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 $\gamma_{(LL)}$	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 $\gamma_{(LL)}$	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.10	--	1.75	0.819	1.83	A	ER	21.146	0.912	2.65	A	I	4.229	0.80	0.912	1.10	A	I	21.146	
		HL-93(Opr)	N/A	--	2.37	--	1.35	0.819	2.37	A	ER	21.146	0.912	3.43	A	I	4.229	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.35	48.517	1.75	0.819	2.24	A	ER	21.146	0.912	3.10	A	I	4.229	0.80	0.81	1.35	A	I	21.146	
		HS-20(Opr)	36.000	--	2.90	104.372	1.35	0.819	2.90	A	ER	21.146	0.912	4.02	A	I	4.229	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	2.59	34.958	1.40	0.819	5.37	A	ER	21.146	0.912	8.23	A	I	21.146	0.80	0.81	2.59	A	I	21.146	
		SNGARBS2	20.000	--	2.11	42.196	1.40	0.819	4.34	A	ER	16.917	0.912	6.20	A	I	4.229	0.80	0.81	2.11	A	I	21.146	
		SNAGRIS2	22.000	--	2.08	45.850	1.40	0.819	4.21	A	ER	16.917	0.912	5.86	A	I	4.229	0.80	0.81	2.08	A	I	21.146	
		SNCOTTS3	27.250	--	1.29	35.244	1.40	0.819	2.68	A	ER	21.146	0.912	4.19	A	I	21.146	0.80	0.81	1.29	A	I	21.146	
		SNAGGRS4	34.925	--	1.15	40.104	1.40	0.819	2.38	A	ER	21.146	0.912	3.67	A	I	4.229	0.80	0.81	1.15	A	I	21.146	
		SNS5A	35.550	--	1.12	39.748	1.40	0.819	2.32	A	ER	21.146	0.912	3.82	A	I	4.229	0.80	0.81	1.12	A	I	21.146	
		SNS6A	39.950	--	1.06	42.205	1.40	0.819	2.19	A	ER	21.146	0.912	3.57	A	I	4.229	0.80	0.81	1.06	A	I	21.146	
		SNS7B	42.000	3	1.01	42.304	1.40	0.819	2.09	A	ER	21.146	0.912	3.62	A	I	4.229	0.80	0.81	1.01	A	I	21.146	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.30	42.822	1.40	0.819	2.69	A	ER	21.146	0.912	4.18	A	I	4.229	0.80	0.81	1.30	A	I	21.146	
		TNT4A	33.075	--	1.31	43.401	1.40	0.819	2.72	A	ER	21.146	0.912	3.98	A	I	4.229	0.80	0.81	1.31	A	I	21.146	
		TNT6A	41.600	--	1.10	45.959	1.40	0.819	2.29	A	ER	21.146	0.912	3.89	A	I	4.229	0.80	0.81	1.10	A	I	21.146	
		TNT7A	42.000	--	1.13	47.381	1.40	0.819	2.34	A	ER	21.146	0.912	3.60	A	I	4.229	0.80	0.81	1.13	A	I	21.146	
		TNT7B	42.000	--	1.17	49.297	1.40	0.819	2.43	A	ER	16.917	0.912	3.45	A	I	4.229	0.80	0.81	1.17	A	I	21.146	
		TNAGRIT4	43.000	--	1.12	48.145	1.40	0.819	2.32	A	ER	21.146	0.912	3.31	A	I	4.229	0.80	0.81	1.12	A	I	21.146	
		TNAGT5A	45.000	--	1.04	46.805	1.40	0.819	2.16	A	ER	21.146	0.912	3.42	A	I	4.229	0.80	0.81	1.04	A	I	21.146	
		TNAGT5B	45.000	--	1.01	45.635	1.40	0.819	2.10	A	ER	21.146	0.912	3.13	A	I	4.229	0.80	0.81	1.01	A	I	21.146	

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:

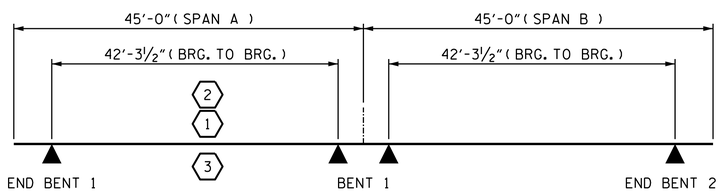
1.
2.
3.
4.

(#) 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. B-4591
NEW HANOVER/PENDER COUNTY
STATION: 23+25.00 -L-

3/25/2014

NORTH CAROLINA PROFESSIONAL SEAL 14045 ENGINEER TIMOTHY L. COGGINS

DocuSigned by: Tim Coggins
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS
(NON-INTERSTATE TRAFFIC)

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

STD. NO. LRFR1

ASSEMBLED BY : N. Ruffin DATE : 9/18/12
CHECKED BY : G. KOUCHEKI DATE : 6/10/13
DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08
REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM

25-MAR-2014 11:19
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