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COMPUTED BY:	ARV	DATE:	12/7/2021
CHECKED BY:	BJF	DATE:	12/8/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
BR-0160	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 INCHES & UNDER)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	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
L 14+96	14 LT	402		15.68															
		402	403		12.68	12.56													
L 17+41	17 RT	404		12.00															
		404	405		9.25	7.73													
L 18+58	13 RT	406		13.13															
		406	407		10.35	5.19			20								X		
L 24+97	13 RT	501		13.00															
		501	502		10.25	5.63			28								X		
L 24+97	15 LT	503		13.57															
		503	504		8.90	8.35													
L 27+38	34 LT	505		13.10															
		505	506		10.93	10.75													
L 27+38	14 LT	506		13.90															
		506	507		10.65	9.92													
L 26+54	14 LT	507		13.07															
		507	503		9.82	9.00													
L 29+18	14 LT	508		17.31															
		508	506		12.31	10.75													
L 14+45	CL	401			12.00	10.70													
L 26+36	33 RT	509			9.51	9.30					36						X		
L 27+43	32 RT	510			11.17	11.00					20						X		
L 28+43	32 RT	511			12.74	12.50					24						X		
L 29+43	25 RT	512			17.00	14.30				88							X		
PROJECT TOTAL									48	88	80								

LINE & STATION / SIZE / THICKNESS OR GAUGE	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 or CLASS V (SEE REMARKS / PLANS) 12	15	18	24	30	36	42	48
	0.064	0.064	0.064	0.064	0.079	0.079	0.109	0.109																
L 14+96																								
										24														
L 17+41																								
										20														
L 18+58																								
L 24+97																								
L 24+97																								
											36													
L 27+38																								
																			20					
L 27+38																								
																			84					
L 26+54																								
																			156					
L 29+18																								
																			180					
L 14+45																				84				
L 26+36																								
L 27+43																								
L 28+43																								
L 29+43																								
PROJECT TOTAL										44	36								440	84				

LINE & STATION / SIZE / THICKNESS OR GAUGE	ENDWALLS STD. 838.01 OR STD.838.11 (UNLESS OTHERWISE NOTED) CY	REINFORCED ENDWALLS CY	MASONRY DRAINAGE STRUCTURE CY	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 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'	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
	CY	CY	CY					PER EACH (0' THRU 5.0')	5.0' THRU 10.0'	10.0' AND ABOVE		E	F	G
L 14+96								1			1			1
L 17+41								1						
L 18+58								1						
L 24+97								1						
L 24+97								1						
L 27+38								1						
L 27+38								1			1		1	
L 26+54								1			1		1	
L 29+18								1			1		1	
L 14+45														
L 26+36														
L 27+43														
L 28+43														
L 29+43														
PROJECT TOTAL								9			4		3	1

LINE & STATION / SIZE / THICKNESS OR GAUGE	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.06	C.B. STD. 852.05	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	T.B. G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 3 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	T.B. J.B. STD. 840.34	T.B.D.I. STD. 840.35	STEEL FRAME AND TWO GRATES STD. 840.37	STEEL FRAME AND GRATE STD. 840.37	M.H. STD. 840.51, STD. 840.52, OR STD.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING D.I. TO J.B.	CONVERT EXISTING J.B. TO 2 G.I.	CONVERT C.B. TO D.I.	ADJUST EXISTING MANHOLE	ADJUST EXISTING C.B.	ADJUST D.I.	ADJUST 2GI	15" C.S. ELBOW	18" C.S. ELBOW	24" C.S. ELBOW	30" C.S. ELBOW	36" C.S. ELBOW	42" C.S. ELBOW	48" C.S. ELBOW	BERM DITCH OUTLET STD. 850.10 (PER EACH)	BERM DITCH OUTLET STD. 850.11 (PER EACH)	CONC. COLLARS CL. "B" C.Y. STD. 840.72	FLOWABLE FILL, C.Y.	CONC. & BRICK PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.
L 14+96																																											
L 17+41								1							1																												
L 18+58								1							1																												
																															2												VERIFY ELBOW MATERIAL PER DRAINAGE PIPE SELECTION
L 24+97								1							1																												
																									2																		VERIFY ELBOW MATERIAL PER DRAINAGE PIPE SELECTION
L 24+97								1							1																												
																																										34	REMOVE 34LF OF 15" RCP
L 27+38							1					1																															
																																											CLASS IV
L 27+38																																											
																																										51	CLASS IV // REMOVE 51LF OF 15" CMP
L 26+54																																											
																																											CLASS IV
L 29+18																																											
																																											CLASS IV
L 14+45																																										68	CLASS V // REMOVE 68LF OF 18" RCP
L 26+36																																										64	REMOVE 34LF OF 15" CMP AND 30LF OF 18" CMP
L 27+43																																										25	REMOVE 25LF OF 15" CMP
L 28+43																																										23	REMOVE 23LF OF 15" RCP
L 29+43																																										75	REMOVE 75LF OF 15" RCP
PROJECT TOTAL							1	4				1			4															4												340	

ABBREVIATIONS

C.A.A - CORRUGATED ALUMINUM INLET
C.B - CATCH BASIN
C.S. - CORRUGATED STEEL
D.I. - DROP INLET
G.D.I. - GRATED DROP INLET
P.D.P.E. - HIGH DENSITY POLYETHYLENE
J.B. - JUNCTION BOX
M.H. - MANHOLE
N.S. - NARROW SLOT
P.V.C. - POLYVINYL CHLORIDE
R.C. - REINFORCED CONCRETE
T.B.D.I. - TRAFFIC BEARING DROP INLET
T.B.J.B. - TRAFFIC BEARING JUNCTION BOX
W.S. - WIDE SLOT