DL83370

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| COMPUTED BY: | VWB | DATE: | 9/25/2015 |
| CHECKED BY: | JDL | DATE: | 2/24/2016 |

| PROJECT NO. | SHEET NO. |
|---|---|
| B-5121 / B-5317 | 3D-9 |

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

**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) 8 | 15 | 18 | 24 | 42 | 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 | C. S. Pipe 18 .064 | | DIP Sealed Pipe System See Special Provisions 16 (Class 250) | 18 (Class 250) | 24 (Class 150) | 36 (Class 150) | Sealed Drainage Structure Masonry CY | Quantity for Sealed Drainage Structures (Note: Total Lin. Ft. for Pay Quantity shall be A + (1.3 X B)) 0' Thru 5' EACH | 5' Thru 10' (A) LIN. FT. | 10' and Above (B) LIN. FT. | Boots for Sealed Structures | R. C. Pipe Class IV 15 | 18 | 24 | 30 | 36 | 42 | 48 | | R. C. Pipe Class V 15 | 18 | 24 | 30 | 42" Welded Steel Pipe 0.625" Thick, Grade B In Soil | 42" Welded Steel Pipe 0.625" Thick, Grade B Not in Soil | Drainage Structure Masonry CY | Quantities for Drainage Structures (Note: Total Lin. Ft. for Pay Quantity shall be A + (1.3 X B)) 0' Thru 5' EACH | 5' Thru 10' (A) LIN. FT. | 10' and Above (B) 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. 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 "B" Std. 840.18 or Std. 840.27 | 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 | M.H. Std. 840.51, Std. 840.52, or Std. 840.53 | M.H. Frame and Cover Std. 840.54 | Convert Exist C.B. to J.B. w/ MH (Sp. Detail) | Convert Exist J.B. to C.B. (Special Detail) | Convert Exist J.B. to Slab Top J.B. | Adjust C.B. | Adjust D.I. | Adjust M.H. | 15" Side Drain Pipe Elbow | 15" C.S. Elbow | 18" C.S. Elbow | C.B. Std 840D02 (Special Detail) | T.B. Precast M.H. Std. 840D52 (Special Detail) | T.B.D.I. Std. 840D35 (Special Detail) | Berm Ditch Outlet Std. 850.10 (Per Each) | 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 |
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| Y1 20+64 | 47 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 48 | REMOVE EXIST. 12" RCP |
| L 32+65 | 58 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 60 | REMOVE EXIST. 60" RCP |
| Y6 14+18 | 23 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 96 | REMOVE EXIST. 18" RCP |
| L 11+86 | 22 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| L 11+71 | 10 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | |
| L 11+65 | 17 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | |
| L 11+02 | 39 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 11 | | | | |
| L 46+83 | 25 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 144 | | | | |
| Y1 20+38 | 13 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | | | | |
| Y1 19+91 | 9 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Y1 19+10 | 13 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29 | | | | |
| L 40+41 | 46 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 11 | | | | |
| L 48+85 | 2 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | | | | |
| L 48+22 | 8 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | | | | |
| L 48+60 | 50 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Y2LPC 10+92 | 9 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.4 | | | | |
| FLYOVER 25+37 | 10 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Y6 18+20 | 34 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Y6 13+81 | 8 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | | | |
| Y6 14+69 | 1 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| Y1 15+41 | 78 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | | | | |
| Y1 15+53 | 37 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | | | | |
| Y1 15+93 | 42 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Y1 17+01 | 119 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 54 | | | | |
| Y1 17+10 | 20 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | | | | |
| Y1 17+09 | 10 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 | | | | |
| Y1 17+24 | 19 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | | | | |
| Y1 17+79 | 12 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | | | | |
| Y1 16+60 | 96 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| L 23+93 | 72 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29 | | | | |
| L 23+53 | 113 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 122 | | | | |
| Y1 22+18 | 88 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 49 | | | | |
| Y6 13+19 | 0 | CL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | |
| L 13+53 | 34 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | | | | |
| L 44+15 | 10 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| L 44+21 | 46 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| L 38+82 | 28 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | |
| L 34+75 | 13 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| L 33+67 | 28 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | | | | |
| L 32+48 | 13 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 64 | | | | |
| L 13+97 | 41 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | | | | |
| L 11+66 | 40 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| L 12+60 | 34 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | | | | |
| Y1RPD 10+96 | 6 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.3 | | | | |
| L 40+46 | 13 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | | | |
| Y1RPC 17+46 | 14 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Y1RPC 16+13 | 29 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| L 16+38 | 4 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | | | |
| Y1RPC 11+44 | 44 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | |
| FLYOVER 13+54 | 16 | RT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 54 | REMOVE EXIST. 15" RCP |
| SHEET TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 678 | | | 258 | |

**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 |