

LOAD FACTORS:

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

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 x RF	STRENGTH I LIMIT STATE								SERVICE III 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	1.02	--	1.75	0.936	1.35	A	ER	58.00	0.936	1.39	A	I	6.40	0.80	0.936	1.02	A	I	58.00		
	HL-93 (OPERATING)	N/A		1.75	--	1.35	0.936	1.75	A	ER	58.00	0.936	1.84	A	I	6.40	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.48	53.3	1.75	0.936	1.96	A	EL	58.00	0.936	1.99	A	I	6.40	0.80	0.936	1.48	A	I	58.00		
	HS-20 (OPERATING)	36.000		2.53	91.1	1.35	0.936	2.53	A	ER	58.00	0.936	2.61	A	I	6.40	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH		3.58	48.3	1.40	0.936	5.91	A	ER	58.00	0.936	6.44	A	I	6.40	0.80	0.936	3.58	A	I	58.00		
		SNGARBS2	20.000		1.45	29.0	1.40	0.936	2.39	A	ER	58.00	0.936	2.53	A	I	6.40	0.80	0.936	1.45	A	I	58.00	
		SNAGRIS2	22.000		1.28	28.2	1.40	0.936	2.12	A	ER	58.00	0.936	2.26	A	I	6.40	0.80	0.936	1.28	A	I	58.00	
		SNCOTTS3	27.250		1.42	38.7	1.40	0.936	2.34	A	ER	58.00	0.936	2.52	A	I	6.40	0.80	0.936	1.42	A	I	58.00	
		SNAGGRS4	34.925		1.22	42.6	1.40	0.936	2.02	A	EL	58.00	0.936	2.19	A	I	6.40	0.80	0.936	1.22	A	I	58.00	
		SNS5A	35.550		1.78	63.3	1.40	0.936	2.93	A	ER	58.00	0.936	3.15	A	I	6.40	0.80	0.936	1.78	A	I	58.00	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	SNS6A	39.950		2.39	95.5	1.40	0.936	3.94	A	ER	58.00	0.936	4.08	A	I	6.40	0.80	0.936	2.39	A	I	58.00	
		SNS7B	42.000		2.56	107.5	1.40	0.936	4.23	A	ER	58.00	0.936	4.45	A	I	6.40	0.80	0.936	2.56	A	I	58.00	
		TNAGRIT3	33.000		1.56	51.5	1.40	0.936	2.57	A	ER	58.00	0.936	2.74	A	I	6.40	0.80	0.936	1.56	A	I	58.00	
		TNT4A	33.075		1.29	42.7	1.40	0.936	2.12	A	ER	58.00	0.936	2.16	A	I	6.40	0.80	0.936	1.29	A	I	58.00	
		TNT6A	41.600		1.24	51.6	1.40	0.936	2.04	A	ER	58.00	0.936	2.10	A	I	6.40	0.80	0.936	1.24	A	I	58.00	
		TNT7A	42.000	⑤	1.17	49.1	1.40	0.936	1.94	A	EL	58.00	0.936	2.05	A	I	6.40	0.80	0.936	1.17	A	I	58.00	
TNT7B	42.000	⑥	1.17	49.1	1.40	0.936	1.92	A	ER	58.00	0.936	2.00	A	I	6.40	0.80	0.936	1.17	A	I	58.00			
TNAGRIT4	43.000		1.56	67.1	1.40	0.936	2.58	A	ER	58.00	0.936	2.70	A	I	6.40	0.80	0.936	1.56	A	I	58.00			
TNAGT5A	45.000		1.26	56.7	1.40	0.936	2.08	A	ER	58.00	0.936	2.29	A	I	6.40	0.80	0.936	1.26	A	I	58.00			
TNAGT5B	45.000		1.26	56.7	1.40	0.936	2.08	A	ER	58.00	0.936	2.25	A	I	6.40	0.80	0.936	1.26	A	I	58.00			

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.

SPAN LENGTH AND SUPPORT CONDITIONS SHOWN IN THE LRFR SKETCH CONFORMS TO THE ANALYSIS MODEL USED FOR ALL LOAD CONDITIONS.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

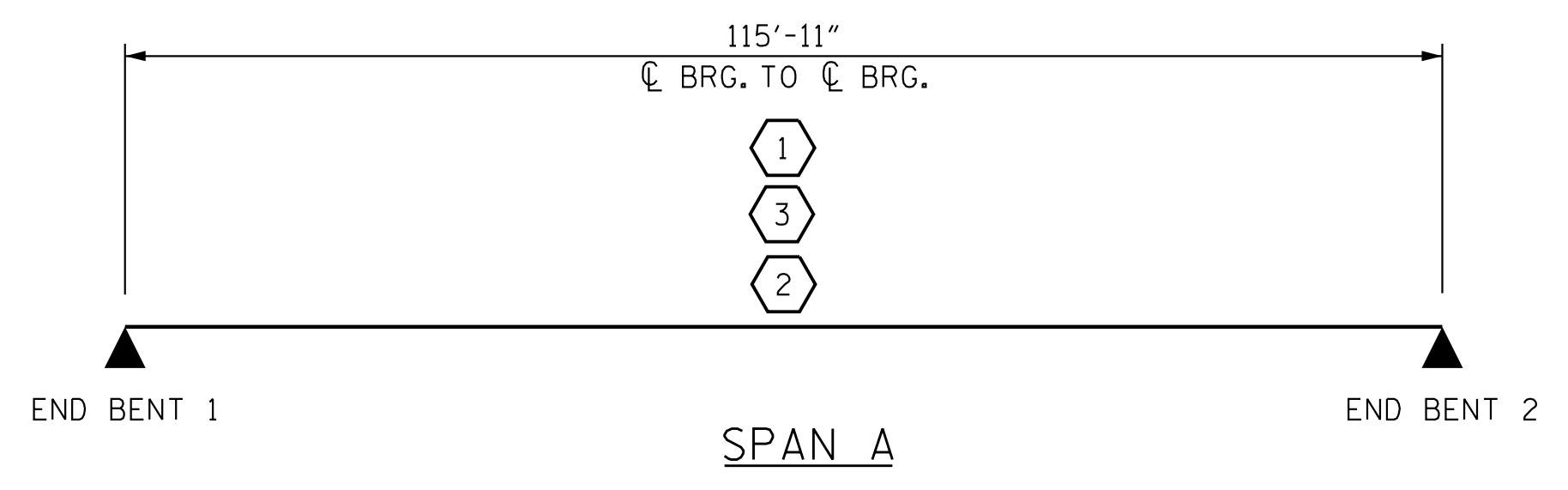
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

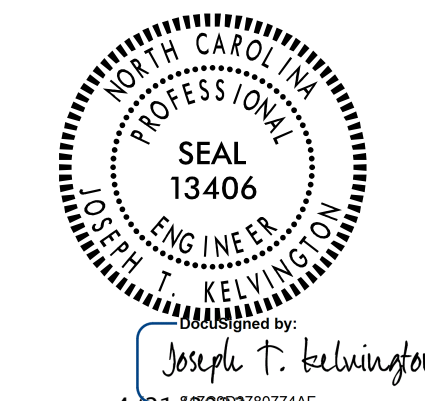
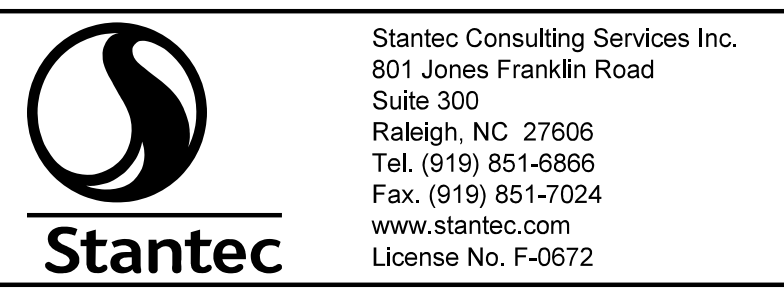
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-2707D
 CLEVELAND COUNTY
 STATION: 810+00.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS (NON-INTERSTATE TRAFFIC) (LL)

DRAWN BY : N. D'AIUTO DATE : 05/01/18
 CHECKED BY : A. BOYKIN JR. DATE : 12/08/22
 DESIGN ENGINEER OF RECORD : J.T. KELVINGTON DATE : 04/21/23

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NO.	BY:	DATE:	REVISIONS			SHEET NO.
			NO.	BY:	DATE:	
1			3			S8-05
2			4			TOTAL SHEETS 30