

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE BOX BEAMS

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	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 III LIMIT STATE					COMMENT NUMBER			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	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(Inv)	N/A	1	1.05	--	1.75	0.258	1.61	A	EL	44.202	0.595	1.05	B	EL	5.84	0.80	0.258	1.27	A	EL	44.202		
	HL-93(0pr)	N/A	--	1.36	--	1.35	0.258	2.09	A	EL	44.202	0.595	1.36	B	EL	5.84	N/A	--	--	--	--	--	--	
	HS-20(Inv)	36.000	2	1.26	45.393	1.75	0.265	2.11	B	EL	29.202	0.595	1.26	B	EL	5.84	0.80	0.265	1.67	B	EL	29.202		
	HS-20(0pr)	36.000	--	1.64	58.843	1.35	0.265	2.74	B	EL	29.202	0.595	1.63	B	EL	5.84	N/A	--	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.58	48.368	1.40	0.265	5.67	B	EL	29.202	0.595	3.64	B	EL	5.84	0.80	0.265	3.58	B	EL	29.202	
		SNGARBS2	20.000	--	2.62	52.426	1.40	0.265	4.35	B	EL	29.202	0.595	2.62	B	EL	5.84	0.80	0.265	2.75	B	EL	29.202	
		SNAGRIS2	22.000	--	2.45	53.836	1.40	0.265	4.17	B	EL	29.202	0.595	2.45	B	EL	5.84	0.80	0.265	2.64	B	EL	29.202	
		SNCOTTS3	27.250	--	1.79	48.644	1.40	0.265	2.83	B	EL	29.202	0.595	1.82	B	EL	5.84	0.80	0.265	1.79	B	EL	29.202	
		SNAGGRS4	34.925	--	1.52	53.122	1.40	0.265	2.41	B	EL	29.202	0.595	1.53	B	EL	5.84	0.80	0.265	1.52	B	EL	29.202	
		SNS5A	35.550	--	1.49	52.805	1.40	0.265	2.35	B	EL	29.202	0.595	1.57	B	EL	5.84	0.80	0.265	1.49	B	EL	29.202	
		SNS6A	39.950	--	1.38	54.947	1.40	0.265	2.18	B	EL	29.202	0.595	1.44	B	EL	5.84	0.80	0.265	1.38	B	EL	29.202	
	SNS7B	42.000	--	1.31	55.031	1.40	0.265	2.08	B	EL	29.202	0.595	1.43	B	EL	5.84	0.80	0.265	1.31	B	EL	29.202		
	TTST	TNAGRIT3	33.000	--	1.68	55.472	1.40	0.265	2.66	B	EL	29.202	0.595	1.71	B	EL	5.84	0.80	0.265	1.68	B	EL	29.202	
		TNT4A	33.075	--	1.65	54.630	1.40	0.265	2.68	B	EL	29.202	0.595	1.65	B	EL	5.84	0.80	0.265	1.69	B	EL	29.202	
		TNT6A	41.600	--	1.40	58.058	1.40	0.265	2.21	B	EL	29.202	0.595	1.55	B	EL	5.84	0.80	0.265	1.40	B	EL	29.202	
		TNT7A	42.000	--	1.41	59.189	1.40	0.265	2.23	B	EL	29.202	0.595	1.48	B	EL	5.84	0.80	0.265	1.41	B	EL	29.202	
		TNT7B	42.000	--	1.39	58.207	1.40	0.265	2.33	B	EL	29.202	0.595	1.39	B	EL	5.84	0.80	0.265	1.47	B	EL	29.202	
		TNAGRIT4	43.000	--	1.34	57.536	1.40	0.265	2.20	B	EL	29.202	0.595	1.34	B	EL	5.84	0.80	0.265	1.39	B	EL	29.202	
TNAGT5A		45.000	--	1.31	58.735	1.40	0.265	2.07	B	EL	29.202	0.595	1.35	B	EL	5.84	0.80	0.265	1.31	B	EL	29.202		
TNAGT5B	45.000	3	1.27	57.183	1.40	0.265	2.03	B	EL	29.202	0.595	1.27	B	EL	5.84	0.80	0.265	1.28	B	EL	29.202			

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.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

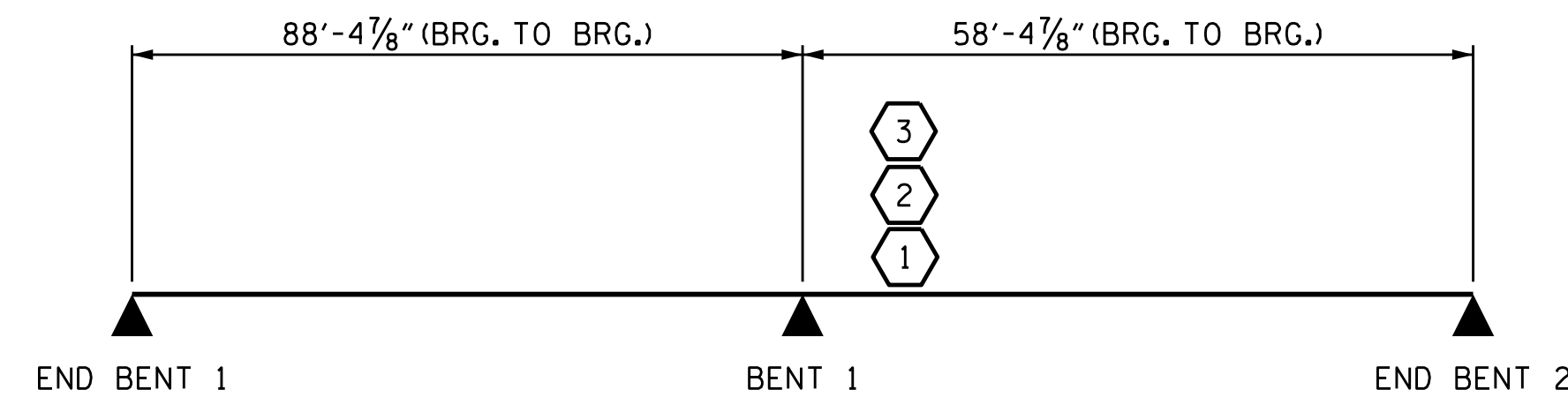
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

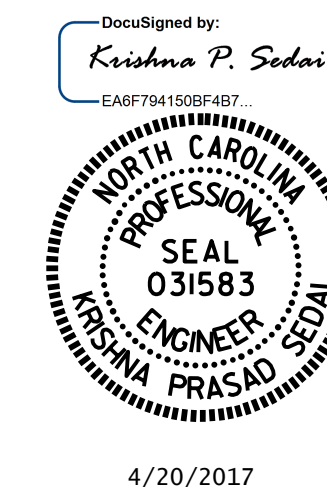
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-5165
DAVIDSON COUNTY
 STATION: 22+12.00 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
LRFR SUMMARY FOR PRESTRESSED CONCRETE BOX BEAMS (NON-INTERSTATE TRAFFIC)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-4
					TOTAL SHEETS 24

DRAWN BY : K. P. SEDA DATE : 9/22/16
 CHECKED BY : M. K. BEARD DATE : 10/20/16
 DESIGN ENGINEER OF RECORD: K. P. SEDA DATE : 11/10/16