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LOAD AND RESISTANCE FACTOR RATING (LRFD) 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
							LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT					
								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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.33	--	1.75	0.275	1.33	60'	EL	29.5	0.52	**1.33**	60'	EL	**5.9**	0.80	0.275	1.37	60'	EL	29.5	
DESIGN LOAD RATING		HL-93(Opr)	N/A	--	1.725	--	1.35	0.275	1.73	60'	EL	29.5	0.52	1.72	60'	EL	5.9	N/A	--	--	--	--	--	
DESIGN LOAD RATING		HS-20(Inv)	36.000	2	1.601	57.643	1.75	0.275	1.69	60'	EL	29.5	0.52	**1.6**	60'	EL	**5.9**	0.80	0.275	1.74	60'	EL	29.5	
DESIGN LOAD RATING		HS-20(Opr)	36.000	--	2.076	74.723	1.35	0.275	2.19	60'	EL	29.5	0.52	2.08	60'	EL	5.9	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.745	50.557	1.4	0.275	4.55	60'	EL	29.5	0.52	4.63	60'	EL	5.9	0.80	0.275	3.74	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNGARBS2	20.000	--	2.867	57.338	1.4	0.275	3.48	60'	EL	29.5	0.52	3.33	60'	EL	5.9	0.80	0.275	2.87	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNAGRIS2	22.000	--	2.748	60.46	1.4	0.275	3.34	60'	EL	29.5	0.52	3.11	60'	EL	5.9	0.80	0.275	2.75	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNCOTTS3	27.250	--	1.866	50.841	1.4	0.275	2.27	60'	EL	29.5	0.52	2.31	60'	EL	5.9	0.80	0.275	1.87	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNAGGRS4	34.925	--	1.588	55.465	1.4	0.275	1.93	60'	EL	29.5	0.52	1.95	60'	EL	5.9	0.80	0.275	1.59	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNS5A	35.550	--	1.551	55.139	1.4	0.275	1.89	60'	EL	29.5	0.52	1.99	60'	EL	5.9	0.80	0.275	1.55	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNS6A	39.950	--	1.435	57.347	1.4	0.275	1.74	60'	EL	29.5	0.52	1.83	60'	EL	5.9	0.80	0.275	1.44	60'	EL	29.5	
LEGAL LOAD RATING	SV	SNS7B	42.000	--	1.367	57.434	1.4	0.275	1.66	60'	EL	29.5	0.52	1.81	60'	EL	5.9	0.80	0.275	1.37	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNAGRIT3	33.000	--	1.754	57.887	1.4	0.275	2.13	60'	EL	29.5	0.52	2.17	60'	EL	5.9	0.80	0.275	1.75	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNT4A	33.075	--	1.765	58.389	1.4	0.275	2.15	60'	EL	29.5	0.52	2.1	60'	EL	5.9	0.80	0.275	1.77	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNT6A	41.600	--	1.456	60.551	1.4	0.275	1.77	60'	EL	29.5	0.52	1.96	60'	EL	5.9	0.80	0.275	1.46	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNT7A	42.000	--	1.469	61.714	1.4	0.275	1.79	60'	EL	29.5	0.52	1.88	60'	EL	5.9	0.80	0.275	1.47	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNT7B	42.000	--	1.535	64.463	1.4	0.275	1.87	60'	EL	29.5	0.52	1.76	60'	EL	5.9	0.80	0.275	1.53	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNAGRIT4	43.000	--	1.45	62.329	1.4	0.275	1.76	60'	EL	29.5	0.52	1.7	60'	EL	5.9	0.80	0.275	1.45	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNAGT5A	45.000	--	1.361	61.247	1.4	0.275	1.65	60'	EL	29.5	0.52	1.71	60'	EL	5.9	0.80	0.275	1.36	60'	EL	29.5	
LEGAL LOAD RATING	TTST	TNAGT5B	45.000	3	1.34	60.282	1.4	0.275	1.63	60'	EL	29.5	0.52	1.61	60'	EL	5.9	0.80	0.275	**1.34**	60'	EL	**29.5**	

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)

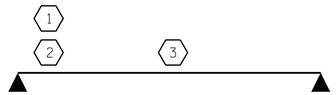
(2) DESIGN LOAD RATING (HS-20)

(3) LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



LRFR SUMMARY

FOR SPAN 'A'

PROJECT NO. 17BP.1.R.87

TYRRELL COUNTY

STATION: 20+28.50 -L-

SHEET 1 OF 2

ENGINEER OF RECORD
8/21/2019
NORTH CAROLINA PROFESSIONAL SEAL 14091 ENGINEER BUCK CHARLES HUNT

DocuSigned by: Buck Charles Hunt
2F15C8305...

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR
60' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			22

STD. NO. 24LRFR1_90S_60L

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ASSEMBLED BY : J. PENDERGRAFT	DATE : 5-19		
CHECKED BY : J. DILWORTH	DATE : 5-19		
DRAWN BY : CVC	6/10		
CHECKED BY : DNS	6/10		

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