| COMPUTED BY: | RHT | DATE: | 02/06/17 |
|---|---|---|---|
| CHECKED BY: | DWB | DATE: | 02/13/17 |

# DIVISION OF HIGHWAYS
# STATE OF NORTH CAROLINA

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2707F | 3B-1 |

# GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

| SURVEY LINE | BEG. STA. | END STA. | LOCATION | LENGTH | | | WARRANT POINT | | "N" DIST. FROM E.O.L. | TOTAL SHOUL WIDTH | FLARE LENGTH | | W | | ANCHORS | | | IMPACT ATTENUATOR TYPE 350 | | SINGLE FACED CONCRETE BARRIER (LF) | REMOVE EXISTING GUARDRAIL (LF) | REMOVE & RESET EXISTING GUARDRAIL (LF) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | STRAIGHT | SHOP CURVED | DOUBLE FACED | APPROACH END | TRAILING END | | | APPROACH END | TRAILING END | APPROACH END | TRAILING END | GREU, TL-3 | CAT-1 | B-77 | G | NG | | | | |
| -L- | 73+50.00 | 74+25.00 | MED | 75.00' | | | 74+50.00 | 77+38.00 | 21.0' | 23.0' | 75.0' | | 5.00' | | | | | | 1 | | 50 | 75 | TIE TO EXISTING GUARDRAIL |
| -L- | 73+50.00 | 78+37.00 | MED | 487.50' | | | 74+50.00 | 77+38.00 | 13.0' | 23.0' | 75.0' | 75.0' | 5.00' | 5.00' | | | | | 1 | | | | |
| -L- | 77+63.00 | 78+38.00 | MED | 75.00' | | | 77+38.00 | | 21.0' | 23.0' | 75.0' | | | | | | | | 1 | | | | |
| -L- | 83+70.00 | 88+65.00 | MED | 750.00' | | | BRIDGE | BRIDGE | 20.0' | 23.0' | 25.0' | 25.0' | 1.50' | 1.50' | | | 4 | | 2 | 240 | | | |
| -L- | 108+98.00 | 112+98.00 | MED | 700.00' | | | BRIDGE | BRIDGE | 20.0' | 23.0' | 37.5' | 37.5' | 1.75' | 1.75' | | | 4 | | 2 | 100 | | | |
| -L- | 109+44.72 | 112+13.47 | LT | 268.75' | | | 110+88.32 | | 13.0' | 15.0' | 50.0' | | 1.00' | | 1 | | 1 | | | 144 | | | |
| -L- | 114+50.00 | 118+56.25 | RT | 406.25' | | | 116+57.00 | | 12.0' | 15.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | |
| -L- | 126+50.00 | 129+56.25 | RT | 306.25' | | | 128+25.00 | | 12.3' | 14.3' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | SHOULDER BERM GUTTER INSTALLATION |
| -L- | 149+65.85 | 156+47.10 | RT | 681.25' | | | 151+50.00 | BRIDGE | 12.0' | 15.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | |
| -L- | 149+85.70 | 156+48.20 | LT | 662.50' | | | | BRIDGE | 12.3' | 14.3' | 50.0' | | 1.00' | | | 1 | 1 | | | | | | SHOULDER BERM GUTTER INSTALLATION |
| -L- | 154+28.35 | 156+47.10 | MED | 218.75' | | | 156+47.10 | | 12.0' | 15.0' | 200.0' | | 14.83' | | 1 | | 1 | | | | | | |
| -L- | 159+02.12 | 163+58.37 | LT | 456.25' | | | BRIDGE | | 12.3' | 14.3' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | SHOULDER BERM GUTTER INSTALLATION |
| -L- | 159+02.12 | 161+33.23 | LT | 231.25' | | | BRIDGE | | 4.0' | 7.0' | 162.5' | | 10.00' | | 1 | | 1 | | | | | | |
| -L- | 159+03.90 | 160+66.40 | RT | 162.50' | | | | BRIDGE | 10.0' | 10.0' | | | | | | 1 | 1 | | | | | | |
| -L- | 177+50.00 | 184+18.75 | RT | 668.75' | | | 180+00.00 | 182+20.00 | 12.3' | 14.3' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | SHOULDER BERM GUTTER INSTALLATION |
| -L- | 179+31.25 | 182+50.00 | LT | 318.75' | | | 181+00.00 | | 12.0' | 15.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | |
| -L- | 202+33.16 | 204+58.16 | MED | 375.00' | | | BRIDGE | | 18.0' | 15.0' | 62.5' | 62.5' | 3.50' | 3.50' | | | | | 2 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| -L- | 219+00.00 | | RT | 2206.25' | | | 221+41.00 | | 12.0' | 15.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -RPC- | | 21+10.23 | RT | | | | | 19+50.00 | 12.0' | 15.0' | | | | | | | | | | | | | |
| -L- | 220+53.75 | | LT | 2343.75' | | | 221+75.00 | | 12.0' | 15.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -RPB- | | 24+55.78 | LT | | | | 24+55.78 | 22+50.00 | 12.0' | 15.0' | | | | | | | | | | | | | (STA. -L- 220+60.00 TO STA. -RPB- 14+00) |
| | | | | | | | | | | | | | | | | | | | | | | | |
| -LPC- | 12+81.00 | | LT | 281.25' | | | BRIDGE | | 18.0' | 18.0' | 50.0' | | 1.00' | | 1 | | 1 | | 1 | | | | |
| -L- | | 247+63.29 | RT | | | | | BRIDGE | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| -L- | 246+02.38 | 246+77.38 | LT | 75.00' | | | BRIDGE | | 19.0' | 19.0' | | | | | | 1 | 1 | | | | | | |
| -L- | 245+08.57 | 247+27.32 | MED | 218.75' | | | | | | | 200.0' | 14.9' | | | 1 | | 1 | | | | | | |
| -L- | 248+25.68 | 251+38.70 | LT | 313.02' | | | BRIDGE | BRIDGE | 14.0' | 20.0' | | | | | | | 2 | | | | | | BETWEEN OVERPASS & RAILROAD BRIDGE |
| -L- | 248+56.44 | 251+67.84 | LT | 311.40' | | | BRIDGE | BRIDGE | 4.0' | 7.0' | | | | | | | 2 | | | | | | BETWEEN OVERPASS & RAILROAD BRIDGE |
| -L- | 248+91.09 | 252+27.20 | RT | 336.11' | | | BRIDGE | BRIDGE | 4.0' | 7.0' | | | | | | | 2 | | | | | | BETWEEN OVERPASS & RAILROAD BRIDGE |
| -L- | 249+26.29 | 252+59.41 | RT | 333.12' | | | BRIDGE | BRIDGE | 14.0' | 20.0' | | | | | | | 2 | | | | | | BETWEEN OVERPASS & RAILROAD BRIDGE |
| -L- | 253+03.69 | 271+22.39 | LT | 1818.75' | | | 266+85.00 | | 12.0' | 16.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | EXPRESSWAY GUTTER INSTALLATION; DUKE DRIVEWAY |
| -L- | 253+32.84 | 255+51.59 | MED | 218.75' | | | BRIDGE | | 4.0' | 6.0' | | | | 3.50' | 1 | | 1 | | | | | | EXPRESSWAY GUTTER INSTALLATION; DUKE DRIVEWAY |
| -L- | 254+44.00 | 263+63.00 | RT | 919.00' | | | 256+00.00 | DRIVEWAY | 8.0' | 14.0' | | | | | | 1 | 1 | | | | | | |
| -L- | 264+00.00 | 267+56.25 | RT | 356.25' | | | 265+70.00 | | 8.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION; DUKE DRIVEWAY |
| -L- | 276+50.00 | 279+56.25 | RT | 243.75' | | | 278+45.00 | | 12.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 278+44.75 | 282+01.00 | LT | 356.25' | | | 280+20.00 | | 8.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 290+50.00 | 296+18.75 | RT | 556.25' | | | 292+49.00 | 294+65.00 | 12.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 291+93.75 | 297+00.00 | LT | 506.25' | | | 293+89.00 | | 12.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 319+50.00 | 338+01.97 | LT | 1850.00' | | | 322+00.00 | 333+31.25 | 12.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 322+00.00 | 333+31.25 | RT | 1131.25' | | | 322+64.00 | BRIDGE | 12.0' | 14.0' | 50.0' | | 1.00' | | 1 | 1 | | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 336+28.40 | 338+72.24 | MED | 243.75' | | | BRIDGE | | 4.0' | 7.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | |
| -L- | 336+31.16 | 339+08.64 | RT | 275.00' | | | BRIDGE | | 12.0' | 12.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | |
| -L- | 342+23.45 | 351+54.70 | LT | 931.25' | | | | BRIDGE | 12.0' | 16.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 342+65.16 | 345+65.16 | MED | 300.00' | | | | BRIDGE | 4.0' | 7.0' | 50.0' | | 1.00' | | 1 | | 1 | | | | | | |
| -L- | 343+46.95 | 350+49.61 | RT | 706.25' | | | BRIDGE | 347+53.80 | 12.0' | 16.0' | | 50.0' | | 1.00' | | 1 | 1 | | | | | | EXPRESSWAY GUTTER INSTALLATION |
| -L- | 353+89.61 | 355+76.95 | LT | 75.00' | | | BRIDGE | 349+52.00 | 20.0' | 23.0' | 50.0' | | 1.00' | | | | | | 1 | 75 | | | |
| -L- | 353+89.61 | 355+76.95 | MED LT | 75.00' | | | | BRIDGE | 20.0' | 23.0' | 50.0' | 1.0' | | | | | | | 1 | 75 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | SUBTOTAL | | 23825.15' | | | | | | | | | | | | | | | | | | | |
| | LESS ANCHOR DEDUCTIONS | | | | | | | | | | | | | | | | | | | | | | |
| | GREU, TL-3 | 26 @ 50.00' | = | 1300.00' | | | | | | | | | | | | | | | | | | | |
| | CAT-1 | 18 @ 6.25' | = | 112.50' | | | | | | | | | | | | | | | | | | | |
| | B-77 | 34 @ 18.75' | = | 637.50' | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | 21775.2 | | | | | | | | | | | 26 | 18 | 34 | | 12 | 634 | 50 | 75 | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | SAY | 21800' | | | | | | | | | | | 26 | 18 | 34 | | 12 | 650 | 50 | 75 | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 ADDITIONAL GUARDRAIL POSTS | | | | | | | | | | | | | | | | | | | | | | |