

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			
						MOMENT					SHEAR					MOMENT								
						LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	①	1.187	--	1.75	0.235	1.19	A	EL	34.5	0.511	1.32	A	EL	62.1	0.80	0.235	1.39	A	EL	34.5		
	HL-93(Opr)	N/A	--	1.538	--	1.35	0.235	1.54	A	EL	34.5	0.511	1.71	A	EL	62.1	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	②	1.54	55.446	1.75	0.235	1.54	A	EL	34.5	0.511	1.64	A	EL	62.1	0.80	0.235	1.8	A	EL	34.5		
	HS-20(Opr)	36.000	--	1.997	71.874	1.35	0.235	2	A	EL	34.5	0.511	2.12	A	EL	62.1	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	4.017	54.223	1.4	0.235	4.3	A	EL	34.5	0.511	4.84	A	EL	62.1	0.80	0.235	4.02	A	EL	34.5	
		SNGARBS2	20.000	--	3.012	60.231	1.4	0.235	3.22	A	EL	34.5	0.511	3.45	A	EL	62.1	0.80	0.235	3.01	A	EL	34.5	
		SNAGRIS2	22.000	--	2.86	62.914	1.4	0.235	3.06	A	EL	34.5	0.511	3.21	A	EL	62.1	0.80	0.235	2.86	A	EL	34.5	
		SNCOTTS3	27.250	--	1.999	54.480	1.4	0.235	2.14	A	EL	34.5	0.511	2.42	A	EL	62.1	0.80	0.235	2	A	EL	34.5	
		SNAGGRS4	34.925	--	1.678	58.596	1.4	0.235	1.8	A	EL	34.5	0.511	2.01	A	EL	62.1	0.80	0.235	1.68	A	EL	34.5	
		SNS5A	35.550	--	1.64	58.309	1.4	0.235	1.76	A	EL	34.5	0.511	2.04	A	EL	62.1	0.80	0.235	1.64	A	EL	34.5	
		SNS6A	39.950	--	1.508	60.238	1.4	0.235	1.61	A	EL	34.5	0.511	1.87	A	EL	62.1	0.80	0.235	1.51	A	EL	34.5	
	SNS7B	42.000	--	1.436	60.313	1.4	0.235	1.54	A	EL	34.5	0.511	1.84	A	EL	62.1	0.80	0.235	1.44	A	EL	34.5		
	TTST	TNAGRIT3	33.000	--	1.84	60.706	1.4	0.235	1.97	A	EL	34.5	0.511	2.22	A	EL	62.1	0.80	0.235	1.84	A	EL	34.5	
		TNT4A	33.075	--	1.848	61.139	1.4	0.235	1.98	A	EL	34.5	0.511	2.16	A	EL	62.1	0.80	0.235	1.85	A	EL	34.5	
		TNT6A	41.600	--	1.514	62.991	1.4	0.235	1.62	A	EL	34.5	0.511	1.96	A	EL	62.1	0.80	0.235	1.51	A	EL	34.5	
		TNT7A	42.000	--	1.523	63.977	1.4	0.235	1.63	A	EL	34.5	0.511	1.92	A	EL	62.1	0.80	0.235	1.52	A	EL	34.5	
		TNT7B	42.000	--	1.58	66.343	1.4	0.235	1.69	A	EL	34.5	0.511	1.79	A	EL	62.1	0.80	0.235	1.58	A	EL	34.5	
		TNAGRIT4	43.000	--	1.5	64.495	1.4	0.235	1.61	A	EL	34.5	0.511	1.73	A	EL	62.1	0.80	0.235	1.5	A	EL	34.5	
TNAGT5A		45.000	--	1.413	63.582	1.4	0.235	1.51	A	EL	34.5	0.511	1.73	A	EL	62.1	0.80	0.235	1.41	A	EL	34.5		
TNAGT5B	45.000	③	1.395	62.762	1.4	0.235	1.49	A	EL	34.5	0.511	1.65	A	EL	62.1	0.80	0.235	1.4	A	EL	34.5			

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{dc}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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)

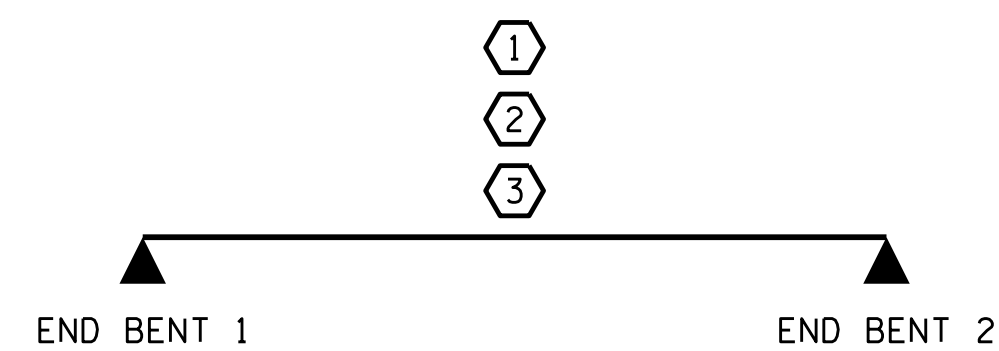
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY
FOR 70'-0" SPAN

PROJECT NO. B-5642
BRUNSWICK COUNTY
 STATION: 18+30.00 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD LRFR SUMMARY FOR 70' CORED SLAB UNIT 90° SKEW (NON-INTERSTATE TRAFFIC)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					TOTAL SHEETS 14

DESIGN ENGINEER OF RECORD:	
<u>W. SMITH</u>	DATE : <u>4/22/21</u>
ASSEMBLED BY : <u>M.K. BEARD</u>	DATE : <u>04/2020</u>
CHECKED BY : <u>D. SHACKELFORD</u>	DATE : <u>04/2020</u>
DRAWN BY : <u>CVC</u>	<u>6/10</u>
CHECKED BY : <u>DNS</u>	<u>6/10</u>