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)	**1.28**	--	1.75	0.844	1.49	B	I	21.417	0.953	1.65	B	I	12.85	0.80	0.953	**1.28**	B	I	21.417	
		HL-93(Opr)	N/A	--	1.94	--	1.35	0.844	1.94	B	I	21.417	0.953	2.13	B	I	12.85	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	(2)	**1.56**	56.277	1.75	0.844	1.83	B	I	21.417	0.953	1.91	B	I	12.85	0.80	0.844	**1.56**	B	I	21.417	
		HS-20(Opr)	36.000	--	2.37	85.392	1.35	0.844	2.37	B	I	21.417	0.953	2.48	B	I	12.85	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.02	40.775	1.40	0.844	4.42	B	I	21.417	0.954	4.73	A	I	1.348	0.80	0.844	3.02	B	I	21.417	
		SNGARBS2	20.000	--	2.45	49.071	1.40	0.844	3.55	B	I	17.133	0.953	3.67	B	I	12.85	0.80	0.844	2.45	B	I	21.417	
		SNAGRIS2	22.000	--	2.42	53.241	1.40	0.844	3.43	B	I	17.133	0.953	3.51	B	I	12.85	0.80	0.844	2.42	B	I	21.417	
		SNCOTTS3	27.250	--	1.51	41.104	1.40	0.844	2.21	B	I	21.417	0.954	2.39	A	I	1.348	0.80	0.844	1.51	B	I	21.417	
		SNAGGRS4	34.925	--	1.34	46.680	1.40	0.844	1.96	B	I	21.417	0.953	2.19	B	I	12.85	0.80	0.844	1.34	B	I	21.417	
		SNS5A	35.550	--	1.30	46.271	1.40	0.844	1.9	B	I	21.417	0.953	2.33	B	I	12.85	0.80	0.844	1.30	B	I	21.417	
		SNS6A	39.950	--	1.23	49.082	1.40	0.844	1.8	B	I	21.417	0.953	2.22	B	I	12.85	0.80	0.844	1.23	B	I	21.417	
		SNS7B	42.000	(3)	**1.17**	49.195	1.40	0.844	1.71	B	I	21.417	0.954	2.27	A	I	1.348	0.80	0.844	**1.17**	B	I	21.417	
	TTST	TNAGRIT3	33.000	--	1.51	49.788	1.40	0.844	2.21	B	I	21.417	0.953	2.56	B	I	12.85	0.80	0.844	1.51	B	I	21.417	
		TNT4A	33.075	--	1.53	50.448	1.40	0.844	2.23	B	I	21.417	0.953	2.40	B	I	12.85	0.80	0.844	1.53	B	I	21.417	
		TNT6A	41.600	--	1.28	53.366	1.40	0.844	1.88	B	I	21.417	0.954	2.37	A	I	1.348	0.80	0.844	1.28	B	I	21.417	
		TNT7A	42.000	--	1.31	54.985	1.40	0.844	1.92	B	I	21.417	0.953	2.25	B	I	12.85	0.80	0.844	1.31	B	I	21.417	
		TNT7B	42.000	--	1.36	57.220	1.40	0.844	1.98	B	I	17.133	0.953	2.14	B	I	12.85	0.80	0.844	1.36	B	I	21.417	
		TNAGRIT4	43.000	--	1.30	55.854	1.40	0.844	1.9	B	I	17.133	0.953	2.06	B	I	12.85	0.80	0.844	1.30	B	I	21.417	
		TNAGT5A	45.000	--	1.21	54.330	1.40	0.844	1.77	B	I	21.417	0.953	2.20	B	I	12.85	0.80	0.844	1.21	B	I	21.417	
		TNAGT5B	45.000	--	1.18	52.996	1.40	0.844	1.72	B	I	21.417	0.953	1.94	B	I	12.85	0.80	0.844	1.18	B	I	21.417	

LOAD FACTORS:

	LIMIT STATE	γ_{DC}	γ_{DW}
DESIGN LOAD RATING FACTORS	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)

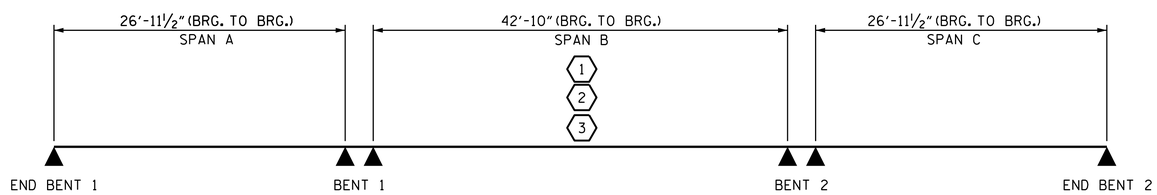
(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-4903
BLADEN COUNTY
STATION: 67+16.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

NORTH CAROLINA PROFESSIONAL SEAL 10730 ENGINEER D. ANDRE DAVENPORT, JR.
DocuSigned by: D. Andre Davenport, Jr.
10/28/2014

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			92

ASSEMBLED BY : R.P. PATEL DATE : 2-14-13
CHECKED BY : J.P. MCCARTHA DATE : 3-5-13
DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08
REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM
DESIGN ENGINEER OF RECORD: B.N. GRADY DATE : 4/11/13

27-OCT-2014 09:22
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daddavenport

STR. #1 STD. NO. LRFR1