

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			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _{L1})	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 _{L1})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.13	--	1.75	0.740	1.55	A	I	27.06	0.910	1.13	B	I	8.71	0.80	0.740	1.29	B	I	46.38		
	HL-93 (OPERATING)	N/A	--	1.49	--	1.35	0.740	2.01	A	I	27.06	0.910	1.49	B	I	8.71	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.52	54.720	1.75	0.740	1.96	A	I	27.06	0.910	1.52	B	I	8.71	0.80	0.740	1.78	B	I	46.38		
	HS-20 (OPERATING)	36.000	--	2.00	64.080	1.35	0.740	2.54	A	I	27.06	0.910	2.00	B	I	8.71	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	--	4.22	56.970	1.40	0.740	5.35	A	I	27.06	0.910	4.88	B	I	8.71	0.80	0.730	4.22	B	I	46.38	
		SNGARBS2	20.000	--	3.06	61.200	1.40	0.740	4.03	A	I	27.06	0.910	3.39	B	I	8.71	0.80	0.730	3.06	B	I	46.38	
		SNAGRIS2	22.000	--	2.85	62.700	1.40	0.740	3.82	A	I	27.06	0.910	3.12	B	I	8.71	0.80	0.730	2.85	B	I	46.38	
		SNSCOTTS3	27.250	--	2.09	56.953	1.40	0.740	2.61	A	I	27.06	0.910	2.38	B	I	8.71	0.80	0.730	2.09	B	I	46.38	
		SNAGGRS4	34.925	--	1.71	59.722	1.40	0.740	2.22	A	I	27.06	0.910	1.92	B	I	8.71	0.80	0.730	1.71	B	I	46.38	
		SNS5A	35.550	--	1.68	59.724	1.40	0.740	2.18	A	I	27.06	0.910	1.93	B	I	8.71	0.80	0.730	1.68	B	I	46.38	
		SNS6A	39.950	--	1.53	61.124	1.40	0.740	2.02	A	I	27.06	0.910	1.74	B	I	8.71	0.80	0.730	1.53	B	I	46.38	
		SNS7B	42.000	--	1.45	60.900	1.40	0.740	1.92	A	I	27.06	0.910	1.69	B	I	8.71	0.80	0.730	1.45	B	I	46.38	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	--	1.86	61.380	1.40	0.740	2.49	A	I	27.06	0.910	2.10	B	I	8.71	0.80	0.730	1.86	B	I	46.38	
		TNT4A	33.075	--	1.87	61.850	1.40	0.740	2.47	A	I	27.06	0.910	2.06	B	I	8.71	0.80	0.730	1.87	B	I	46.38	
		TNAGRIT4	43.000	--	1.48	63.640	1.40	0.740	2.03	A	I	27.06	0.910	1.61	B	I	8.71	0.80	0.730	1.48	B	I	46.38	
		TNAGRIT5A	45.000	--	1.41	63.450	1.40	0.740	1.91	A	I	27.06	0.910	1.58	B	I	8.71	0.80	0.730	1.41	B	I	46.38	
		TNAGRIT5B	45.000	③	1.40	63.000	1.40	0.740	1.87	A	I	27.06	0.910	1.53	B	I	8.71	0.80	0.730	1.40	B	I	46.38	
		TNT6A	41.600	--	1.51	62.816	1.40	0.740	2.04	A	I	27.06	0.910	1.78	B	I	8.71	0.80	0.730	1.51	B	I	46.38	
TNT7A	42.000	--	1.51	63.420	1.40	0.740	2.06	A	I	27.06	0.910	1.75	B	I	8.71	0.80	0.730	1.51	B	I	46.38			
TNT7B	42.000	--	1.55	65.100	1.40	0.740	2.14	A	I	27.06	0.910	1.66	B	I	8.71	0.80	0.730	1.55	B	I	46.38			

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:

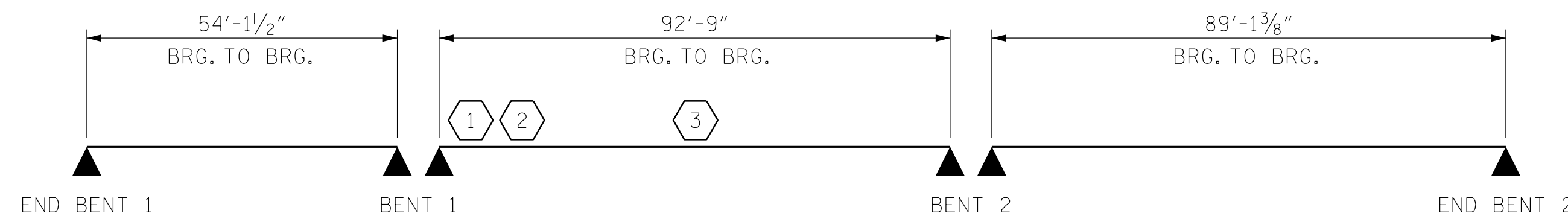
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1. SPAN LENGTHS SHOWN ARE @ BRG. TO @ BRG.

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 E - EXTERIOR GIRDER



LRFR SUMMARY

PROJECT NO. U-4910A
CABARRUS COUNTY
STATION: 147+80.00 -L-

ASSEMBLED BY : K.H. COMPTON	DATE : 5/2016
CHECKED BY : J.C. MORRISON	DATE : 7/2016
DRAWN BY : MAA 1/08	REV. 11/2/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/1/11 MAA/GM

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11/30/2016

John C. Morrison
Professional Engineer
 State of North Carolina
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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:
1			3		
2			4		
					S-05
					TOTAL SHEETS 55