COMPUTED BY:	William M. Hines	DATE:	2/15/16
CHECKED BY:	Susan Lancaster	DATE:	01/18/17

PROJECT NO.	SHEET NO.
U-3109A	3D-10

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 INCHES & UNDER)

Line & Station	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) 15	18	24	30	36	42	Do Not Use RCP	Do Not Use CSP	Do Not Use CAAP	Do Not Use HDPE	Do Not Use PVC	C. S. Pipe 12 (.064)	15 (.064)	18 (.064)	24 (.064)
L 178+50	48 LT	1603		626.3																		
		1603	1609		622.4	622.0																
L 178+50	48 RT	1604		626.3																		
		1604	1609		622.4	622.0																
L 180+30	48 LT	1605		627.8																		
		1605	1610		624.0	623.5																
L 178+80	48 RT	1606		626.5																		
		1606	1604		622.7	622.4		32									X	X				
L 173+50	0 CL	1608		623.4																		
		1608	1609		615.5	614.0																
L 178+50	0 CL	1609		627.6																		
		1609	1610		613.5	613.0																
L 180+30	0 CL	1610		629.1																		
		1610	1607		613.0	604.6																
L 179+36	116 RT	1611									32											
L 186+21	14 RT	1701		633.3																		
		1701	1702		629.5	629.3																
L 189+70	2 RT	1703		629.7																		
		1703	1708		626.2	622.2																
L 189+50	79 RT	1704		629.4																		
		1704	1703		626.4	626.2																
Y19 11+50	24 LT	1705		633.1																		
		1705	1704		630.4	626.7		112									X	X				
Y19 13+14	17 LT	1707																				
L 189+90	67 LT	1708		625.2																		
		1708	1805		622.2	606.9	0.3		300								X	X				
L 192+20	6 LT	1801		620.8																		
		1801	1802		616.4	611.0																
L 192+99	9 LT	1802		617.9																		
		1802	1805		609.7	605.9	0.3															
L 193+50	87 RT	1803		615.3																		
		1803	1802		610.1	609.7																
		1804	1803		618.0	610.1	0.8				28			X		X	X	X				
L 192+97	97 LT	1805		611.2																		
		1805	1817		605.4	605.2																
Y20 22+50	46 LT	1806		609.8																		
		1806	1807		604.0	603.7						104					X	X				
Y20 21+50	48 LT	1807		609.5																		
		1807	1808		603.7	603.5						76					X	X				
Y20 20+12	0 CL	1809			605.2	603.0																
Y20 21+09	53 RT	1810																				
Y20 20+78	13 LT	1811		612.5																		
		1811	1812		608.6	608.4																
Y20 21+42	13 LT	1812		612.4																		
		1812	1807		608.4	605.5																
Y20 25+25	13 RT	1814		618.9																		
		1814	1803		615.0	611.3																
Y20 26+90	46 RT	1815																				
Y20 28+11	53 LT	1816																				
Y20 22+62	11 LT	1817		612.4																		
SHEET TOTALS								144	300		60	180										

From	To	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	R. C. Pipe Class V 12	15	18	30	15" Side Drain Pipe	18" Side Drain Pipe	Endwalls Std. 838.01 or Std. 838.11 (Unless Noted Otherwise) CY
1603																								
1603	1609										48													
1604																								
1604	1609										48													
1605																								
1605	1610										48													
1606																								
1606	1604																							
1608																								
1608	1609			500																				
1609																								
1609	1610				184																			
1610																								
1610	1607				100																			
1611																								2.300
1701																								
1701	1702										56													
1703																								
1703	1708											72												
1704																								
1704	1703											80												
1705																								
1705	1704																							
1707																						28		
1708																								
1708	1805																							
1801																								
1801	1802										80													
1802																								
1802	1805					88																		
1803																								
1803	1802					112																		
1804	1803																							
1805																								
1805	1817						96																	
1806																								
1806	1807																							
1807																								
1807	1808																							
1809														132										
1810																						20		
1811																								
1811	1812										68													
1812																								
1812	1807										40													
1814																								
1814	1803										104													
1815																						20		
1816																						20		
1817																								
SHEET TOTALS				500	284	200	96				492	152		132								88		2.300

From	To	Quantities for Drainage Structures 0' thru 5' EACH	A 5' thru 10' LIN. FT.	B 10' and above LIN. FT.	C.B. Std. 840.01 or Std. 840.02	Frame, Grates, and Hood Std. 840.03 Grate Type E	F	G	D.I. Std. 852.04 or Std. 852.06	C.B. Std. 852.05	4" Concrete Paved Ditch, S.Y. Std 850.01	D.I. Std. 840.14 or Std. 840.15	D.I. Frame and Grates Std. 840.16	G.D.I. Type "A" Std. 840.17 or Std. 840.26	G.D.I. Type "B" Std. 840.18 or Std. 840.27	G.D.I. Type "D" Std. 840.19 or Std. 840.28	G.D.I. (W.S. Flat) Frame w/ Grate Std. 840.20	G.D.I. (W.S. Flat) Frame w/ 2 Grates Std. 840.20	G.D.I. (W.S. Sag) Frame w/ Grate Std. 840.22	G.D.I. (W.S. Sag) Frame w/ 2 Grates Std. 840.22	G.D.I. (N.S. Sag) Frame w/ Grate Std. 840.24	G.D.I. (N.S. Sag) Frame w/ 2 Grates Std. 840.24	G.D.I. (N.S. Flat) Frame w/ Grate Std. 840.29	G.D.I. (N.S. Flat) Frame w/ 2 Grates Std. 840.29
1603		1													1									1
1603	1609																							
1604		1													1									1
1604	1609																							
1605		1													1									1
1605	1610																							
1606		1													1									1
1606	1604																							
1608		1	2.9																					
1608	1609																							
1609		1	5.0	4.1																				
1609	1610																							
1610		1	5.0	6.1																				
1610	1607																							
1611																								
1701		1													1			1						
1701	1702																							
1703		1													1			1						
1703	1708																							
1704		1													1							1		
1704	1703																							
1705		1													1							1		
1705	1704																							
1707																								
1708		1													1							1		
1708	1805																							
1801		1													1			1						
1801	1802																							
1802		1	3.2						1			1	1											
1802	1805																							
1803		1	0.2											1								1		
1803	1802																							
1804	1803										31													
1805		1	0.8											1								1		
1805	1817																							
1806		1	0.8											1								1		
1806	1807																							
1807		1	0.8											1								1		
1807	1808																							
1809																								
1810																								
1811		1							1			1	1											
1811	1812																							
1812		1							1			1	1											
1812	1807																							
1814		1							1			1	1											
1814	1803																							
1815																								
1816																								
1817		1	2.2						1			1	1											
SHEET TOTALS		22	20.9	10.2					5		31	5	5	4	10			3				7		4

NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)

From	To	J.B. Std. 840.31 or Std. 840.32	T.B.J.B. Std. 840.34	M.H. Frame and Cover Std. 840.54	15" C.S. Elbow	18" C.S. Elbow	24" C.S. Elbow	30" C.S. Elbow	Berm Ditch Outlet Std. 850.10 (Per Each)	Berm Ditch Outlet Std. 850.11 (Per Each)	15" Sluice Gate	18" Sluice Gate	30" Sluice Gate	Pipe Clean-Out (Per Each)	Preformed Scour Hole (Per Each)	Energy Dissipator Basin	Flowable Fill CY	Concrete Collars Cl. "B" Std. 840.72 CY	Concrete and Brick Pipe Plug Std. 840.71 CY	Pipe Removal LIN. FT.	Remarks
1603																					
1603	1609																				
1604																					
1604	1609																				
1605																					
1605	1610																				
1606																					
1606	1604																				
1608		1		1																	
1608	1609																				
1609		1		1																	
1609	1610																				
1610		1		1																	
1610	1607																				
1611													1								See Special Detail, Sheet 2D-2, Detail 47
1701																					
1701	1702																				
1703																					
1703	1708																				
1704																					
1704	1703																				
1705																					
1705	1704																				
1707																					
1708																					
1708	1805																				
1801																					
1801	1802																				
1802																					
1802	1805																				
1803																					
1803	1802																				
1804	1803							1		1											
1805																					
1805	1817																				
1806																					
1806	1807																				
1807																					
1807	1808																				
1809																					
1810																					
1811																					
1811	1812																				
1812																					
1812	1807																				
1814																					
1814	1803																				
1815																					
1816																					
1817																					
SHEET TOTALS		3		3				1		1			1								

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.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

CARYLAPHILLIPS