

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR BOX BEAMS

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	1.162	--	1.75	0.247	1.91	A	EL	39.134	0.623	1.16	A	EL	7.827	0.80	0.247	1.29	A	EL	39.134		
	HL-93(0pr)	N/A	--	1.507	--	1.35	0.247	2.48	A	EL	39.134	0.623	1.51	A	EL	7.827	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	②	1.469	52.874	1.75	0.247	2.53	A	EL	39.134	0.623	1.47	A	EL	7.827	0.80	0.247	1.71	A	EL	39.134		
	HS-20(0pr)	36.000	--	1.904	68.541	1.35	0.247	3.29	A	EL	39.134	0.623	1.90	A	EL	7.827	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.905	52.721	1.40	0.247	7.25	A	EL	39.134	0.623	4.41	A	EL	7.827	0.80	0.247	3.91	A	EL	39.134	
		SNGARBS2	20.000	--	2.888	57.75	1.40	0.247	5.36	A	EL	39.134	0.623	3.12	A	EL	7.827	0.80	0.247	2.89	A	EL	39.134	
		SNAGRIS2	22.000	--	2.725	59.952	1.40	0.247	5.06	A	EL	39.134	0.623	2.89	A	EL	7.827	0.80	0.247	2.73	A	EL	39.134	
		SNCOTTS3	27.250	--	1.943	52.939	1.40	0.247	3.61	A	EL	39.134	0.623	2.20	A	EL	7.827	0.80	0.247	1.94	A	EL	39.134	
		SNAGGRS4	34.925	--	1.615	56.395	1.40	0.247	3.00	A	EL	39.134	0.623	1.82	A	EL	7.827	0.80	0.247	1.61	A	EL	39.134	
		SNS5A	35.550	--	1.580	56.157	1.40	0.247	2.93	A	EL	39.134	0.623	1.84	A	EL	7.827	0.80	0.247	1.58	A	EL	39.134	
		SNS6A	39.950	--	1.446	57.756	1.40	0.247	2.68	A	EL	39.134	0.623	1.67	A	EL	7.827	0.80	0.247	1.45	A	EL	39.134	
	SNS7B	42.000	--	1.377	57.818	1.40	0.247	2.56	A	EL	39.134	0.623	1.64	A	EL	7.827	0.80	0.247	1.38	A	EL	39.134		
	TTST	TNAGRIT3	33.000	--	1.762	58.142	1.40	0.247	3.27	A	EL	39.134	0.623	1.99	A	EL	7.827	0.80	0.247	1.76	A	EL	39.134	
		TNT4A	33.075	--	1.769	58.499	1.40	0.247	3.28	A	EL	39.134	0.623	1.95	A	EL	7.827	0.80	0.247	1.77	A	EL	39.134	
		TNT6A	41.600	--	1.443	60.014	1.40	0.247	2.68	A	EL	39.134	0.623	1.74	A	EL	7.827	0.80	0.247	1.44	A	EL	39.134	
		TNT7A	42.000	--	1.448	60.817	1.40	0.247	2.69	A	EL	39.134	0.623	1.70	A	EL	7.827	0.80	0.247	1.45	A	EL	39.134	
		TNT7B	42.000	--	1.493	62.726	1.40	0.247	2.77	A	EL	39.134	0.623	1.60	A	EL	7.827	0.80	0.247	1.49	A	EL	39.134	
		TNAGRIT4	43.000	--	1.424	61.237	1.40	0.247	2.64	A	EL	39.134	0.623	1.55	A	EL	7.827	0.80	0.247	1.42	A	EL	39.134	
TNAGT5A		45.000	--	1.344	60.496	1.40	0.247	2.50	A	EL	39.134	0.623	1.54	A	EL	7.827	0.80	0.247	1.34	A	EL	39.134		
TNAGT5B	45.000	③	1.330	59.828	1.40	0.247	2.47	A	EL	39.134	0.623	1.48	A	EL	7.827	0.80	0.247	1.33	A	EL	39.134			

LOAD FACTORS:

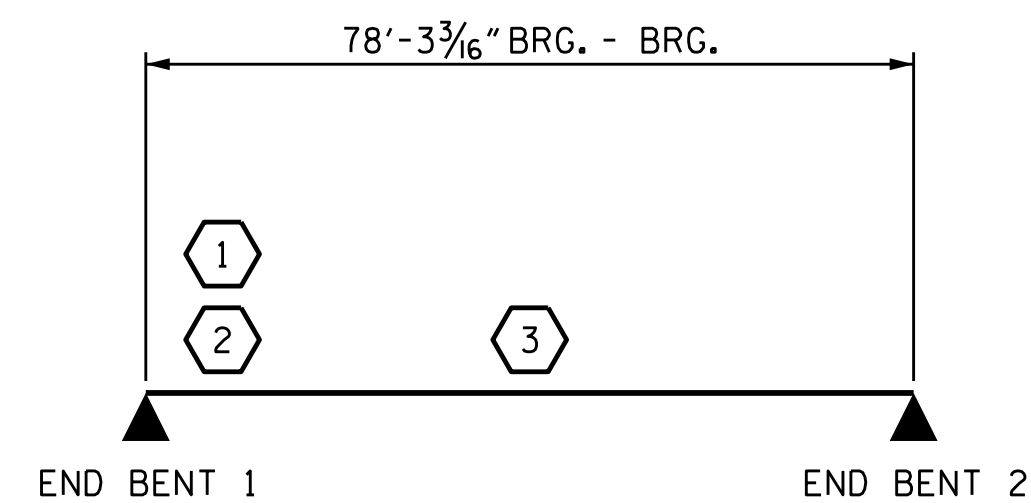
DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{dc}	γ_{dw}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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	



SPAN A
LRFR SUMMARY

PROJECT NO. B-4751
GASTON COUNTY
 STATION: 15+53.00 -L-



Designed by:
 vlapal a patel
 1/21/2016

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD LRFR SUMMARY FOR 80' BOX BEAM UNIT 120° SKEW (NON-INTERSTATE TRAFFIC)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					19

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

ASSEMBLED BY : N.D'AIUTO DATE : 1/28/15
 CHECKED BY : T.H.CARROLL DATE : 3/9/15
 DRAWN BY : TMG //H
 CHECKED BY : AAC //H