

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	1.15	--	1.75	0.87	1.65	B	I	36.67	1.09	1.15	B	I	66.00	0.80	0.87	1.36	B	I	36.67		
	HL-93 (OPERATING)	N/A		1.52	--	1.35	0.87	2.14	B	I	36.67	1.09	1.52	B	I	66.00	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.47	52.92	1.75	0.87	2.16	B	I	36.67	1.09	1.47	B	I	66.00	0.80	0.87	1.79	B	I	36.67		
	HS-20 (OPERATING)	36.000		1.93	69.48	1.35	0.87	2.80	B	I	36.67	1.09	1.93	B	I	66.00	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH		4.39	54.88	1.40	0.87	6.64	B	I	36.67	1.09	4.93	B	I	66.00	0.80	0.87	4.39	B	I	36.67		
		S3C		2.57	55.26	1.40	0.87	3.89	B	I	36.67	1.09	2.85	B	I	7.33	0.80	0.87	2.57	B	I	36.67		
		S3A		2.44	55.51	1.40	0.87	3.68	B	I	36.67	1.09	2.72	B	I	66.00	0.80	0.87	2.44	B	I	36.67		
		S4A		2.16	57.78	1.40	0.87	3.27	B	I	36.67	1.09	2.37	B	I	66.00	0.80	0.87	2.16	B	I	36.67		
		S5A		1.91	58.26	1.40	0.87	2.89	B	I	36.67	1.09	2.19	B	I	7.33	0.80	0.87	1.91	B	I	36.67		
		S6A		1.74	60.03	1.40	0.87	2.63	B	I	36.67	1.09	1.97	B	I	7.33	0.80	0.87	1.74	B	I	36.67		
		S7B		1.59	61.22	1.40	0.87	2.40	B	I	36.67	1.09	1.85	B	I	7.33	0.80	0.87	1.59	B	I	36.67		
		S7A		1.58	63.20	1.40	0.87	2.39	B	I	36.67	1.09	1.92	B	I	66.00	0.80	0.87	1.58	B	I	36.67		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A			2.15	60.74	1.40	0.87	3.25	B	I	36.67	1.09	2.31	B	I	66.00	0.80	0.87	2.15	B	I	36.67	
		T5B			1.89	60.48	1.40	0.87	2.85	B	I	36.67	1.09	2.22	B	I	66.00	0.80	0.87	1.89	B	I	36.67	
		T6A			1.74	62.64	1.40	0.87	2.63	B	I	36.67	1.09	2.04	B	I	66.00	0.80	0.87	1.74	B	I	36.67	
		T7A			1.63	65.20	1.40	0.87	2.46	B	I	36.67	1.09	1.91	B	I	7.33	0.80	0.87	1.63	B	I	36.67	
	T7B			1.76	70.40	1.40	0.87	2.66	B	I	36.67	1.09	1.77	B	I	7.33	0.80	0.87	1.76	B	I	36.67		

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)

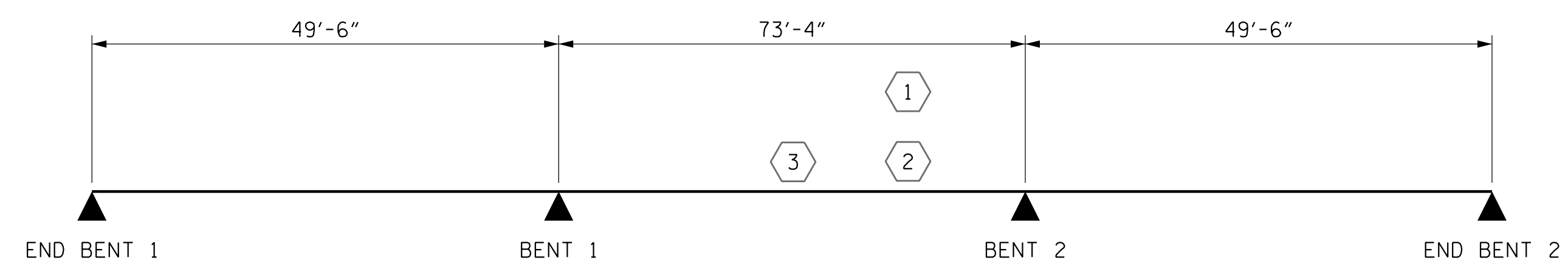
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

PROJECT NO. I-5987B
ROBESON COUNTY
 STATION: 586+14.00 -L- POT

SHEET 6 OF 6

ASSEMBLED BY : J. A. PANDOLI DATE : 11/21
 CHECKED BY : G. F. WILSON DATE : 12/21
 DRAWN BY : MAA 1/08 REV. 11/12/08RR MAA/GM
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM
 REV. 12/17 MAA/THC

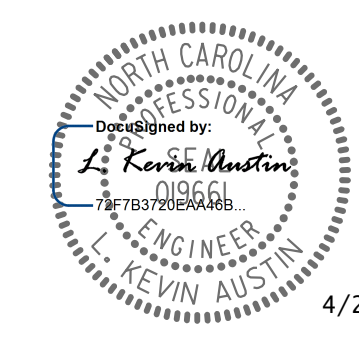
PLANS PREPARED BY:

NVI5

NV5 ENGINEERS & CONSULTANTS, INC.
 3300 REGENCY PARKWAY, SUITE 100
 CARY, NC 27518
 P: 919.851.1912 www.NV5.com
 NC License # F-1333

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THIS STANDARD DRAWING REVIEWED & ADOPTED FOR USE AT THE REFERENCED LOCATION BY THE UNDERSIGNED:



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD LRFR SUMMARY FOR PRESTRESSED CONCRETE GIRDERS (INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S5-6
1			3			TOTAL SHEETS
2			4			64

STD. NO. LRFR2

4/22/2022 5:53:58 PM G:\Project\2019\2019\IT\03\CLIENT\Structures\I-5987B (Big Marsh Swamp)\5987B_SML_GD3_770536.dgn