

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 (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			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	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)	LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.026	--	1.75	0.852	1.307	B	EL	43.65	0.889	1.304	B	EL	34.92	0.80	0.852	1.026	B	EL	43.65		
	HL-93 (OPERATING)	N/A		1.691	--	1.35	0.852	1.695	B	EL	43.65	0.889	1.691	B	EL	34.92	N/A	--	--	--	--	--	43.65	
	HS-20 (INVENTORY)	36.000	②	1.390	50.045	1.75	0.852	1.772	B	EL	43.65	0.889	1.599	B	EL	34.92	0.80	0.852	1.390	B	EL	43.65		
	HS-20 (OPERATING)	36.000		2.072	74.610	1.35	0.852	2.297	B	EL	43.65	0.889	2.072	B	EL	34.92	N/A	--	--	--	--	--	43.65	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.239	43.725	1.40	0.852	5.161	B	EL	43.65	0.889	4.608	B	EL	34.92	0.80	0.852	3.239	B	EL	43.65	
		SNGARBS2	20.000		2.370	47.399	1.40	0.852	3.776	B	EL	43.65	0.889	3.323	B	EL	34.92	0.80	0.852	2.370	B	EL	43.65	
		SNAGRIS2	22.000		2.226	48.983	1.40	0.852	3.548	B	EL	43.65	0.889	3.102	B	EL	34.92	0.80	0.852	2.226	B	EL	43.65	
		SNCOTTS3	27.250		1.610	43.886	1.40	0.852	2.566	B	EL	43.65	0.889	2.305	B	EL	34.92	0.80	0.852	1.610	B	EL	43.65	
		SNAGGRS4	34.925		1.329	46.417	1.40	0.852	2.118	B	EL	43.65	0.889	1.945	B	EL	34.92	0.80	0.852	1.329	B	EL	43.65	
		SNS5A	35.550		1.301	46.243	1.40	0.852	2.073	B	EL	43.65	0.889	1.988	B	EL	34.92	0.80	0.852	1.301	B	EL	43.65	
		SNS6A	39.950		1.187	47.403	1.40	0.852	1.891	B	EL	43.65	0.889	1.827	B	EL	34.92	0.80	0.852	1.187	B	EL	43.65	
	SNS7B	42.000		1.130	47.448	1.40	0.852	1.800	B	EL	43.65	0.889	1.813	B	EL	34.92	0.80	0.852	1.130	B	EL	43.65		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.445	47.682	1.40	0.852	2.302	B	EL	43.65	0.889	2.163	B	EL	34.92	0.80	0.852	1.445	B	EL	43.65	
		TNT4A	33.075		1.449	47.939	1.40	0.852	2.309	B	EL	43.65	0.889	2.094	B	EL	34.92	0.80	0.852	1.449	B	EL	43.65	
		TNT6A	41.600		1.179	49.028	1.40	0.852	1.878	B	EL	43.65	0.889	1.966	B	EL	34.92	0.80	0.852	1.179	B	EL	43.65	
		TNT7A	42.000		1.181	49.601	1.40	0.852	1.882	B	EL	43.65	0.889	1.919	B	EL	34.92	0.80	0.852	1.181	B	EL	43.65	
		TNT7B	42.000		1.213	50.959	1.40	0.852	1.933	B	EL	43.65	0.889	1.757	B	EL	34.92	0.80	0.852	1.213	B	EL	43.65	
		TNAGRIT4	43.000		1.160	49.901	1.40	0.852	1.849	B	EL	43.65	0.889	1.697	B	EL	34.92	0.80	0.852	1.160	B	EL	43.65	
TNAGT5A		45.000		1.097	49.372	1.40	0.852	1.748	B	EL	43.65	0.889	1.707	B	EL	34.92	0.80	0.852	1.097	B	EL	43.65		
TNAGT5B	45.000	③	1.087	48.894	1.40	0.852	1.731	B	EL	43.65	0.889	1.611	B	EL	34.92	0.80	0.852	1.087	B	EL	43.65			

**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)

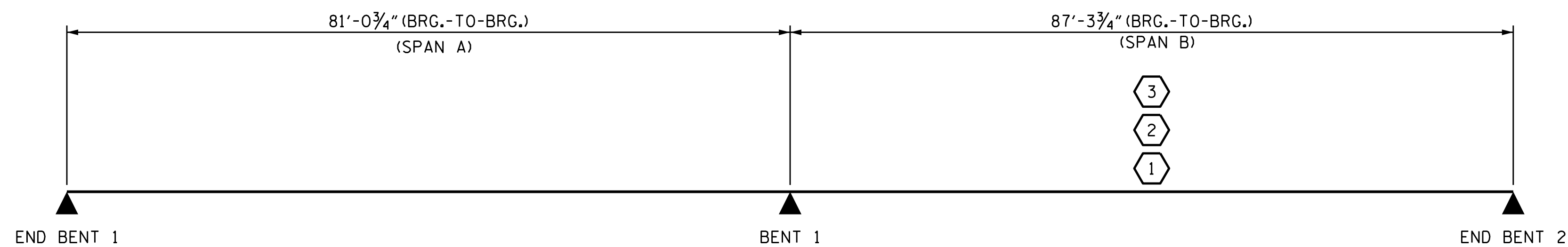
③ LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

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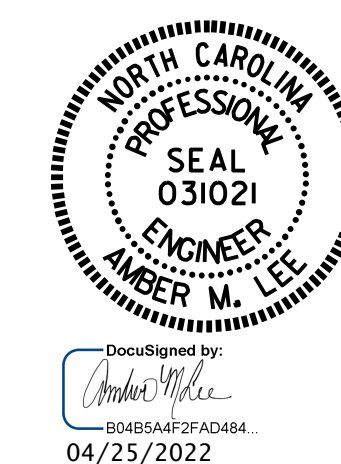
GIRDER LOCATION

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



### LRFR SUMMARY

PROJECT NO. BR-0051  
YADKIN COUNTY  
 STATION: 18+34.78 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 LRFR SUMMARY FOR  
 PRESTRESSED  
 CONCRETE GIRDERS  
 (NON-INTERSTATE TRAFFIC)

ASSEMBLED BY : H.A. LOCKLEAR DATE : 03/2020  
 CHECKED BY : E. BAYISSA DATE : 03/2022  
 DRAWN BY : MAA 1/08 REV. 11/2/08RR MAA/GM  
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM  
 REV. 12/17 MAA/THC

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO. S-04
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 32
2			4			