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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
								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	1.098	--	1.75	0.272	1.36	45′	EL	21.982	0.617	1.46	45′	EL	35.172	0.80	0.272	1.10	45′	EL	21.982	
		HL-93(Opr)	N/A	--	1.764	--	1.35	0.272	1.76	45′	EL	21.982	0.617	1.89	45′	EL	35.172	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.347	48.507	1.75	0.272	1.67	45′	EL	21.982	0.617	1.68	45′	EL	8.793	0.80	0.272	1.35	45′	EL	21.982	
		HS-20(Opr)	36.000	--	2.165	77.938	1.35	0.272	2.16	45′	EL	21.982	0.617	2.17	45′	EL	8.793	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.632	35.536	1.4	0.272	4.08	45′	EL	21.982	0.617	4.43	45′	EL	35.172	0.80	0.272	2.63	45′	EL	21.982	
		SNGARBS2	20.000	--	2.126	42.513	1.4	0.272	3.29	45′	EL	21.982	0.617	3.32	45′	EL	35.172	0.80	0.272	2.13	45′	EL	21.982	
		SNAGRIS2	22.000	--	2.085	45.877	1.4	0.272	3.19	45′	EL	17.586	0.617	3.15	45′	EL	35.172	0.80	0.272	2.09	45′	EL	21.982	
		SNCOTTS3	27.250	--	1.314	35.814	1.4	0.272	2.04	45′	EL	21.982	0.617	2.23	45′	EL	8.793	0.80	0.272	1.31	45′	EL	21.982	
		SNAGGRS4	34.925	--	1.16	40.51	1.4	0.272	1.8	45′	EL	21.982	0.617	1.97	45′	EL	35.172	0.80	0.272	1.16	45′	EL	21.982	
		SNS5A	35.550	--	1.13	40.167	1.4	0.272	1.75	45′	EL	21.982	0.617	2.06	45′	EL	8.793	0.80	0.272	1.13	45′	EL	21.982	
		SNS6A	39.950	--	1.064	42.522	1.4	0.272	1.65	45′	EL	21.982	0.617	1.94	45′	EL	35.172	0.80	0.272	1.06	45′	EL	21.982	
		SNS7B	42.000	3	1.015	42.617	1.4	0.272	1.57	45′	EL	21.982	0.617	1.98	45′	EL	35.172	0.80	0.272	1.01	45′	EL	21.982	
	TTST	TNAGRIT3	33.000	--	1.306	43.112	1.4	0.272	2.02	45′	EL	21.982	0.617	2.26	45′	EL	8.793	0.80	0.272	1.31	45′	EL	21.982	
		TNT4A	33.075	--	1.32	43.663	1.4	0.272	2.05	45′	EL	21.982	0.617	2.14	45′	EL	35.172	0.80	0.272	1.32	45′	EL	21.982	
		TNT6A	41.600	--	1.108	46.093	1.4	0.272	1.72	45′	EL	21.982	0.617	2.11	45′	EL	35.172	0.80	0.272	1.11	45′	EL	21.982	
		TNT7A	42.000	--	1.129	47.436	1.4	0.272	1.75	45′	EL	21.982	0.617	1.96	45′	EL	35.172	0.80	0.272	1.13	45′	EL	21.982	
		TNT7B	42.000	--	1.176	49.384	1.4	0.272	1.82	45′	EL	21.982	0.617	1.88	45′	EL	35.172	0.80	0.272	1.18	45′	EL	21.982	
		TNAGRIT4	43.000	--	1.12	48.157	1.4	0.272	1.74	45′	EL	21.982	0.617	1.8	45′	EL	35.172	0.80	0.272	1.12	45′	EL	21.982	
		TNAGT5A	45.000	--	1.042	46.893	1.4	0.272	1.61	45′	EL	21.982	0.617	1.88	45′	EL	35.172	0.80	0.272	1.04	45′	EL	21.982	
		TNAGT5B	45.000	--	1.017	45.785	1.4	0.272	1.58	45′	EL	21.982	0.617	1.7	45′	EL	35.172	0.80	0.272	1.02	45′	EL	21.982	

LOAD FACTORS:

	LIMIT STATE	γ_{DC}	γ_{DW}
DESIGN LOAD RATING FACTORS	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)

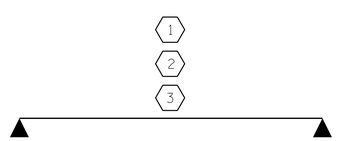
(2) DESIGN LOAD RATING (HS-20)

(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' AND 'C'

PROJECT NO. 17BP.9.R.3

DAVIDSON COUNTY

STATION: 12+65.20 -L-

SHEET 1 OF 2

NORTH CAROLINA PROFESSIONAL SEAL 030046 ENGINEER MATTHEW PAYNE

DocuSigned by: 3C4001644A0F407... 6/10/2015

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR 45′ CORED SLAB UNIT 75° SKEW & 105° SKEW

ASSEMBLED BY : C. BLAKES DATE : 2/13
CHECKED BY : M. PAYNE DATE : 5/15

DRAWN BY : CVC 6/10
CHECKED BY : DNS 6/10

ATKINS 1616 E. MILLBROOK ROAD, SUITE #310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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

STD. NO. 21LRFR1_75&105S_45L