

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE II	1.00	1.00

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 (FF)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FF)	LIVE-LOAD FACTORS (γ_{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FF)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.19	--	1.75	--	1.19	A	EL	96.94	--	1.60	A	ER	264.38	1.30	--	1.97	A	EL	96.94		
	HL-93 (OPERATING)	N/A		1.55	--	1.35	--	1.55	A	EL	96.94	--	2.08	A	ER	264.38	1.00	--	2.56	A	EL	96.94		
	HS-20 (INVENTORY)	36.00	②	2.04	73.57	1.75	--	2.04	A	EL	96.94	--	3.03	A	ER	264.38	1.30	--	3.41	A	EL	96.94		
	HS-20 (OPERATING)	36.00		2.65	95.57	1.35	--	2.65	A	EL	96.94	--	3.92	A	ER	264.38	1.00	--	4.43	A	EL	96.94		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13,500		4.52	60.97	1.40	--	4.52	A	ER	241.78	--	5.07	A	ER	264.38	1.30	--	6.21	A	ER	241.78	
		SNGARBS2	20,000		3.58	71.69	1.40	--	3.58	A	ER	241.78	--	4.21	A	ER	264.38	1.30	--	4.93	A	ER	241.78	
		SNAGRIS2	22,000		3.40	74.69	1.40	--	3.40	A	ER	241.78	--	4.07	A	ER	264.38	1.30	--	4.66	A	ER	241.78	
		SNCOTTS3	27,250		2.76	75.16	1.40	--	2.76	A	ER	264.38	--	3.50	A	ER	264.38	1.30	--	3.78	A	ER	240.38	
		SNAGGRS4	34,925		2.36	82.32	1.40	--	2.36	A	ER	264.38	--	3.06	A	ER	264.38	1.30	--	3.26	A	ER	241.78	
		SNS5A	35,550		2.32	82.42	1.40	--	2.32	A	ER	264.38	--	3.19	A	ER	264.38	1.30	--	3.20	A	ER	241.78	
		SNS6A	39,950		2.15	85.77	1.40	--	2.15	A	ER	264.38	--	3.00	A	ER	264.38	1.30	--	2.96	A	ER	240.38	
	SNS7B	42,000		2.08	87.44	1.40	--	2.08	A	ER	264.38	--	3.02	A	ER	264.38	1.30	--	2.83	A	EL	96.94		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33,000		2.44	80.58	1.40	--	2.44	A	ER	264.38	--	3.24	A	ER	264.38	1.30	--	3.37	A	ER	241.78	
		TNT4A	33,075		2.47	81.62	1.40	--	2.47	A	ER	264.38	--	3.28	A	ER	264.38	1.30	--	3.42	A	ER	240.38	
		TNT6A	41,600		2.09	87.15	1.40	--	2.09	A	ER	264.38	--	3.01	A	ER	264.38	1.30	--	2.91	A	ER	241.78	
		TNT7A	42,000		2.10	88.08	1.40	--	2.10	A	ER	264.38	--	3.03	A	ER	264.38	1.30	--	2.91	A	EL	96.94	
		TNT7B	42,000		2.09	87.70	1.40	--	2.09	A	ER	264.38	--	2.87	A	ER	264.38	1.30	--	2.88	A	EL	241.78	
		TNAGRIT4	43,000		2.02	86.77	1.40	--	2.02	A	ER	264.38	--	2.75	A	ER	264.38	1.30	--	2.78	A	ER	241.78	
TNAGT5A		45,000		1.98	89.31	1.40	--	1.98	A	ER	264.38	--	2.60	A	ER	264.38	1.30	--	2.70	A	EL	96.94		
TNAGT5B	45,000		③	1.97	88.76	1.40	--	1.97	A	ER	264.38	--	2.55	A	ER	264.38	1.30	--	2.69	A	EL	96.94		

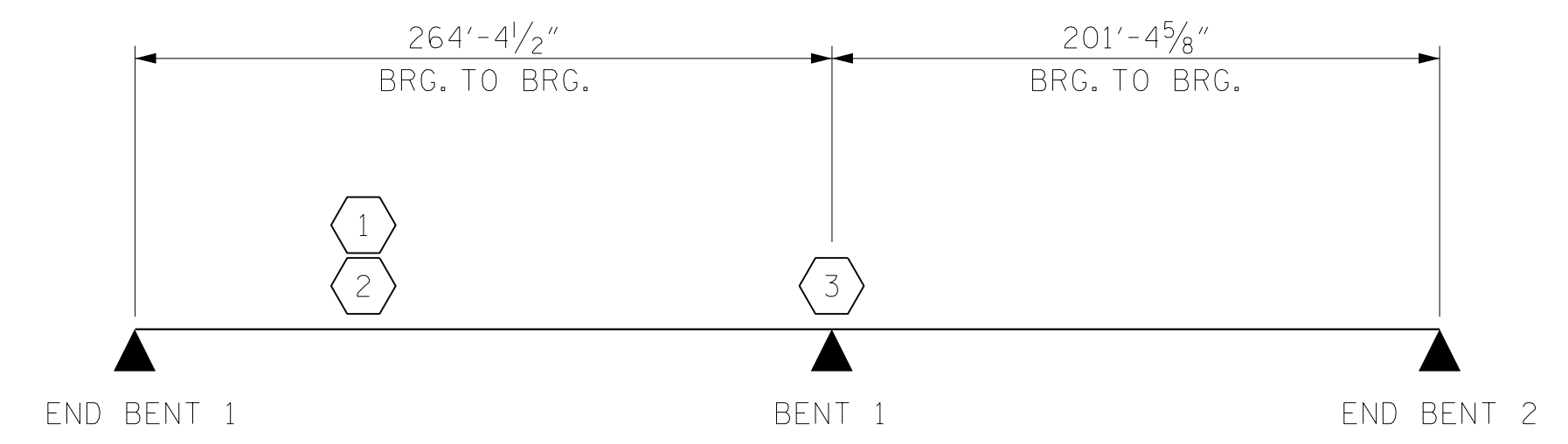
NOTES:

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:

- THE LIVE LOAD DISTRIBUTION WAS BASED ON A REFINED METHOD OF ANALYSIS USING A GRILLAGE ANALOGY METHOD.

①	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 SPAN B

LRFR SUMMARY

PROJECT NO. U-2579AB
FORSYTH COUNTY
STATION: 23+43.03 -Y16-

ASSEMBLED BY : NSC	DATE : 01/2020
CHECKED BY : JMR	DATE : 01/2020
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/11/11 MAA/GM
	REV. 12/17 MAA/THG

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
STANDARD						S7-4
LRFR SUMMARY FOR STEEL GIRDERS (NON-INTERSTATE TRAFFIC)						TOTAL SHEETS
REVISIONS						48
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			