

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

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								
						LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.14	--	1.75	0.272	1.54	A	EL	29.25	0.513	1.22	A	EL	5.85	0.80	0.272	1.14	A	EL	29.250		
	HL-93(0pr)	N/A	--	1.59	--	1.35	0.272	2.00	A	EL	29.25	0.513	1.58	A	EL	5.85	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.45	52.087	1.75	0.272	1.95	A	EL	29.25	0.513	1.47	A	EL	5.85	0.80	0.272	1.45	A	EL	29.250		
	HS-20(0pr)	36.000	--	1.91	68.788	1.35	0.272	2.53	A	EL	29.25	0.513	1.91	A	EL	5.85	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.11	41.955	1.40	0.272	5.24	A	EL	29.25	0.513	4.25	A	EL	5.85	0.80	0.272	3.11	A	EL	29.250	
		SNGARBS2	20.000	--	2.38	47.643	1.40	0.272	4.02	A	EL	29.25	0.513	3.06	A	EL	5.85	0.80	0.272	2.38	A	EL	29.250	
		SNAGRIS2	22.000	--	2.29	50.266	1.40	0.272	3.85	A	EL	29.25	0.513	2.86	A	EL	5.85	0.80	0.272	2.28	A	EL	29.250	
		SNCOTTS3	27.250	--	1.55	42.194	1.40	0.272	2.61	A	EL	29.25	0.513	2.13	A	EL	5.85	0.80	0.272	1.55	A	EL	29.250	
		SNAGGRS4	34.925	--	1.32	46.070	1.40	0.272	2.22	A	EL	29.25	0.513	1.79	A	EL	5.85	0.80	0.272	1.32	A	EL	29.250	
		SNS5A	35.550	--	1.29	45.796	1.40	0.272	2.17	A	EL	29.25	0.513	1.83	A	EL	5.85	0.80	0.272	1.29	A	EL	29.250	
		SNS6A	39.950	--	1.19	47.650	1.40	0.272	2.01	A	EL	29.25	0.513	1.68	A	EL	5.85	0.80	0.272	1.19	A	EL	29.250	
	TTST	SNS7B	42.000	--	1.14	47.723	1.40	0.272	1.92	A	EL	29.25	0.513	1.67	A	EL	5.85	0.80	0.272	1.14	A	EL	29.250	
		TNAGRIT3	33.000	--	1.46	48.104	1.40	0.272	2.46	A	EL	29.25	0.513	1.99	A	EL	5.85	0.80	0.272	1.46	A	EL	29.250	
		TNT4A	33.075	--	1.47	48.525	1.40	0.272	2.47	A	EL	29.25	0.513	1.93	A	EL	5.85	0.80	0.272	1.47	A	EL	29.250	
		TNT6A	41.600	--	1.21	50.342	1.40	0.272	2.04	A	EL	29.25	0.513	1.81	A	EL	5.85	0.80	0.272	1.21	A	EL	29.250	
		TNT7A	42.000	--	1.22	51.320	1.40	0.272	2.06	A	EL	29.25	0.513	1.73	A	EL	5.85	0.80	0.272	1.22	A	EL	29.250	
		TNT7B	42.000	--	1.28	53.602	1.40	0.272	2.15	A	EL	29.25	0.513	1.62	A	EL	5.85	0.80	0.272	1.28	A	EL	29.250	
		TNAGRIT4	43.000	--	1.21	51.837	1.40	0.272	2.03	A	EL	29.25	0.513	1.56	A	EL	5.85	0.80	0.272	1.21	A	EL	29.250	
TNAGT5A	45.000	--	1.13	50.927	1.40	0.272	1.91	A	EL	29.25	0.513	1.57	A	EL	5.85	0.80	0.272	1.13	A	EL	29.250			
TNAGT5B	45.000	3	1.11	50.116	1.40	0.272	1.88	A	EL	29.25	0.513	1.49	A	EL	5.85	0.80	0.272	1.11	A	EL	29.250			

LOAD FACTORS:

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

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.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

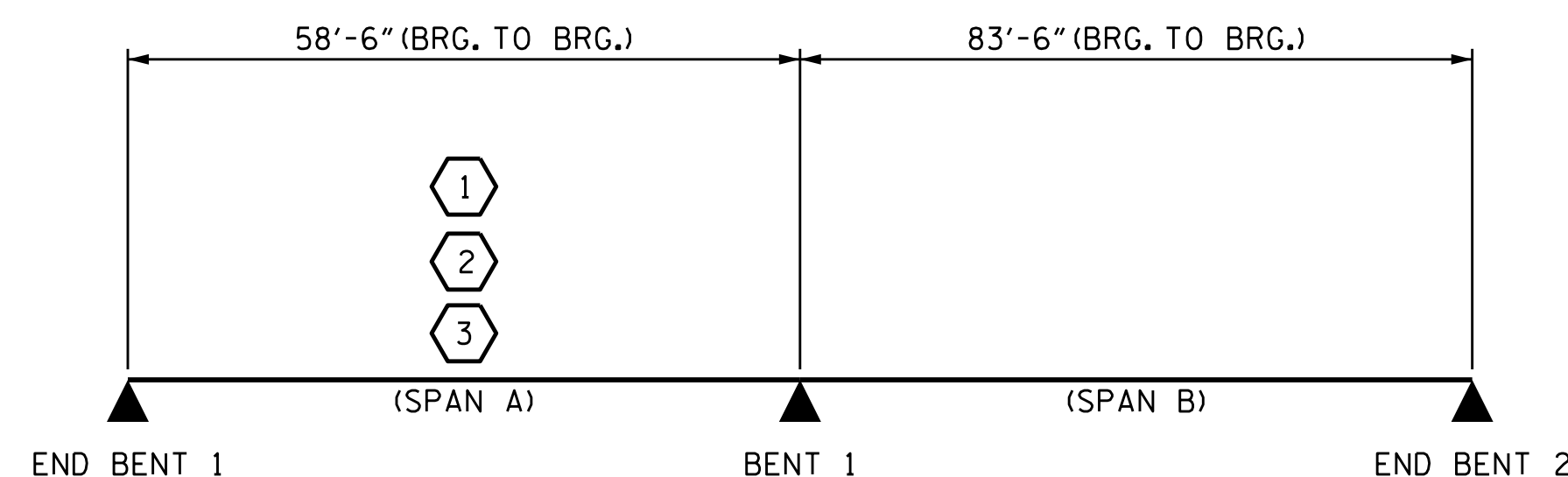
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

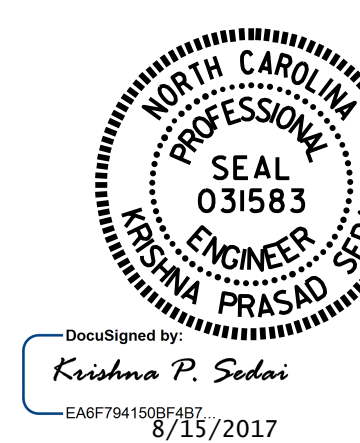
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. B-5362
MONTGOMERY COUNTY
 STATION: 14+87.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 LRFR SUMMARY FOR
 PRESTRESSED CONCRETE
 BOX BEAM UNIT
 (NON-INTERSTATE TRAFFIC)

DRAWN BY : H. A. LOCKLEAR DATE : 5/2016
 CHECKED BY : E. K. POPE DATE : 5/2017
 DESIGN ENGINEER OF RECORD: H. A. LOCKLEAR DATE : 5/2017

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			21