

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			
						LIVE-LOAD FACTORS (γ_{LL})	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ_{LL})	MOMENT						
							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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.20	--	1.75	0.82	1.53	B	I	36.85	1.22	1.28	B	I	59.70	0.80	0.82	1.20	B	I	36.85		
	HL-93 (OPERATING)	N/A		1.82	--	1.35	0.82	1.98	B	I	36.85	1.22	1.82	B	I	59.70	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.59	57.24	1.75	0.82	2.02	B	I	36.85	1.22	1.75	B	I	14.00	0.80	0.82	1.59	B	I	36.85		
	HS-20 (OPERATING)	36.000		2.46	88.56	1.35	0.82	2.62	B	I	36.85	1.22	2.46	B	I	14.00	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.63	49.01	1.40	0.82	5.77	B	I	36.85	1.22	6.24	B	I	59.70	0.80	0.82	3.63	B	I	36.85	
		SNGARBS2	20.000		2.69	53.80	1.40	0.82	4.27	B	I	36.85	1.22	4.38	B	I	59.70	0.80	0.82	2.69	B	I	36.85	
		SNAGRIS2	22.000		2.54	55.88	1.40	0.82	4.04	B	I	36.85	1.22	4.04	B	I	59.70	0.80	0.82	2.54	B	I	36.85	
		SNCOTTS3	27.250		1.81	49.32	1.40	0.82	2.87	B	I	36.85	1.22	2.77	B	I	14.00	0.80	0.82	1.81	B	I	36.85	
		SNAGGRS4	34.925		1.50	52.39	1.40	0.82	2.39	B	I	36.85	1.22	2.42	B	I	14.00	0.80	0.82	1.50	B	I	36.85	
		SNS5A	35.550		1.47	52.26	1.40	0.82	2.34	B	I	36.85	1.22	2.38	B	I	59.70	0.80	0.82	1.47	B	I	36.85	
		SNS6A	39.950		1.35	53.93	1.40	0.82	2.14	B	I	36.85	1.22	2.20	B	I	59.70	0.80	0.82	1.35	B	I	36.85	
	SNS7B	42.000		1.28	53.76	1.40	0.82	2.04	B	I	36.85	1.22	2.07	B	I	59.70	0.80	0.82	1.28	B	I	36.85		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.64	54.12	1.40	0.82	2.61	B	I	36.85	1.22	2.86	B	I	59.70	0.80	0.82	1.64	B	I	36.85	
		TNT4A	33.075		1.65	54.57	1.40	0.82	2.62	B	I	36.85	1.22	2.48	B	I	59.70	0.80	0.82	1.65	B	I	36.85	
		TNT6A	41.600		1.35	56.16	1.40	0.82	2.14	B	I	36.85	1.22	2.21	B	I	14.00	0.80	0.82	1.35	B	I	36.85	
		TNT7A	42.000		1.35	56.70	1.40	0.82	2.15	B	I	36.85	1.22	2.20	B	I	59.70	0.80	0.82	1.35	B	I	36.85	
		TNT7B	42.000		1.39	58.38	1.40	0.82	2.21	B	I	36.85	1.22	2.02	B	I	59.70	0.80	0.82	1.39	B	I	36.85	
		TNAGRIT4	43.000		1.33	57.19	1.40	0.82	2.11	B	I	36.85	1.22	1.88	B	I	59.70	0.80	0.82	1.33	B	I	36.85	
TNAGT5A		45.000		1.25	56.25	1.40	0.82	1.99	B	I	36.85	1.22	1.87	B	I	59.70	0.80	0.82	1.25	B	I	36.85		
TNAGT5B	45.000	③	1.24	55.80	1.40	0.82	1.97	B	I	36.85	1.22	1.82	B	I	14.00	0.80	0.82	1.24	B	I	36.85			

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.

COMMENTS:
 1.
 2.
 3.
 4.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

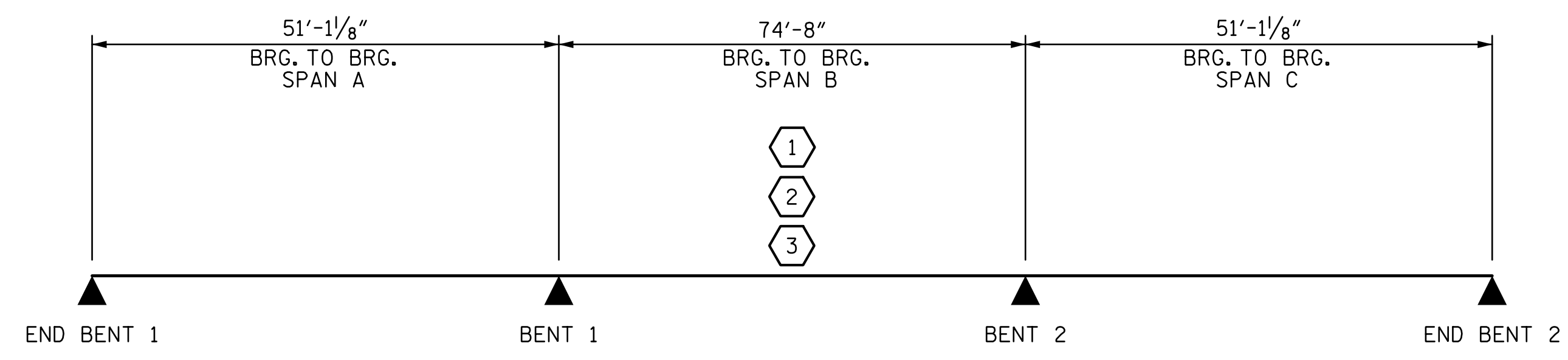
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

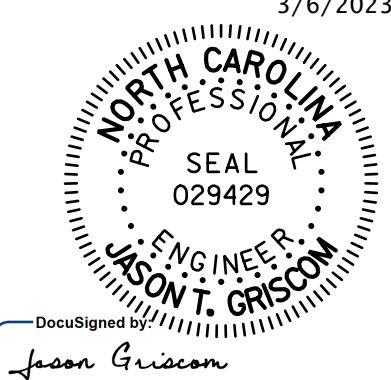
I - INTERIOR GIRDER
 E - EXTERIOR GIRDER



LRFR SUMMARY

PROJECT NO. B-5808
CABARRUS COUNTY
 STATION: 20+64.00 -L-

3/6/2023



STV ENGINEERS, INC.
 900 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

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

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS: 65

ASSEMBLED BY: SGH DATE: 12-22
 CHECKED BY: MLO DATE: 12-22
 DESIGN ENGINEER OF RECORD: J. GRISCOM DATE: 3-23

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