0') | LIN. FT. A 5.0' THRU 10.0' | LIN. FT. B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | PERMANENT 15" SLOTTED DRAIN 0.064" SPECIAL DETAIL | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---

COMPUTED BY:	LJB	DATE:	12/9/2020
CHECKED BY:	RBH	DATE:	9/9/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3D-23

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

STATION	OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM SLOPE	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) SIZE 54" THICKNESS OR GAUGE TRENCHLESS W.S. 0.750"	54"	54"	60"	66" RCP-IV	66" TRENCHLESS W.S. 0.875"	66"		BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 54" .109	54" .138	54" .168	54" SHOP ELON-GATED .138	54" SHOP ELON-GATED .168	60" .138	60" .168	66" .138	66" .168	72" .139	72" .168	STRUCTURAL PLATE PIPE 60" 12	60" 10	66" 12	66" 10	72" 12	72" 10				REINFORCED ENDWALLS WITH R.C. - C.Y.	WITH C.S. - C.Y.	MASONRY DRAINAGE STRUCTURES CUBIC YARDS	C.B. STD. 840.01 OR 840.02	FRAMES, GRATES & HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	OTCB	J.B. STD. 840.31 OR 840.32	M.H. FRAME AND COVER STD. 840.54	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. FRAME WITH TWO FLAT GRATES STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	FLOWABLE FILL (CY)	REINF. CONC. FLARED END SECTIONS NO. & SIZE	CORR. STEEL FLARED END SECTIONS NO. & Size	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	REMARKS
- L- 11+94.27	80	RT	401	407		30.7	29.2	0.4%		92																											5																						
- L- 12+31.00	-8	LT	407		37.6																																		4.78													1								
- L- 12+31.00		LT	407	408		29.2	27.8	0.3%		92																																																
- L- 18+39.54	79	RT	418	OUT		25.9	25.1	0.4%						184																							5.6															150							21	
- L- 54+05.22	80	RT	708	709		35.4	35.1	0.3%					108																								5.6																						56	
- L- 54+85.00	0	CL	709		44.8																																		6.48													1								
- L- 54+85.00		CL	709	710		35.1	34.8	0.3%					112																																														31	
- L- 230+65.00	-86	LT	2101	OUT		51.3	51.1	0.4%						180																							6.3																						55	CLASS IV
- L- 300+76.32	-86	LT	2605	2605A		53.7	51.9	0.4%			180																										5																							
- Y7- 20+15.22	56	RT	4205	4202		52.9	52.5	0.3%					120																																															
- L- 497+43.00	-1	LT	4202		63.9																																		7.36							1						1								
- L- 497+43.00		LT	4202	4203		52.5	52.4	0.3%					52																																															
- L- 497+98.00	1	RT	4203		63.6																																		7.29							1						1								
- L- 497+98.00		RT	4203	4204		52.4	52.2	0.3%					48																																															
- L- 498+47.67	0	CL	4204		61.0																																		5.82													1								
- L- 498+47.67		CL	4204	4207		52.2	51.0	0.4%					164																																															
- L- 510+97.63	-112	LT	4314	4319		48.0	47.8	0.4%					52																								6.3																							
- L- 511+18.38	-76	LT	4319		56.0																																		5.62									1												
- L- 511+18.38		LT	4319	OUT		47.8	46.9	0.4%					192																																														75	
- L- 521+39.04		LT	4317	OUT		47.0	45.8	0.4%			172																										5																						125	REMOVE EXISTING PIPE
PROJECT TOTALS									0	184	352	0	848	180	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38.8	0	37.35	0	0	0	0	0	2	0	0	0	1	0	2	3	150	0	0	0	0	0	0	0	0	0	0	0	363	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING

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COMPUTED BY: A. Bozorgi DATE: 11/5/2018
CHECKED BY: M. Snyder DATE: 11/5/2018

PROJECT REFERENCE NO.	SHEET NO.
R-2511	3G-1

(5-15-18)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	4000
				TOTAL LF:	4000

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

SUMMARY OF SETTLEMENT GAUGES

Gauge No.	LINE and Station	Offset	
		Distance FT	Direction LT/RT
1	L 154+50	20	LT
2	L 154+50	55	LT
3	L 155+95	20	LT
4	L 155+90	55	LT
5	L 157+05	20	LT
6	L 157+00	55	LT
7	L 156+00	20	RT
8	L 156+05	55	RT
9	L 157+15	20	RT
10	L 157+20	55	RT
	TOTAL GAUGES (EACH):		10

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	7+75	13+00	ASU	12	240	460	720		
-L-	198+75	201+75	ASU	12	390	740	1170		
-L-	334+25	335+25	ASU	12	50	95	150		
-Y1-	10+75	13+25	ASU	12	55	105	165		
-Y3-	10+75	11+25	ASU	12	10	20	30		
-Y4-	17+00	18+25	ASU	12	25	50	75		
-Y5-	12+00	13+25	ASU	12	50	95	150		
-Y5-	13+75	14+50	ASU	12	80	155	240		
-Y5-	16+50	18+40	ASU	12	100	190	300		
CONTINGENCY			ASU	12	500	950	1500		
			TOTAL CY/TONS/SY:		1500	2860**	4500**	0	0

*ASU = Aggregate Subgrade
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS
LEFT LANE BRIDGE ON US 17 OVER GUM SWAMP CREEK BETWEEN SR 1421 AND SR 1420	EB1	6
LEFT LANE BRIDGE ON US 17 OVER GUM SWAMP CREEK BETWEEN SR 1421 AND SR 1420	EB2	6
RIGHT LANE BRIDGE ON US 17 OVER GUM SWAMP CREEK BETWEEN SR 1421 AND SR 1420	EB1	4
RIGHT LANE BRIDGE ON US 17 OVER GUM SWAMP CREEK BETWEEN SR 1421 AND SR 1420	EB2	4

SUMMARY OF EMBANKMENT WAITING PERIODS

LINE	Station	Station	MONTHS
-L- (Left Lane)	154+50	157+05	6
-L- (Right Lane)	156+00	157+20	4

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PROJECT REFERENCE NO.	SHEET NO.
R-2511	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	David Lee Lawrence, Jr.
2	4	McDonald Gautier, III, ET AL
3	4 & 5	Roseann Bass
3A	5	North Carolina Department of Transportation
4	4 & 5	Maxwell P. Chesnutt Family Trust
5	4	Christian Bass Toppin
6	5	James A. Biggs, ET UX
8	5	Alameda L. Edwards
9	5 & 6	Arnold Land Holdings, LLC
9A	5	William Harvey Williamson, III, et al
11	5	Robert Peaden, ET UX
12	5	Lou Dora Leggett Thompson
12A	5 & 6	Linda L. Twaddwell
13	5 & 6	Marsha Owens Williamson
14	6	Lou Dora Leggett Thompson
15	6	Harold R. Lilley, ET UX
16	6	Monroe H. Apple, Jr., ETUX
17	6 & 7	Arnold Land Holdings, LLC
18	6	James Albert Warren
19	6 & 7	Don W. Nobles, ET UX
20	7 & 8	Billy J. Arnold, ET UX
22	7	Edward G. Ward Heirs
23	10-Jul	Big Buck Plantation
24	8	George S. Bland, ET AL
25	8	Edward G. Ward Heirs
26	8	Edward G. Ward Heirs
28	8	Alton R. Harris, ET UX
29	8 & 9	Robert J. Alligood, ET UX
32	9	Stepnen L. James, ET UX
33	9	Sam L. Silverthorne, Jr.
36	9	Joseph Spencer, Sr., ET UX
37	9	Ruffin R. Keyes, ET UX
38	9	Nevada Campbell
39	9 &10	Alexander Smith, Jr., et al Trustees of Divine Truth Holiness Church
40	10	David E. Tyson, Jr.

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
41	10	David E. Tyson III
42	10	David E. Tyson
44A	10	Steve & Sandra Gorham
45	10-14	Big Swamp, LLC
46	10	David Tyson
47	10	Katrevia Renee Rodgers
48	10 & 11	Love Faith Holiness Church
49	10 & 11	Mark Fullerton, ET AL
50	11	James Daniels HRS
51	11	Delphine Chapman, ET AL/Trustees of Cherry Run Ame Zion Church
52	11	Rosa L. Jones, ET VIR
53	11	Steve & Sandra Gorham
54	11 & 12	Robert and Kristie Dunn
55	11 & 12	Steve & Sandra Gorham
56	12	Sandra W. Wynn
58	12	Wiley E. Dunn, III, ET AL
59	12 & 13	Treasure H. Edwards
60	13	Robert Hodges & Elizabeth Hodges
61	13 & 14	Oscar Churchill Hodges, III
62	14, 15, & 16	James L. Hodges, Jr., ET UX
63	14	James L. Hodges, Jr.
65	15	Sandra W. Wynn
66	15	Vickie Doreen Sheppard
67	15	Steven C. Ward
68	15	Alex J. Tyson
68A	15	William V. Ward, ET AI
69	15 & 16	Phillip R. Leggett, ET AL
70	16	Northgate Homes, LLC
72	16	James L. Hodges, Jr.
75	16	Edward L. Hughes, ET UX
76	16, 17 & 18	Oscar Churchill Hodges, III
77	16	James H. Roberson, Jr.
78	16	Helen Katherine Mitchell, ET AL
79	16 & 17	Shanda R. Smallwood, ET VIR
80	17	John A. Wynn, ET UX
81	17	Toby R. Alligood, ET UX
82	17, 18 & 19	James W. Roberson, Jr., ET UX

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PROJECT REFERENCE NO.	SHEET NO.
R-2511	3P-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
901	19	Rose Anne Poist
84	19	James W. Roberson, Jr., ET UX
85	19	Donald W. Wynne, ET UX
88	19, 20 & 21	Beaumar Farms, LLC
89	19 & 20	Ralph A. Lee, Jr.
90	21, 22 & 23	Betty G. Beacham
91	23	Kader B. Ward, ET AL
91A	23	Kader B. Ward, ET AL
92	21, 22 & 23	C.B Ayers C/O Dora R. Ayers
93	22	Charles S. Steward, Jr., ET UX
94	22	Larry R. Scott, ET UX
94A	23	James A. Hale, ET AL
95	23	Allen R. Wainwright
96	23	Mitchell D. Waters, ET AL
97	23 & 24	Carolyn W. Manning
98	23, 24 & 25	William Franklin Holiday Heirs
99	24	Charles A. Coffiled, Jr.
100	24	Alice B. Williams(Deed) / Alice B. Coffield, ET VIR(Tax)
101	24 & 25	Linda W. Harrison, ET VIR
102	25	Patricia G. Woolard
103	25 & 26	John David Hodges, Jr.
104	26	Carolyn H. Johnson, ET VIR
105	27	Benjamin L. Ward, ET UX ET AL
106	27	James D. Ward, ET UX
107	27	James D. Ward, ET UX
108	27	Benjamin L. Ward
109	27 & 28	Linda W. Harrison, ET VIR
109A	28	Vertical Bridge Development, LLC
110	28 & 29	James D. Ward
111	28	Joseph S. Griffin, Jr.
111A	28	J. Comer Griffin or Annie M. Griffin Trustees / Griffin Revocable Living Trust
112	28	Joseph S. Griffin
113	28 & 29	Ronnie L. Windley, ET UX
114	29	Kathryn G. Oakley
115	29	Carla H. Peele
116	29	Malalage T. Peiris
117	29	Joseph S. Griffin, ET UX
118	29	James Ambrose
120	29	Linda E. Keech

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
121	29 & 30	Carl L. Beacham, Jr., ET AL
122	29 & 30	Carl L. Beacham, Jr., ET AL
123	30 & 31	Feffrey W. Harrison, ET UX
124	30 & 31	Stanley-Ward Family Trust
125	31	Guy W. Livesay, ET UX
126	31	Vickie Price Evans
127	31	Robert T. Taylor
128	31 & 32	Donna Price Gray
129	31 & 32	Larry D. Watson, ET UX
131	32	Bud O. Rogerson
132	32	James A. Smith
133	32 & 33	Carl L. Beacham, Jr., ET AL
134	32	Patsy R. Barnes, Carroll W. Barnes
134A	33	Bud O'Neal Rogerson
134B	33	Lavone R. Donaldson
136	33	Sophia B. Carter, ET VIR
137	33 & 34	Peele Cottage, LLC
138	33 & 34	Buck Manning, ET AL
139	34	W.O. Peele, III, ET EX
140A	34	Jasper D. Woolard, Jr.
141	34	Marie Revels
142	34, 35 & 36	Joseph W. Harrison
143	36	Macedonia Christian Church
144	36 & 37	Mary Peele Lilley
145	36	Dolan L. Baker, ET UX
146	37	Citimortgage, Inc.
147	37	William Manning
148	37 & 38	Edna H. Keel
149	37 & 38	Edna H. Keel
150	38	Jerry O'Neil Evans, ET UX
152	38	Steven R. Evans
153	38 & 39	Suzanne G. Clark, Heirs / Rebecca L. Powell, ET AL
156	39	Oswald B. Smithwick, ET UX
157	39	Linda Clark Life Estate
158	39 & 40	Barbara W. Perry
159	39	Robert L. Perry, ET UX

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
161	40	Doris Hardison Coltrain Estate
165	41 & 42	Barbie P. Bonds
167	42	Jasper C. Griffin, Jr.
168	42	Minnie Ange Harrison
169	42	Randy Bright
170	42	Rich and Joyce Gay
171	42 & 43	Thomas Bundy
172	42 & 43	Minnie A. Harrison
173	42 & 43	James C. Guard, Jr., ET UX
175	42,43	Joseph S. Griffin
175A	43	Joseph S. Griffin, Jr.
176	43	J. Comer Griffin
177	43	Joseph S. Griffin
178	43 & 44	Hugh B. Kennedy, ET UX
179	44	Seth & Rachel Perry Farms, LLC
180	44	Shirley L. Fields Trust
181	44	Rondy R. Williams
182	44 & 45	Lee Leavelle
183	45	Martin County Shrine Club
184	45 & 46	Seth & Rachel Perry Farms, LLC
185	46	Calvin James, ET UX
186	46	Isidro Morales Cardonia
187	46	Secure, Inc
187A	46	Josephine H. Manning Heirs
188	46	John Allen Stahl
189	46 & 47	Donald L. Clark
190	46 & 47	Newcomb, Johnny A., ET UX
191	47	Jeri Lou Griffin
192	47	Simon A. Perry III
193	47	David H. Lamb
194	47	Edward F. Cutler and Myrtle C. Johnson
195	47	Charles D. Edmondson
196	47	Jackie L. Hester
197	47	Patricia A. Chesson
198	47	Doris Bonds
199	47	Robert Griffin
200	47	Renee Roberson
201	47	James W. Edmunds

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PROJECT REFERENCE NO.	SHEET NO.
R-2511	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL ENGINEER SCOTT D. BLEVINS 2/4/2022

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 40807 ENGINEER ROBERT B. HUSKEY 2/4/2022

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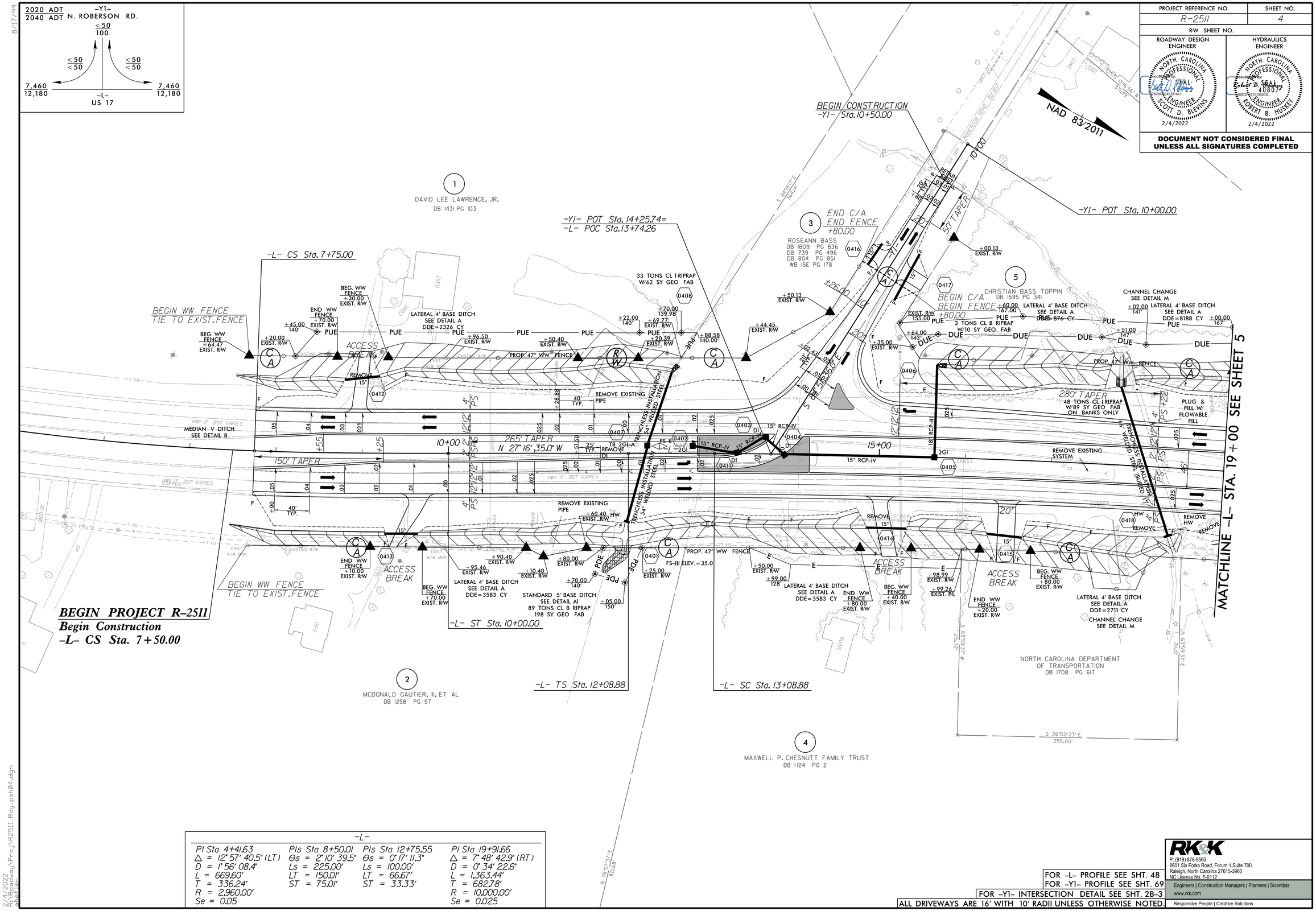

-L-			
PI Sta 4+41.63	PIs Sta 8+50.01	PIs Sta 12+75.55	PI Sta 19+91.66
△ = 12° 57' 40.5" (LT)	Θs = 2° 10' 39.5"	Θs = 0° 17' 11.3"	△ = 7° 48' 42.9" (RT)
D = 1° 56' 08.4"	Ls = 225.00'	Ls = 100.00'	D = 0° 34' 22.6"
L = 669.60'	LT = 150.01'	LT = 66.67'	L = 1,363.44'
T = 336.24'	ST = 75.01'	ST = 33.33'	T = 682.78'
R = 2,960.00'			R = 10,000.00'
Se = 0.05			Se = 0.025

FOR -L- PROFILE SEE SHT. 48
FOR -Y1- PROFILE SEE SHT. 69
FOR -Y1- INTERSECTION DETAIL SEE SHT. 2B-3
ALL DRIVEWAYS ARE 16' WITH 10' RADII UNLESS OTHERWISE NOTED.

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2/4/2022
R:\Roadway\Proj\R2511_Rdy_psh04.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2511	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL ENGINEER SCOTT D. BLEVINS 1/18/2022	NORTH CAROLINA PROFESSIONAL SEAL 40807 ENGINEER ROBERT B. HUSKEY 1/18/2022

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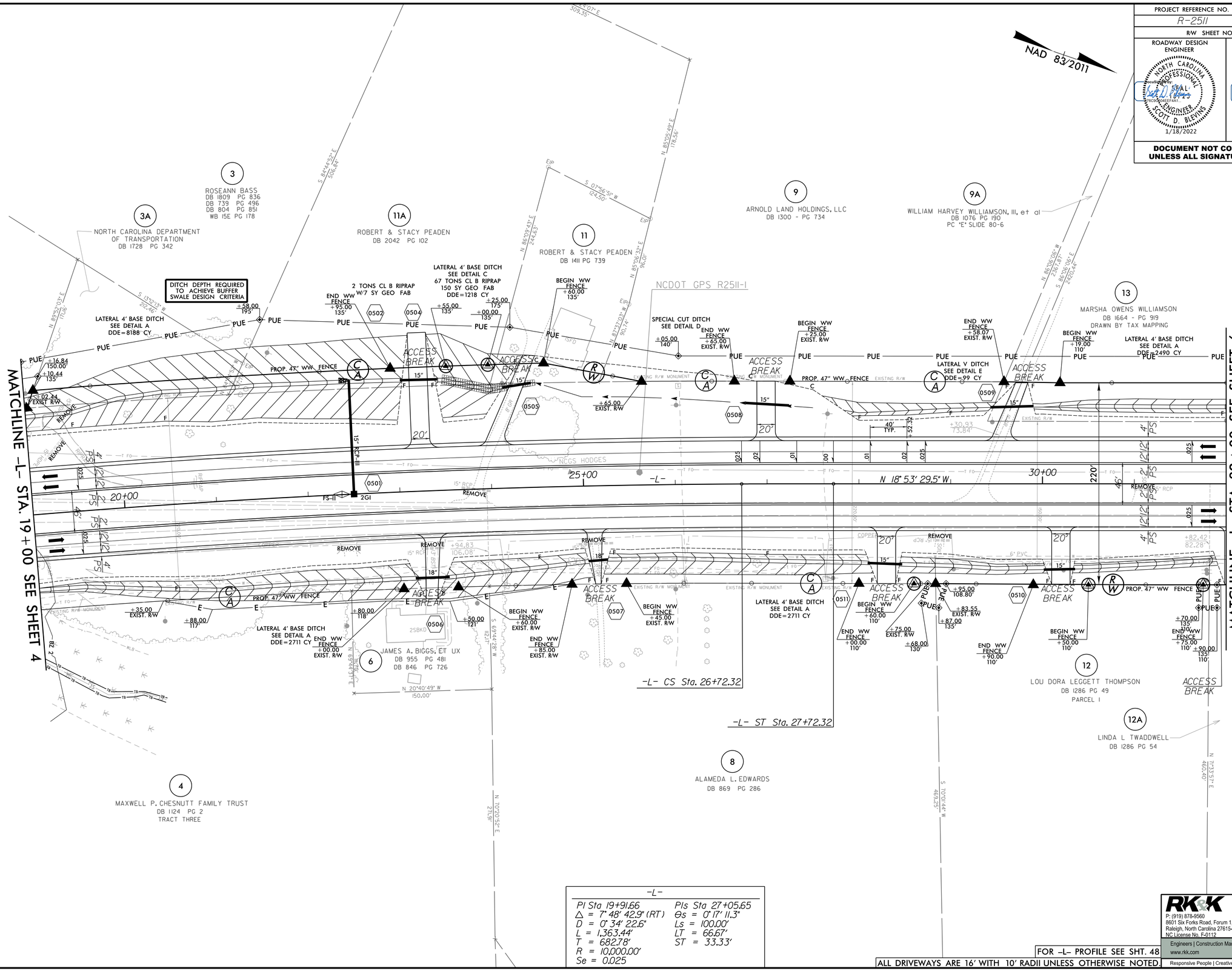

-L-	
PI Sta 19+91.66	PIs Sta 27+05.65
Δ = 7° 48' 42.9" (RT)	Θs = 0° 17' 11.3"
D = 0° 34' 22.6"	Ls = 100.00'
L = 1,363.44'	LT = 66.67'
T = 682.78'	ST = 33.33'
R = 10,000.00'	
Se = 0.025	

FOR -L- PROFILE SEE SHT. 48

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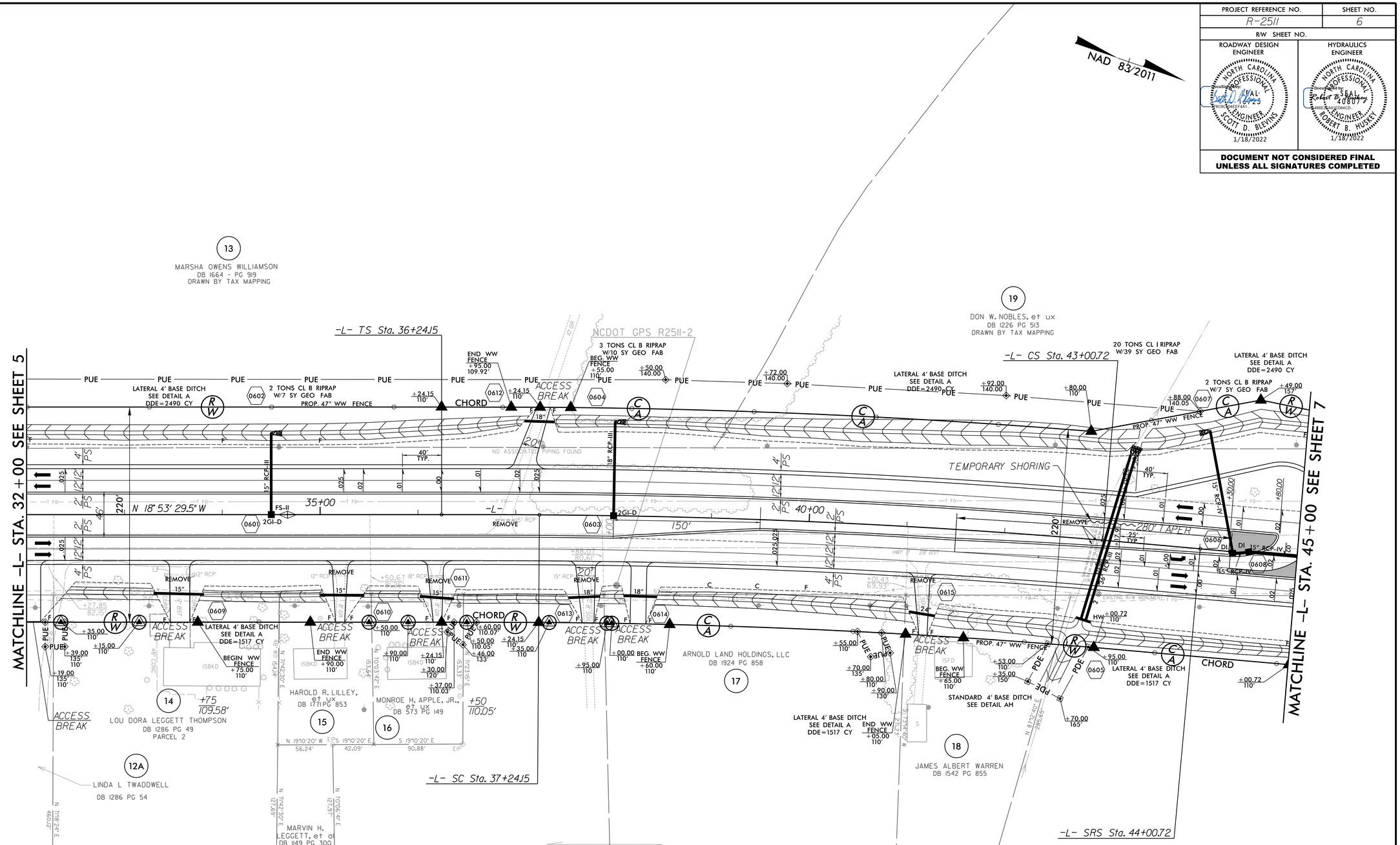
1/17/2022
R:\Roadway\Proj\R2511_Rdy_psh05.dgn
sheffield

PROJECT REFERENCE NO.	SHEET NO.
R-2511	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 040787 ENGINEER SCOTT D. BLEVINS 1/18/2022	NORTH CAROLINA PROFESSIONAL SEAL 40807 ENGINEER ROBERT B. HUNKER 1/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PER GEOTECHNICAL REPORT: GEOTEXTILE FOR SOIL STABILIZATION MAY BE NEEDED TO ESTABLISH A WORKING PLATFORM FOR EMBANKMENT CONSTRUCTION IN ACCORDANCE WITH SECTION 270 OF THE 2018 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AT THE FOLLOWING LOCATIONS:

-L- STA. 37+00 TO 39+00 (LT. & RT.)

-L-

PIs Sta 36+90.82	PI Sta 40+12.57	PIs Sta 43+34.05
Θs = 0° 22' 55.1"	Δ = 4° 24' 16.7" (RT)	Θs = 0° 22' 55.1"
Ls = 100.00'	D = 0° 45' 50.2"	Ls = 100.00'
LT = 66.67'	L = 576.57'	LT = 66.67'
ST = 33.33'	T = 288.43'	ST = 33.33'
	R = 7,500.00'	
	Se = 0.025	

FOR -L- PROFILE SEE SHTS. 48-49

ALL DRIVEWAYS ARE 16' WITH 10' RADII UNLESS OTHERWISE NOTED.

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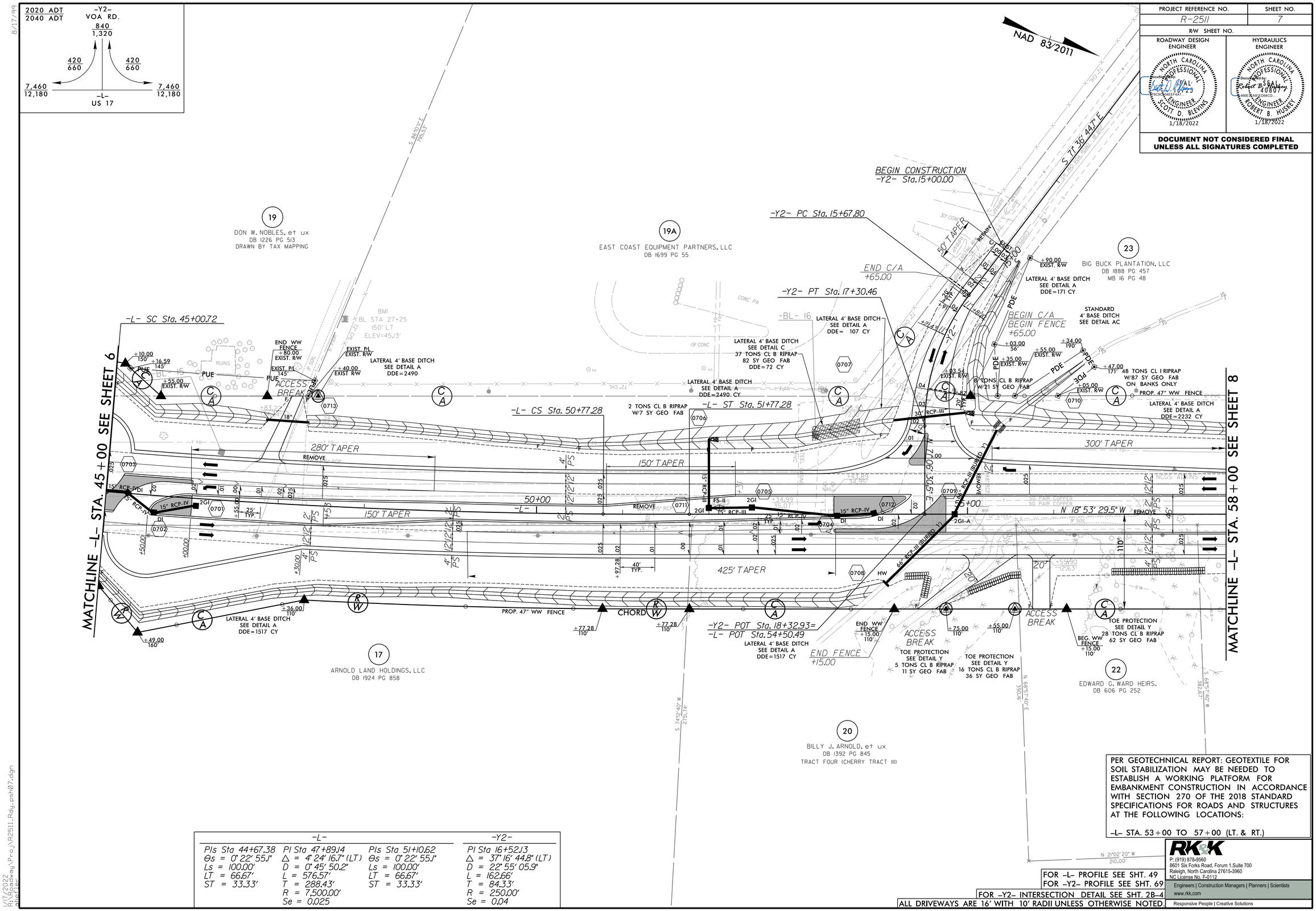
PROJECT REFERENCE NO.	SHEET NO.
R-2511	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 040787 ENGINEER SCOTT D. BLEVINS 1/18/2022

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 040807 ENGINEER ROBERT B. HUSKEY 1/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L-			-Y2-
PIs Sta 44+67.38	PI Sta 47+89.14	PIs Sta 51+10.62	PI Sta 16+52.13
Θs = 0° 22' 55.1"	Δ = 4° 24' 16.7" (LT)	Θs = 0° 22' 55.1"	Δ = 37° 16' 44.8" (LT)
Ls = 100.00'	D = 0° 45' 50.2"	Ls = 100.00'	D = 22° 55' 05.9"
LT = 66.67'	L = 576.57'	LT = 66.67'	L = 162.66'
ST = 33.33'	T = 288.43'	ST = 33.33'	T = 84.33'
	R = 7,500.00'		R = 250.00'
	Se = 0.025		Se = 0.04

PER GEOTECHNICAL REPORT: GEOTEXTILE FOR SOIL STABILIZATION MAY BE NEEDED TO ESTABLISH A WORKING PLATFORM FOR EMBANKMENT CONSTRUCTION IN ACCORDANCE WITH SECTION 270 OF THE 2018 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AT THE FOLLOWING LOCATIONS:

-L- STA. 53+00 TO 57+00 (LT. & RT.)

FOR -L- PROFILE SEE SHT. 49
FOR -Y2- PROFILE SEE SHT. 69
FOR -Y2- INTERSECTION DETAIL SEE SHT. 2B-4
ALL DRIVEWAYS ARE 16' WITH 10' RADII UNLESS OTHERWISE NOTED.

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alberger