

LOAD FACTORS:

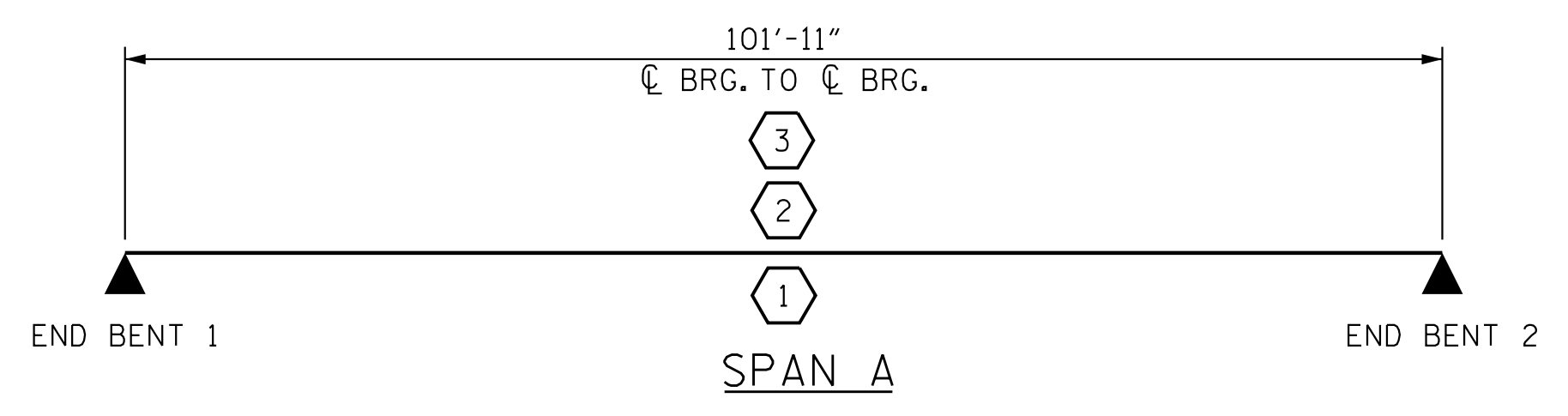
DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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 (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	1.08	--	1.75	0.936	1.26	A	EL	51.00	0.936	1.63	A	I	30.30	0.80	0.936	1.08	A	I	51.00		
	HL-93 (OPERATING)	N/A		1.63	--	1.35	0.936	1.63	A	EL	51.00	0.936	2.16	A	I	6.60	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.52	54.7	1.75	0.936	1.76	A	EL	51.00	0.936	2.26	A	I	6.60	0.80	0.936	1.52	A	I	51.00		
	HS-20 (OPERATING)	36.000		2.29	82.4	1.35	0.936	2.29	A	EL	51.00	0.936	2.96	A	I	6.60	N/A	--	--	--	--	51.00		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SN5H		3.62	48.9	1.40	0.936	5.25	A	EL	51.00	0.936	7.19	A	I	6.60	0.80	0.936	3.62	A	I	51.00		
		SNGARBS2	20.000		1.47	29.4	1.40	0.936	2.13	A	EL	51.00	0.936	2.85	A	I	6.60	0.80	0.936	1.47	A	I	51.00	
		SNAGRIS2	22.000		1.31	28.8	1.40	0.936	1.90	A	EL	51.00	0.936	2.58	A	I	6.60	0.80	0.936	1.31	A	I	51.00	
		SNCOTTS3	27.250		1.44	39.2	1.40	0.936	2.09	A	EL	51.00	0.936	2.86	A	I	6.60	0.80	0.936	1.44	A	I	51.00	
		SNAGGRS4	34.925		1.25	43.7	1.40	0.936	1.81	A	EL	51.00	0.936	2.50	A	I	6.60	0.80	0.936	1.25	A	I	51.00	
		SNS5A	35.550		1.80	64.0	1.40	0.936	2.61	A	EL	51.00	0.936	3.53	A	I	6.60	0.80	0.936	1.80	A	I	51.00	
		SNS6A	39.950		2.44	97.5	1.40	0.936	3.54	A	EL	51.00	0.936	4.60	A	I	6.60	0.80	0.936	2.44	A	I	51.00	
	TRUCK TRACTOR SEMI-TRAILER (TTS1)	SNS7B	42.000		2.61	109.6	1.40	0.936	3.79	A	EL	51.00	0.936	5.00	A	I	6.60	0.80	0.936	2.61	A	I	51.00	
		TNAGRIT3	33.000		1.59	52.5	1.40	0.936	2.31	A	EL	51.00	0.936	3.10	A	I	6.60	0.80	0.936	1.59	A	I	51.00	
		TNT4A	33.075		1.32	43.7	1.40	0.936	1.92	A	EL	51.00	0.936	2.46	A	I	6.60	0.80	0.936	1.32	A	I	51.00	
		TNT6A	41.600		1.27	52.8	1.40	0.936	1.84	A	EL	51.00	0.936	2.39	A	I	6.60	0.80	0.936	1.27	A	I	51.00	
		TNT7A	42.000		1.20	50.4	1.40	0.936	1.74	A	EL	51.00	0.936	2.34	A	I	6.60	0.80	0.936	1.20	A	I	51.00	
		TNT7B	42.000	③	1.19	50.0	1.40	0.936	1.73	A	EL	51.00	0.936	2.27	A	I	6.60	0.80	0.936	1.19	A	I	51.00	
		TNAGRIT4	43.000		1.59	68.4	1.40	0.936	2.31	A	EL	51.00	0.936	3.05	A	I	6.60	0.80	0.936	1.59	A	I	51.00	
TNAGT5A	45.000		1.29	58.1	1.40	0.936	1.88	A	EL	51.00	0.936	2.62	A	I	6.60	0.80	0.936	1.29	A	I	51.00			
TNAGT5B	45.000		1.29	58.1	1.40	0.936	1.88	A	EL	51.00	0.936	2.57	A	I	6.60	0.80	0.936	1.29	A	I	51.00			

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	

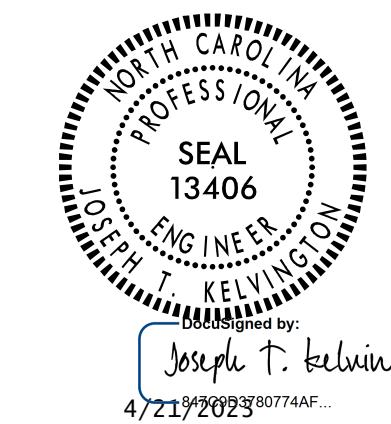


LRFR SUMMARY

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

Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-6866
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 www.stantec.com
 License No. F-0672

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



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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-05	
1			3			TOTAL SHEETS	
2			4			30	