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RAL-WS077

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-4705	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 INCHES & UNDER)

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

Location and elevations

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 %
			4301	4312		72.8	70.7	
L 507+00	20	RT	4302		75.8			
			4302	4303		72.8	72.7	
L 507+50	41	RT	4304	4305		72.5	71.2	
Y27 13+56	50	LT	4305		74.4			
			4305	4306		71.2	71.1	
Y27 13+39	32	LT	4306		74.3			
			4306	4309		71.1	70.9	
Y27 13+00	27	LT	4307	4306		72.6	71.3	
Y27 13+00	27	RT	4308	4309		72.6	71.1	
Y27 13+39	24	RT	4309		74.5			
			4309	4310		70.9	70.6	
Y27 13+59	38	RT	4310		74.6			
			4310	4311		70.6	70.5	
L 510+00	20	LT	4312		73.7			
			4312	4313		70.5	70.1	
L 510+00	20	RT	4313		73.7			
			4313	4314		70.1	69.8	
L 511+85	20	LT	4315		71.7			
			4315	4320		68.7	68.5	
L 512+48	41	LT	4316	4317		67.4	64.9	
L 513+18	33	LT	4317		69.8			
L 513+35	20	LT	4318		70.6			
			4318	4321		67.6	67.4	
L 513+58	20	LT	4321		70.6			
			4321	4322		66.3	66.0	
L 513+58	20	RT	4322		70.6			
			4322	4331		66.0	65.5	
L 512+00	20	RT	4323		71.5			
			4323	4326		68.5	68.4	
L 514+26	39	LT	4324		69.7			
			4324	4325		67.2	67.0	
L 514+26	20	LT	4325		70.8			
			4325	4321		67.0	66.3	0.8
Y28 10+35	53	LT	4327		71.5			
			4327	4325		67.7	67.0	0.4
Y28 10+71	22	LT	4328		71.7			
			4328	4327		67.9	67.7	0.4
Y28 11+25	25	LT	4329	4328		70.4	68.4	
L 516+46	57	LT	4330	4328		68.7	67.9	0.3
Y27 11+93	25	RT	4342					
L 509+47	40	RT	4332					
L 510+51	40	RT	4333					
L 510+28	37	LT	4334					
L 510+79	39	RT	4335					
L 511+75	38	RT	4336					
L 513+21	39	RT	4337					
L 514+67	37	RT	4338					
L 515+19	36	RT	4339					
L 515+83	35	RT	4340					

Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC)

FROM	TO	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
4301	4312											
4302												
4302	4303	20							X	X		X
4304	4305		20						X	X		X
4305												
4305	4306											
4306												
4306	4309											
4307	4306	40							X	X		X
4308	4309	40							X	X		X
4309												
4309	4310											
4310												
4310	4311		44						X	X		X
4312												
4312	4313											
4313												
4313	4314		20						X	X		X
4315												
4315	4320	20							X	X		X
4316	4317				72				X	X		X
4317												
4318												
4318	4321											
4321												
4321	4322											
4322												
4322	4331				24				X	X		X
4323												
4323	4326	20							X	X		X
4324												
4324	4325		20						X	X		X
4325												
4325	4321											
4327												
4327	4325			100					X	X		X
4328												
4328	4327			48					X	X		X
4329	4328		56						X	X		X
4330	4328											
4342		32							X	X		X
4332			20						X	X		X
4333			20						X	X		X
4334		40							X	X		X
4335			20						X	X		X
4336			20						X	X		X
4337			44						X	X		X
4338		24							X	X		X
4339		20							X	X		X
4340		24							X	X		X
SHEET TOTALS		280	284	148	96							

C. S. PIPE and R. C. PIPE CLASS III (no entries)

	C. S. PIPE 15	18	24	30	36	42	48		R. C. PIPE CLASS III 15	18	24	30	36	42	48	
THICKNESS OR GAUGE	.064	.064	.064	.079	.079	.109	.109									

R. C. PIPE CLASS IV and CLASS V

FROM	TO	CLASS IV 15	18	24	30	36	42	48		CLASS V 15	18	24	30	36	42	48	
4301	4312	300															
4305	4306		24														
4306	4309										56						
4309	4310		24														
4312	4313										40						
4318	4321	24															
4321	4322											40					
4325	4321			68													
4330	4328										92						
SHEET TOTALS		324	48	68						96	92	40					

(All other rows have no entries in these columns.)

Side drain, endwalls and drainage structures

FROM	TO	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	18" WELDED STEEL PIPE 0.25" THICK, IN SOIL	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 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
4302									1			1		1	
4305									1			1		1	
4306									1			1	1		
4309									1			1	1		
4310									1			1			1
4312									1			1			1
4313									1			1		1	
4315									1			1			1
4317									1	0.2					
4318									1			1			1
4321									1			1	1		
4322									1			1	1		
4323									1			1		1	
4324									1						
4325									1			1		1	
4327									1			1	1		
4328									1			1		1	
SHEET TOTALS									17	0.2		15	5	6	4

Inlets, boxes, manholes and other items

FROM	TO	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/ 2 GRATES STD. 840.20	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	J.B. STD. 840.31 OR STD. 840.32	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST D.I.	ENERGY DISSIPATION 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
4306	4309															3				
4316	4317																		58	
4317										1		1								
4324		1	1																	
4325	4321																		101	
4327	4325																		120	
4330	4328																		76	
4332																			24	
4333																			24	
4334																			38	
4335																			24	
4336																			24	
4337																			80	
4338																			24	
4339																			24	
4340																			24	
SHEET TOTALS		1	1							1		1				3			641	

(All other rows have no entries in these columns.)