

1/13/2026
\\Corporbwn.net\us\Central\Info\USRAG100\Jobs\30900678R-B-6047\B-6047\Structures\2.0_Drafting\DGNS\FINAL\401_007_B-6047_SML_LRFR1.dgn

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																							
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)		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	HL-93 (INVENTORY)	N/A		2.71	--	1.75	0.31	2.71	35'	EL	17.0	0.34	4.23	35'	EL	2.0	0.80	0.31	3.40	35'	EL	17.0	
	HL-93 (OPERATING)	N/A		3.51	--	1.35	0.31	3.51	35'	EL	17.0	0.34	5.51	35'	EL	2.0	N/A	--	--	--	--	--	
	HS-20 (INVENTORY)	36.000		3.56	128.04	1.75	0.31	3.56	35'	EL	13.5	0.34	4.88	35'	EL	2.0	0.80	0.31	4.49	35'	EL	13.5	
	HS-20 (OPERATING)	36.000		4.61	165.98	1.35	0.31	4.61	35'	EL	13.5	0.34	6.36	35'	EL	2.0	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH		7.74	104.44	1.4	0.31	7.74	35'	EL	17.0	0.34	12.71	35'	EL	2.0	0.80	0.31	7.78	35'	EL	17.0	
		SNGARBS2		6.53	130.57	1.4	0.31	6.53	35'	EL	20.5	0.34	9.59	35'	EL	2.0	0.80	0.31	6.60	35'	EL	20.5	
		SNAGRIS2		6.47	142.27	1.4	0.31	6.47	35'	EL	13.5	0.34	9.14	35'	EL	2.0	0.80	0.31	6.54	35'	EL	13.5	
		SNCOTTS3		3.87	105.55	1.4	0.31	3.87	35'	EL	17.0	0.34	6.41	35'	EL	2.0	0.80	0.31	3.89	35'	EL	17.0	
		SNAGGRS4		3.58	125.12	1.4	0.31	3.58	35'	EL	17.0	0.34	5.73	35'	EL	2.0	0.80	0.31	3.60	35'	EL	17.0	
		SNS5A		3.48	123.63	1.4	0.31	3.48	35'	EL	17.0	0.34	6.07	35'	EL	2.0	0.80	0.31	3.50	35'	EL	17.0	
		SNS6A		3.36	134.09	1.4	0.31	3.36	35'	EL	17.0	0.34	5.69	35'	EL	2.0	0.80	0.31	3.37	35'	EL	17.0	
		SNS7B		3.20	134.52	1.4	0.31	3.20	35'	EL	17.0	0.34	5.83	35'	EL	2.0	0.80	0.31	3.22	35'	EL	17.0	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3		4.15	136.80	1.4	0.31	4.15	35'	EL	17.0	0.34	6.67	35'	EL	2.0	0.80	0.31	4.17	35'	EL	17.0	
		TNT4A		4.14	137.03	1.4	0.31	4.14	35'	EL	17.0	0.34	6.28	35'	EL	2.0	0.80	0.31	4.16	35'	EL	17.0	
		TNT6A		3.63	150.98	1.4	0.31	3.63	35'	EL	17.0	0.34	6.16	35'	EL	2.0	0.80	0.31	3.65	35'	EL	17.0	
		TNT7A		3.75	157.35	1.4	0.31	3.75	35'	EL	13.5	0.34	5.71	35'	EL	2.0	0.80	0.31	3.77	35'	EL	17.0	
		TNT7B		3.69	154.92	1.4	0.31	3.69	35'	EL	17.0	0.34	5.55	35'	EL	32.0	0.80	0.31	3.71	35'	EL	17.0	
		TNAGRIT4		3.68	158.19	1.4	0.31	3.68	35'	EL	13.5	0.34	5.32	35'	EL	2.0	0.80	0.31	3.72	35'	EL	13.5	
		TNAGT5A		3.44	154.95	1.4	0.31	3.44	35'	EL	17.0	0.34	5.64	35'	EL	2.0	0.80	0.31	3.46	35'	EL	17.0	
TNAGT5B			3.32	149.48	1.4	0.31	3.32	35'	EL	17.0	0.34	5.02	35'	EL	32.0	0.80	0.31	3.34	35'	EL	17.0		
EMERGENCY VEHICLE (EV)	EV2		4.75	136.50	1.3	0.31	5.06	35'	EL	34.5	0.34	7.37	35'	EL	2.0	0.80	0.31	4.75	35'	EL	13.5		
	EV3		3.09	132.99	1.3	0.31	3.31	35'	EL	17.0	0.34	4.99	35'	EL	2.0	0.80	0.31	3.09	35'	EL	17.0		

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)

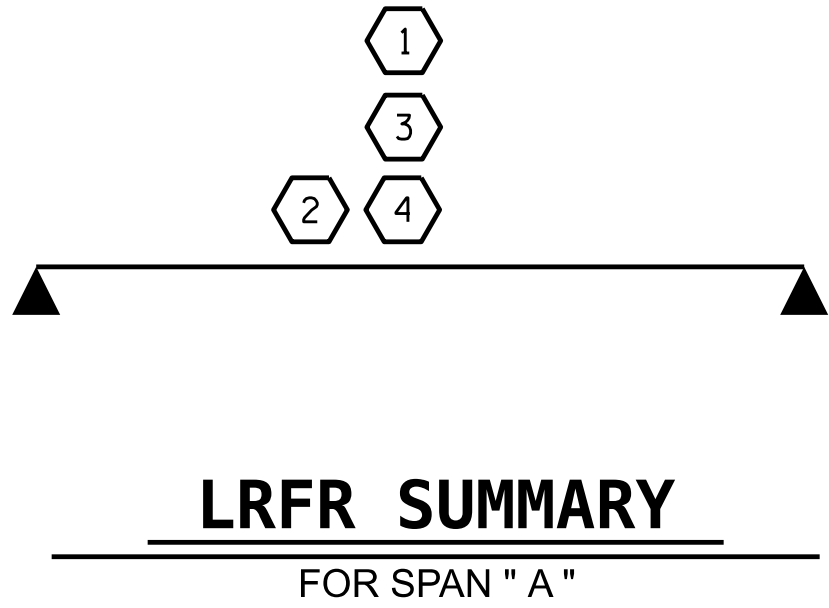
③ LEGAL LOAD RATING **

④ EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



PROJECT NO. B-6047
RUTHERFORD COUNTY
STATION: 18+20.00 -L-

ASSEMBLED BY: T.KIRSCHBAUM DATE : FEB 2023
CHECKED BY: E. LAWES DATE : APR 2023
DESIGN ENGINEER
OF RECORD: E. LAWES DATE : AUG 2023

wsp

WSP USA, Inc.
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SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165

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NORTH CAROLINA
PROFESSIONAL
SEAL
044167
1/13/2026
ENGINEER
ELIZABETH F. LAWES

DocuSigned by:
Elizabeth F. Lawes
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR
35' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 25
2			4			