

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 (LRFR) 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 | | | |
|--------------------|------------|----------------------|-------------------------|-----------------------------|---------------|------------------------|---------------------------|---------------|------|-----------------|-------------------------------------|---------------------------|---------------|------|-----------------|-------------------------------------|------------------|---------------------------|---------------|------|----------------|-----------------|-------------------------------------|--|
| | | | | | | LIVELOAD FACTORS | MOMENT | | | | | SHEAR | | | | | LIVELOAD FACTORS | 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(Inv) | N/A | 1 | 1.03 | -- | 1.75 | 0.256 | 1.05 | B | I | 32 | 0.480 | 1.41 | A | EL | 1.45 | 0.80 | 0.429 | 1.03 | B | I | 32.000 | | |
| | HL-93(0pr) | N/A | -- | 1.37 | -- | 1.35 | 0.256 | 1.36 | B | I | 32 | 0.480 | 1.83 | A | EL | 1.45 | N/A | -- | -- | -- | -- | -- | | |
| | HS-20(Inv) | 36.000 | 2 | 1.42 | 51.133 | 1.75 | 0.256 | 1.46 | B | I | 32 | 0.480 | 1.65 | A | EL | 1.45 | 0.80 | 0.256 | 1.42 | B | I | 32.000 | | |
| | HS-20(0pr) | 36.000 | -- | 1.89 | 68.019 | 1.35 | 0.256 | 1.89 | B | I | 32 | 0.480 | 2.14 | A | EL | 1.45 | N/A | -- | -- | -- | -- | -- | | |
| LEGAL LOAD RATING | SV | SNSH | 13.500 | -- | 3.12 | 42.117 | 1.40 | 0.256 | 4.00 | B | I | 32 | 0.480 | 4.04 | A | EL | 1.45 | 0.80 | 0.256 | 3.12 | B | I | 32.000 | |
| | | SNGARBS2 | 20.000 | -- | 2.36 | 47.228 | 1.40 | 0.256 | 3.03 | B | I | 32 | 0.480 | 3.12 | A | EL | 1.45 | 0.80 | 0.256 | 2.36 | B | I | 32.000 | |
| | | SNAGRIS2 | 22.000 | -- | 2.25 | 49.542 | 1.40 | 0.256 | 2.89 | B | I | 32 | 0.480 | 3.01 | A | EL | 1.45 | 0.80 | 0.256 | 2.25 | B | I | 32.000 | |
| | | SNCOTTS3 | 27.250 | -- | 1.55 | 42.334 | 1.40 | 0.256 | 1.99 | B | I | 32 | 0.480 | 2.04 | A | EL | 1.45 | 0.80 | 0.256 | 1.55 | B | I | 32.000 | |
| | | SNAGGRS4 | 34.925 | -- | 1.31 | 45.827 | 1.40 | 0.256 | 1.68 | B | I | 32 | 0.480 | 1.88 | A | EL | 1.45 | 0.80 | 0.256 | 1.31 | B | I | 32.000 | |
| | | SNS5A | 35.550 | -- | 1.28 | 45.583 | 1.40 | 0.256 | 1.64 | B | I | 32 | 0.480 | 1.99 | A | EL | 1.45 | 0.80 | 0.256 | 1.28 | B | I | 32.000 | |
| | | SNS6A | 39.950 | -- | 1.18 | 47.234 | 1.40 | 0.256 | 1.52 | B | I | 32 | 0.480 | 1.87 | A | EL | 1.45 | 0.80 | 0.256 | 1.18 | B | I | 32.000 | |
| | SNS7B | 42.000 | -- | 1.13 | 47.299 | 1.40 | 0.256 | 1.44 | B | I | 32 | 0.480 | 1.91 | A | EL | 1.45 | 0.80 | 0.256 | 1.13 | B | I | 32.000 | | |
| | TTST | TNAGRIT3 | 33.000 | -- | 1.44 | 47.637 | 1.40 | 0.256 | 1.85 | B | I | 32 | 0.480 | 2.22 | A | EL | 1.45 | 0.80 | 0.256 | 1.44 | B | I | 32.000 | |
| | | TNT4A | 33.075 | -- | 1.45 | 48.009 | 1.40 | 0.256 | 1.86 | B | I | 32 | 0.480 | 2.07 | A | EL | 1.45 | 0.80 | 0.256 | 1.45 | B | I | 32.000 | |
| | | TNT6A | 41.600 | -- | 1.19 | 49.609 | 1.40 | 0.256 | 1.53 | B | I | 32 | 0.480 | 2.00 | A | EL | 1.45 | 0.80 | 0.256 | 1.19 | B | I | 32.000 | |
| | | TNT7A | 42.000 | -- | 1.20 | 50.465 | 1.40 | 0.256 | 1.54 | B | I | 32 | 0.480 | 1.90 | A | EL | 1.45 | 0.80 | 0.256 | 1.20 | B | I | 32.000 | |
| | | TNT7B | 42.000 | -- | 1.25 | 52.529 | 1.40 | 0.256 | 1.60 | B | I | 32 | 0.480 | 1.86 | A | EL | 1.45 | 0.80 | 0.256 | 1.25 | B | I | 32.000 | |
| | | TNAGRIT4 | 43.000 | -- | 1.18 | 50.916 | 1.40 | 0.256 | 1.52 | B | I | 32 | 0.480 | 1.79 | A | EL | 1.45 | 0.80 | 0.256 | 1.18 | B | I | 32.000 | |
| TNAGT5A | | 45.000 | -- | 1.11 | 50.121 | 1.40 | 0.256 | 1.43 | B | I | 32 | 0.480 | 1.93 | A | EL | 1.45 | 0.80 | 0.256 | 1.11 | B | I | 32.000 | | |
| TNAGT5B | 45.000 | 3 | 1.10 | 49.410 | 1.40 | 0.256 | 1.41 | B | I | 32 | 0.480 | 1.69 | A | EL | 1.45 | 0.80 | 0.256 | 1.10 | B | I | 32.000 | | | |

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.

COMMENTS:

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

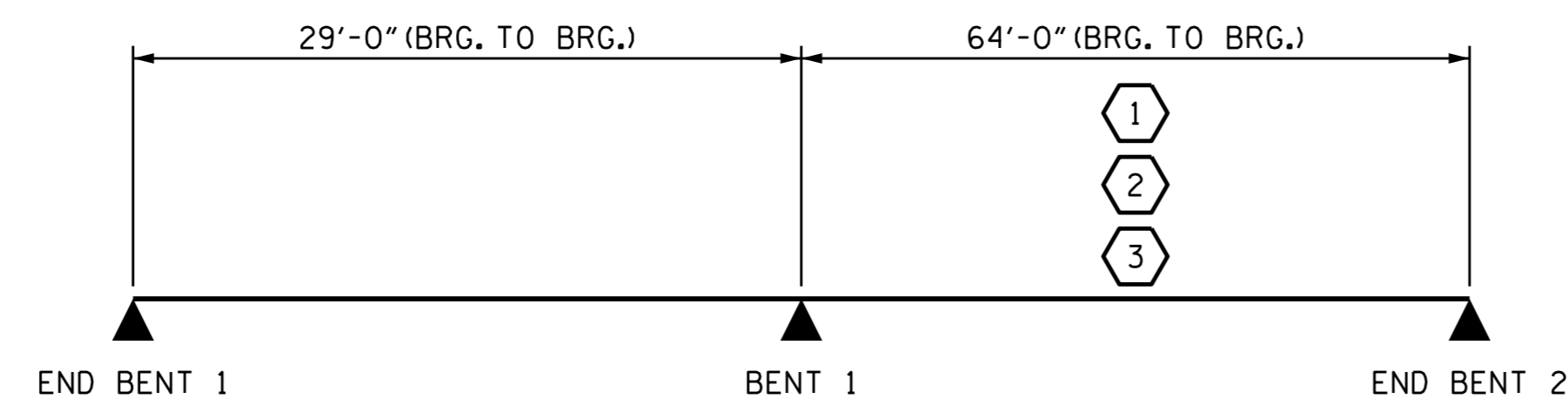
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

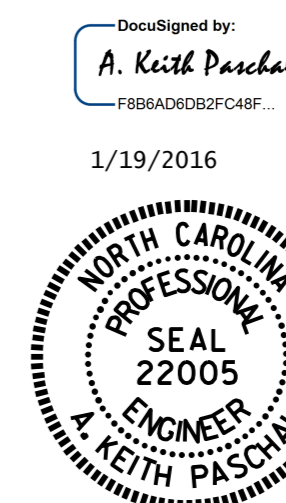
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-5300
BEAUFORT COUNTY
 STATION: 18+77.50 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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

| REVISIONS | | | | | | SHEET NO. S-4 |
|-----------|-----|-------|-----|-----|-------|--------------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | TOTAL SHEETS 30 |
| 2 | | | 4 | | | |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ASSEMBLED BY : P.N.HOLDER DATE : 07/15
 CHECKED BY : K.P.SEDAI DATE : 08/15
 DESIGN ENGINEER OF RECORD : P.N.HOLDER DATE : 08/15