

29-OCT-09 15:22:08

GEORGIA DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION - OFFICE OF BRIDGE & STRUCTURAL DESIGN
THE ANALYSIS AND DESIGN OF PIERS FOR BRIDGES - V 4.2.07 - AASHTO SPECS 1984 INTERIM
REVISED: JUNE 30, 2008
48' CURB-CURB; 7 BEAMS; 140' SPAN; 60' TALL; BRIDGE 19 ; PIER 17

PROB. NO. 0001

Table with columns: DESIGN NO., NO. CAN, NO. COL, NO. LLC, SKEW D, ANG M, S, F'C PSI, FC PSI, N, FY PSI, FS PSI, DESIGN DATA EC KSI, ES KSI, CONC. STRAIN, Z FACT, CAP MAIN SIZE, REINFORCING STR TOP, STEEL MAX TOP, REBAR NO., STEEL MIN TOP, CAP MIN TOP, ALL.PILE CAPACITY, ALL.PILE UPLIFT.

CAP DATA

Table with columns: CN, C, L, A, DE, BC, BE, DH, LH, XB1, XB2, XB3, XB4, XB5, XB6, XB7, XB8. Rows 11, 12, 13.

COLUMN DATA

Table with columns: CN, P, I, T, S, HT, A, DT, BT, DB, BB, DL, FLEX, ND, NB, SZ, ND, NB, SZ, ND, NB, SZ, SLOPE, EP, AP. Rows 21, 22.

FOOTING DATA

Table with columns: CN, S/P, B, D, T, DEL.B, DEL.D, DEL.T, R.B/D, R.D/B, S.HT, NP, SYM., BP, DP, SET. Row 31.

32 2 SAME AS FOOTING 1

GROUP II WIND INTENSITIES

Table with columns: SUPERSTRUCTURE AREA*STD. TRANS., WIND LONG., WIND FT1, WIND FT2, WIND FT3, WIND FT4, WIND FT5, WIND ON SUPERSTRUCTURE INTENSITIES FT4, FT5, WIND ON LIVE LOAD INTENSITIES FT3, FT4, FT5, WIND ON PIER PL.

GROUP III WIND INTENSITIES

Table with columns: STD. WIND FT1, WIND ON SUPERSTRUCTURE INTENSITIES FT2, FT3, FT4, FT5, STD. WIND FT1, WIND ON LIVE LOAD INTENSITIES FT2, FT3, FT4, FT5, LENGTHS OF LL TRANS., WIND ON LL APT, WIND ON LL ARMS APL.

MISCELLANEOUS FORCES

Table with columns: CENTRI. FT, TRACTION FL, FORCE APT, AND ARMS APL, EXPANSION COEFFICIENT, SHRINKAGE COEFFICIENT, STREAM PT, FLOW PL.

DEAD LOAD SUPERSTRUCTURE AND LIVE LOAD CASES

Table with columns: I.D., NL, P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12. Rows D.L., LL 1-17. Includes text: COLUMN MOMENTS(KIP- FEET), SHEARS(KIPS), REACTIONS(KIPS)

TRANSVERSE

* LONGITUDINAL

Table with columns: LOAD, COL, PC, MT, V, MB, RF, ML, MR, MT, V, MB, MF. Row UNIT F.AT CL.CAP 1.

CN	B	GR	LLC	WC	R	S	F	F	PF	MTF	MLF	PM	PIER-48-7-140-60.out MTM	MLM	PU	MTU	MLU	PU/PM	B	D
1	T	1	LL 3	0.0			C		2145.8	936.6	0.0	2145.8	1433.6	2998.4	3776.9	2516.9	5264.4	1.757	60.00	60.00
1	B	3	LL 4	5.1			C		2136.9	911.4	-3042.4	2136.9	1322.5	6959.4	2159.3	1330.0	6998.7	1.006	60.00	60.00
2	T	1	LL 7	0.0			C		2091.6	-422.6	0.0	2091.6	1415.2	2803.0	3868.1	2608.4	5166.4	1.845	60.00	60.00
2	B	3	LL 8	5.1	R				2106.8	-599.0	3042.4	2106.8	1375.7	6827.0	2096.1	1368.7	6792.6	0.995	60.00	60.00

COLUMN DESIGN DATA

CN	T	B	FACE 1 NO.SIZE	B	FACE 2 NO.SIZE	D	FACE 3 NO.SIZE	D	FACE 4 NO.SIZE	AS	PS	BD12	BD	SUMPU	SUMPC	DEL.T	DEL.L	CM	R	PHIC
1	T	7	# 11	7	# 11	5	# 11	5	# 11	37.44	1.040	1.00	0.366	4020.	15979.	1.336	2.795	1.000	2	0.70
1	B	6	# 11	6	# 11	10	# 11	10	# 11	49.92	1.387	1.00	0.284	3750.	19520.	1.238	2.288	1.000	2	0.70
2	T	7	# 11	7	# 11	5	# 11	5	# 11	37.44	1.040	1.00	0.687	4020.	15401.	1.353	2.680	1.000	2	0.70
2	B	5	# 11	5	# 11	10	# 11	10	# 11	46.80	1.300	1.00	0.399	3750.	16008.	1.306	2.244	1.000	2	0.70

FOOTING 1 DESIGN LOADS

F	G	LLID	WC	ES	C	S	P	MT	VT	ML	VL	P4	P3	P2	P1	MTF	VBF	VPF	LOAD
1	3	LL 4	4.1		C		1617.090	859.073	31.172-2194.025	-30.757	241.049	120.648	172.696	293.097	165.837	33.608	42.510		MAX.P1
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	313.363	156.843	224.505	381.026	215.588	43.691	55.263		MAX.MT
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	313.363	156.843	224.505	381.026	215.588	43.691	55.263		MAX.VT
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	313.363	156.843	224.505	381.026	215.588	43.691	55.263		MAX.VP
1	3	LL 4	5.1		C		2082.918	892.010	33.353-3042.371	-42.673	323.122	156.161	210.458	377.418	252.366	50.874	54.771		MAX.ML
1	3	LL 4	5.1		C		2082.918	892.010	33.353-3042.371	-42.673	323.122	156.161	210.458	377.418	252.366	50.874	54.771		MAX.VL
2	2		4.1				1279.573	653.180	18.066-2458.470	-38.290	218.253	82.360	120.488	256.382	131.415	26.885	33.907		MAX.P3

FOOTING 1 ANALYSIS/DESIGN RESULTS

FOOTING SIZE				* BAR REINFORCEMENT STEEL				* SECTION CAPACITIES				
B	D	T	P1/PA	AS	NO.SIZE	SPAC.	PLACEMENT	MT.	VB	VP	DS	FC
15.500	15.500	5.000	0.998	1.13	23 # 8	@ 8.000	TOP TRAN	222.849	52.173	104.347	43.230	0.000
				1.30	16 #10	@11.625	BOT.LONG	255.226	53.543	107.086	44.365	0.000

NUMBER OF PILES = 9 BP = 6.500 DP = 6.500

FOOTING 2 DESIGN SAME AS FOOTING 1