

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								
						LIVE-LOAD FACTORS (γ _{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 (γ _{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	1.17	--	1.75	0.930	2.14	A	E	41.7	1.055	1.17	A	I	7.8	0.80	0.888	1.84	A	I	41.7		
	HL-93 (OPERATING)	N/A		1.54	--	1.35	0.930	2.77	A	E	41.7	1.055	1.54	A	I	7.8	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.53	55.00	1.75	0.930	2.87	A	E	41.7	1.055	1.53	A	I	7.8	0.80	0.888	2.46	A	I	41.7		
	HS-20 (OPERATING)	36.000		2.01	72.00	1.35	0.930	3.72	A	E	41.7	1.055	2.01	A	I	7.8	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		5.23	65.38	1.40	0.930	9.01	A	E	41.7	1.055	5.23	A	I	7.8	0.80	0.888	6.19	A	I	41.7		
		S3C	21.500		3.03	65.15	1.40	0.930	5.27	A	E	41.7	1.055	3.03	A	I	7.8	0.80	0.888	3.62	A	I	41.7	
		S3A	22.750		2.87	65.29	1.40	0.930	5.00	A	E	41.7	1.055	2.87	A	I	7.8	0.80	0.888	3.43	A	I	41.7	
		S4A	26.750		2.48	66.34	1.40	0.930	4.41	A	E	41.7	1.055	2.48	A	I	7.8	0.80	0.888	3.03	A	I	41.7	
		S5A	30.500		2.28	69.54	1.40	0.930	3.89	A	E	41.7	1.055	2.28	A	I	7.8	0.80	0.888	2.67	A	I	41.7	
		S6A	34.500		2.04	70.38	1.40	0.930	3.53	A	E	41.7	1.055	2.04	A	I	7.8	0.80	0.888	2.43	A	I	41.7	
		S7B	38.500		1.91	73.54	1.40	0.930	3.22	A	E	41.7	1.055	1.91	A	I	7.8	0.80	0.888	2.21	A	I	41.7	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	S7A	40.000		1.94	77.60	1.40	0.930	3.18	A	E	41.7	1.055	1.94	A	I	7.8	0.80	0.888	2.19	A	I	41.7	
		T4A	28.250		2.42	68.37	1.40	0.930	4.35	A	E	41.7	1.055	2.42	A	I	7.8	0.80	0.888	2.99	A	I	41.7	
		T5B	32.000		2.28	72.96	1.40	0.930	3.82	A	E	41.7	1.055	2.28	A	I	7.8	0.80	0.888	2.62	A	I	41.7	
		T6A	36.000		2.09	75.24	1.40	0.930	3.51	A	E	41.7	1.055	2.09	A	I	7.8	0.80	0.888	2.41	A	I	41.7	
		T7A	40.000		1.94	77.60	1.40	0.930	3.26	A	E	41.7	1.055	1.94	A	I	7.8	0.80	0.888	2.24	A	I	41.7	
		T7B	40.000	③	1.83	73.20	1.40	0.930	3.49	A	E	41.7	1.055	1.83	A	I	7.8	0.80	0.888	2.40	A	I	41.7	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{OW}
	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)

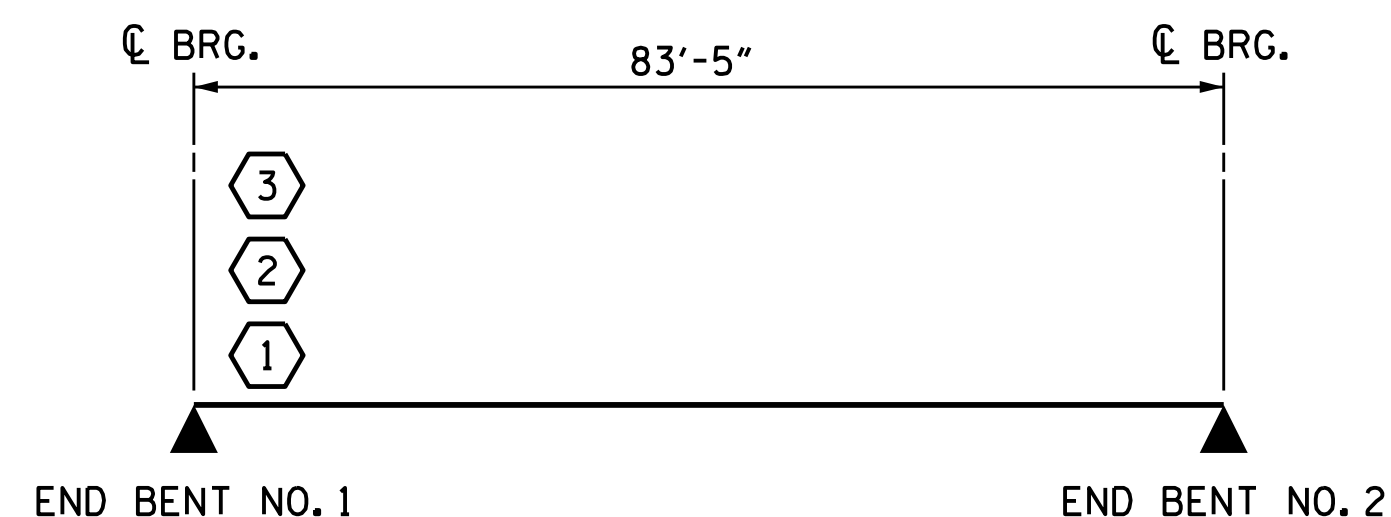
② DESIGN LOAD RATING (HS-20)

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-2514D
JONES COUNTY
 STATION: 561+15.20 -L-
=17+04.80 -Y7-

DRAWN BY : JD GOODIN DATE : 5/16/14
 CHECKED BY : MEG / JWT DATE : 6/23/14
 QC / QA BY : TG ZEBLO DATE : 7/7/14

DRAWN BY : MAA 1/08 REV. 11/12/08RR MAA/GM
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM

PLAN PREPARED BY:

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A&O PROJECT NO. 2013.044

DocuSigned by:
Mark Gustafson
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 3/23/2015

NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SLAL
 28601
 3-20-2015
 MARK E. GUSTAFSON

REFERENCE NO. 14- 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S14-4
2			4			

TOTAL SHEETS
21