COMPUTED BY: KCBE DATE: 6/29/2016

CHECKED BY: RAM DATE: 9/6/2016

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-3100A	3D-10

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.

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

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	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
SIZE / THICKNESS OR GAUGE																			
L 236+65	LT	2017		1012.5															
L 237+74	LT	2018																	
L 238+12	LT	2019		1022.9															
		2019	2020		1020.2	1019.1													
		2019	2101		1020.2	1030.1					376								
L 238+12	LT	2020		1022.6															
		2020	2021		1019.1	1010.6													
L 239+53	RT	2022																	
L 241+79	LT	2101		1032.8															
		2101	2102		1030.9	1033.9					40								
		2101	2103		1030.9	1036.9			320										
L 245+00	LT	2103		1038.8															
L 245+00	RT	2104		1038.2															
		2104	2105		1036.3	1033.1			368										
L 249+06	RT	2106									20								
L 249+25	CL	2107																	
L1 11+28	LT	2108		1044.2															
		2108	2109		1035.8	1046.3							64			X			
		2108	2110		1035.8	1036.7					136								
		2108	2107		1035.8	1033.1													
L1 12+64	LT	2110		1042.5															
		2110	2111		1036.7	1037.2					140								
L1 14+02	LT	2111		1042.2															
		2111	2112		1037.9	1042					80								
		2111	2113		1037.9	1038.1			56										
L1 14+57	LT	2113		1042.1															
Y19 12+56		2301																	
Y19 13+75		2302																	
Y19 14+26		2303																	
Y19 25+23		2304																	
DET 12+12		201																	
SHEET TOTALS								744			792		64						
R-3100A TOTALS								3704	720		2144	912	424						
R-3100B TOTALS								1640	300		304	48							
GRAND TOTAL								5344	1020		2448	960	424						

STATION	C.S. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
SIZE / THICKNESS OR GAUGE	.064	.064	.064	.064	.079	.079	.109	.109																
L 236+65																								
L 237+74																								
L 238+12																								
																					44			
L 238+12																								
																					96			
L 239+53																								
L 241+79																								
L 245+00																								
L 245+00																								
L 249+06																								
L 249+25																								
L1 11+28																								
L1 12+64																								
L1 14+02																								
L1 14+57																								
Y19 12+56																								
Y19 13+75																								
Y19 14+26																								
Y19 25+23																								
DET 12+12			60																					
SHEET TOTALS			60																		140		132	
R-3100A TOTALS	296	108				172											4864	812	2016	364	556	280		
R-3100B TOTALS	444	48	60	156					924	544	168	152					13620	2764	1892	544				
GRAND TOTAL	740	156	60	156	172				924	544	168	152					18484	3576	3908	908	556	280		

STATION	** " R.C. PIPE (CLASS V)	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (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'	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 STD. 852.06	
SIZE / THICKNESS OR GAUGE																
L 236+65								1								
L 237+74				20												
L 238+12								1								
L 238+12								1								
L 239+53				44												
L 241+79								1								
L 245+00								1								
L 245+00								1								
L 249+06																
L 249+25																
L1 11+28								1	3.4							
L1 12+64								1	0.8							
L1 14+02								1								
L1 14+57								1								
Y19 12+56				16												
Y19 13+75				16												
Y19 14+26				20												
Y19 25+23				28												
DET 12+12																
SHEET TOTALS				144				10	4.2							
R-3100A TOTALS				1348	228	23.4	2.8	27	152	43.3	7.15	51	1	1		54
R-3100B TOTALS								237	46.8				146	11	64	71
GRAND TOTAL				1348	228			27	389			97.8	147	12	64	71

STATION	D.I. STD. 840.15	D.I. FRAME WITH TWO GRATES 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. (W.S. FLAT) FRAME WITH TWO GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME WITH TWO GRATES STD. 840.22	G.D.I. (W.S. SAG) FRAME WITH GRATE STD. 840.22	G.D.I. (N.S. FLAT) FRAME WITH TWO GRATES STD. 840.29	OPEN THROAT C.B. STD. 840.04 OR STA. 840.05	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	J.B. STD. 840.31 OR 840.32	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	G.D.I. (N.S. SAG) FRAME WITH TWO GRATES STD. 840.24	BERM DRAINAGE OUTLET STD. 850.10	BERM DRAINAGE OUTLET STD. 850.11	CONC. TRANSITIONAL SECTION FOR DI (EA) [SEE DETAIL 2C-2]	CONVERT EXISTING D.I. TO J.B. WITH M.H.	PARALLEL PIPE END SECTION STD. 310.02 15"	18"	24"	C.S. ELBOWS 15"	18"	24"	PREFORMED SCOUR HOLE	FLOWABLE FILL (C.Y.)	CONC. AND BRICK PIPE PLUG (C.Y.) STD. 840.71	PIPE REMOVAL (LIN. FT.)	REMARKS
L 236+65			1				1	1																												
L 237+74																					1															
L 238+12			1				1																													
																																				REMOVE DI
																																				312 REMOVE 2 DIs
L 238+12			1				1												1																	
																																				124
L 239+53																					1															48
L 241+79			1				1																													REMOVE DI
																																				76
L 245+00				1			1																													
L 245+00				1			1																													72 REMOVE 2 DIs
																																				476
L 249+06																																				
L 249+25																																				120
L1 11+28			1				1																													REMOVE DI
																																				64 REMOVE DI
																																				68 REMOVE DI
L1 12+64				1			1																													
																																				200
L1 14+02			1				1																													REMOVE DI
																																				80
L1 14+57				1			1				1									1																
Y19 12+56																													1							20
Y19 13+75																													1							20
Y19 14+26																													1							16
Y19 25+23																													1							24
DET 12+12																																				TEMPORARY PIPE
SHEET TOTALS			6	4			10	1			1								1	1	6															1720
R-3100A TOTALS	54	54	27	69		49	47	17			2	1				5		28	1	57	7	2				9			7972
R-3100B TOTALS	30	30	1	57		52	5		1	1	3	2				11	1	72	1				10	1	1	1	80	2.559	3326
GRAND TOTAL	84	84	28	126		101	52	17	1	1	5	3				16	1	100	2	57	7	2	10	1	1	10	80	2.559	11298

** **

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

** **SEE SHEET 3D-11 FOR ADDITIONAL QUANTITIES