

LOAD FACTORS:

| | | | |
|----------------------------|-------------|---------------|---------------|
| DESIGN LOAD RATING FACTORS | LIMIT STATE | γ_{DC} | γ_{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) (TONS) | CONTROLLING LOAD RATING # | MINIMUM RATING FACTORS (RF) | TONS = W X RF | STRENGTH I LIMIT STATE | | | | | | | | SERVICE III LIMIT STATE | | | | | | | | COMMENT NUMBER | | |
|--------------------|-----------------------------------|----------------------|------------------------------|-----------------------------|---------------|-------------------------------------|---------------------------|---------------|------|-----------------|-------------------------------------|---------------------------|---------------|-------------------------|-------------------------------------|-----------------|-------------------------------------|---------------------------|---------------|------|-----------------|----------------|-------------------------------------|--|
| | | | | | | LIVE-LOAD FACTORS (γ_{LL}) | MOMENT | | | | SHEAR | | | | LIVE-LOAD FACTORS (γ_{LL}) | MOMENT | | | | | | | | |
| | | | | | | | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | GIRDER LOCATION | DISTANCE FROM LEFT END OF SPAN (ft) | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | | GIRDER LOCATION | DISTANCE FROM LEFT END OF SPAN (ft) | DISTRIBUTION FACTORS (DF) | RATING FACTOR | SPAN | GIRDER LOCATION | | DISTANCE FROM LEFT END OF SPAN (ft) | |
| DESIGN LOAD RATING | HL-93 (INVENTORY) | N/A | 1 | 1.01 | -- | 1.75 | 0.958 | 1.50 | A | EL | 54.374 | 0.964 | 1.27 | A | EL | 76.124 | 0.80 | 0.958 | 1.01 | A | EL | 54.374 | | |
| | HL-93 (OPERATING) | N/A | -- | 1.65 | -- | 1.35 | 0.958 | 1.95 | A | EL | 54.374 | 0.964 | 1.65 | A | EL | 76.124 | N/A | -- | -- | -- | -- | -- | | |
| | HS-20 (INVENTORY) | 36.000 | 2 | 1.43 | 51.580 | 1.75 | 0.958 | 2.14 | A | EL | 54.374 | 0.964 | 1.63 | A | EL | 76.124 | 0.80 | 0.958 | 1.43 | A | EL | 54.374 | | |
| | HS-20 (OPERATING) | 36.000 | -- | 2.12 | 76.161 | 1.35 | 0.958 | 2.77 | A | EL | 54.374 | 0.964 | 2.12 | A | EL | 76.124 | N/A | -- | -- | -- | -- | -- | | |
| LEGAL LOAD RATING | SINGLE VEHICLE (SV) | SNSH | 13.500 | -- | 3.44 | 46.415 | 1.40 | 0.958 | 6.42 | A | EL | 54.374 | 0.964 | 4.94 | A | EL | 76.124 | 0.80 | 0.958 | 3.44 | A | EL | 54.374 | |
| | | SNGARBS2 | 20.000 | -- | 2.47 | 49.454 | 1.40 | 0.958 | 4.62 | A | EL | 54.374 | 0.964 | 3.49 | A | EL | 76.124 | 0.80 | 0.958 | 2.47 | A | EL | 54.374 | |
| | | SNAGRIS2 | 22.000 | -- | 2.31 | 50.733 | 1.40 | 0.958 | 4.31 | A | EL | 54.374 | 0.964 | 3.23 | A | EL | 76.124 | 0.80 | 0.958 | 2.31 | A | EL | 54.374 | |
| | | SNCOTTS3 | 27.250 | -- | 1.71 | 46.550 | 1.40 | 0.958 | 3.19 | A | EL | 54.374 | 0.964 | 2.46 | A | EL | 76.124 | 0.80 | 0.958 | 1.71 | A | EL | 54.374 | |
| | | SNAGGRS4 | 34.925 | -- | 1.39 | 48.652 | 1.40 | 0.958 | 2.60 | A | EL | 54.374 | 0.964 | 2.03 | A | EL | 76.124 | 0.80 | 0.958 | 1.39 | A | EL | 54.374 | |
| | | SNS5A | 35.550 | -- | 1.37 | 48.509 | 1.40 | 0.958 | 2.55 | A | EL | 54.374 | 0.964 | 2.04 | A | EL | 76.124 | 0.80 | 0.958 | 1.36 | A | EL | 54.374 | |
| | | SNS6A | 39.950 | -- | 1.24 | 49.458 | 1.40 | 0.958 | 2.31 | A | EL | 54.374 | 0.964 | 1.86 | A | EL | 76.124 | 0.80 | 0.958 | 1.24 | A | EL | 54.374 | |
| | SNS7B | 42.000 | -- | 1.18 | 49.494 | 1.40 | 0.958 | 2.20 | A | EL | 54.374 | 0.964 | 1.81 | A | EL | 76.124 | 0.80 | 0.958 | 1.18 | A | EL | 54.374 | | |
| | TRUCK TRACTOR SEMI-TRAILER (TTST) | TNAGRIT3 | 33.000 | -- | 1.51 | 49.684 | 1.40 | 0.958 | 2.81 | A | EL | 54.374 | 0.964 | 2.21 | A | EL | 76.124 | 0.80 | 0.958 | 1.51 | A | EL | 54.374 | |
| | | TNT4A | 33.075 | -- | 1.51 | 49.892 | 1.40 | 0.958 | 2.82 | A | EL | 54.374 | 0.964 | 2.17 | A | EL | 76.124 | 0.80 | 0.958 | 1.51 | A | EL | 54.374 | |
| | | TNT6A | 41.600 | -- | 1.22 | 50.769 | 1.40 | 0.958 | 2.28 | A | EL | 54.374 | 0.964 | 1.91 | A | EL | 76.124 | 0.80 | 0.958 | 1.22 | A | EL | 54.374 | |
| | | TNT7A | 42.000 | -- | 1.22 | 51.227 | 1.40 | 0.958 | 2.28 | A | EL | 54.374 | 0.964 | 1.88 | A | EL | 76.124 | 0.80 | 0.958 | 1.22 | A | EL | 54.374 | |
| | | TNT7B | 42.000 | -- | 1.25 | 52.302 | 1.40 | 0.958 | 2.33 | A | EL | 54.374 | 0.964 | 1.78 | A | EL | 76.124 | 0.80 | 0.958 | 1.25 | A | EL | 54.374 | |
| | | TNAGRIT4 | 43.000 | -- | 1.20 | 51.466 | 1.40 | 0.958 | 2.23 | A | EL | 54.374 | 0.964 | 1.72 | A | EL | 76.124 | 0.80 | 0.958 | 1.20 | A | EL | 54.374 | |
| TNAGT5A | | 45.000 | -- | 1.13 | 51.044 | 1.40 | 0.958 | 2.12 | A | EL | 54.374 | 0.964 | 1.70 | A | EL | 76.124 | 0.80 | 0.958 | 1.13 | A | EL | 54.374 | | |
| TNAGT5B | 45.000 | 3 | 1.13 | 50.662 | 1.40 | 0.958 | 2.10 | A | EL | 54.374 | 0.964 | 1.64 | A | EL | 76.124 | 0.80 | 0.958 | 1.13 | A | EL | 54.374 | | | |

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)

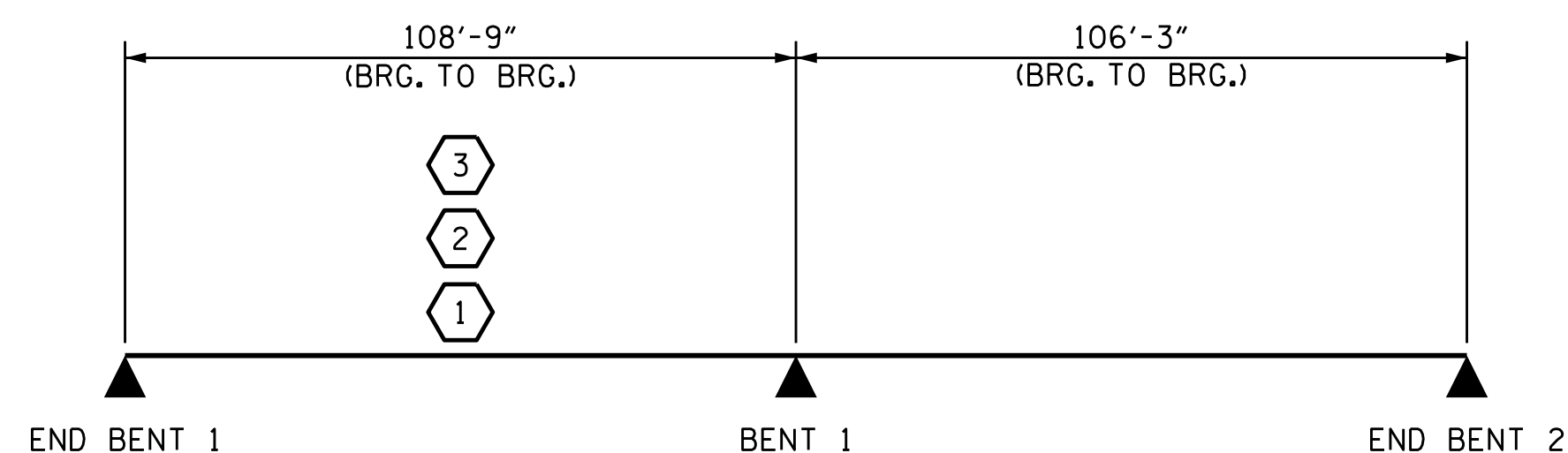
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY

PROJECT NO. U-2579C
FORSYTH COUNTY
 STATION: 29+24.97 -Y1-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (NON-INTERSTATE TRAFFIC)

| | |
|------------------------------|------------------------|
| ASSEMBLED BY : J.P. MCCARTHA | DATE : 3/8/16 |
| CHECKED BY : H.A. LOCKLEAR | DATE : 9/7/16 |
| DRAWN BY : MAA 1/08 | REV. 11/27/08RR MAA/GM |
| CHECKED BY : GM/DI 2/08 | REV. 10/1/11 MAA/GM |

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S1-5 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 32 |