WKST1

COMPUTED BY:	RBR	DATE:	6/15/2018
CHECKED BY:	ECOLOGICAL ENGINEERING, LLP	DATE:	6/15/2018

PROJECT NO.	SHEET NO.
U-4405	3D-3

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 (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	DO NOT USE PVC
L 32+20	66	RT	0525		216.6																
			0525	0526		214.4	214.3			8											
L 31+28	41	RT	0520		220.6																
			0520	0519		211.4	211.1	0.3					20								
L 31+29	6	LT	0521		221.7																
			0521	0520		211.5	211.4	0.3													
L 31+30	53	LT	0522		220.2																
			0522	0521		211.7	211.5	0.3													
L 31+26	69	LT	0523		221.1																
			0523	0522		211.7	211.7						16								
L 31+53	95	LT	0524		216.5																
			0524	0523		212.6	211.7					36									
L 32+37	89	LT	0527		215.9																
			0527	0524		212.9	212.7														
L 33+06	55	RT	0528		220.0																
			0528	0539		210.1	209.7									116					
L 33+00	52	LT	0529		219.6																
			0529	0535		216.6	216.1														
L 33+06	69	RT	0530		216.2																
			0530	0528		214.0	213.9			12											
L 33+06	41	RT	0531		219.9																
			0531	0528		216.9	216.3			16											
L 34+23	67	RT	0532		215.6																
			0532	0539		213.4	213.3			12											
L 34+69	66	RT	0533		215.6																
			0533	0540		213.4	213.3			12											
			0535	0536		215.9	215.5														
L 34+69	52	LT	0535		219.3																
			0536	0540		210.9	210.8					16									
L 34+69	41	RT	0536		219.6																
L 26+35	41	RT	0537		221.9																
			0537	0507		218.6	215.1				24							X	X		
L 26+35	2	RT	0538		222.4																
			0538	0537		219.2	218.9														
L 34+23	55	RT	0539		219.7																
			0539	0540		209.7	209.6									44					
L 25+55	75	LT	0541																		
L 35+56	65	RT	0601		215.9																
			0601	0643		213.7	213.6			12											
L 35+65	52	LT	0602		219.4																
			0602	0535		216.4	216.1														
L 36+16	65	RT	0603		216.3																
			0603	0644		214.1	214.0			8											
L 36+65	52	LT	0605		219.7																
			0605	0602		216.7	216.4														
L 37+25	67	RT	0606		217.2																
			0606	0645		215.0	214.9			12											
L 38+15	70	RT	0609		215.4																
			0609	0646		213.2	213.1			28											
L 37+84	82	LT	0608		217.2																
SHEET TOTALS										120	24	52	36			160					

STATION / STRUCTURE	C. S. PIPE 12 (.064)	C. S. PIPE 15 (.064)	C. S. PIPE 18 (.064)		R. C. PIPE CLASS III 12	15	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	30" WELDED STEEL PIPE 0.5" THICK, GRADE B IN SOIL	30" WELDED STEEL PIPE 0.5" THICK, GRADE B NOT IN SOIL	36" WELDED STEEL PIPE 0.5" THICK, GRADE B IN SOIL	36" WELDED STEEL PIPE 0.5" THICK, GRADE B NOT IN SOIL	15" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY
L 32+20 (0525)																					
0525–0526																					
L 31+28 (0520)																					
0520–0519																					
L 31+29 (0521)																					
0521–0520												44									
L 31+30 (0522)																					
0522–0521												44									
L 31+26 (0523)																					
0523–0522																					
L 31+53 (0524)																					
0524–0523																					
L 32+37 (0527)																					
0527–0524										84											
L 33+06 (0528)																					
0528–0539																					
L 33+00 (0529)																					
0529–0535									168												
L 33+06 (0530)																					
0530–0528																					
L 33+06 (0531)																					
0531–0528																					
L 34+23 (0532)																					
0532–0539																					
L 34+69 (0533)																					
0533–0540																					
0535–0536										92											
L 34+69 (0535)																					
0536–0540																					
L 34+69 (0536)																					
L 26+35 (0537)																					
0537–0507																					
L 26+35 (0538)																					
0538–0537									36												
L 34+23 (0539)																					
0539–0540																					
L 25+55 (0541)																				60	
L 35+56 (0601)																					
0601–0643																					
L 35+65 (0602)																					
0602–0535									96												
L 36+16 (0603)																					
0603–0644																					
L 36+65 (0605)																					
0605–0602									100												
L 37+25 (0606)																					
0606–0645																					
L 38+15 (0609)																					
0609–0646																					
L 37+84 (0608)																					
SHEET TOTALS									400	176		88								60	

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

STATION / STRUCTURE	0' THRU 5' EACH	5' THRU 10' (A) LIN. FT.	10' AND ABOVE (B) LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	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. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	15" SLOTTED DRAIN	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	T.B.G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54
L 32+20 (0525)	1											1	1													
0525–0526																										
L 31+28 (0520)	1	4.2		1		1																				
0520–0519																										
L 31+29 (0521)	1	5.0	0.2						1			1	1													
0521–0520																										
L 31+30 (0522)	1	4.0		1			1																			
0522–0521																										
L 31+26 (0523)	1	4.4																			1					1
0523–0522																										
L 31+53 (0524)	1											1	1													
0524–0523																										
L 32+37 (0527)	1											1	1													
0527–0524																										
L 33+06 (0528)	1	4.9																			1					1
0528–0539																										
L 33+00 (0529)	1			1			1																			
0529–0535																										
L 33+06 (0530)	1											1	1													
0530–0528																										
L 33+06 (0531)	1			1		1																				
0531–0528																										
L 34+23 (0532)	1											1	1													
0532–0539																										
L 34+69 (0533)	1																									
0533–0540																										
0535–0536																										
L 34+69 (0535)	1			1	1																					
0536–0540																										
L 34+69 (0536)	1	3.7		1	1																					
L 26+35 (0537)	1			1		1																				
0537–0507																										
L 26+35 (0538)	1								1			1	1													
0538–0537																										
L 34+23 (0539)	1	5.0																			1					1
0539–0540																										
L 25+55 (0541)																										
L 35+56 (0601)	1											1	1													
0601–0643																										
L 35+65 (0602)	1			1		1																				
0602–0535																										
L 36+16 (0603)	1											1	1													
0603–0644																										
L 36+65 (0605)	1			1		1																				
0605–0602																										
L 37+25 (0606)	1											1	1													
0606–0645																										
L 38+15 (0609)	1											1	1													
0609–0646																										
L 37+84 (0608)	1											1	1													
SHEET TOTALS	25	31.2	0.2	9	2	5	2		2			12	12								3					3

STATION / STRUCTURE	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.	ADJUST JB W/MH	15" C.S. ELBOW	18" C.S. ELBOW	12" DRAINAGE PIPE ELBOW	15" DRAINAGE PIPE ELBOW	24" DRAINAGE PIPE ELBOW	30" DRAINAGE PIPE ELBOWS	48" DRAINAGE PIPE ELBOW	PIPE CLEAN OUT CY	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
L 32+20 (0525)																		
0525–0526																		
L 31+28 (0520)																		
0520–0519																		
L 31+29 (0521)																		
0521–0520																		
L 31+30 (0522)																		
0522–0521																		
L 31+26 (0523)																		
0523–0522																		
L 31+53 (0524)																		
0524–0523																		
L 32+37 (0527)																		
0527–0524																		
L 33+06 (0528)																		
0528–0539																		
L 33+00 (0529)																		
0529–0535																		
L 33+06 (0530)																		
0530–0528																		
L 33+06 (0531)																		
0531–0528																		
L 34+23 (0532)																		
0532–0539																		
L 34+69 (0533)																		
0533–0540																		
0535–0536																		
L 34+69 (0535)																		
0536–0540																		
L 34+69 (0536)																		
L 26+35 (0537)																		
0537–0507																		
L 26+35 (0538)																		
0538–0537																		
L 34+23 (0539)																		
0539–0540																		
L 25+55 (0541)																		
L 35+56 (0601)																		
0601–0643																		
L 35+65 (0602)																		
0602–0535																		
L 36+16 (0603)																		
0603–0644																		
L 36+65 (0605)																		
0605–0602																		
L 37+25 (0606)																		
0606–0645																		
L 38+15 (0609)																		
0609–0646																		
L 37+84 (0608)																		
SHEET TOTALS																		

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