

LOAD FACTORS:

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:

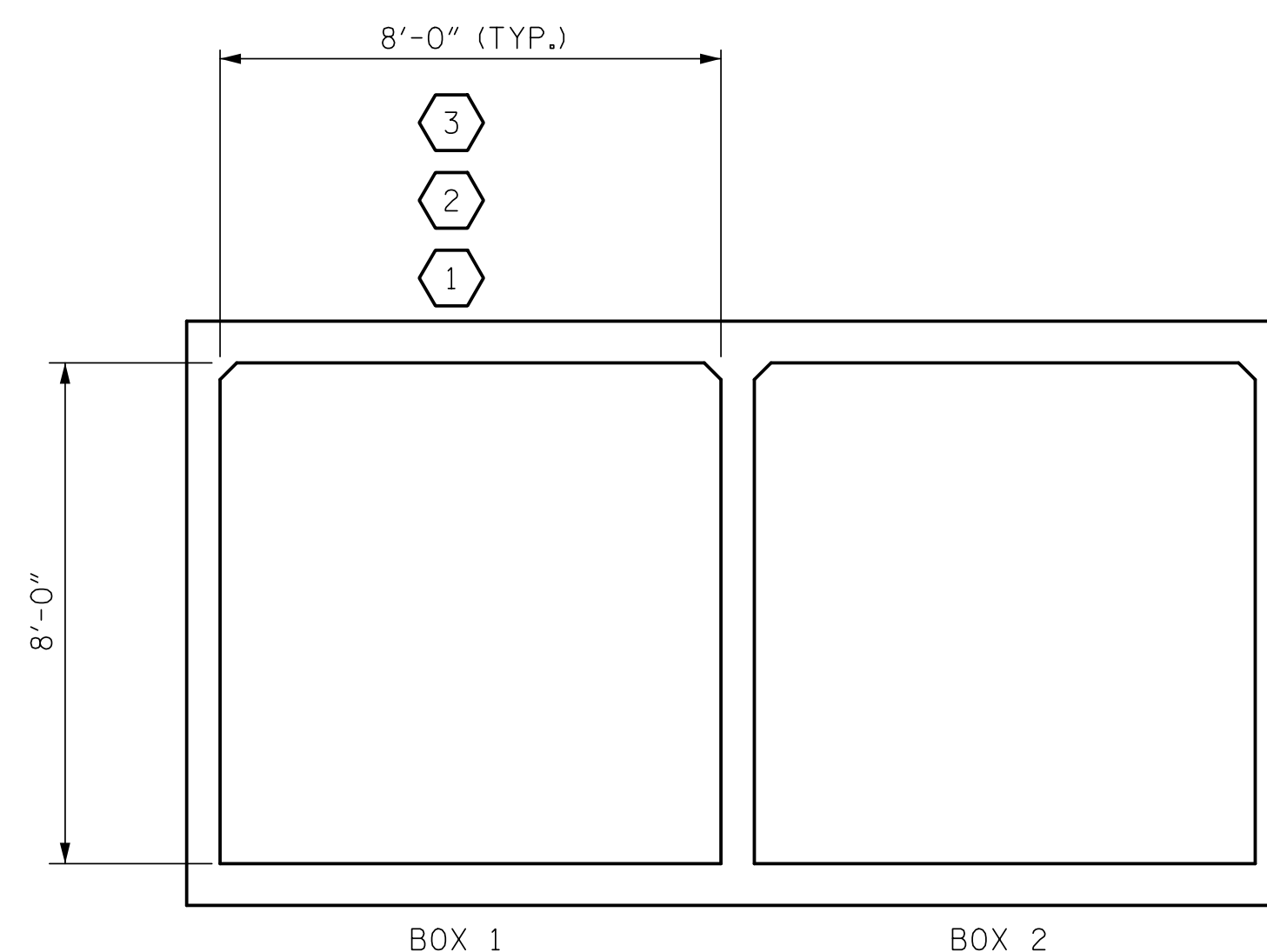
RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

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	

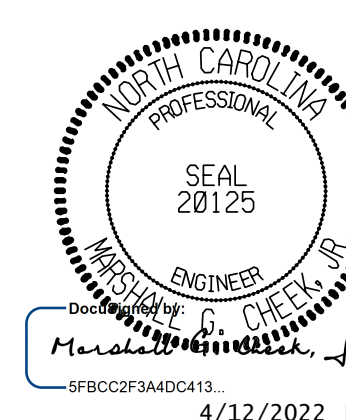
LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS																
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								COMMENT NUMBER		
						LIVE-LOAD FACTORS (γ _L)	MOMENT				SHEAR					
							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	1.14	--	1.75	1.14	1	TOP SLAB	4.75	1.33	2	BOTTOM SLAB	17.50	-	
	HL-93 (OPERATING)	N/A		1.48	--	1.35	1.48	1	TOP SLAB	4.75	1.72	2	BOTTOM SLAB	17.50	-	
	HS-20 (INVENTORY)	36.000	2	1.23	44.28	1.75	1.23	1	TOP SLAB	4.75	1.55	2	BOTTOM SLAB	17.50	-	
	HS-20 (OPERATING)	36.000		1.60	57.60	1.35	1.60	1	TOP SLAB	4.75	2.01	2	BOTTOM SLAB	17.50	-	
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SH	12.500	3	2.47	3.71	1.40	2.47	1	TOP SLAB	4.75	3.10	2	BOTTOM SLAB	17.50	-
		S3C	21.500		2.60	55.9	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S3A	22.750		2.60	59.15	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S4A	26.750		2.60	69.55	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S5A	30.500		2.60	79.30	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S6A	34.500		2.60	89.7	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S7B	38.500		2.60	100.10	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		S7A	40.000		2.60	104.00	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
	TRUCK TRACTOR SEMI-TRAILER (TTST)	T4A	28.250		2.60	73.45	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		T5B	32.000		2.60	83.20	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		T6A	36.000		2.60	93.60	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
		T7A	40.000		2.60	104.00	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-
	T7B	40.000		2.60	104.00	1.40	2.60	1	TOP SLAB	4.75	3.27	2	BOTTOM SLAB	17.50	-	



LRFR SUMMARY
(LOOKING DOWNSTREAM)

PROJECT NO. I-5987B
ROBESON COUNTY
 STATION: 677+13.20 -L-

SHEET 2 OF 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 REINFORCED CONCRETE
 BOX CULVERTS
 (INTERSTATE TRAFFIC)

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
 706 HILLSBOROUGH STREET
 SUITE 200
 RALEIGH, NC 27603
 PH (919) 773-8887
 CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C15-2
1			3			TOTAL SHEETS
2			4			13

ASSEMBLED BY : ZCS	DATE : 5/21
CHECKED BY : MGC	DATE : 10/21
DRAWN BY : WMC	7/11
CHECKED BY : GM	7/11
REV. 10/1/11	MAA/GM
REV. 12/17	MAA/THC