

LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING 	MINIMUM RATING FACTORS (RF)	TONS = W × RF	STRENGTH I LIMIT STATE								COMMENT NUMBER	
							LIVE-LOAD FACTORS (γ _{LL})	MOMENT				SHEAR				
								RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM LEFT END OF ELEMENT (+/-)	RATING FACTOR	BOX NO.	ELEMENT TYPE		DISTANCE FROM LEFT END OF ELEMENT (+/-)
DESIGN LOAD RATING		HL-93 (INVENTORY)	N/A		2.16	--	1.75	2.16	1	BOTT. SLAB	1.83	5.32	1	BOTT. SLAB	0.87	
		HL-93 (OPERATING)	N/A		2.81	--	1.35	2.81	1	BOTT. SLAB	1.83	6.90	1	BOTT. SLAB	0.87	
		HS-20 (INVENTORY)	36,000		2.79	100.44	1.75	2.79	1	BOTT. SLAB	1.83	6.86	1	BOTT. SLAB	0.87	
		HS-20 (OPERATING)	36,000		3.62	130.32	1.35	3.62	1	BOTT. SLAB	1.83	8.89	1	BOTT. SLAB	0.87	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13,500		3.94	53.19	1.40	3.94	1	BOTT. SLAB	1.83	9.68	1	BOTT. SLAB	0.87	
		SNGARBS2	20,000		3.68	73.60	1.40	3.68	1	BOTT. SLAB	1.83	9.06	1	BOTT. SLAB	0.87	
		SNAGRIS2	22,000		3.94	86.68	1.40	3.94	1	BOTT. SLAB	1.83	9.68	1	BOTT. SLAB	0.87	
		SNCOTTS3	27,250		3.35	91.29	1.40	3.35	1	BOTT. SLAB	1.83	8.23	1	BOTT. SLAB	0.87	
		SNAGGRS4	34,925		4.17	145.64	1.40	4.17	1	BOTT. SLAB	1.83	10.19	1	BOTT. SLAB	0.87	
		SNS5A	35,550		4.96	176.33	1.40	4.96	1	TOP SLAB	1.83	13.04	1	TOP SLAB	0.87	
		SNS6A	39,950		3.88	155.01	1.40	3.88	1	BOTT. SLAB	1.83	9.50	1	BOTT. SLAB	0.87	
		SNS7B	42,000		3.88	162.96	1.40	3.88	1	BOTT. SLAB	1.83	9.50	1	BOTT. SLAB	0.87	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33,000		3.94	130.02	1.40	3.94	1	BOTT. SLAB	1.83	9.68	1	BOTT. SLAB	0.87	
		TNT4A	33,075		3.99	131.97	1.40	3.99	1	BOTT. SLAB	1.83	9.80	1	BOTT. SLAB	0.87	
		TNT6A	41,600		3.88	161.41	1.40	3.88	1	BOTT. SLAB	1.83	9.52	1	BOTT. SLAB	0.87	
		TNT7A	42,000		3.94	165.48	1.40	3.94	1	BOTT. SLAB	1.83	9.66	1	BOTT. SLAB	0.87	
		TNT7B	42,000		3.88	162.96	1.40	3.88	1	BOTT. SLAB	1.83	9.50	1	BOTT. SLAB	0.87	
		TNAGRIT4	43,000		3.94	169.42	1.40	3.94	1	BOTT. SLAB	1.83	9.68	1	BOTT. SLAB	0.87	
		TNAGT5A	45,000		3.94	177.30	1.40	3.94	1	BOTT. SLAB	1.83	9.68	1	BOTT. SLAB	0.87	
		TNAGT5B	45,000		3.99	179.55	1.40	3.99	1	BOTT. SLAB	1.83	9.80	1	BOTT. SLAB	0.87	
EMERGENCY VEHICLE (EV)		EV2	28,750		2.78	79.93	1.30	2.78	1	BOTT. SLAB	1.83	6.84	1	BOTT. SLAB	0.87	
		EV3	43,000		2.91	125.13	1.30	2.91	1	BOTT. SLAB	1.83	7.15	1	BOTT. SLAB	0.87	

DESIGN LOAD RATING FACTORS		
LOAD TYPE	MAX FACTOR	MIN FACTOR
DC	1.25	0.90
DW	1.50	0.65
EV	1.30	0.90
EH	1.35	0.90
ES	1.35	0.90
LS	1.75	--
WA	1.00	--

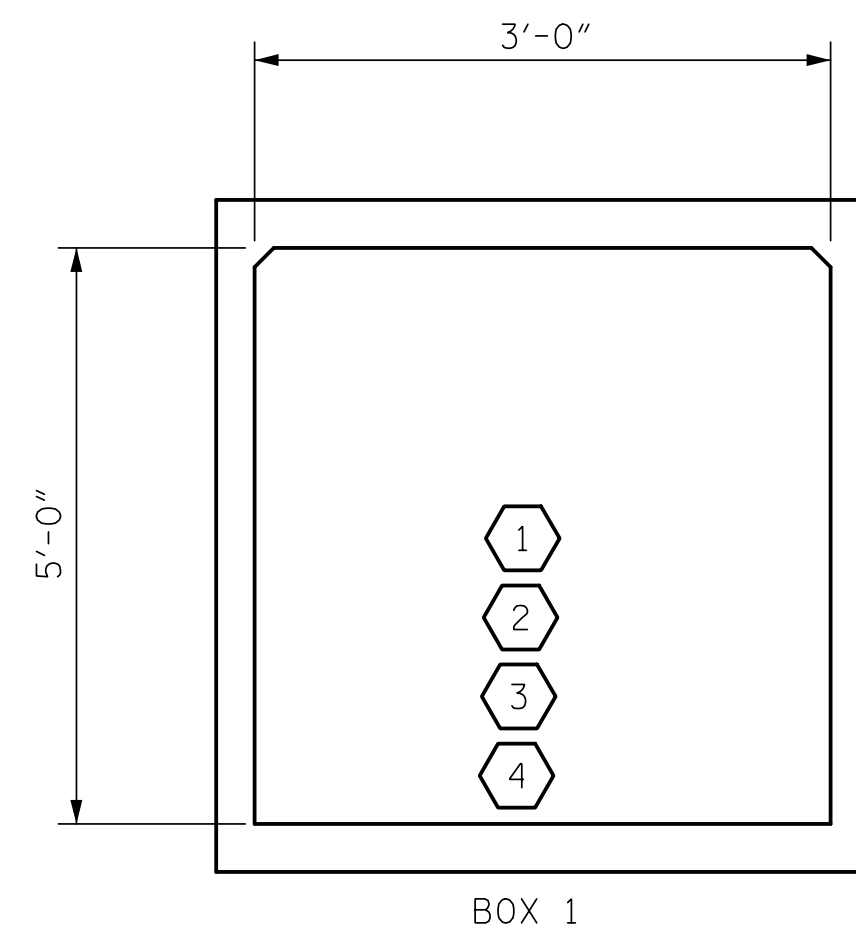
RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

- 1 DESIGN LOAD RATING (HL-93)
- 2 DESIGN LOAD RATING (HS-20)
- 3 LEGAL LOAD RATING **
- 4 EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE



ASSEMBLED BY : STM		DATE : 07/23	
CHECKED BY : MGC		DATE : 11/23	
DRAWN BY : WMC 7/II		REV. 10/1/II	MAA/GM
CHECKED BY : GM 7/II		REV. 12/17	MAA/THAI
		REV. 04/23	BNB/AHC

11/29/2023
X:\NCD01\TR-5739\Structures\Str. #1 (38 + 74.00 -L-)\Final Plans\DGNs\411-001-R-5739-SMU-C1-3.dgn
User:ZSmith

PROJECT NO. R-5739
NORTHAMPTON COUNTY
 STATION: 38+74.00 -L-

SHEET 3 OF 10

	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD LRFR SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS (NON-INTERSTATE TRAFFIC) RIGHT EXTENSION																		
7/23/2025	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td></td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> <td></td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> </tbody> </table>	NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4		
NO.	BY:	DATE:	NO.	BY:	DATE:														
1			3																
2			4																
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	SHEET NO. C1-3 TOTAL SHEETS 10																		

STR. #1

STD. NO. LRFR5