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R4L-WS090

COMPUTED BY:	SMM	DATE:	6/26/19
CHECKED BY:	JCH	DATE:	6/27/19

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5600	3D-6

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 | Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC) 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 | C. S. PIPE 15 .064 | 18 .064 | 24 .064 | 30 .079 | 36 .079 | 42 .109 | 48 .109 | R. C. PIPE CLASS III 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS IV 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS V 15 | 18 | 24 | 30 | 42" x 29" C.S. PIPE ARCH CULVERTS, 0.079" THICK | 36" WELDED STEEL PIPE 0.312" THICK, GRADE B | 48" WELDED STEEL PIPE 0.5" THICK, GRADE B | 42" WELDED STEEL PIPE 0.375" THICK, GRADE B | 15" WELDED STEEL PIPE 0.25" THICK, GRADE B | 18" WELDED STEEL PIPE 0.25" THICK, GRADE B | 24" WELDED STEEL PIPE 0.25" THICK, GRADE B | 30" WELDED STEEL PIPE 0.312" THICK, GRADE B | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS 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 | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | OPEN THROAT C.B., SEE SPECIAL DETAIL SHEET 20 | 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 | J.B. STD. 840.31 OR STD. 840.32 | M.H. FRAME AND COVER STD. 840.54 | CONVERT EXISTING D.I. TO J.B. | ADJUST D.I. | 15" SIDE DRAIN PIPE ELBOW | 18" SIDE DRAIN PIPE ELBOW | 15" C.S. ELBOW | 18" C.S. ELBOW | BERM DRAINAGE OUTLET STD. 850.10 (SY) | BERM DRAINAGE OUTLET STD. 850.11 (SY) | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | PIPE REMOVAL LIN. FT. | REMARKS |
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