

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR STEEL GIRDERS

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE II LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ _{LL})	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 _{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.10	--	1.75	0.718	1.17	B	EXT	120.0	0.832	1.10	B	INT	120.0	1.30	0.718	1.29	C	EXT	0.00		
	HL-93 (OPERATING)	N/A		1.42	--	1.35	0.718	1.52	B	EXT	120.0	0.832	1.42	B	INT	120.0	1.00	0.718	1.67	C	EXT	0.00		
	HS-20 (INVENTORY)	36.00	②	1.62	58.1	1.75	0.718	2.83	B	EXT	0.00	0.832	1.62	B	INT	120.0	1.30	0.718	3.05	C	EXT	56.10		
	HS-20 (OPERATING)	36.00		2.09	75.4	1.35	0.718	3.67	B	EXT	0.00	0.832	2.09	B	INT	120.0	1.00	0.718	3.97	C	EXT	56.10		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		5.13	69.2	1.40	0.718	8.89	C	EXT	56.10	0.832	5.13	B	INT	120.0	1.30	0.718	7.05	C	EXT	56.10	
		SNGARBS2	20.000		3.54	70.8	1.40	0.718	6.38	B	EXT	0.00	0.832	3.54	B	INT	120.0	1.30	0.718	5.16	C	EXT	56.10	
		SNAGRIS2	22.000		3.24	71.2	1.40	0.718	5.76	B	EXT	0.00	0.832	3.24	B	INT	120.0	1.30	0.718	4.84	C	EXT	56.10	
		SNCOTTS3	27.250		2.55	69.4	1.40	0.718	4.45	C	EXT	56.10	0.832	2.55	B	INT	120.0	1.30	0.718	3.53	C	EXT	56.10	
		SNAGGRS4	34.925		2.04	71.2	1.40	0.718	3.57	B	EXT	0.00	0.832	2.04	B	INT	120.0	1.30	0.718	2.92	C	EXT	56.10	
		SNS5A	35.550		2.02	71.8	1.40	0.718	3.50	B	EXT	0.00	0.832	2.02	B	INT	120.0	1.30	0.718	2.87	C	EXT	56.10	
		SNS6A	39.950		1.82	72.7	1.40	0.718	3.14	B	EXT	0.00	0.832	1.82	B	INT	120.0	1.30	0.718	2.61	C	EXT	56.10	
		SNS7B	42.000		1.75	73.5	1.40	0.718	2.99	B	EXT	0.00	0.832	1.75	B	INT	120.0	1.30	0.718	2.50	C	EXT	56.10	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.19	72.2	1.40	0.718	3.82	B	EXT	0.00	0.832	2.19	B	INT	120.0	1.30	0.718	3.21	C	EXT	56.10	
		TNT4A	33.075		2.17	71.7	1.40	0.718	3.80	B	EXT	0.00	0.832	2.17	B	INT	120.0	1.30	0.718	3.18	C	EXT	56.10	
		TNT6A	41.600		1.81	75.2	1.40	0.718	3.04	B	EXT	0.00	0.832	1.81	B	INT	120.0	1.30	0.718	2.60	C	EXT	56.10	
		TNT7A	42.000		1.79	75.1	1.40	0.718	3.02	B	EXT	0.00	0.832	1.79	B	INT	120.0	1.30	0.718	2.61	C	EXT	56.10	
		TNT7B	42.000		1.74	73.0	1.40	0.718	3.04	B	EXT	0.00	0.832	1.74	B	INT	120.0	1.30	0.718	2.64	C	EXT	56.10	
		TNAGRIT4	43.000		1.69	72.6	1.40	0.718	2.93	B	EXT	0.00	0.832	1.69	B	INT	120.0	1.30	0.718	2.55	C	EXT	56.10	
		TNAGT5A	45.000		1.64	73.8	1.40	0.718	2.81	B	EXT	0.00	0.832	1.64	B	INT	120.0	1.30	0.718	2.43	C	EXT	56.10	
TNAGT5B	45.000		③	1.61	72.4	1.40	0.718	2.80	B	EXT	0.00	0.832	1.61	B	INT	120.0	1.30	0.718	2.39	C	EXT	56.10		
FATIGUE	HL-93 (INVENTORY)	γ _{LL} =0.75																						

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{DW}
	STRENGTH I		1.25
SERVICE II		1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE II LIMIT STATES.
ALLOWABLE STRESS FOR SERVICE II LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93) **

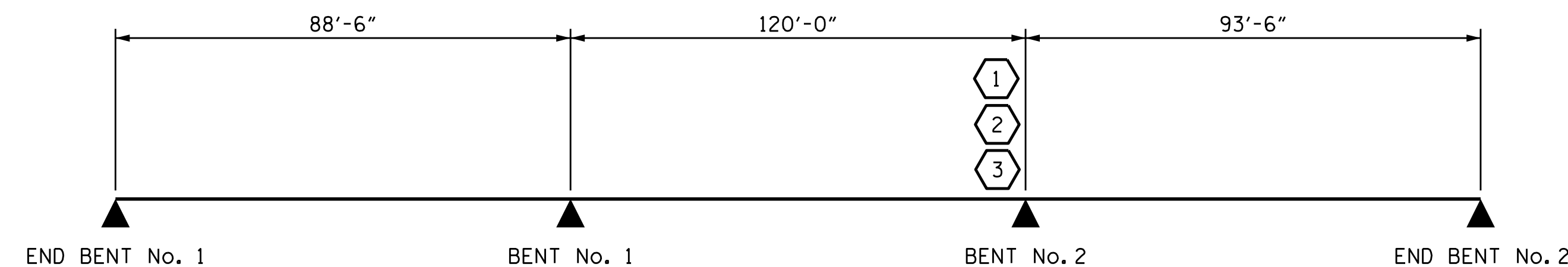
② DESIGN LOAD RATING (HS-20) **

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

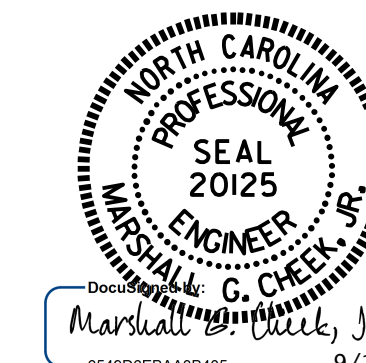


LRFR SUMMARY
DIMENSIONS SHOWN ARE BEARING TO BEARING.

PROJECT NO. B-3868
MACON COUNTY
 STATION: 18+33.50 -L-

ASSEMBLED BY: S.T. CHAMPION DATE: 7-31-15
 CHECKED BY: M.G. CHEEK DATE: 8-3-15
 DRAWN BY: MAA 1/08
 CHECKED BY: GM/DI 2/08

REV. 11/12/08RR MAA/GM
 REV. 10/1/11 MAA/GM



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 STEEL GIRDERS
 (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			40