

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			
						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 RATING	HL-93 (INVENTORY)	N/A	①	1.05	--	1.75	0.863	1.56	A	EL	58.028	0.935	1.31	A	I	5.802	0.80	0.935	1.05	A	I	58.017		
	HL-93 (OPERATING)	N/A		1.70	--	1.35	0.863	2.02	A	EL	58.028	0.935	1.70	A	I	5.802	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.53	54.957	1.75	0.863	2.25	A	EL	58.028	0.935	1.83	A	I	5.802	0.80	0.761	1.53	A	I	58.017		
	HS-20 (OPERATING)	36.000		2.37	85.476	1.35	0.863	2.92	A	EL	58.028	0.935	2.37	A	I	5.802	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500		3.69	49.815	1.40	0.863	6.80	A	EL	58.028	0.935	5.72	A	I	5.802	0.80	0.761	3.69	A	I	58.017	
		SNGARBS2	20.000		2.64	52.850	1.40	0.863	4.87	A	EL	58.028	0.935	3.98	A	I	5.802	0.80	0.761	2.64	A	I	58.017	
		SNAGRIS2	22.000		2.46	54.119	1.40	0.863	4.53	A	EL	58.028	0.935	3.66	A	I	5.802	0.80	0.761	2.46	A	I	58.017	
		SNCOTTS3	27.250		1.83	49.951	1.40	0.863	3.38	A	EL	58.028	0.935	2.85	A	I	5.802	0.80	0.761	1.83	A	I	58.017	
		SNAGGRS4	34.925		1.49	52.051	1.40	0.863	2.75	A	EL	58.028	0.935	2.30	A	I	5.802	0.80	0.761	1.49	A	I	58.017	
		SNS5A	35.550		1.46	51.909	1.40	0.863	2.69	A	EL	58.028	0.935	2.30	A	I	5.802	0.80	0.761	1.46	A	I	58.017	
		SNS6A	39.950		1.32	52.854	1.40	0.863	2.44	A	EL	58.028	0.935	2.08	A	I	5.802	0.80	0.761	1.32	A	I	58.017	
	SNS7B	42.000		1.26	52.890	1.40	0.863	2.32	A	EL	58.028	0.935	2.01	A	I	5.802	0.80	0.761	1.26	A	I	58.017		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.61	53.079	1.40	0.863	2.96	A	EL	58.028	0.935	2.49	A	I	5.802	0.80	0.761	1.61	A	I	58.017	
		TNT4A	33.075		1.61	53.285	1.40	0.863	2.97	A	EL	58.028	0.935	2.45	A	I	5.802	0.80	0.761	1.61	A	I	58.017	
		TNT6A	41.600		1.30	54.155	1.40	0.863	2.40	A	EL	58.028	0.935	2.09	A	I	5.802	0.80	0.761	1.30	A	I	58.017	
		TNT7A	42.000		1.30	54.608	1.40	0.863	2.40	A	EL	58.028	0.935	2.06	A	I	5.802	0.80	0.761	1.30	A	I	58.017	
		TNT7B	42.000		1.33	55.670	1.40	0.863	2.44	A	EL	58.028	0.935	1.98	A	I	5.802	0.80	0.761	1.33	A	I	58.017	
		TNAGRIT4	43.000		1.28	54.844	1.40	0.863	2.35	A	EL	58.028	0.935	1.93	A	I	5.802	0.80	0.761	1.28	A	I	58.017	
TNAGT5A		45.000		1.21	54.427	1.40	0.863	2.23	A	EL	58.028	0.935	1.88	A	I	5.802	0.80	0.761	1.21	A	I	58.017		
TNAGT5B	45.000	③	1.20	54.048	1.40	0.863	2.21	A	EL	58.028	0.935	1.84	A	I	5.802	0.80	0.761	1.20	A	I	58.017			

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)

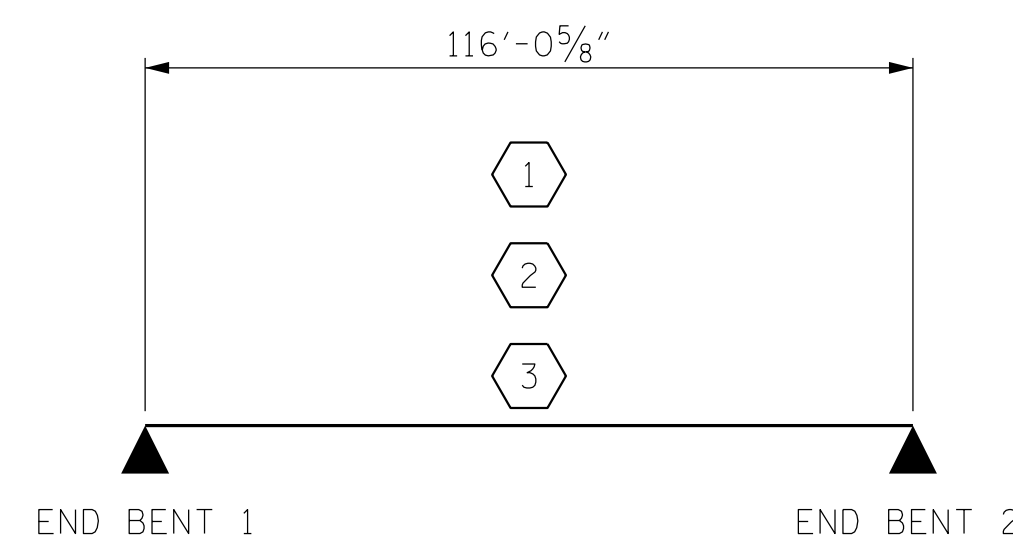
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

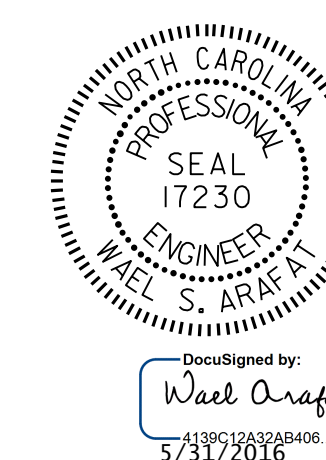
GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. R-4060
ALLEGHANY COUNTY
 STATION: 36+45.00 -L-



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:	TOTAL SHEETS
1			3			5-5
2			4			26

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

ASSEMBLED BY : V.X. NGUYEN DATE : 3/22/16
 CHECKED BY : H.T. BARBOUR DATE : 3/22/16
 DRAWN BY : MAA 1/08 REV. 11/2/08RRR MAA/GM
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM