

LOAD FACTORS:

|                            |             |               |               |
|----------------------------|-------------|---------------|---------------|
| DESIGN LOAD RATING FACTORS | LIMIT STATE | $\gamma_{DC}$ | $\gamma_{DW}$ |
|                            | STRENGTH I  | 1.25          | 1.50          |
|                            | SERVICE III | 1.00          | 1.00          |

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

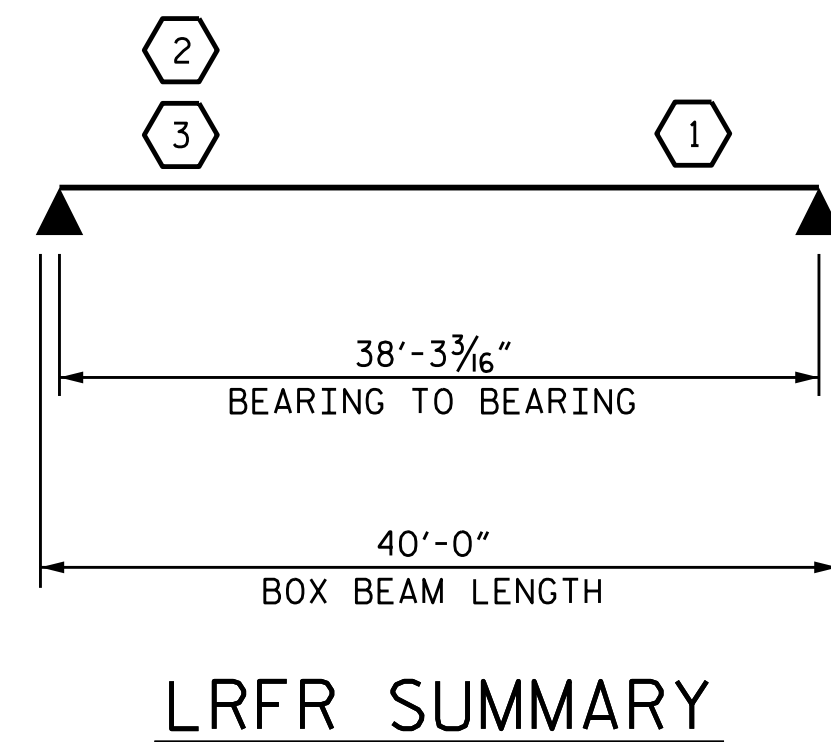
| LEVEL                    | VEHICLE    | WEIGHT (W)<br>(TONS) | CONTROLLING<br>LOAD RATING | MINIMUM<br>RATING FACTORS<br>(RF) | TONS = W X RF | STRENGTH I LIMIT STATE |                              |               |       |                 |   |                              |               |      |                 | SERVICE III LIMIT STATE                   |                     |                              |               |       | COMMENT NUMBER |                 |   |  |
|--------------------------|------------|----------------------|----------------------------|-----------------------------------|---------------|------------------------|------------------------------|---------------|-------|-----------------|---|------------------------------|---------------|------|-----------------|---|---------------------|------------------------------|---------------|-------|----------------|-----------------|---|--|
|                          |            |                      |                            |                                   |               | LIVELOAD<br>FACTORS    | MOMENT                       |               |       |                 |   | SHEAR                        |               |      |                 |   | LIVELOAD<br>FACTORS | MOMENT                       |               |       |                |                 |   |  |
|                          |            |                      |                            |                                   |               |                        | DISTRIBUTION<br>FACTORS (DF) | RATING FACTOR | SPAN  | GIRDER LOCATION | DISTANCE FROM<br>LEFT END OF<br>SPAN (ft) | DISTRIBUTION<br>FACTORS (DF) | RATING FACTOR | SPAN | GIRDER LOCATION | DISTANCE FROM<br>LEFT END OF<br>SPAN (ft) |                     | DISTRIBUTION<br>FACTORS (DF) | RATING FACTOR | SPAN  |                | GIRDER LOCATION | DISTANCE FROM<br>LEFT END OF<br>SPAN (ft) |  |
| DESIGN<br>LOAD<br>RATING | HL-93(Inv) | N/A                  | 1                          | 2.41                              | --            | 1.75                   | 0.259                        | 5.2           | C     | EL              | 19.133                                    | 0.619                        | <b>2.41</b>   | C    | EL              | <b>30.613</b>                             | 0.80                | 0.259                        | 5.09          | C     | EL             | 19.133          |   |  |
|                          | HL-93(0pr) | N/A                  | --                         | 3.13                              | --            | 1.35                   | 0.259                        | 6.74          | C     | EL              | 19.133                                    | 0.619                        | 3.13          | C    | EL              | 30.613                                    | N/A                 | --                           | --            | --    | --             | --              |   |  |
|                          | HS-20(Inv) | 36.000               | 2                          | 2.77                              | 99.794        | 1.75                   | 0.259                        | 6.51          | C     | EL              | 15.307                                    | 0.619                        | <b>2.77</b>   | C    | EL              | <b>7.653</b>                              | 0.80                | 0.259                        | 6.31          | C     | EL             | 15.307          |   |  |
|                          | HS-20(0pr) | 36.000               | --                         | 3.59                              | 129.363       | 1.35                   | 0.259                        | 8.44          | C     | EL              | 15.307                                    | 0.619                        | 3.59          | C    | EL              | 7.653                                     | N/A                 | --                           | --            | --    | --             | --              |   |  |
| LEGAL<br>LOAD<br>RATING  | SV         | SNSH                 | 13.500                     | --                                | 7.02          | 94.735                 | 1.4                          | 0.259         | 15.03 | C               | EL  | 19.133                       | 0.619         | 7.02 | C               | EL  | 7.653               | 0.80                         | 0.259         | 11.74 | C              | EL              | 19.133                                    |  |
|                          |            | SNGARBS2             | 20.000                     | --                                | 5.34          | 106.872                | 1.4                          | 0.259         | 12.28 | C               | EL  | 15.307                       | 0.619         | 5.34 | C               | EL  | 7.653               | 0.80                         | 0.259         | 9.60  | C              | EL              | 15.307                                    |  |
|                          |            | SNAGRIS2             | 22.000                     | --                                | 5.11          | 112.417                | 1.4                          | 0.259         | 12.02 | C               | EL  | 15.307                       | 0.619         | 5.11 | C               | EL  | 7.653               | 0.80                         | 0.259         | 9.44  | C              | EL              | 15.307                                    |  |
|                          |            | SNCOTTS3             | 27.250                     | --                                | 3.54          | 96.389                 | 1.4                          | 0.259         | 7.51  | C               | EL  | 19.133                       | 0.619         | 3.54 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.88  | C              | EL              | 19.133                                    |  |
|                          |            | SNAGGRS4             | 34.925                     | --                                | 3.19          | 111.460                | 1.4                          | 0.259         | 6.79  | C               | EL  | 19.133                       | 0.619         | 3.19 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.30  | C              | EL              | 19.133                                    |  |
|                          |            | SNS5A                | 35.550                     | --                                | 3.39          | 120.329                | 1.4                          | 0.259         | 6.6   | C               | EL  | 19.133                       | 0.619         | 3.38 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.16  | C              | EL              | 19.133                                    |  |
|                          |            | SNS6A                | 39.950                     | --                                | 3.22          | 128.488                | 1.4                          | 0.259         | 6.29  | C               | EL  | 19.133                       | 0.619         | 3.22 | C               | EL  | 7.653               | 0.80                         | 0.259         | 4.92  | C              | EL              | 19.133                                    |  |
|                          | SNS7B      | 42.000               | --                         | 3.32                              | 139.541       | 1.4                    | 0.259                        | 6             | C     | EL              | 19.133                                    | 0.619                        | 3.32          | C    | EL              | 7.653                                     | 0.80                | 0.259                        | 4.69          | C     | EL             | 19.133          |   |  |
|                          | TTST       | TNAGRIT3             | 33.000                     | --                                | 3.72          | 122.818                | 1.4                          | 0.259         | 7.74  | C               | EL  | 19.133                       | 0.619         | 3.72 | C               | EL  | 7.653               | 0.80                         | 0.259         | 6.06  | C              | EL              | 19.133                                    |  |
|                          |            | TNT4A                | 33.075                     | --                                | 3.5           | 115.659                | 1.4                          | 0.259         | 7.85  | C               | EL  | 19.133                       | 0.619         | 3.5  | C               | EL  | 7.653               | 0.80                         | 0.259         | 6.09  | C              | EL              | 19.133                                    |  |
|                          |            | TNT6A                | 41.600                     | --                                | 3.42          | 142.313                | 1.4                          | 0.259         | 6.67  | C               | EL  | 19.133                       | 0.619         | 3.42 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.21  | C              | EL              | 19.133                                    |  |
|                          |            | TNT7A                | 42.000                     | --                                | 3.22          | 135.251                | 1.4                          | 0.259         | 6.84  | C               | EL  | 19.133                       | 0.619         | 3.22 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.32  | C              | EL              | 19.133                                    |  |
|                          |            | TNT7B                | 42.000                     | --                                | 3.11          | 130.397                | 1.4                          | 0.259         | 6.96  | C               | EL  | 19.133                       | 0.619         | 3.1  | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.44  | C              | EL              | 19.133                                    |  |
|                          |            | TNAGRIT4             | 43.000                     | --                                | 2.99          | 128.342                | 1.4                          | 0.259         | 6.73  | C               | EL  | 15.307                       | 0.619         | 2.98 | C               | EL  | 7.653               | 0.80                         | 0.259         | 5.26  | C              | EL              | 15.307                                    |  |
| TNAGT5A                  |            | 45.000               | --                         | 3.18                              | 143.126       | 1.4                    | 0.259                        | 6.3           | C     | EL              | 19.133                                    | 0.619                        | 3.18          | C    | EL              | 7.653                                     | 0.80                | 0.259                        | 4.93          | C     | EL             | 19.133          |   |  |
| TNAGT5B                  | 45.000     | 3                    | 2.82                       | 126.728                           | 1.4           | 0.259                  | 6.11                         | C             | EL    | 19.133          | 0.619                                     | <b>2.82</b>                  | C             | EL   | <b>7.653</b>    | 0.80                                      | 0.259               | 4.75                         | C             | EL    | 19.133         |                 |   |  |

NOTES:

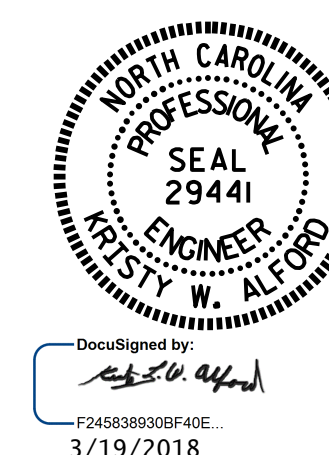
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

|  |                            |
|--|----------------------------|
| #  | CONTROLLING LOAD RATING    |
| 1  | DESIGN LOAD RATING (HL-93) |
| 2  | DESIGN LOAD RATING (HS-20) |
| 3  | LEGAL LOAD RATING **       |
| ** SEE CHART FOR VEHICLE TYPE  |                            |
| GIRDER LOCATION  |                            |
| I - INTERIOR GIRDER<br>EL - EXTERIOR LEFT GIRDER<br>ER - EXTERIOR RIGHT GIRDER |                            |



PROJECT NO. B-5320  
GRANVILLE COUNTY  
 STATION: 15+98.00 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 LRFR SUMMARY FOR  
 40' BOX BEAM UNIT  
 (NON-INTERSTATE TRAFFIC)

|                             |             |
|-----------------------------|-------------|
| ASSEMBLED BY : R.L. CHESSON | DATE : 1/18 |
| CHECKED BY : K. W. ALFORD   | DATE : 2/18 |
| DRAWN BY : MAA              | 1/08        |
| CHECKED BY : GM/DI          | 2/08        |
| REV. 11/12/08RR             | MAA/GM      |
| REV. 10/1/11                | MAA/GM      |

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

| REVISIONS |     |       |     |     |       | SHEET NO.       |
|-----------|-----|-------|-----|-----|-------|-----------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S-6             |
| 1         |     |       | 3   |     |       | TOTAL SHEETS 26 |
| 2         |     |       | 4   |     |       |                 |