

LOAD FACTORS: _____

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS

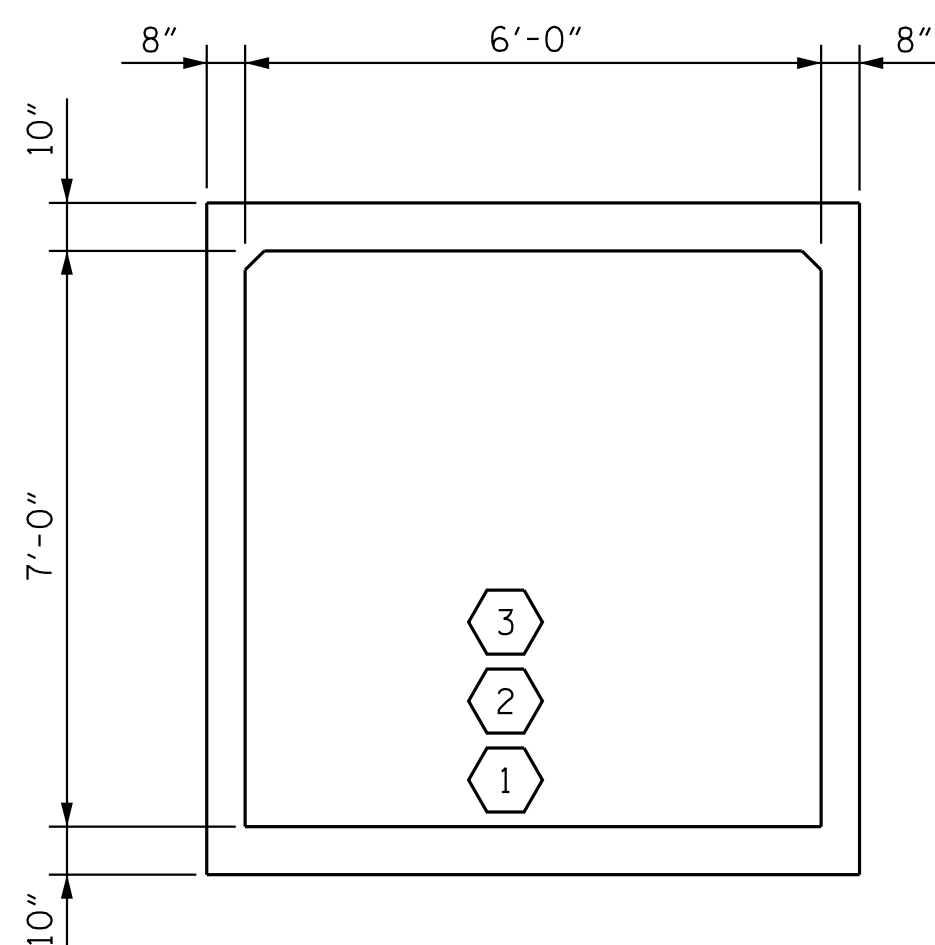
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								COMMENT NUMBER		
						LIVE-LOAD FACTORS (γ _{LL})	MOMENT				SHEAR					
							RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM LEFT END OF ELEMENT (ft)	RATING FACTOR	BOX NO.	ELEMENT TYPE		DISTANCE FROM LEFT END OF ELEMENT (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.25	--	1.75	1.25	1	BOTTOM SLAB	3.67	3.55	1	BOTTOM SLAB	0.83		
	HL-93 (OPERATING)	N/A	.	1.62	--	1.35	1.62	1	BOTTOM SLAB	3.67	4.61	1	BOTTOM SLAB	0.83		
	HS-20 (INVENTORY)	36.000	②	1.40	50.40	1.75	1.40	1	BOTTOM SLAB	3.67	3.99	1	BOTTOM SLAB	0.83		
	HS-20 (OPERATING)	36.000	.	1.82	65.52	1.35	1.82	1	BOTTOM SLAB	3.67	5.17	1	BOTTOM SLAB	0.83		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	.	2.28	30.78	1.40	2.28	1	BOT CORNER WALL	0.33	7.26	1	BOTTOM SLAB	0.83	
		SNGARBS2	20.000	.	2.20	44.00	1.40	2.20	1	BOT CORNER WALL	0.33	6.79	1	BOTTOM SLAB	0.83	
		SNAGRIS2	22.000	.	2.28	50.16	1.40	2.28	1	BOT CORNER WALL	0.33	7.26	1	BOTTOM SLAB	0.83	
		SNCOTTS3	27.250	③	1.55	42.24	1.40	1.55	1	BOTTOM SLAB	3.67	4.45	1	BOTTOM SLAB	0.83	
		SNAGGRS4	34.925	.	1.66	57.98	1.40	1.66	1	BOTTOM SLAB	3.67	4.70	1	BOTTOM SLAB	0.83	
		SNS5A	35.550	.	1.67	59.37	1.40	1.67	1	BOTTOM SLAB	3.67	4.73	1	BOTTOM SLAB	0.83	
		SNS6A	39.950	.	1.67	66.72	1.40	1.67	1	BOTTOM SLAB	3.67	4.73	1	BOTTOM SLAB	0.83	
	SNS7B	42.000	.	1.67	70.14	1.40	1.67	1	BOTTOM SLAB	3.67	4.73	1	BOTTOM SLAB	0.83		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	.	2.27	74.91	1.40	2.27	1	BOT CORNER WALL	0.33	7.25	1	BOTTOM SLAB	0.83	
		TNT4A	33.075	.	1.84	60.86	1.40	1.84	1	BOTTOM SLAB	3.67	5.30	1	BOTTOM SLAB	0.83	
		TNT6A	41.600	.	1.68	69.89	1.40	1.68	1	BOTTOM SLAB	3.67	4.75	1	BOTTOM SLAB	0.83	
		TNT7A	42.000	.	1.77	74.34	1.40	1.77	1	BOTTOM SLAB	3.67	5.02	1	BOTTOM SLAB	0.83	
		TNT7B	42.000	.	1.67	70.14	1.40	1.67	1	BOTTOM SLAB	3.67	4.73	1	BOTTOM SLAB	0.83	
		TNAGRIT4	43.000	.	1.84	79.12	1.40	1.84	1	BOTTOM SLAB	3.67	5.30	1	BOTTOM SLAB	0.83	
TNAGT5A		45.000	.	1.84	82.80	1.40	1.84	1	BOTTOM SLAB	3.67	5.30	1	BOTTOM SLAB	0.83		
TNAGT5B	45.000	.	1.84	82.80	1.40	1.84	1	BOTTOM SLAB	3.67	5.30	1	BOTTOM SLAB	0.83			

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	--

NOTE:
RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

#	CONTROLLING LOAD RATING
①	DESIGN LOAD RATING (HL-93)
②	DESIGN LOAD RATING (HS-20)
③	LEGAL LOAD RATING **
**	SEE CHART FOR VEHICLE TYPE



LRFR SUMMARY
(LOOKING DOWNSTREAM)

PROJECT NO. U-5725
HALIFAX COUNTY
STATION: 84+52.00 -L-

SHEET 2 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**LRFR SUMMARY FOR
REINFORCED CONCRETE
BOX CULVERTS**
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			8

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UNLESS ALL SIGNATURES COMPLETED**

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DRAWN BY: P.G. ROBBS DATE: 5/18
CHECKED BY: C.T. POOLE DATE: 5/18
DESIGN ENGINEER OF RECORD: A.L. PHILLIPS DATE: 5/18