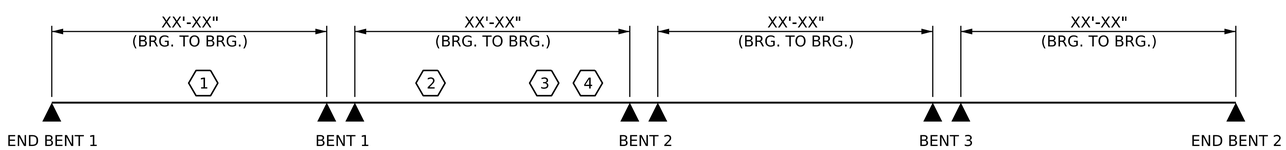
8/26/21

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

LOAD TYPE		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		HL-93 (INVENTORY)	N/A	1		--	1.75											0.80						
		HL-93 (OPERATING)	N/A			--	1.35											N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000	2			1.75											0.80	--	--	--	--	--	
		HS-20 (OPERATING)	36.000				1.35											N/A						
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500				1.40											0.80						
		SNGARBS2	20.000				1.40											0.80						
		SNAGRIS2	22.000				1.40											0.80						
		SNCOTTS3	27.250				1.40											0.80						
		SNAGGRS4	34.925				1.40											0.80						
		SNS5A	35.550				1.40											0.80						
		SNS6A	39.950				1.40											0.80						
		SNS7B	42.000				1.40											0.80						
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000				1.40											0.80						
		TNT4A	33.075				1.40											0.80						
		TNT6A	41.600				1.40											0.80						
		TNT7A	42.000				1.40											0.80						
		TNT7B	42.000				1.40											0.80						
		TNAGRIT4	43.000				1.40											0.80						
		TNAGT5A	45.000				1.40											0.80						
		TNAGT5B	45.000				1.40											0.80						
EMERGENCY VEHICLE (EV)		EV2	28.750				1.30											0.80						
		EV3	43.000				1.30											0.80						



LRFR SUMMARY

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.

COMMENTS:

1.

2.

3.

4.

(#) CONTROLLING LOAD RATING

(1) DESIGN LOAD RATING (HL-93)

(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING * *

(4) EMERGENCY VEHICLE LOAD RATING **

* * SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER

EL - EXTERIOR LEFT GIRDER

ER - EXTERIOR RIGHT GIRDER

PROJECT NO. _____

_____ COUNTY

STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

(NON-INTERSTATE TRAFFIC)

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ASSEMBLED BY: DATE :
CHECKED BY : DATE :

DRAWN BY : MAA 1/08
CHECKED BY : GM/DI 2/08

REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM
REV. 04/23 BNB/AAI

4/19/2023
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STD. NO. LRFR1