

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	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 ( $\gamma_{LL}$ )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FF)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FF)	LIVE-LOAD FACTORS ( $\gamma_{LL}$ )	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FF)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	Ⓛ	1.34	--	1.75	0.89	1.53	B	EL	68.9	1.050	1.34	B	I	124.5	0.80	0.79	1.39	B	I	68.9		
	HL-93 (OPERATING)	N/A		1.77	--	1.35	0.89	1.98	B	EL	68.9	1.050	1.77	B	I	124.5	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	Ⓜ	1.99	71.640	1.75	0.89	2.32	B	EL	68.9	1.050	1.99	B	I	124.5	0.80	0.79	2.11	B	I	68.9		
	HS-20 (OPERATING)	36.000		2.62	94.320	1.35	0.89	3.01	B	EL	68.9	1.050	2.62	B	I	124.5	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13,500		5.18	69.930	1.40	0.89	7.14	B	EL	68.9	1.050	6.56	B	I	124.5	0.80	0.79	5.18	B	I	68.9	
		SNGARBS2	20,000		3.67	73.400	1.40	0.89	5.06	B	EL	68.9	1.050	4.51	B	I	124.5	0.80	0.79	3.67	B	I	68.9	
		SNAGRIS2	22,000		3.40	74.800	1.40	0.89	4.69	B	EL	68.9	1.050	4.13	B	I	124.5	0.80	0.79	3.40	B	I	68.9	
		SNCOTTS3	27,250		2.57	70,033	1.40	0.89	3.55	B	EL	68.9	1.050	3.20	B	I	124.5	0.80	0.79	2.57	B	I	68.9	
		SNAGGRS4	34,925		2.08	72,644	1.40	0.89	2.86	B	EL	68.9	1.050	2.55	B	I	124.5	0.80	0.79	2.08	B	I	68.9	
		SNS5A	35,550		2.03	72,167	1.40	0.89	2.81	B	EL	68.9	1.050	2.55	B	I	124.5	0.80	0.79	2.03	B	I	68.9	
		SNS6A	39,950		1.84	73,508	1.40	0.89	2.53	B	EL	68.9	1.050	2.28	B	I	124.5	0.80	0.79	1.84	B	I	68.9	
	SNS7B	42,000		1.75	73,500	1.40	0.89	2.41	B	EL	68.9	1.050	2.20	B	I	124.5	0.80	0.79	1.75	B	I	68.9		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33,000		2.23	73,590	1.40	0.89	3.08	B	EL	68.9	1.050	2.76	B	I	124.5	0.80	0.79	2.23	B	I	68.9	
		TNT4A	33,075		2.23	73,757	1.40	0.89	3.08	B	EL	68.9	1.050	2.73	B	I	124.5	0.80	0.79	2.23	B	I	68.9	
		TNT6A	41,600		1.80	74,880	1.40	0.89	2.48	B	EL	68.9	1.050	2.28	B	I	124.5	0.80	0.79	1.80	B	I	68.9	
		TNT7A	42,000		1.80	75,600	1.40	0.89	2.48	B	EL	68.9	1.050	2.25	B	I	124.5	0.80	0.79	1.80	B	I	68.9	
		TNT7B	42,000		1.84	77,280	1.40	0.89	2.54	B	EL	68.9	1.050	2.18	B	I	124.5	0.80	0.79	1.84	B	I	68.9	
		TNAGRIT4	43,000		1.76	75,680	1.40	0.89	2.43	B	EL	68.9	1.050	2.11	B	I	124.5	0.80	0.79	1.76	B	I	68.9	
TNAGT5A		45,000		1.67	75,150	1.40	0.89	2.31	B	EL	68.9	1.050	2.05	B	I	124.5	0.80	0.79	1.67	B	I	68.9		
TNAGT5B	45,000		Ⓝ	1.66	74,700	1.40	0.89	2.29	B	EL	68.9	1.050	2.01	B	I	124.5	0.80	0.79	1.66	B	I	68.9		

**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. TRANSFORMING ALL PRESTRESSING TENDONS.
- 2.
- 3.
- 4.

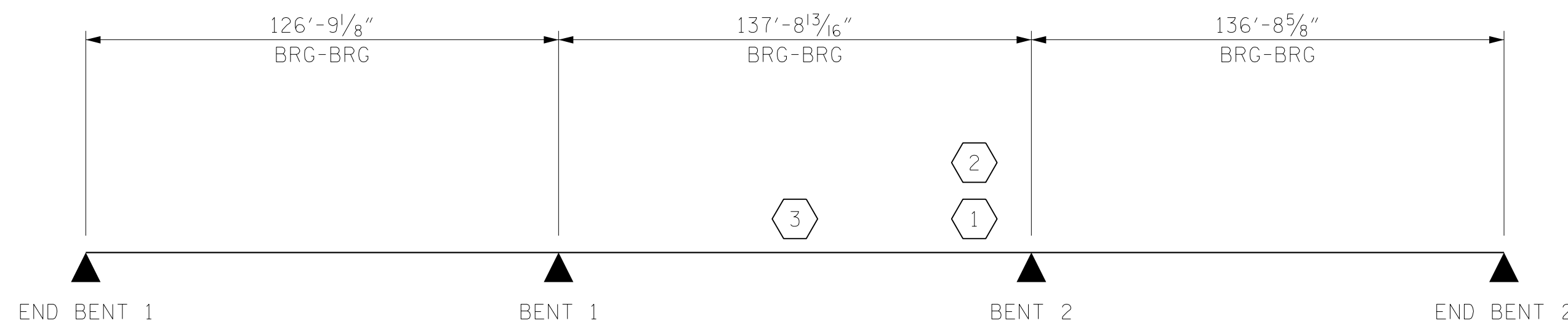
Ⓝ CONTROLLING LOAD RATING
Ⓛ DESIGN LOAD RATING (HL-93)
Ⓜ DESIGN LOAD RATING (HS-20)
Ⓝ LEGAL LOAD RATING ** ** SEE CHART FOR VEHICLE TYPE
GIRDER LOCATION
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER

SECTION PROPERTIES			
SPAN B - INTERIOR			
	UNITS	NON-COMPOSITE	COMPOSITE
HEIGHT	IN	74	82.5
AREA	IN <sup>2</sup>	885.1	1599.1
I <sub>xx</sub>	IN <sup>4</sup>	640172	1331347
Y <sub>cg</sub>	IN	36.56	55.17
SELF WT.	PLF	922.0	2037.6
EFF. WIDTH	IN	-	126.0

SECTION PROPERTIES PROVIDED AT MIDSPAN

SECTION PROPERTIES			
SPAN B - EXTERIOR			
	UNITS	NON-COMPOSITE	COMPOSITE
HEIGHT	IN	74	82.5
AREA	IN <sup>2</sup>	885.1	1510.0
I <sub>xx</sub>	IN <sup>4</sup>	640172	1280580
Y <sub>cg</sub>	IN	36.56	53.81
SELF WT.	PLF	922.0	1898.4
EFF. WIDTH	IN	-	110.3

SECTION PROPERTIES PROVIDED AT MIDSPAN



PROJECT NO. R-2707C  
CLEVELAND COUNTY  
 STATION: 384+50.00 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS (NON-INTERSTATE TRAFFIC) LEFT LANE					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S1-5 TOTAL SHEETS 36

DRAWN BY : MAL DATE : 03/2017  
 CHECKED BY : TLC DATE : 03/2017  
 DESIGN ENGINEER OF RECORD: MAL DATE : 03/2017

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED