6/2/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-4015A | 3D-2 |

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

*Note: Invert Elevations indicated are for information Purposes only and should be verified by the contractor for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."*

## LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

| LINE & STATION | OFFSET | | STRUCTURE NO. | | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | % MINIMUM REQUIRED SLOPE | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, PP 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, PP, OR PVC |
| THICKNESS OR GAUGE | | | FROM | TO | | | | | | | | | | | | | | | | |
| SHEET 5 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| - L- 21+43.50 | | LT | 501 | 502 | | 809.7 | 809.5 | 0.5% | | | 24 | | | | | | | | | X |
| - L- 21+50.00 | -32 | LT | 502 | | 812.8 | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | LT | 502 | 503 | | 809.0 | 804.1 | 0.7% | | | | | | | | | | | | |
| - L- 23+25.00 | -32 | LT | 503 | | 807.9 | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | LT | 503 | 504 | | 804.1 | 802.8 | 0.7% | | | | | | | | | | | | |
| - L- 24+75.60 | -32 | LT | 504 | | 806.6 | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | LT | 504 | 509 | | 801.4 | 798.3 | 2.1% | | | | | 32 | | | | | | | X |
| - L- 25+25.00 | -32 | LT | 505 | | 806.7 | | | | | | | | | | | | | | | |
| - L- 25+25.00 | | LT | 505 | 504 | | 803.7 | 803.6 | 0.5% | | | | | | | | | | | | |
| - L- 21+50.00 | 32 | RT | 506 | | 812.8 | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | RT | 506 | 507 | | 809.8 | 804.9 | 0.8% | | | | | | | | | | | | |
| - L- 23+25.00 | 32 | RT | 507 | | 807.9 | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | RT | 507 | 508 | | 804.6 | 803.3 | 0.6% | | | | | | | | | | | | |
| - L- 24+75.60 | 32 | RT | 508 | | 806.6 | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | RT | 508 | 504 | | 802.8 | 802.6 | 0.4% | | | | | | | | | | | | |
| -Y1- 11+56.46 | 20 | RT | 510 | | 818.7 | | | | | | | | | | | | | | | |
| -Y1- 11+56.09 | -20 | LT | 511 | | 818.8 | | | | | | | | | | | | | | | |
| - L- 26+05.00 | 33 | RT | 512 | | 807.5 | | | | | | | | | | | | | | | |
| - L- 26+05.00 | | RT | 512 | 513 | | 804.5 | 804.4 | 0.8% | | | | | | | | | | | | |
| - L- 26+42.50 | 39 | RT | 513 | | 808.4 | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | RT | 513 | 514 | | 804.4 | 804.3 | 1.9% | | 36 | | | | | | | | | | X |
| - L- 26+42.50 | -32 | LT | 515 | | 808.2 | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | LT | 515 | 516 | | 805.2 | 804.9 | 0.4% | | | | | | | | | | | | |
| - L- 27+45.00 | -32 | LT | 516 | | 810.8 | | | | | | | | | | | | | | | |
| - L- 27+45.00 | | LT | 516 | 517 | | 804.9 | 803.0 | 2.5% | | 24 | | | | | | | | | | X |
| - L- 28+60.54 | -32 | LT | 518 | | 814.5 | | | | | | | | | | | | | | | |
| - L- 28+60.54 | | LT | 518 | 516 | | 811.5 | 807.8 | 0.5% | | | | | | | | | | | | |
| - Y1- 10+50.00 | 48 | RT | 520 | | 816.5 | | | | | | | | | | | | | | | |
| - Y1- 10+50.00 | | RT | 520 | 519 | | 810.5 | 809.5 | 1.0% | | | | | | | | | | | | |
| - L- 29+45.00 | | RT | 521 | 520 | | 816.7 | 813.3 | 0.01 | | | | | | | | | | | | |
| - L- 31+00.00 | -32 | LT | 522 | | 822.6 | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | LT | 522 | 518 | | 817.7 | 811.5 | 0 | | | | | | | | | | | | |
| - L- 31+00.00 | -55 | LT | 523 | | 820.0 | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | LT | 523 | 522 | | 817.8 | 817.7 | 0 | | 24 | | | | | | | | | | X |
| - L- 30+32.00 | | RT | EX0525 | 524 | | 820.9 | 820.0 | 1.7% | | | 40 | | | | | | | | | X |
| - L- 30+65.60 | | RT | EX0526 | EX0525 | | 821.1 | 820.9 | 0 | | | | | | | | | | | | |
| - L- 31+00.00 | | RT | 527 | EX0526 | | 824.0 | 821.1 | 0.4% | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| - L- 20+18.05 | 52 | RT | | | | | | | | | | | | | | | | | | |
| - L- 23+53.29 | -22 | LT | | | | | | | | | | | | | | | | | | |
| - L- 27+64.37 | -28 | LT | | | | | | | | | | | | | | | | | | |
| - L- 32+88.66 | 40 | RT | | | | | | | | | | | | | | | | | | |
| - Y1- 10+52.40 | | | | | | | | | | | | | | | | | | | | |
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| SHEET TOTALS | | | | | | | | | 0 | 84 | 64 | 0 | 32 | 0 | 0 | 0 | | | | |

| LINE & STATION | C.S.P. | | | | | | | | R.C. PIPE CLASS IV | | | | | | | | PIPE AS NOTED | | | | | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) | | QUANTITIES FOR DRAINAGE STRUCTURES | *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') | | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 | | | CONCRETE TRANSITIONAL SECTION | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIZE | 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | | | | | | CU. YARDS | | | LIN. FT. | | | TYPE OF GRATE | | | | |
| THICKNESS OR GAUGE | .064 | .064 | .064 | .064 | .079 | .079 | .109 | .109 | | | | | | | | | | | | | | R.C.P. | C.S.P. | PER EACH (0' THRU 5.0') | A<br>5.0' THRU 10.0' | B<br>10.0' AND ABOVE | | E | F | G | DROP INLET | CATCH BASIN |
| SHEET 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+43.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | |
| - L- 21+50.00 | | | | | | | | | | | | 176 | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | |
| - L- 23+25.00 | | | | | | | | | | | | 148 | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0.2 | | 1 | 1 | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 25+25.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 25+25.00 | | | | | | | | | | 48 | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 21+50.00 | | | | | | | | | | 176 | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 23+25.00 | | | | | | | | | | | 148 | | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 | | | | |
| - L- 24+75.60 | | | | | | | | | | | | 60 | | | | | | | | | | | | | | | | | | | | |
| -Y1- 11+56.46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Y1- 11+56.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+05.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | |
| - L- 26+05.00 | | | | | | | | | | 36 | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 26+42.50 | | | | | | | | | | 100 | | | | | | | | | | | | | | | | | | | | | | |
| - L- 27+45.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0.9 | | 1 | | 1 | | | |
| - L- 27+45.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 28+60.54 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 28+60.54 | | | | | | | | | | 112 | | | | | | | | | | | | | | | | | | | | | | |
| - Y1- 10+50.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | 1 | | | 1 | | |
| - Y1- 10+50.00 | | | | | | | | | | | 80 | | | | | | | | | | | | | | | | | | | | | |
| - L- 29+45.00 | | | | | | | | | | | 124 | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | |
| - L- 31+00.00 | | | | | | | | | | 232 | | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 30+32.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 30+65.60 | | | | | | | | | | | 32 | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | 40 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 20+18.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+53.29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 27+64.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 32+88.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Y1- 10+52.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SHEET TOTALS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 704 | 424 | 384 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 2.112 | 0 | 14 | 2 | 7 | 5 | 0 | 0 |

| LINE & STATION | 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 840.26 | 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 FLAT GRATES STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | G.D.I. (N.S.) FR. WITH TWO FLAT GRATES. STD. 840.29 | DRIVEWAY DROP INLET LIN. FT. STD. 840.30 | D.I. IN APPROACH SLAB STD. 840.13 | J.B. STD. 840.31 OR 840.32 | TBJB STD. 840.34 | T.B.D.I. STD. 840.35 | STEEL GRATE AND FRAME STD. 840.37 | M.H. FRAME AND COVER STD. 840.54 | ADJUST MH | ADJUST CB | ADJUST DI | CONV DI TO JBMH | CONV JB TO DI | CONV CB TO JB | ADJUST TRENCH DRAIN | OTCB | FLOWABLE FILL (CY) | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHEET 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| - L- 21+43.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | HW/D = 1.02, HW = 811.23 |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 25+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 25+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 21+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 23+25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 24+75.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Y1- 11+56.46 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| -Y1- 11+56.09 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| - L- 26+05.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+05.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 26+42.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 27+45.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 27+45.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 28+60.54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 28+60.54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Y1- 10+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Y1- 10+50.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 29+45.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | HW/D = 1.25, HW = 818.65 |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 30+32.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 30+65.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - L- 31+00.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| - L- 20+18.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 24.7 | 12" RCP |
| - L- 23+53.29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 48.2 | 15" RCP |
| - L- 27+64.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 38.2 | 15" RCP |
| - L- 32+88.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 24.2 | 12" RCP |
| - Y1- 10+52.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 128.9 | 15" RCP |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SHEET TOTALS | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 264.2 | |

**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 |

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