

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	ϕ_c	ϕ_w
	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
						LIVE-LOAD FACTORS (LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (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	1.03		1.75	0.852	1.48	B	E	54.1	0.980	1.11	B	I	21.2	0.80	0.852	1.03	B	E	54.1		
	HL-93 (OPERATING)	N/A		1.49		1.35	0.852	1.91	B	E	54.1	0.980	1.49	B	I	21.2	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	2	1.46	52.56	1.75	0.852	2.10	B	E	54.1	0.980	1.53	B	I	21.2	0.80	0.852	1.46	B	E	54.1		
	HS-20 (OPERATING)	36.000		2.03	73.08	1.35	0.852	2.72	B	E	54.1	0.980	2.03	B	I	21.2	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SN5H	13.500		3.51	47.38	1.40	0.964	5.57	A	I	19.9	0.980	5.05	B	I	21.2	0.80	0.852	3.51	B	E	54.1	
		SNGARBS2	20.000		2.52	50.40	1.40	0.852	4.52	B	E	54.1	0.980	3.48	B	I	21.2	0.80	0.852	2.52	B	E	54.1	
		SNAGRIS2	22.000		2.35	51.70	1.40	0.852	4.23	B	E	54.1	0.980	3.21	B	I	21.2	0.80	0.852	2.35	B	E	54.1	
		SNCOTTS3	27.250		1.74	47.41	1.40	0.964	2.78	A	I	19.9	0.980	2.43	B	I	21.2	0.80	0.852	1.74	B	E	54.1	
		SNAGGRS4	34.925		1.42	49.59	1.40	0.964	2.49	A	I	19.9	0.980	1.95	B	I	21.2	0.80	0.852	1.42	B	E	54.1	
		SNS5A	35.550		1.39	49.41	1.40	0.964	2.43	A	I	19.9	0.980	1.96	B	I	21.2	0.80	0.852	1.39	B	E	54.1	
		SNS6A	39.950		1.26	50.33	1.40	0.852	2.27	B	E	54.1	0.980	1.76	B	I	21.2	0.80	0.852	1.26	B	E	54.1	
		SNS7B	42.000		1.20	50.40	1.40	0.852	2.16	B	E	54.1	0.980	1.71	B	I	21.2	0.80	0.852	1.20	B	E	54.1	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.54	50.82	1.40	0.852	2.76	B	E	54.1	0.980	2.14	B	I	21.2	0.80	0.852	1.54	B	E	54.1	
		TNT4A	33.075		1.54	50.93	1.40	0.852	2.76	B	E	54.1	0.980	2.08	B	I	21.2	0.80	0.852	1.54	B	E	54.1	
		TNT6A	41.600		1.25	52.00	1.40	0.852	2.24	B	E	54.1	0.980	1.80	B	I	21.2	0.80	0.852	1.25	B	E	54.1	
		TNT7A	42.000		1.24	52.08	1.40	0.852	2.24	B	E	54.1	0.980	1.77	B	I	21.2	0.80	0.852	1.24	B	E	54.1	
		TNT7B	42.000		1.27	53.34	1.40	0.852	2.28	B	E	54.1	0.980	1.68	B	I	21.2	0.80	0.852	1.27	B	E	54.1	
		TNAGRIT4	43.000		1.22	52.46	1.40	0.852	2.19	B	E	54.1	0.980	1.61	B	I	21.2	0.80	0.852	1.22	B	E	54.1	
		TNAGT5A	45.000		1.16	52.20	1.40	0.852	2.08	B	E	54.1	0.980	1.58	B	I	21.2	0.80	0.852	1.16	B	E	54.1	
TNAGT5B	45.000	3	1.15	51.75	1.40	0.852	2.06	B	E	54.1	0.980	1.54	B	I	21.2	0.80	0.852	1.15	B	E	54.1			

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)

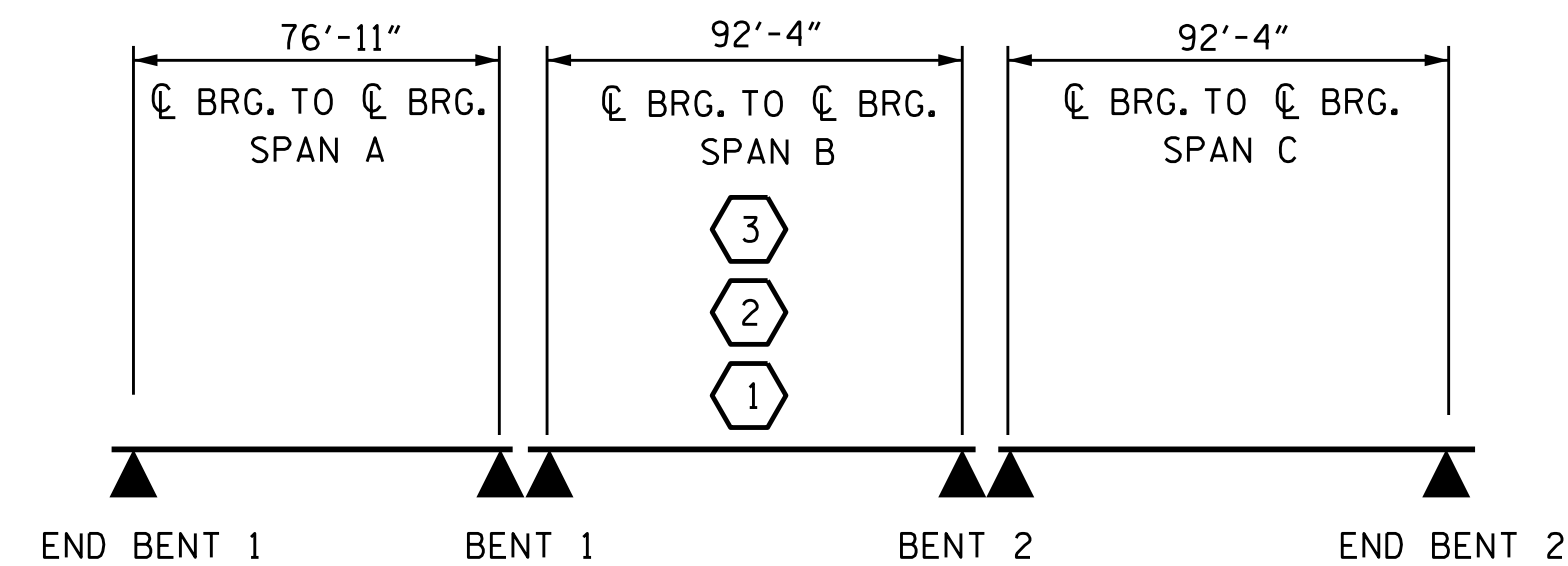
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
E - EXTERIOR



LRFR SUMMARY

PROJECT NO. R-2561CA
COLUMBUS COUNTY
STATION: 70+34.00 -L-

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

DocuSigned by:
ROBERT C. LARSON
NORTH CAROLINA PROFESSIONAL SEAL 14114
ENGINEER
8/15/2022

DESIGN ENGINEER OF RECORD:	DATE:	8/15/2022
ASSEMBLED BY: C. E. LARSON	DATE:	09/05/19
CHECKED BY: R. C. LARSON	DATE:	09/09/19
DRAWN BY: MAA	1/08	MAA/GM
CHECKED BY: M/DI	2/08	MAA/GM
		MAA/THC

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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S3- 4	
1			3			TOTAL SHEETS	
2			4			30	

STD. NO. LRFR1

\$FILEL\$ \$DATES\$ \$TIME\$ \$USERS\$ \$PLTDYVS\$ \$PENTBLS\$ \$PROJECT NO. 241704391.04