COMPUTED BY: AMH DATE: 2026-01-20

CHECKED BY: TJC DATE: 2026-02-12

PROJECT NO.	SHEET NO.
BP7.R001	3D-1

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)

STATION	LOCATION (LT, RT, OR CL') OFFSET		STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL
14+73 -L-	3'	LT	401		706.0	701.3		
			401	402		701.3	698.8	
14+53 -L-	30'	LT	402		703.5	698.8		
			402	403		698.8	697.9	
13+75 -L-	30'	LT	403		703.9	697.9		
			403	404		697.9	686.1	
20+25 -L-	29'	LT	405		705.5	700.8		
			405	406		700.8	700.6	
20+15 -L-	29'	LT	406		705.3	700.6		
			406	408		700.6	698.9	
19+24 -L-	41.5'	LT	407		700.9	697.9		
			407	410		697.9	679.1	
19+24 -L-	29'	LT	408		703.9	698.9		
			408	407		698.9	697.9	
19+24 -L-	3'	LT	409		705.3	700.6		
			409	408		700.6	698.9	
20+46 -Y-	77'	RT	410		684.3	678.6		
			410	426		678.6	675.7	
23+38 -L-	29'	LT	411		705.3	702.3		
			411	412		702.3	702.1	
23+48 -L-	29'	LT	412		705.1	702.1		
			412	414		702.1	700.6	
24+38 -L-	6'	LT	413		704.3	701.3		
			413	414		701.3	700.6	
24+38 -L-	29'	LT	414		703.6	700.6		
			414	415		700.6	699.4	
25+34 -L-	29'	LT	415		702.4	699.4		
			415	416		699.4	699.3	X
25+34 -L-	6'	LT	416		703.1	699.3		
			416	417		699.3	698.7	X
26+81 -L-	4'	RT	417		702.7	698.7		
			417	419		698.7	698.2	X
26+81 -L-	47'	LT	418			699.1		
			418	417		699.1	698.7	X
13+95 -L-		CL	421			686.0		
			421	422		686.0	670.3	
10+50 'L-	106'	LT	423		695.0	687.5		
			423	424		687.5	686.5	X
19+50 -Y-	74'	RT	425		687.3	681.6		
			425	410		681.6	678.6	
21+20 -Y-	76.5'	RT	426		683.5	675.2		
			426	427		675.2	674.2	
21+90 -Y-	76.5'	RT	427		680.5	674.2		
			427	428		674.2	672.8	
22+41 -Y-	76.5'	RT	428		679.1	672.8		
			428	429		672.8	671.3	
23+00 -Y-	76.5'	RT	429		677.6	671.3		
			429	430		671.3	667.4	
24+00 -Y-	71.5'	RT	430		675.4	667.4		
			430	434		667.4	661.5	
SHEET TOTALS								

SIZE / THICKNESS OR GAUGE

DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)

FROM	TO	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
401														
401	402													
402														
402	403													
403														
403	404			68						X				X
405														
405	406													
406														
406	408													
407														
407	410			88						X				X
408														
408	407													
409														
409	408													
410														
410	426													
411														
411	412													
412														
412	414													
413														
413	414													
414														
414	415													
415														
415	416													
416														
416	417													
417														
417	419													
418														
418	417													
421														
421	422													
423														
423	424													
425														
425	410													
426														
426	427													
427														
427	428													
428														
428	429													
429														
429	430													
430														
430	434													
SHEET TOTALS				156										

R.C. PIPE CLASS III / CLASS IV / CLASS V

FROM	TO	III 12"	III 15"	III 18"	III 24"	III 30"	III 36"	III 42"	III 48"	IV 12"	IV 15"	IV 18"	IV 24"	IV 30"	IV 36"	IV 42"	IV 48"	V 12"	V 15"	V 18"	V 24"	V 30"	V 36"	V 42"	V 48"
401																									
401	402			32																					
402																									
402	403			76																					
403																									
403	404																								
405																									
405	406			8																					
406																									
406	408			88																					
407																									
407	410																								
408																									
408	407			16																					
409																									
409	408			24																					
410																									
410	426				72																				
411																									
411	412																			8					
412																									
412	414																			88					
413																									
413	414																			20					
414																									
414	415																			92					
415																									
415	416																			24					
416																									
416	417											144													
417																									
417	419											72													
418																									
418	417											52													
421																									
421	422																								
423																									
423	424																								
425																									
425	410				96																				
426																									
426	427					68																			
427																									
427	428					48																			
428																									
428	429					56																			
429																									
429	430					100																			
430																									
430	434					108																			
SHEET TOTALS				244	168	380						268								232					

FROM	TO	24" WELDED STEEL PIPE 0.250" THICK, GRADE B, IN SOIL	24" WELDED STEEL PIPE 0.250" THICK, GRADE B, NOT IN SOIL	30" WELDED STEEL PIPE 0.375" THICK, GRADE B, IN SOIL	30" WELDED STEEL PIPE 0.375" THICK, GRADE B, NOT IN SOIL	36" WELDED STEEL PIPE 0.500" THICK, GRADE B, IN SOIL	36" WELDED STEEL PIPE 0.500" THICK, GRADE B, NOT IN SOIL	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') 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	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN
401										1							1	
401	402																	
402										1			1		1			
402	403																	
403										1	1		1		1			
403	404																	
405										1								
405	406																	
406										1								
406	408																	
407										1								
407	410																	
408										1								
408	407																	
409										1							1	
409	408																	
410										1	0.7		1		1			
410	426																	
411										1								
411	412																	
412										1								
412	414																	
413										1							1	
413	414																	
414										1								
414	415																	
415										1								
415	416																	
416										1							1	
416	417																	
417										1							1	
417	419																	
418																		
418	417																	
421								3.4										
421	422					96	96											
423										1	2.5							
423	424			100	100													
425										1	0.7		1		1			
425	410																	
426										1	3.3							
426	427																	
427										1	1.3							
427	428																	
428										1	1.3							
428	429																	
429										1	1.3							
429	430																	
430										1	3.0							
430	434																	
SHEET TOTALS				100	100	96	96	3.4		23	15.1		4		4		5	

FROM	TO	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	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. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	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	J.B. STD. 840.31 OR STD. 840.32	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING C.B. TO D.I.	CONVERT EXISTING D.I. TO J.B.	18" DRAINAGE PIPE ELBOW	24" DRAINGE PIPE ELBOW	30" DRAINAGE PIPE ELBOW			FLOWABLE FILL CY	PIPE CLEANOUT CY	CONCRETE AND BRICK PIPE PLUGS STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
401									1						1																	
401	402																															
402																																
402	403																															
403																																
403	404																						2									
405							1		1																							
405	406																															
406							1		1																							
406	408																															
407							1			1																						
407	410																						2									
408							1		1																							
408	407																															
409									1						1																	
409	408																															
410																																
410	426																															
411							1		1																							
411	412																															
412							1		1																							
412	414																															
413									1						1																	
413	414																															
414							1		1																							
414	415																															
415							1		1																							
415	416																															MIN. REQ'D PIPE GRADE = 0.50%
416									1						1																	
416	417																															MIN. REQ'D PIPE GRADE = 0.40%
417									1						1																	
417	419																															MIN. REQ'D PIPE GRADE = 0.50%
418																																OPEN ENDED PIPE
418	417																															MIN. REQ'D PIPE GRADE = 0.50%
421																																
421	422																															
423		1																	1													
423	424																															MIN. REQ'D PIPE GRADE = 0.50%
425																																
425	410																															
426						1			1																							
426	427																															
427						1			1																							
427	428																															
428						1			1																							
428	429																															
429						1			1																							
429	430																															
430						1			1																							
430	434																															
SHEET TOTALS		1				5	8		17	1					5				1				4									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

DESKTOP-0S3UD2R