COMPUTED BY: K. DUNN KUD DATE: APRIL 7, 2004
CHECKED BY: J. JATKO DATE: APRIL 7, 2004

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

METRIC

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2514A | 3-E |

## LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 1200 mm & UNDER)

| STATION | LOCATION (LT, RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 300 | 375 | 450 | 600 | 750 | 900 | 1050 | 1200 | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 300 (1.63) | 400 (1.63) | 450 (1.63) | 600 (1.63) | 800 (2.01) | 900 (2.01) | 1000 (2.77) | 1200 (2.77) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHEET 29 CONT. | | | | | | | | | | | | | | | | | | | | | | | |
| 183+60 | RT | 128 | 129 | 10.32 | 9.48 | 8.40 | | | | | | | | | | | 4.5 | | | | | | |
| 184+00 | RT | 130 | 131 | 9.17 | 8.53 | 8.38 | | | | 23.4 | | | | | | | | | | | | | |
| SHEET 30 | | | | | | | | | | | | | | | | | | | | | | | |
| 185+70 | LT | 132 | | | | | | | | | | | | | | | | | | | | | |
| 186+43 | LT | 133 | | | | | | | | | | | | | | | | | | | | | |
| SHEET 31 | | | | | | | | | | | | | | | | | | | | | | | |
| 189+25 | LT | | 134 | | 12.65 | 12.20 | | | | | 20.5 | | | | | | | | | | | | |
| 189+25 | RT | 134 | 135 | 13.01 | 12.20 | 12.08 | | | | | 24.5 | | | | | | | | | | | | |
| 190+61 | RT | 136 | | | | | | | | | | | | | | | | | | | | | |
| SHEET 32 | | | | | | | | | | | | | | | | | | | | | | | |
| 192+53 | LT | | 137 | | 12.76 | 12.60 | | | | 24.0 | | | | | | | | | | | | | |
| 192+50 | RT | 137 | 138 | 13.26 | 12.60 | 12.45 | | | | 28.8 | | | | | | | | | | | | | |
| 192+65 | LT | | | | | | | | | | | | | | | | | | | | | | |
| 192+70 | RT | | | | | | | | | | | | | | | | | | | | | | |
| -Y3- 0+47 | LT | | | | | | | | | | | | | | | | | | | | | | |
| -Y3- 0+78 | LT | 139 | | | | | | | | | | | | | | | | | | | | | |
| -Y3- 0+79 | RT | 140 | | | | | | | | | | | | | | | | | | | | | |
| -Y4- 0+24 | RT | | | | | | | | | | | | | | | | | | | | | | |
| -Y4- 0+44 | RT | | | | | | | | | | | | | | | | | | | | | | |
| -Y4- 0+58 | LT | | | | | | | | | | | | | | | | | | | | | | |
| -Y4- 0+97 | LT | 141 | | | | | | | | | | | | | | | | | | | | | |
| 194+40 | RT | 142 | 143 | 13.07 | 12.23 | 11.63 | | | 26.0 | | | | | | | | | | | | | | |
| SHEET 33 | | | | | | | | | | | | | | | | | | | | | | | |
| 195+30 | CL | 144 | | | 12.11 | 11.81 | | | | | 47.0 | | | | | | | | | | | | |
| 195+50 | CL | 145 | 146 | | 11.95 | 11.85 | | | | | | | 47.0 | | | | | | | | | | |
| 195+88 | RT | 147 | | | | | | | | | | | | | | | | | | | | | |
| SHEET 3-E TOTAL | | | | | | | | | 26.0 | 76.2 | 92.0 | | 47.0 | | | | 4.5 | | | | | | |
| SHEET 3-A TOTAL | | | | | | | | | 55.9 | 82.5 | 67.0 | | 54.0 | | | | | | | | | | |
| SHEET 3-B TOTAL | | | | | | | | | 226.8 | 50.2 | 147.1 | 46.5 | 52.0 | | | | | | | | | | |
| SHEET 3-C TOTAL | | | | | | | | | 230.5 | 144.2 | 146.5 | | 45.5 | | | | 8.5 | | | | | | |
| SHEET 3-D TOTAL | | | | | | | | | 106.5 | | 262.5 | 100.5 | | | | | 32.0 | | | | | | |
| PROJECT TOTALS | | | | | | | | | 645.7 | | 715.1 | | 198.5 | | | | 45.0 | | | | | | |
| | | | | | | | | | | 353.1 | | 147.0 | | | | | | | | | | | |
| SAY | | | | | | | | | 646.8 | | 715.2 | | 199.2 | | | | 45.6 | | | | | | |
| | | | | | | | | | | 354.0 | | 147.6 | | | | | | | | | | | |

| STATION | 375mm SIDE DRAIN PIPE | 450mm SIDE DRAIN PIPE | 600mm SIDE DRAIN PIPE | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. METERS R.C.P. | C.S.P. | QUANTITIES: STRUCTURES PER EACH (0 THRU 1.50) | FOR DRAINAGE *TOTAL M. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') METERS A 1.50 THRU 3.00 | B 3.00 AND ABOVE | C.B. STD. 840.01 OR 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 TYPE OF GRATE E | F | G | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | M.D.I. TYPE "A" STD. 840.17 OR 840.26 | M.D.I. TYPE "B" STD. 840.18 OR 840.27 | M.D.I. TYPE "D" STD. 840.19 OR 840.28 | M.D.I. FRAME WITH GRATE STD. 840.22 | M.D.I. FRAME WITH TWO GRATES STD. 840.22 | M.D.I. (N.S.) FRAME WITH GRATE STD. 840.24 | M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | T.B.J.B. STD. 840.34 | M.H. STD. 840.51 OR 840.53 | M.H. FRAME & COVER STD. 840.54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 183+60 | | | | | | 1 | | | | | | | | | | 1 | | | | | | | | | |
| 184+00 | | | | | | 1 | | | | | | | | | | | 1 | | 1 | | | | | | |
| 185+70 | | 5.8 | | | | | | | | | | | | | | | | | | | | | | | |
| 186+43 | | 5.8 | | | | | | | | | | | | | | | | | | | | | | | |
| 189+25 RT | | | | | | 1 | | | | | | | | | | | 1 | | 1 | | | | | | |
| 190+61 | | 10.5 | | | | | | | | | | | | | | | | | | | | | | | |
| 192+50 | | | | | | 1 | | | | | | | | | | | 1 | | 1 | | | | | | |
| -Y3- 0+78 | | 5.6 | | | | | | | | | | | | | | | | | | | | | | | |
| -Y3- 0+79 | | 5.3 | | | | | | | | | | | | | | | | | | | | | | | |
| -Y4- 0+97 | | 6.8 | | | | | | | | | | | | | | | | | | | | | | | |
| 194+40 | | | | | | 1 | | | | | | | | | | 1 | | | 1 | | | | | | |
| 195+50 | | | | 2.1 | | | | | | | | | | | | | | | | | | | | | |
| 195+88 | 6.8 | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET 3-E TOTAL | 6.8 | 39.8 | | 2.1 | | 5 | | | | | | | | | | 2 | 3 | | 5 | | | | | | |
| SHEET 3-A TOTAL | 91.1 | | | | | 6 | 0.03 | | | | | | | | | 2 | 1 | | 5 | | | 1 | 2 | | |
| SHEET 3-B TOTAL | 45.9 | 32.8 | | 2.6 | | 12 | 2.08 | | | | | | | | 1 | 11 | 3 | 1 | 13 | | | | | | |
| SHEET 3-C TOTAL | | 7.0 | | | | 19 | 0.56 | | | | | | | | | 12 | 7 | | 17 | | | | | | |
| SHEET 3-D TOTAL | 11.6 | 16.2 | | | | 13 | 0.10 | | | | | | 1 | 1 | | 11 | 1 | | 7 | | | | | | |
| PROJECT TOTALS | 155.4 | | | 4.7 | | 55 | | | | | | | 1 | 1 | 1 | 38 | 15 | 1 | 47 | | | 1 | 2 | | |
| | | 95.8 | | | | | 2.77 | | | | | | | | | | | | | | | | | | |
| SAY | 156.0 | | | 4.7 | | | | | | | | | | | | | | | | | | | | | |
| | | 96.0 | | | | | 2.8 | | | | | | | | | | | | | | | | | | |

| STATION | FLOWABLE FILL ($M^3$) | M.D.I. FRAME WITH TWO GRATES STD. 840.20 | CONV. EXIST. J.B. TO D.I. | MODIFIED CONCRETE FLUME | 300mm X 450mm TEE | 300 mm TEMPORARY PIPE (PLAIN C.S.) | 450 mm TEMPORARY PIPE (PLAIN C.S.) | 600 mm TEMPORARY PIPE (PLAIN C.S.) | 800 mm TEMPORARY PIPE (PLAIN C.S.) | 900 mm TEMPORARY PIPE (PLAIN C.S.) | CORR. STEEL ELBOW NO. & SIZE | PREFORMED SCOUR HOLES | CONC. COLLARS, CL. "B" $m^3$ STD.840.72 | CONC. & BRICK PIPE PLUG $m^3$ STD.840.71 | PIPE REMOVAL (meters) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 183+60 | | 1 | | | | | | | | | 2-400 | | | | | |
| 185+70 | | | | | | | | | | | | | | | 7.3 | |
| 189+25 LT | | | | | | | 2 | | | | | | 0.40 | | | |
| 192+65 | | | | | | | | | | | | | | | 26 | |
| 192+70 | | | | | | | | | | | | | | | 7.5 | |
| -Y3- 0+47 | | | | | | | | | | | | | | | 16.2 | |
| -Y3- 0+78 | | | | | | | | | | | | | | | 6.1 | |
| -Y4- 0+24 | | | | | | | | | | | | | | | 6.1 | |
| -Y4- 0+44 | | | | | | | | | | | | | | | 5 | |
| -Y4- 0+58 | | | | | | | | | | | | | | | 6.1 | |
| -Y4- 0+97 | | | | | | | | | | | | | | | 8.6 | |
| 195+30 | | | | | | | | | | | | | 0.40 | | | |
| 195+50 | | | | | | | | | | | | | 0.56 | | | |
| 195+88 | | | | | | | | | | | | | | | 12.8 | |
| SHEET 3-E TOTAL | | 1 | | | | | 2 | | | | 2-400 | | 1.36 | | 101.7 | |
| SHEET 3-A TOTAL | 15.4 | | 2 | | 1 | 34 | 28 | 2 | | | | | 0.80 | | 177.8 | |
| SHEET 3-B TOTAL | | 2 | | | | | 1 | 4 | 2 | 2 | | 1 | 2.17 | | 93.3 | |
| SHEET 3-C TOTAL | | 2 | | | | | | 2 | | | 2-400 | 2 | 0.40 | | 11.7 | |
| SHEET 3-D TOTAL | 4.2 | 5 | | 2 | | | | 6 | | | 6-400 | | 2.00 | | 120.1 | |
| PROJECT TOTALS | 19.6 | 10 | 2 | 2 | 1 | 34 | 31 | 14 | 2 | 2 | 10-400 | 3 | 6.73 | | 504.6 | |

ABBREVIATIONS

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

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