

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS															
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 (ft)	RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM LEFT END OF ELEMENT (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	1	4.85	--	1.75	4.85	1	BOTTOM SLAB	1.83	12.85	1	TOP SLAB	1.00	
	HL-93 (OPERATING)	N/A		6.29	--	1.35	6.29	1	BOTTOM SLAB	1.83	16.66	1	TOP SLAB	1.00	
	HS-20 (INVENTORY)	36,000	2	5.06	182.16	1.75	5.06	1	BOTTOM SLAB	1.83	13.46	1	TOP SLAB	1.00	
	HS-20 (OPERATING)	36,000		6.55	235.80	1.35	6.55	1	BOTTOM SLAB	1.83	17.45	1	TOP SLAB	1.00	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH		8.97	121.10	1.40	8.97	1	BOTTOM SLAB	1.83	24.59	1	TOP SLAB	1.00	
		SNGARBS2		8.40	168.00	1.40	8.40	1	BOTTOM SLAB	1.83	22.92	1	TOP SLAB	1.00	
		SNAGRIS2		8.97	197.34	1.40	8.97	1	BOTTOM SLAB	1.83	24.59	1	TOP SLAB	1.00	
		SNCOTTS3		6.07	165.41	1.40	6.07	1	BOTTOM SLAB	1.83	16.06	1	TOP SLAB	1.00	
		SNAGGRS4	3	4.77	166.59	1.40	4.77	1	TOP SLAB	1.83	12.50	1	TOP SLAB	3.33	
		SNS5A		5.18	184.15	1.40	5.18	1	TOP SLAB	1.83	13.83	1	TOP SLAB	1.00	
		SNS6A		5.15	205.74	1.40	5.15	1	TOP SLAB	1.83	13.48	1	TOP SLAB	1.00	
		SNS7B		5.15	216.30	1.40	5.15	1	TOP SLAB	1.83	13.48	1	TOP SLAB	1.00	
	TRUCK TRACTOR SEMI-TRAILER (TTS1)	TNAGRIT3		8.97	296.01	1.40	8.97	1	BOTTOM SLAB	1.83	24.59	1	TOP SLAB	1.00	
		TNT4A		7.22	238.80	1.40	7.22	1	BOTTOM SLAB	1.83	19.49	1	TOP SLAB	1.00	
		TNT6A		4.97	206.75	1.40	4.97	1	TOP SLAB	1.83	13.13	1	TOP SLAB	1.00	
		TNT7A		5.33	223.86	1.40	5.33	1	TOP SLAB	1.83	14.24	1	TOP SLAB	1.00	
		TNT7B		5.18	217.56	1.40	5.18	1	TOP SLAB	1.83	13.56	1	TOP SLAB	1.00	
		TNAGRIT4		7.22	310.46	1.40	7.22	1	BOTTOM SLAB	1.83	19.49	1	TOP SLAB	1.00	
		TNAGT5A		7.22	324.90	1.40	7.22	1	BOTTOM SLAB	1.83	19.49	1	TOP SLAB	1.00	
TNAGT5B			7.22	324.90	1.40	7.22	1	BOTTOM SLAB	1.83	19.49	1	TOP SLAB	1.00		
EMERGENCY VEHICLE (EV)	EV2		6.34	182.28	1.30	6.34	1	BOTTOM SLAB	1.83	16.70	1	TOP SLAB	1.00		
	EV3		4	5.27	226.61	1.30	5.27	1	BOTTOM SLAB	1.83	13.38	1	TOP SLAB	1.00	

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.

(LOOKING DOWNSTREAM)

11/28/2023
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User:ZSmith

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STR. #6

STD. NO. LRFR5