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
								MOMENT					SHEAR						MOMENT					
							LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.54	--	1.75	0.282	1.72	40'	EL	19.482	0.615	1.65	40'	EL	1.948	0.80	0.282	**1.54**	40'	EL	**19.482**	
		HL-93(Opr)	N/A	--	2.14	--	1.35	0.282	2.23	40'	EL	19.482	0.615	2.13	40'	EL	1.948	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.92	69.038	1.75	0.282	2.21	40'	EL	19.482	0.615	**1.92**	40'	EL	**7.793**	0.80	0.282	1.96	40'	EL	19.482	
		HS-20(Opr)	36.000	--	2.49	89.494	1.35	0.282	2.86	40'	EL	19.482	0.615	2.49	40'	EL	7.793	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.65	49.246	1.4	0.282	5.1	40'	EL	19.482	0.615	4.88	40'	EL	7.793	0.80	0.282	3.65	40'	EL	19.482	
		SNGARBS2	20.000	--	3	59.912	1.4	0.282	4.18	40'	EL	15.586	0.615	3.71	40'	EL	7.793	0.80	0.282	3.00	40'	EL	23.379	
		SNAGRIS2	22.000	--	2.95	64.913	1.4	0.282	4.09	40'	EL	15.586	0.615	3.54	40'	EL	7.793	0.80	0.282	2.95	40'	EL	23.379	
		SNCOTTS3	27.250	--	1.82	49.689	1.4	0.282	2.55	40'	EL	19.482	0.615	2.46	40'	EL	7.793	0.80	0.282	1.82	40'	EL	19.482	
		SNAGGRS4	34.925	--	1.64	57.327	1.4	0.282	2.3	40'	EL	19.482	0.615	2.21	40'	EL	7.793	0.80	0.282	1.64	40'	EL	19.482	
		SNS5A	35.550	--	1.6	56.760	1.4	0.282	2.23	40'	EL	19.482	0.615	2.34	40'	EL	7.793	0.80	0.282	1.60	40'	EL	19.482	
		SNS6A	39.950	--	1.52	60.695	1.4	0.282	2.12	40'	EL	19.482	0.615	2.22	40'	EL	7.793	0.80	0.282	1.52	40'	EL	19.482	
		SNS7B	42.000	3	1.45	60.854	1.4	0.282	2.03	40'	EL	19.482	0.615	2.28	40'	EL	1.948	0.80	0.282	**1.45**	40'	EL	**19.482**	
	TTST	TNAGRIT3	33.000	--	1.87	61.692	1.4	0.282	2.61	40'	EL	19.482	0.615	2.58	40'	EL	7.793	0.80	0.282	1.87	40'	EL	19.482	
		TNT4A	33.075	--	1.89	62.629	1.4	0.282	2.65	40'	EL	19.482	0.615	2.42	40'	EL	7.793	0.80	0.282	1.89	40'	EL	19.482	
		TNT6A	41.600	--	1.61	66.814	1.4	0.282	2.25	40'	EL	19.482	0.615	2.38	40'	EL	7.793	0.80	0.282	1.61	40'	EL	19.482	
		TNT7A	42.000	--	1.65	69.167	1.4	0.282	2.3	40'	EL	19.482	0.615	2.23	40'	EL	7.793	0.80	0.282	1.65	40'	EL	19.482	
		TNT7B	42.000	--	1.68	70.703	1.4	0.282	2.35	40'	EL	19.482	0.615	2.15	40'	EL	7.793	0.80	0.282	1.68	40'	EL	19.482	
		TNAGRIT4	43.000	--	1.64	70.440	1.4	0.282	2.28	40'	EL	15.586	0.615	2.06	40'	EL	7.793	0.80	0.282	1.64	40'	EL	19.482	
		TNAGT5A	45.000	--	1.52	68.213	1.4	0.282	2.12	40'	EL	19.482	0.615	2.16	40'	EL	1.948	0.80	0.282	1.52	40'	EL	19.482	
		TNAGT5B	45.000	--	1.47	66.216	1.4	0.282	2.06	40'	EL	19.482	0.615	1.95	40'	EL	7.793	0.80	0.282	1.47	40'	EL	19.482	

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)

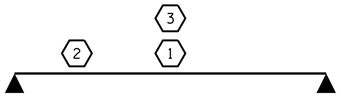
(2) DESIGN LOAD RATING (HS-20)

(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. B-4659

WAKE COUNTY

STATION: 16+15.00 -L-

SHEET 1 OF 2

NORTH CAROLINA PROFESSIONAL SEAL 14855 ENGINEER DOUGLAS R. CALHOUN

DocuSigned by: Douglas R. Calhoun 430196F9D5E0429...

1/20/2015

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR 40' CORED SLAB UNIT 105° SKEW (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			32

STD. NO. LRFR1

ASSEMBLED BY : A. SORSENGINH DATE : 12/12/14
CHECKED BY : P. K. NEWTON DATE : 12/12/14

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

REV. 11/12/08RR MAA/GM
REV. 10/1/11 MAA/GM

20-JAN-2015 15:46
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pknewton