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| COMPUTED BY: | EGH | DATE: | 10/24/2014 |
| CHECKED BY: | SNM | DATE: | 10/27/2014 |

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

| PROJECT NO. | SHEET NO. |
|---|---|
| R-2915A | 3D-11 |

RD24821

**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 | LOCATION (LT, RT, OR CL) | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | SLOPE CRITICAL % | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | THICKNESS OR GAUGE | | | | | | | | | | | |
| SR1 14+18 | RT | | | | | | | | | | | | | | | | | | |
| SR1 14+49 | CL | | | | | | | | | | | | | | | | | | |
| SR1 15+45 | RT | | | | | | | | | | | | | | | | | | |
| Y1 43+02 | LT | 1802 | | 3039.20 | | | | | | | | | | | | | | | |
| Y1 43+02 | RT | 1801 | | 3039.50 | | | | | | | | | | | | | | | |
| | | 1802 | 1801 | | 3031.30 | 3031.20 | | | | | | | | | | | | | |
| SR1 16+11 | LT | | | | | | | | | | | | | | | | | | |
| SR1 16+11 | LT | | | | | | | | | | | | | | | | | | |
| SHEET 1 TOTAL | | | | | | | | 232 | | | | | | | | | | | |
| SHEET 2 TOTAL | | | | | | | | | 48 | 152 | | | | | | | | | |
| SHEET 3 TOTAL | | | | | | | | 156 | 216 | | | | | | | | | | |
| SHEET 4 TOTAL | | | | | | | | 40 | 56 | 32 | | | | | | | | | |
| SHEET 5 TOTAL | | | | | | | | 208 | 32 | | | | | | | | | | |
| SHEET 6 TOTAL | | | | | | | | 32 | 28 | | | | | | | | | | |
| SHEET 7 TOTAL | | | | | | | | 96 | 104 | | | | | | | | | | |
| SHEET 8 TOTAL | | | | | | | | 240 | 180 | | | | | | | | | | |
| SHEET 9 TOTAL | | | | | | | | 72 | 348 | | | | | | | | | | |
| SHEET 10 TOTAL | | | | | | | | | 20 | | | | | | | | | | |
| SHEET 11 TOTAL | | | | | | | | | | | | | | | | | | | |
| PROJECT TOTAL | | | | | | | | 1076 | 1032 | 184 | | | | | | | | | |
| SAY | | | | | | | | 1076 | 1032 | 184 | | | | | | | | | |

| LINE & STATION | C.S. PIPE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THICKNESS OR GAUGE | 0.064 | 0.064 | 0.064 | 0.064 | 0.079 | 0.079 | 0.109 | 0.109 | | | | | | | | | | | | | | | | |
| SR1 14+18 | | | | | | | | | | | | | | | | | | | | | | | | |
| SR1 14+49 | | | | | | | | | | | | | | | | | | | | | | | | |
| SR1 15+45 | | | | | | | | | | | | | | | | | | | | | | | | |
| Y1 43+02 | | | | | | | | | | | | | | | | | | | | | | | | |
| Y1 43+02 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 8 | | | | | | | | | | | | | | |
| SR1 16+11 | | | | | | | | | | | | | | | | | | | | | | | | |
| SR1 16+11 | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET 1 TOTAL | | | | | | | | | 784 | 296 | | | | | 192 | | | | 180 | | | | | |
| SHEET 2 TOTAL | | | | | | | | | 992 | | 348 | 528 | 228 | | 212 | | | | | | | | | |
| SHEET 3 TOTAL | | | | | | | | | 652 | 132 | 252 | 156 | | 52 | | | | 140 | | | | | | |
| SHEET 4 TOTAL | | | | | | | | | 804 | 44 | 1056 | 132 | 24 | | | | | | | | | | | |
| SHEET 5 TOTAL | | | | | | | | | 372 | 464 | | | | 224 | 176 | | | | | | | | | |
| SHEET 6 TOTAL | | | | | | | 168 | | 1092 | 596 | 144 | | 252 | | | | | | | | | | | |
| SHEET 7 TOTAL | | | | | | | | | 460 | 328 | | | 204 | | | | | | | | | | | |
| SHEET 8 TOTAL | | | | | | | | | 596 | 276 | 368 | | | | 124 | | | | | | | | | |
| SHEET 9 TOTAL | | | | | | | | | 572 | 176 | 460 | 216 | | | | | | | | | | | | |
| SHEET 10 TOTAL | | | | | | | | | 1168 | 432 | 216 | | | | | | | 64 | | | | | | |
| SHEET 11 TOTAL | | | | | | | | | 8 | | | | | | | | | | | | | | | |
| PROJECT TOTAL | | | | | | | 168 | | 7500 | 2744 | 2844 | 1032 | 708 | 276 | 704 | | | 204 | 180 | | | | | |
| SAY | | | | | | | 168 | | 7500 | 2744 | 2844 | 1032 | 708 | 276 | 704 | | | 204 | 180 | | | | | |

| LINE & STATION | ** R.C. PIPE (CLASS V) | 15" RC PIPE CULVERTS, CONTRACTOR DESIGN | 18" RC PIPE CULVERTS, CONTRACTOR DESIGN | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0') | LIN.FT. A 5.0' THRU 10.0' | 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 STD. 852.04 OR 852.06 | CATCH BASIN STD. 852.05 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.25 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH TWO GRATES STD. 840.20 WIDE/FLAT | G.D.I. FRAME WITH TWO GRATES STD. 840.22 WIDE/SAG | G.D.I. FRAME WITH TWO GRATES STD. 840.29 NARROW/FLAT | G.D.I. FRAME WITH TWO GRATES STD. 840.24 NARROW/SAG | J.B. STD. 840.31 OR 840.32 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | MANHOLE FRAME AND COVER STD. 840.54 | BERM DRAINAGE OUTLET (BDO) STD. 850.10 | BERM DRAINAGE OUTLET (BDO) STD. 850.11 | CONCRETE MEDIAN DI TYPE-A, EXTRA DEPTH (840D17) | FLOWABLE FILL (C.Y.) | 15" SIDE DRAIN PIPE ELBOWS | 18" SIDE DRAIN PIPE ELBOWS NO. & SIZE | 24" SIDE DRAIN PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | PSH (PREFORMED SCOUR HOLE (QTY. EACH) | PIPE REMOVAL LIN. FT. | 15" PIPE END SECTION | 18" PIPE END SECTION | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SR1 14+18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | REMOVE 24" RCP |
| SR1 14+49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | | | REMOVE 15" RCP & DI |
| SR1 15+45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | | | REMOVE 15" RCP & DI |
| Y1 43+02 | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | |
| Y1 43+02 | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | |
| SR1 16+11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 22 | | | REMOVE 24" RCP & DI W/ CAP |
| SR1 16+11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 138 | | | REMOVE RISER AND 36" CMP |
| SHEET 1 TOTAL | | | | | | | | 22.0 | 33.0 | 4.8 | 2 | 1 | 1 | | 3 | | 3 | 3 | 2 | 13 | 1 | 13 | 3 | | | 1 | | 1 | | | | 13.7 | 4 | | | 0.310 | | 65 | | | |
| SHEET 2 TOTAL | | | | | | 6 | | 16.0 | 20.4 | 9.4 | | | | | | | | | 3 | 5 | | 5 | 9 | | | 2 | | 5 | 2 | 2 | 1 | 1 | | | 2 | 2 | 0.130 | | 770 | | | |
| SHEET 3 TOTAL | | | | | | 9 | | 19.0 | 1.7 | | | | | | | | | | | 7 | 6 | 11 | 7 | 1 | | | | 6 | | 2 | | | | 2 | 4 | | 0.065 | | | | | |
| SHEET 4 TOTAL | | | | | | 3 | | 16.0 | 19.1 | 2.8 | | | | | 4 | | 4 | 4 | 3 | 2 | | 7 | 5 | | | | | 6 | | 2 | 1 | 1 | 2.9 | 2 | 2 | 2 | 0.130 | | 415 | | 2 | |
| SHEET 5 TOTAL | | | | | | 11 | | 7.0 | 5.2 | 0.7 | | | | | | | | | | 1 | 5 | 1 | | 5 | | 2 | | | | 2 | | | | 2 | 2 | | 0.045 | | 1266 | 3 | | |
| SHEET 6 TOTAL | | | | | | 5 | 3 | 15.0 | 10.3 | 2.8 | | | | | 3 | | 3 | 3 | | 2 | 2 | 5 | 3 | | 1 | 3 | | 5 | 3 | 1 | | 1 | | | 2 | | | | 387 | | | |
| SHEET 7 TOTAL | | | | | | 7 | | 9.0 | 8.1 | 3.3 | | | | | | | | | | 3 | 2 | 5 | 4 | | | | | 4 | | 2 | | | | | 4 | | | 1 | 1009 | 3 | | |
| SHEET 8 TOTAL | | | | | | 6 | | 15.0 | 24.6 | 15.0 | | | | | 1 | | 1 | 1 | 1 | 4 | | 5 | 1 | | 4 | 3 | 1 | 4 | 4 | 2 | | 1 | | 2 | 2 | | | 1 | 530 | 1 | 1 | |
| SHEET 9 TOTAL | | | | | | | | 18.0 | 6.5 | | | | | | | | | | | 5 | 9 | 1 | 3 | | 7 | 8 | | | 3 | | 4 | | | | 8 | | | 1 | 391 | | | |
| SHEET 10 TOTAL | | | | | | | | 22.0 | 5.5 | | | | | | 5 | | 5 | 5 | 1 | 13 | | 6 | 4 | 3 | 4 | | | 3 | | 1 | | | | | 2 | | | | 65 | | | |
| SHEET 11 TOTAL | | | | | | | | 2.0 | | | | | | | | | | | | 2 | | 2 | | | | | | | | | | | | | | | | | 277 | | | |
| PROJECT TOTAL | | | | | | 47 | 3 | 161.0 | 134.2 | 38.8 | 2 | 1 | 1 | | 16 | | 16 | 16 | 16 | 65 | 13 | 62 | 41 | 11 | 19 | 9 | 1 | 36 | 10 | 18 | 2 | 4 | 16.6 | 12 | 28 | 4 | 0.680 | 3 | 5175 | 7 | 3 | |
| SAY | | | | | | 47 | 3 | 161 | 185 | | 2 | 1 | 1 | | 16 | | 16 | 16 | 16 | 65 | 13 | 62 | 41 | 11 | 19 | 9 | 1 | 36 | 10 | 18 | 2 | 4 | 17 | 12 | 28 | 4 | 0.680 | 3 | 5175 | 7 | 3 | |

ABBREVIATIONS

| | |
|---|---|
| C.B. | CATCH BASIN |
| N.D.I. | NARROW DROP INLET |
| D.I. | DROP INLET |
| G.D.I. | GRATED DROP INLET |
| G.D.I.(N.S.) | (NARROW SLOT) |
| J.B. | JUNCTION BOX |
| M.H. | MANHOLE |
| T.B.D.I. | TRAFFIC BEARING DROP INLET |
| T.B.J.B. | TRAFFIC BEARING JUNCTION BOX |