TGSZJR-LAPTOP

| COMPUTED BY: | BAJ | DATE: | 6/4/20 |
|---|---|---|---|
| CHECKED BY: | BJH | DATE: | 6/4/20 |

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

| PROJECT NO. | SHEET NO. |
|---|---|
| R-3830 | 3D-8 |

**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 % | Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 84+71 | 38 | RT | 0916 | | 456.0 | | | | | | | | | | | | | | | | |
| | | | 0916 | 0917 | | 453.0 | 452.3 | | | | | | | | | | | | | | |
| L 85+32 | 38 | RT | 0917 | | 455.3 | | | | | | | | | | | | | | | | |
| | | | 0917 | 0915 | | 452.3 | 451.9 | 0.3 | | | | | | | | | | | | | |
| L 84+12 | 38 | RT | 0918 | | 456.7 | | | | | | | | | | | | | | | | |
| | | | 0918 | 0916 | | 453.7 | 453.0 | | | | | | | | | | | | | | |
| L 83+70 | 38 | RT | 0919 | | 457.1 | | | | | | | | | | | | | | | | |
| | | | 0919 | 0918 | | 454.1 | 453.7 | | | | | | | | | | | | | | |
| L 83+70 | 48 | RT | 0920 | | 457.3 | | | | | | | | | | | | | | | | |
| | | | 0920 | 0919 | | 454.3 | 454.1 | | | 12 | | | | | | | | X | X | | |
| L 90+29 | 83 | LT | 0921 | | 448.7 | | | | | | | | | | | | | | | | |
| | | | 0921 | 0922 | | 445.7 | 444.3 | | | | | | | | | | | | | | |
| L 91+00 | 38 | LT | 0922 | | 448.6 | | | | | | | | | | | | | | | | |
| | | | 0922 | 0927 | | 444.3 | 443.2 | 0.7 | | | | | | | | | | | | | |
| L 89+50 | 38 | RT | 0923 | | 450.5 | | | | | | | | | | | | | | | | |
| | | | 0923 | 0924 | | 447.5 | 445.6 | | | | | | | | | | | | | | |
| L 90+53 | 38 | RT | 0924 | | 449.4 | | | | | | | | | | | | | | | | |
| | | | 0924 | 0926 | | 445.6 | 445.1 | | | | | | | | | | | | | | |
| L 90+53 | 55 | RT | 0925 | | 448.0 | | | | | | | | | | | | | | | | |
| | | | 0925 | 0924 | | 445.7 | 445.6 | | | 16 | | | | | | | | X | X | | |
| L 91+00 | 38 | RT | 0926 | | 449.0 | | | | | | | | | | | | | | | | |
| | | | 0926 | 0922 | | 445.1 | 444.3 | 0.3 | | | | | | | | | | | | | |
| L 92+11 | 38 | LT | 0927 | | 446.8 | | | | | | | | | | | | | | | | |
| | | | 0927 | 0929 | | 443.2 | 441.3 | 1.1 | | | | | | | | | | | | | |
| L 92+11 | 55 | LT | 0928 | | 445.7 | | | | | | | | | | | | | | | | |
| | | | 0928 | 0927 | | 443.4 | 443.2 | | | 16 | | | | | | | | X | X | | |
| L 92+95 | 38 | LT | 0929 | | 445.4 | | | | | | | | | | | | | | | | |
| | | | 0929 | 1002 | | 441.0 | 439.3 | 0.5 | | | | | | | | | | | | | |
| L 92+95 | 56 | LT | 0930 | | 443.8 | | | | | | | | | | | | | | | | |
| | | | 0930 | 0929 | | 441.5 | 441.3 | | | 20 | | | | | | | | X | X | | |
| L 88+14 | 4 | LT | 0931 | | 453.0 | | | | | | | | | | | | | | | | |
| | | | 0931 | 0910 | | 447.8 | 446.9 | 0.6 | | | | | | | | | | | | | |
| L 93+93 | 56 | LT | 1001 | | 442.1 | | | | | | | | | | | | | | | | |
| | | | 1001 | 1002 | | 439.8 | 439.3 | | | 20 | | | | | | | | X | X | | |
| L 93+93 | 38 | LT | 1002 | | 443.8 | | | | | | | | | | | | | | | | |
| | | | 1002 | 1003 | | 439.3 | 435.7 | 0.8 | | | | | | | | | | | | | |
| L 96+05 | 38 | LT | 1003 | | 440.6 | | | | | | | | | | | | | | | | |
| | | | 1003 | 1004 | | 435.7 | 434.8 | 0.9 | | | | | | | | | | | | | |
| L 96+05 | 58 | LT | 1004 | | 439.3 | | | | | | | | | | | | | | | | |
| L 93+87 | 4 | LT | 1005 | | 444.8 | | | | | | | | | | | | | | | | |
| | | | 1005 | 1006 | | 441.6 | 439.5 | | | | | | | | | | | | | | |
| L 95+23 | 4 | LT | 1006 | | 442.7 | | | | | | | | | | | | | | | | |
| | | | 1006 | 1007 | | 439.5 | 433.4 | | | | | | | | | | | | | | |
| L 96+27 | 4 | LT | 1007 | | 441.2 | | | | | | | | | | | | | | | | |
| L 96+80 | 4 | LT | 1008 | | 440.4 | | | | | | | | | | | | | | | | |
| | | | 1008 | 1007 | | 437.0 | 433.4 | | | | | | | | | | | | | | |
| L 94+03 | 58 | RT | 1009 | | 443.7 | | | | | | | | | | | | | | | | |
| | | | 1009 | 1010 | | 441.4 | 433.8 | | | 208 | | | | | | | | X | X | | |
| L 96+10 | 59 | RT | 1010 | | 440.3 | | | | | | | | | | | | | | | | |
| | | | 1010 | 1011 | | 433.8 | 433.7 | 0.3 | | | | | | | | | | | | | |
| | | | | | | | | SHEET TOTALS | | 292 | | | | | | | | | | | |

| FROM | TO | R. C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS V 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) 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 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0916 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0916 | 0917 | | 60 | | | | | | | | | | | | | | | | | | | | | | | |
| 0917 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0917 | 0915 | | 40 | | | | | | | | | | | | | | | | | | | | | | | |
| 0918 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0918 | 0916 | | 60 | | | | | | | | | | | | | | | | | | | | | | | |
| 0919 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0919 | 0918 | | 40 | | | | | | | | | | | | | | | | | | | | | | | |
| 0920 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 0920 | 0919 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0921 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 | | | |
| 0921 | 0922 | | 84 | | | | | | | | | | | | | | | | | | | | | | | |
| 0922 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 0922 | 0927 | | 108 | | | | | | | | | | | | | | | | | | | | | | | |
| 0923 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0923 | 0924 | | 104 | | | | | | | | | | | | | | | | | | | | | | | |
| 0924 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0924 | 0926 | | 48 | | | | | | | | | | | | | | | | | | | | | | | |
| 0925 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 0925 | 0924 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0926 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | |
| 0926 | 0922 | | 72 | | | | | | | | | | | | | | | | | | | | | | | |
| 0927 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 0927 | 0929 | | 84 | | | | | | | | | | | | | | | | | | | | | | | |
| 0928 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 0928 | 0927 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0929 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 0929 | 1002 | | | 96 | | | | | | | | | | | | | | | | | | | | | | |
| 0930 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 0930 | 0929 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0931 | | | | | | | | | | | | | | | | | | | 1 | 0.2 | | | | | | |
| 0931 | 0910 | | | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 1001 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1001 | 1002 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1002 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 1002 | 1003 | | | 212 | | | | | | | | | | | | | | | | | | | | | | |
| 1003 | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | |
| 1003 | 1004 | | | 20 | | | | | | | | | | | | | | | | | | | | | | |
| 1004 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1005 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1005 | 1006 | | 132 | | | | | | | | | | | | | | | | | | | | | | | |
| 1006 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1006 | 1007 | | 100 | | | | | | | | | | | | | | | | | | | | | | | |
| 1007 | | | | | | | | | | | | | | | | | | | 1 | 2.8 | | | | | | |
| 1008 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1008 | 1007 | | 52 | | | | | | | | | | | | | | | | | | | | | | | |
| 1009 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| 1009 | 1010 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1010 | | | | | | | | | | | | | | | | | | | 1 | 1.5 | | | | | | |
| 1010 | 1011 | | 12 | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET TOTALS | | | 996 | 360 | | | | | | | | | | | | | | | 26 | 4.5 | | 14 | 1 | 7 | 6 | |

| FROM | TO | CONCRETE TRANSITIONAL SECTION: D.I. STD. 852.04 OR STD. 852.06 | CONCRETE TRANSITIONAL SECTION: C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | 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 WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | 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 | TEMP STEEL COVER, SEE DETAIL SHEET 2C-12 | 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. | CONVERT EXISTING J.B. TO D.I. | ADJUST C.B. | ADJUST D.I. | 15" DRAINAGE PIPE ELBOW | 18" DRAINAGE PIPE ELBOW | SPECIAL D.I., SEE DETAIL SHEET 2C-6 | G.D.I. TYPE 'A' MIN. DEPTH, SEE DETAIL SHEET 2C-7 | T.B. 2GI TYPE 'A', SEE DETAIL SHEET 2C-8 | BERM DRAINAGE OUTLET STD. 850.10 (SY) | BERM DRAINAGE OUTLET STD. 850.11 (SY) | PIPE CLEANOUT EA | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0916 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0916 | 0917 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0917 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0917 | 0915 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0918 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0918 | 0916 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0919 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0919 | 0918 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0920 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0920 | 0919 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0921 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0921 | 0922 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0922 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0922 | 0927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0923 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0923 | 0924 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0924 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0924 | 0926 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0925 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0925 | 0924 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0926 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0926 | 0922 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0927 | 0929 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0928 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0928 | 0927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0929 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0929 | 1002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0930 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0930 | 0929 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0931 | | 1 | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | TRAFFIC BEARING 2GI |
| 0931 | 0910 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1001 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1001 | 1002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1002 | 1003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1003 | 1004 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1004 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1005 | | 1 | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | TRAFFIC BEARING 2GI |
| 1005 | 1006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1006 | | 1 | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | TRAFFIC BEARING 2GI |
| 1006 | 1007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1007 | | 1 | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | TRAFFIC BEARING 2GI |
| 1008 | | 1 | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | TRAFFIC BEARING 2GI |
| 1008 | 1007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1009 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1009 | 1010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1010 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1010 | 1011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHEET TOTALS | | 5 | | | 7 | 7 | | | | | | | | | | | 5 | | | | | 5 | | | | | | | | | | | | | | | | | | | | | | | | |

**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 |