

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 (γ _L)	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 (γ _L)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.08	--	1.75	0.86	1.27	A	ER	55.07	0.90	1.13	A	ER	77.38	0.80	0.90	1.08	A	ER	55.07		
	HL-93 (OPERATING)	N/A		1.57	--	1.35	0.86	1.65	A	ER	55.07	0.90	1.57	A	I	99.69	N/A	--	--	--	ER	--		
	HS-20 (INVENTORY)	36.000	②	1.54	55.43	1.75	0.86	1.82	A	ER	55.07	0.92	1.67	A	I	99.69	0.80	0.86	1.54	A	ER	55.07		
	HS-20 (OPERATING)	36.000		2.20	79.12	1.35	0.86	2.36	A	ER	55.07	0.92	2.20	A	I	99.69	N/A	--	--	--	ER	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		4.01	50.15	1.40	0.86	5.92	A	ER	55.07	0.92	5.89	A	I	99.69	0.80	0.86	4.01	A	ER	55.07		
		S3C		2.34	50.39	1.40	0.86	3.46	A	ER	55.07	0.92	3.40	A	I	99.69	0.80	0.86	2.34	A	ER	55.07		
		S3A		2.22	50.49	1.40	0.86	3.27	A	ER	55.07	0.92	3.21	A	I	99.69	0.80	0.86	2.22	A	ER	55.07		
		S4A		1.94	51.85	1.40	0.86	2.86	A	ER	55.07	0.92	2.77	A	I	99.69	0.80	0.86	1.94	A	ER	55.07		
		S5A		1.71	52.11	1.40	0.86	2.52	A	ER	55.07	0.92	2.50	A	I	99.69	0.80	0.86	1.71	A	ER	55.07		
		S6A		1.54	53.14	1.40	0.86	2.27	A	ER	55.07	0.92	2.23	A	I	99.69	0.80	0.86	1.54	A	ER	55.07		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	S7B		1.40	53.77	1.40	0.86	2.06	A	ER	55.07	0.92	2.05	A	I	99.69	0.80	0.86	1.40	A	ER	55.07		
		S7A		③	1.37	54.86	1.40	0.86	2.02	A	ER	55.07	0.92	2.06	A	I	99.69	0.80	0.86	1.37	A	ER	55.07	
		T4A			1.89	53.47	1.40	0.86	2.79	A	ER	55.07	0.92	2.67	A	I	99.69	0.80	0.86	1.89	A	ER	55.07	
		T5B			1.66	53.27	1.40	0.86	2.46	A	ER	55.07	0.92	2.48	A	I	99.69	0.80	0.86	1.66	A	ER	55.07	
		T6A			1.51	54.53	1.40	0.86	2.23	A	ER	55.07	0.92	2.24	A	I	99.69	0.80	0.86	1.51	A	ER	55.07	
		T7A			1.39	55.78	1.40	0.86	2.06	A	ER	55.07	0.92	2.06	A	I	99.69	0.80	0.86	1.39	A	ER	55.07	
T7B			1.46	58.53	1.40	0.86	2.16	A	ER	55.07	0.92	1.97	A	I	99.69	0.80	0.86	1.46	A	ER	55.07			

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)

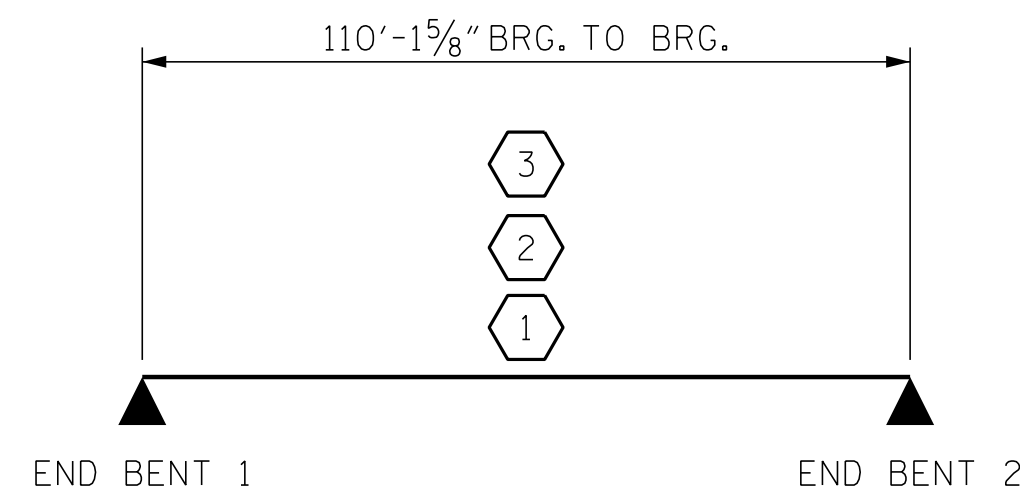
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-5719
WAYNE COUNTY
 STATION: 39+11.12 -L-

P:\2015\A-5719\Structures\DWG\Left Lane\A-5719_L1_LRFD_WE I.dgn
 12/6/2016 12:49:13 PM

DRAWN BY : R. ASENCIO DATE : 12/5/15
 CHECKED BY : J. DILWORTH DATE : 12/8/15

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

ENGINEER OF RECORD
 12/12/2016

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (INTERSTATE TRAFFIC)
 LEFT LANE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S01-4 TOTAL SHEETS 26
1			3			
2			4			