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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 × RF	STRENGTH I LIMIT STATE												SERVICE III LIMIT STATE						COMMENT NUMBER
							LIVE-LOAD FACTORS (γ_{LL})	MOMENT					SHEAR						LIVE-LOAD FACTORS (γ_{LL})	MOMENT					
								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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93 (INVENTORY)	N/A	1	1.30	--	1.75	0.284	1.37	A	EL	26.3	0,573	1.30	A	EL	4.9	0.80	0.284	**1.30**	A	EL	**26.3**	
		HL-93 (OPERATING)	N/A	--	1.73	--	1.35	0.284	1.77	A	EL	26.3	0,573	1.73	A	EL	4.9	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000	2	1.59	57.2	1.75	0.284	1.71	A	EL	26.3	0,573	**1.59**	A	EL	**4.9**	0.80	0.284	1.62	A	EL	26.3	
		HS-20 (OPERATING)	36.000	--	2.11	75.9	1.35	0.284	2.21	A	EL	26.3	0,573	2.11	A	EL	4.9	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	3.37	45.5	1.40	0.284	4.45	A	EL	26.3	0,573	4.82	A	EL	4.9	0.80	0.284	3.37	A	EL	26.3	
		SNGARBS2	20.000	--	2.63	52.6	1.40	0.284	3.47	A	EL	26.3	0,573	3.45	A	EL	4.9	0.80	0.284	2.63	A	EL	26.3	
		SNAGRIS2	22.000	--	2.54	55.8	1.40	0.284	3.35	A	EL	26.3	0,573	3.22	A	EL	4.9	0.80	0.284	2.54	A	EL	26.3	
		SNCOTTS3	27.250	--	1.68	45.7	1.40	0.284	2.22	A	EL	26.3	0,573	2.33	A	EL	4.9	0.80	0.284	1.68	A	EL	26.3	
		SNAGGRS4	34.925	--	1.45	50.6	1.40	0.284	1.91	A	EL	26.3	0,573	1.96	A	EL	4.9	0.80	0.284	1.45	A	EL	26.3	
		SNS5A	35.550	--	1.41	50.1	1.40	0.284	1.86	A	EL	26.3	0,573	2.01	A	EL	4.9	0.80	0.284	1.41	A	EL	26.3	
		SNS6A	39.950	--	1.32	52.7	1.40	0.284	1.74	A	EL	26.3	0,573	1.84	A	EL	4.9	0.80	0.284	1.32	A	EL	26.3	
		SNS7B	42.000	--	1.25	52.5	1.40	0.284	1.65	A	EL	26.3	0,573	1.83	A	EL	4.9	0.80	0.284	1.25	A	EL	26.3	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.61	53.1	1.40	0.284	2.12	A	EL	26.3	0,573	2.21	A	EL	4.9	0.80	0.284	1.61	A	EL	26.3	
		TNT4A	33.075	--	1.62	53.5	1.40	0.284	2.14	A	EL	26.3	0,573	2.13	A	EL	4.9	0.80	0.284	1.62	A	EL	26.3	
		TNT6A	41.600	--	1.35	56.1	1.40	0.284	1.78	A	EL	26.3	0,573	2.03	A	EL	4.9	0.80	0.284	1.35	A	EL	26.3	
		TNT7A	42.000	--	1.36	57.1	1.40	0.284	1.80	A	EL	26.3	0,573	1.88	A	EL	4.9	0.80	0.284	1.36	A	EL	26.3	
		TNT7B	42.000	--	1.42	59.6	1.40	0.284	1.88	A	EL	26.3	0,573	1.77	A	EL	4.9	0.80	0.284	1.42	A	EL	26.3	
		TNAGRIT4	43.000	--	1.35	58.0	1.40	0.284	1.78	A	EL	26.3	0,573	1.70	A	EL	4.9	0.80	0.284	1.35	A	EL	26.3	
		TNAGT5A	45.000	--	1.26	56.7	1.40	0.284	1.66	A	EL	26.3	0,573	1.73	A	EL	4.9	0.80	0.284	1.26	A	EL	26.3	
		TNAGT5B	45.000	3	1.24	55.8	1.40	0.284	1.63	A	EL	26.3	0,573	1.61	A	EL	4.9	0.80	0.284	**1.24**	A	EL	**26.3**	

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)

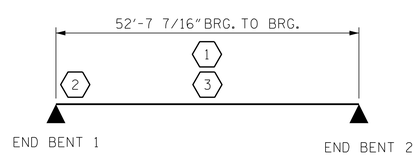
(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

FOR SPAN A

SEAL

REVISIONS

NO.	DATE	DESCRIPTION	BY

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
Lincense No. F-0377

WETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

B-5100, BRIDGE NO. 421
WBS NO. 42236.1.1
CITY OF GREENVILLE
PITT COUNTY NORTH CAROLINA
LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS
(NON-INTERSTATE TRAFFIC)

DATE:	1/25/12
SCALE:	N /A
DRAWN:	JCP
CHECKED:	JAD
PROJ. NO.:	B-5100
SHEET NO. S-4	TOTAL SHEETS 21

3/16/2016
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