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					
							LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.05	--	1.75	0.891	1.44	B	I	36.375	1.035	1.77	B	I	43.65	0.80	1.035	1.05	B	I	36.375	
		HL-93(Opr)	N/A	--	1.86	--	1.35	0.891	1.86	B	I	36.375	1.035	2.29	B	I	43.65	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.38	49.580	1.75	0.891	1.88	B	I	36.375	1.035	2.08	B	I	43.65	0.80	0.891	1.38	B	I	36.375	
		HS-20(Opr)	36.000	--	2.44	87.840	1.35	0.891	2.44	B	I	36.375	1.035	2.70	B	I	43.65	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SH	12.500	--	3.38	42.230	1.4	0.891	5.77	B	I	36.375	1.035	6.29	B	I	43.65	0.80	0.891	3.38	B	I	36.375	
		S3C	21.500	--	1.98	42.542	1.4	0.891	3.38	B	I	36.375	1.035	3.72	B	I	43.65	0.80	0.891	1.98	B	I	36.375	
		S3A	22.750	--	1.88	42.679	1.4	0.891	3.20	B	I	36.375	1.035	3.54	B	I	43.65	0.80	0.891	1.88	B	I	36.375	
		S4A	26.750	--	1.66	44.502	1.4	0.891	2.84	B	I	36.375	1.035	3.16	B	I	43.65	0.80	0.891	1.66	B	I	36.375	
		S5A	30.500	--	1.47	44.863	1.4	0.891	2.51	B	I	36.375	1.035	3.01	B	I	43.65	0.80	0.891	1.47	B	I	36.375	
		S6A	34.500	--	1.34	46.288	1.4	0.891	2.29	B	I	36.375	1.035	2.77	B	I	43.65	0.80	0.891	1.34	B	I	36.375	
		S7B	38.500	--	1.23	47.183	1.4	0.891	2.09	B	I	36.375	1.035	2.70	B	I	43.65	0.80	0.891	1.23	B	I	36.375	
		S7A	40.000	3	1.22	48.751	1.4	0.891	2.08	B	I	36.375	1.035	2.94	B	I	43.65	0.80	0.891	1.22	B	I	36.375	
	TTST	T4A	28.250	--	1.66	46.747	1.4	0.891	2.83	B	I	36.375	1.035	3.13	B	I	43.65	0.80	0.891	1.65	B	I	36.375	
		T5B	32.000	--	1.45	46.463	1.4	0.891	2.48	B	I	36.375	1.035	3.19	B	I	43.65	0.80	0.891	1.45	B	I	36.375	
		T6A	36.000	--	1.34	48.268	1.4	0.891	2.29	B	I	36.375	1.035	3.03	B	I	43.65	0.80	0.891	1.34	B	I	36.375	
		T7A	40.000	--	1.25	50.101	1.4	0.891	2.14	B	I	36.375	1.035	2.94	B	I	43.65	0.80	0.891	1.25	B	I	36.375	
		T7B	40.000	--	1.36	54.350	1.4	0.891	2.32	B	I	36.375	1.035	2.58	B	I	43.65	0.80	0.891	1.36	B	I	36.375	

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.

(#) CONTROLLING LOAD RATING

(1) DESIGN LOAD RATING (HL-93)

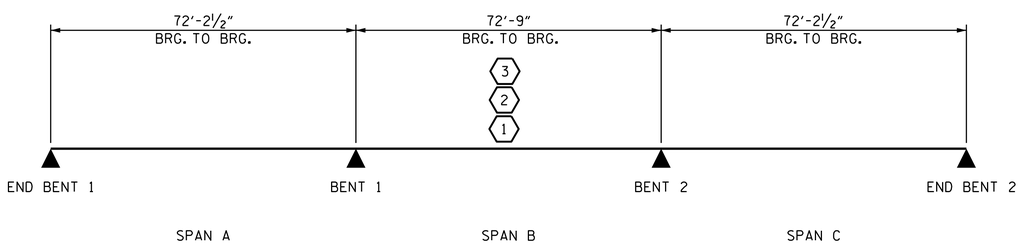
(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. U-2579B
FORSYTH COUNTY
STATION: 556+85.00-L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

NORTH CAROLINA PROFESSIONAL SEAL 10730 ENGINEER D. ANDRE DAVENPORT, JR.

DocuSigned by: D. André Davenport, Jr.
895DC284F664495...
8/4/2014

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-107
1			3			TOTAL SHEETS
2			4			707

STR. #4

STD. NO. LRFR2

ASSEMBLED BY : G.W. DICKEY DATE : 9/27/12
CHECKED BY : R.P. PATEL DATE : 5/05/13

DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08

DESIGN ENGINEER OF RECORD:
G.W. DICKEY DATE : 4/22/14

04-AUG-2014 13:44
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lsutton