

30-OCT-09
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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
56' CURB-CURB; 8 BEAMS; 140' SPAN; 99' TALL; BRIDGE 4 ; PIER 9

PROB. NO. 0001

DESIGN NO.	NO. CAN	NO. COL	NO. LLC	SKEW D	ANG M	F'C S	FC PSI	N	FY PSI	FS PSI	DESIGN DATA		CONC.	Z	* * *	CAP	REINFORCING			STEEL	* * *	CAP				
OPTIONS											EC	ES	STRAIN	FACT	MAIN	STR	MAX	MAX	MIN	MIN	TOP	MIN	DEPTH	BOT		
D	D	D	L	2	3	18	0-00-00	3500.	1400.	8.	60000.	24000.	3409.	29000.	0.0030	170.	11	5	16	16	11	2	2.00	4.00	3.00	2.00

CAP DATA

CN	C	L	A	DE	BC	BE	DH	LH	XB1	XB2	XB3	XB4	XB5	XB6	XB7	XB8
11	L	11.000	3.000	4.000	6.000	6.000	2.000	8.000	8.059	5.059						
12	C	18.705	3.000	6.000	6.000		0.000	0.000	3.000	4.235	7.647	0.823				
13	3	SAME AS CAP SECTION 2														
14	4	SAME AS CANTILEVER 1														

COLUMN DATA

CN	P	I	T	S	HT	A	DT	BT	DB	BB	DL	FLEX	ND	NB	SZ	SLOPE	EP	AP									
21	1	C	T		99.000	0.000	6.000	6.000	9.333	6.000	4.000	0.000	6	6	11	9	6	11	16	16	11	26	16	11	0.000	0.000	0.000
22	0	2	SAME AS COLUMN 1																								
23	1	3	SAME AS COLUMN 1																								

FOOTING DATA

CN	S/P	B	D	T	DEL.B	DEL.D	DEL.T	R.B/D	R.D/B	S.H.T.	NP	SYM.	BP	DP	SET.
31	P	8.000	11.333	3.000	0.500	0.500	0.250	1.333	1.000	2.500	4	3	0.000	0.000	0.000
32	2	SAME AS FOOTING 1													
33	3	SAME AS FOOTING 1													

GROUP II WIND

WIND ON SUPERSTRUCTURE TRANS.	WIND ON SUPERSTRUCTURE LONG.	WIND ON SUPERSTRUCTURE FT1	WIND ON SUPERSTRUCTURE FT2	WIND ON SUPERSTRUCTURE FT3	WIND ON SUPERSTRUCTURE FT4	WIND ON SUPERSTRUCTURE FT5	WIND ON SUPERSTRUCTURE INTENSITIES FT4	WIND ON SUPERSTRUCTURE INTENSITIES FL4	WIND ON SUPERSTRUCTURE INTENSITIES FT5	WIND ON SUPERSTRUCTURE INTENSITIES FL5	* WIND FORCE APT	* WIND FORCE ARM APL	* WIND ON PIER PT	* WIND ON PIER PL		
1365.	2730.	1	50	0	44	6	41	12	33	16	17	19	7.375	7.375	12.357	79.418

GROUP III WIND

STD. WIND FT1	STD. WIND FL1	STD. WIND FT2	STD. WIND FL2	STD. WIND FT3	STD. WIND FL3	STD. WIND FT4	STD. WIND FL4	STD. WIND FT5	STD. WIND FL5	STD. WIND FT1	STD. WIND FL1	STD. WIND FT2	STD. WIND FL2	STD. WIND FT3	STD. WIND FL3	STD. WIND FT4	STD. WIND FL4	STD. WIND FT5	STD. WIND FL5	LENGTHS OF TRANS.	LENGTHS OF LONGI.	* WIND ON PIER APT	* WIND ON PIER APL		
1	50	0	44	6	41	12	33	16	17	19	1	100	0	88	12	82	24	66	32	34	38	140.0	280.0	15.583	15.583

MISCELLANEOUS FORCES

CENTRI. FT	TRACTION FL	FORCE APT	AND ARMS APL	EXPANSION COEFFICIENT	SHRINKAGE COEFFICIENT	STREAM PT	FLOW PL
0.000	9.860	15.583	15.583	0.00018000	0.00044000	0.000	0.000

DEAD LOAD SUPERSTRUCTURE AND LIVE LOAD CASES

I.D.	NL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
D.L.	0	263.141 0.000	0.000 263.141	307.817	0.000	307.817	307.817	0.000	0.000	307.817	307.817	0.000	307.817
LL 1	1	71.212 0.000	0.000 0.000	66.199	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LL 2	2	71.212 0.000	0.000 0.000	107.618	0.000	83.503	12.488	0.000	0.000	0.000	0.000	0.000	0.000
LL 3	3	71.212 0.000	0.000 0.000	107.618	0.000	103.782	95.992	0.000	0.000	33.629	0.000	0.000	0.000
LL 4	4	71.212 0.000	0.000 0.000	107.618	0.000	103.782	95.992	0.000	0.000	115.408	55.633	0.000	0.000
LL 5	1	0.000 0.000	0.000 71.194	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	66.217
LL 6	2	0.000 0.000	0.000 71.194	0.000	0.000	0.000	0.000	0.000	0.000	12.497	83.503	0.000	107.627
LL 7	3	0.000 0.000	0.000 71.194	0.000	0.000	0.000	33.638	0.000	0.000	96.001	103.773	0.000	107.627
LL 8	4	0.000 0.000	0.000 71.194	0.000	0.000	55.651	115.399	0.000	0.000	96.001	103.773	0.000	107.627
LL 9	1	0.000 0.000	0.000 0.000	0.000	0.000	26.954	83.503	0.000	0.000	26.954	0.000	0.000	0.000
LL10	2	0.000 0.000	0.000 0.000	48.095	0.000	110.457	89.316	0.000	0.000	26.954	0.000	0.000	0.000
LL11	3	0.000 0.000	0.000 0.000	48.095	0.000	110.457	95.130	0.000	0.000	110.457	48.095	0.000	0.000

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I.D.	NL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
LL12	4	0.000 0.000	0.000 0.530	48.095	0.000	110.457	95.130	0.000	0.000	110.457	101.473	0.000	83.503
LL13	2	0.000 0.000	0.000 0.000	0.000	0.000	37.529	99.891	0.000	0.000	99.882	37.520	0.000	0.000
LL14	3	0.000 0.000	0.000 0.000	63.431	0.000	111.509	99.891	0.000	0.000	99.882	37.520	0.000	0.000
LL15	4	0.000 0.000	0.000 0.000	63.431	0.000	111.509	99.891	0.000	0.000	99.882	111.518	0.000	63.414
LL16	2	71.212 0.000	0.000 71.194	66.199	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	66.217
LL17	3	71.212 0.000	0.000 71.194	107.618	0.000	83.503	12.488	0.000	0.000	0.000	0.000	0.000	66.217
LL18	4	71.212 0.000	0.000 71.194	107.618	0.000	83.503	12.488	0.000	0.000	12.497	83.503	0.000	107.627

□ COLUMN MOMENTS(KIP-FEET), SHEARS(KIPS), REACTIONS(KIPS)

LOAD	COL	TRANSVERSE							* LONGITUDINAL				
		PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
UNIT F.AT CL.CAP	1	1.285	15.215	0.321	16.576	1.285	0.000	-15.215	1.333	0.333	33.000	33.000	33.000
	2	0.000	17.633	0.358	17.785	0.000	-8.816	-8.816	1.333	0.333	33.000	33.000	33.000
	3	-1.285	15.215	0.321	16.576	-1.285	-15.215	0.000	1.333	0.333	33.000	33.000	33.000
EXPANSION OF CAP	1	7.371	91.910	1.944	100.593	7.371	0.000	-91.910	0.000	0.000	0.000	0.000	0.000
	2	-14.741	0.000	0.000	0.000	-14.741	-45.955	45.955	0.000	0.000	0.000	0.000	0.000
	3	7.371	-91.910	-1.944	-100.593	7.371	91.910	0.000	0.000	0.000	0.000	0.000	0.000
SHRINKAGE OF CAP	1	-18.017	-224.670	-4.753	-245.894	-18.017	0.000	224.670	0.000	0.000	0.000	0.000	0.000
	2	36.034	0.000	0.000	0.000	36.034	112.335	-112.335	0.000	0.000	0.000	0.000	0.000
	3	-18.017	224.670	4.753	245.894	-18.017	-224.670	0.000	0.000	0.000	0.000	0.000	0.000
DEAD LOAD TOTAL	1	993.280	-190.877	-2.892	-95.439	1506.280	2387.353	-2196.476	0.000	0.000	0.000	0.000	0.000
	2	1506.280	0.000	0.000	0.000	1206.037	925.451	-925.451	0.000	0.000	0.000	0.000	0.000
	3	693.037	190.877	2.892	95.439	1506.280	2196.476	-2387.353	0.000	0.000	0.000	0.000	0.000
TRAC. FORCE 1 LN	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-376.596	-376.596	-376.596
	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-376.596	-376.596	-376.596
	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-376.596	-376.596	-376.596
WIND ON SUBSTR.	1	15.876	188.011	3.968	204.831	15.876	0.000	-188.011	-105.891	-26.473	-2620.794	-2620.794	-2620.794
	2	0.000	217.888	4.421	219.770	0.000	-108.944	-108.944	-105.891	-26.473	-2620.794	-2620.794	-2620.794
	3	-15.876	188.011	3.968	204.831	-15.876	-188.011	0.000	-105.891	-26.473	-2620.794	-2620.794	-2620.794
GROUP 2 WIND 1 1	1	117.015	1226.430	25.885	1336.153	117.015	0.000	-1226.430	-105.891	-26.473	-2620.794	-2620.794	-2620.794
	2	0.000	1421.327	28.838	1433.601	0.000	-710.663	-710.663	-105.891	-26.473	-2620.794	-2620.794	-2620.794
	3	-117.015	1226.430	25.885	1336.153	-117.015	-1226.430	0.000	-105.891	-26.473	-2620.794	-2620.794	-2620.794
GROUP 2 WIND 1 2	1	117.015	1226.430	25.885	1336.153	117.015	0.000	-1226.430	105.891	26.473	2620.794	2620.794	2620.794
	2	0.000	1421.327	28.838	1433.601	0.000	-710.663	-710.663	105.891	26.473	2620.794	2620.794	2620.794
	3	-117.015	1226.430	25.885	1336.153	-117.015	-1226.430	0.000	105.891	26.473	2620.794	2620.794	2620.794
GROUP 2 WIND 2 1	1	104.878	1101.819	23.255	1200.394	104.878	0.000	-1101.819	-167.998	-31.933	-3201.602	-3201.602	-3201.602
	2	0.000	1276.914	25.908	1287.942	0.000	-638.457	-638.457	-167.998	-31.933	-3201.602	-3201.602	-3201.602
	3	-104.878	1101.819	23.255	1200.394	-104.878	-1101.819	0.000	-167.998	-31.933	-3201.602	-3201.602	-3201.602
GROUP 2 WIND 2 2	1	104.878	1101.819	23.255	1200.394	104.878	0.000	-1101.819	167.998	31.933	3201.602	3201.602	3201.602
	2	0.000	1276.914	25.908	1287.942	0.000	-638.457	-638.457	167.998	31.933	3201.602	3201.602	3201.602
	3	-104.878	1101.819	23.255	1200.394	-104.878	-1101.819	0.000	167.998	31.933	3201.602	3201.602	3201.602
GROUP 2 WIND 3 1	1	98.810	1039.514	21.940	1132.515	98.810	0.000	-1039.514	-230.106	-37.393	-3782.409	-3782.409	-3782.409
	2	0.000	1204.708	24.443	1215.112	0.000	-602.354	-602.354	-230.106	-37.393	-3782.409	-3782.409	-3782.409
	3	-98.810	1039.514	21.940	1132.515	-98.810	-1039.514	0.000	-230.106	-37.393	-3782.409	-3782.409	-3782.409
GROUP 2 WIND 3 2	1	98.810	1039.514	21.940	1132.515	98.810	0.000	-1039.514	230.106	37.393	3782.409	3782.409	3782.409
	2	0.000	1204.708	24.443	1215.112	0.000	-602.354	-602.354	230.106	37.393	3782.409	3782.409	3782.409
	3	-98.810	1039.514	21.940	1132.515	-98.810	-1039.514	0.000	230.106	37.393	3782.409	3782.409	3782.409

□ COLUMN MOMENTS(KIP-FEET), SHEARS(KIPS), REACTIONS(KIPS)

LOAD	COL	TRANSVERSE							* LONGITUDINAL				
		PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
GROUP 2 WIND 4 1	1	82.628	873.367	18.433	951.504	82.628	0.000	-873.367	-271.511	-41.033	-4169.614	-4169.614	-4169.614
	2	0.000	1012.158	20.536	1020.899	0.000	-506.079	-506.079	-271.511	-41.033	-4169.614	-4169.614	-4169.614
	3	-82.628	873.367	18.433	951.504	-82.628	-873.367	0.000	-271.511	-41.033	-4169.614	-4169.614	-4169.614
GROUP 2 WIND 4 2	1	82.628	873.367	18.433	951.504	82.628	0.000	-873.367	271.511	41.033	4169.614	4169.614	4169.614
	2	0.000	1012.158	20.536	1020.899	0.000	-506.079	-506.079	271.511	41.033	4169.614	4169.614	4169.614
	3	-82.628	873.367	18.433	951.504	-82.628	-873.367	0.000	271.511	41.033	4169.614	4169.614	4169.614
GROUP 2 WIND 5 1	1	50.263	541.073	11.420	589.481	50.263	0.000	-541.073	-302.564	-43.763	-4460.018	-4460.018	-4460.018
	2	0.000	627.057	12.723	632.473	0.000	-313.529	-313.529	-302.564	-43.763	-4460.018	-4460.018	-4460.018
	3	-50.263	541.073	11.420	589.481	-50.263	-541.073	0.000	-302.564	-43.763	-4460.018	-4460.018	-4460.018
GROUP 2 WIND 5 2	1	50.263	541.073	11.420	589.481	50.263	0.000	-541.073	302.564	43.763	4460.018	4460.018	4460.018
	2	0.000	627.057	12.723	632.473	0.000	-313.529	-313.529	302.564	43.763	4460.018	4460.018	4460.018
	3	-50.263	541.073	11.420	589.481	-50.263	-541.073	0.000	302.564	43.763	4460.018	4460.018	4460.018
GROUP 3 WIND 1 1	1	58.923	580.938	12.261	632.912	58.923	0.000	-580.938	-31.767	-7.942	-786.238	-786.238	-786.238
	2	0.000	673.257	13.660	679.071	0.000	-336.629	-336.629	-31.767	-7.942	-786.238	-786.238	-786.238
	3	-58.923	580.938	12.261	632.912	-58.923	-580.938	0.000	-31.767	-7.942	-786.238	-786.238	-786.238
GROUP 3 WIND 1 2	1	58.923	580.938	12.261	632.912	58.923	0.000	-580.938	31.767	7.942	786.238	786.238	786.238

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		0.000	673.257	13.660	679.071	0.000	-336.629	-336.629	31.767	7.942	786.238	786.238
		-58.923	580.938	12.261	632.912	-58.923	-580.938	0.000	31.767	7.942	786.238	786.238
GROUP 3 WIND 2 1	1	52.424	517.994	10.933	564.336	52.424	0.000	-517.994	-72.332	-10.700	-1088.813	-1088.813
	2	0.000	600.310	12.180	605.495	0.000	-300.155	-300.155	-72.332	-10.700	-1088.813	-1088.813
	3	-52.424	517.994	10.933	564.336	-52.424	-517.994	0.000	-72.332	-10.700	-1088.813	-1088.813
GROUP 3 WIND 2 2	1	52.424	517.994	10.933	564.336	52.424	0.000	-517.994	72.332	10.700	1088.813	1088.813
	2	0.000	600.310	12.180	605.495	0.000	-300.155	-300.155	72.332	10.700	1088.813	1088.813
	3	-52.424	517.994	10.933	564.336	-52.424	-517.994	0.000	72.332	10.700	1088.813	1088.813
GROUP 3 WIND 3 1	1	49.174	486.522	10.268	530.049	49.174	0.000	-486.522	-112.898	-13.458	-1391.389	-1391.389
	2	0.000	563.837	11.440	568.706	0.000	-281.918	-281.918	-112.898	-13.458	-1391.389	-1391.389
	3	-49.174	486.522	10.268	530.049	-49.174	-486.522	0.000	-112.898	-13.458	-1391.389	-1391.389
GROUP 3 WIND 3 2	1	49.174	486.522	10.268	530.049	49.174	0.000	-486.522	112.898	13.458	1391.389	1391.389
	2	0.000	563.837	11.440	568.706	0.000	-281.918	-281.918	112.898	13.458	1391.389	1391.389
	3	-49.174	486.522	10.268	530.049	-49.174	-486.522	0.000	112.898	13.458	1391.389	1391.389
GROUP 3 WIND 4 1	1	40.508	402.596	8.497	438.615	40.508	0.000	-402.596	-139.941	-15.296	-1593.105	-1593.105
	2	0.000	466.574	9.466	470.604	0.000	-233.287	-233.287	-139.941	-15.296	-1593.105	-1593.105
	3	-40.508	402.596	8.497	438.615	-40.508	-402.596	0.000	-139.941	-15.296	-1593.105	-1593.105
GROUP 3 WIND 4 2	1	40.508	402.596	8.497	438.615	40.508	0.000	-402.596	139.941	15.296	1593.105	1593.105
	2	0.000	466.574	9.466	470.604	0.000	-233.287	-233.287	139.941	15.296	1593.105	1593.105
	3	-40.508	402.596	8.497	438.615	-40.508	-402.596	0.000	139.941	15.296	1593.105	1593.105
GROUP 3 WIND 5 1	1	23.177	234.745	4.954	255.747	23.177	0.000	-234.745	-160.224	-16.675	-1744.393	-1744.393
	2	0.000	272.049	5.520	274.399	0.000	-136.025	-136.025	-160.224	-16.675	-1744.393	-1744.393
	3	-23.177	234.745	4.954	255.747	-23.177	-234.745	0.000	-160.224	-16.675	-1744.393	-1744.393

□ COLUMN MOMENTS (KIP- FEET), SHEARS (KIPS), REACTIONS (KIPS)

		TRANSVERSE								* LONGITUDINAL				
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF		
GROUP 3 WIND 5 2	1	23.177	234.745	4.954	255.747	23.177	0.000	-234.745	160.224	16.675	1744.393	1744.393		
	2	0.000	272.049	5.520	274.399	0.000	-136.025	-136.025	160.224	16.675	1744.393	1744.393		
	3	-23.177	234.745	4.954	255.747	-23.177	-234.745	0.000	160.224	16.675	1744.393	1744.393		
LIVE LOAD LL 1	1	171.473	-81.965	-1.122	-29.146	171.473	573.898	-491.932	0.000	0.000	0.000	0.000		
	2	-38.709	49.057	0.863	36.365	-38.709	-145.203	96.146	0.000	0.000	0.000	0.000		
	3	4.646	9.236	0.259	16.454	4.646	-9.236	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 2	1	260.605	-39.936	-0.530	-12.577	260.605	573.898	-533.962	0.000	0.000	0.000	0.000		
	2	16.088	11.223	0.245	13.003	16.088	9.871	-21.094	0.000	0.000	0.000	0.000		
	3	-1.872	13.930	0.286	14.356	-1.872	-13.930	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 3	1	252.703	-15.040	-0.174	-2.144	252.703	516.508	-501.468	0.000	0.000	0.000	0.000		
	2	122.337	-10.846	-0.110	-0.048	122.337	186.795	-175.949	0.000	0.000	0.000	0.000		
	3	-4.030	15.135	0.284	12.943	-4.030	-15.135	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 4	1	203.504	-20.840	-0.244	-3.321	203.504	430.423	-409.583	0.000	0.000	0.000	0.000		
	2	180.769	26.434	0.472	20.316	180.769	279.826	-306.260	0.000	0.000	0.000	0.000		
	3	27.961	-19.793	-0.228	-2.797	27.961	19.793	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 5	1	4.645	-9.233	-0.259	-16.450	4.645	0.000	9.233	0.000	0.000	0.000	0.000		
	2	-38.699	-49.044	-0.863	-36.356	-38.699	-96.122	145.166	0.000	0.000	0.000	0.000		
	3	171.465	81.944	1.122	29.139	171.465	491.808	-573.752	0.000	0.000	0.000	0.000		
LIVE LOAD LL 6	1	-1.874	-13.929	-0.286	-14.353	-1.874	0.000	13.929	0.000	0.000	0.000	0.000		
	2	16.106	-11.208	-0.244	-12.992	16.106	21.129	-9.921	0.000	0.000	0.000	0.000		
	3	260.589	39.913	0.530	12.568	260.589	533.839	-573.752	0.000	0.000	0.000	0.000		
LIVE LOAD LL 7	1	-4.030	-15.132	-0.284	-12.939	-4.030	0.000	15.132	0.000	0.000	0.000	0.000		
	2	122.356	10.854	0.110	0.054	122.356	175.982	-186.836	0.000	0.000	0.000	0.000		
	3	252.683	15.024	0.173	2.139	252.683	501.353	-516.377	0.000	0.000	0.000	0.000		
LIVE LOAD LL 8	1	27.967	19.799	0.228	2.801	27.967	0.000	-19.799	0.000	0.000	0.000	0.000		
	2	180.779	-26.429	-0.472	-20.313	180.779	306.290	-279.861	0.000	0.000	0.000	0.000		
	3	203.487	20.826	0.244	3.315	203.487	409.488	-430.314	0.000	0.000	0.000	0.000		
LIVE LOAD LL 9	1	24.317	27.100	0.392	11.735	24.317	0.000	-27.100	0.000	0.000	0.000	0.000		
	2	117.056	-28.006	-0.443	-15.818	117.056	200.639	-172.634	0.000	0.000	0.000	0.000		
	3	-3.963	4.535	0.050	0.453	-3.963	-4.535	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL10	1	119.220	67.748	0.964	27.662	119.220	0.000	-67.748	0.000	0.000	0.000	0.000		
	2	165.621	-63.832	-1.030	-38.128	165.621	345.760	-281.928	0.000	0.000	0.000	0.000		
	3	-10.018	8.508	0.066	-1.958	-10.018	-8.508	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL11	1	99.861	52.191	0.762	23.268	99.861	0.000	-52.191	0.000	0.000	0.000	0.000		
	2	246.474	-18.757	-0.313	-12.206	246.474	461.512	-442.755	0.000	0.000	0.000	0.000		
	3	24.676	-27.780	-0.449	-16.717	24.676	27.780	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL12	1	80.534	41.838	0.631	20.585	80.534	0.000	-41.838	0.000	0.000	0.000	0.000		
	2	225.860	0.433	0.003	-0.118	225.860	433.138	-433.571	0.000	0.000	0.000	0.000		
	3	105.840	-41.603	-0.634	-21.136	105.840	44.806	-3.203	0.000	0.000	0.000	0.000		

□ COLUMN MOMENTS (KIP- FEET), SHEARS (KIPS), REACTIONS (KIPS)

		TRANSVERSE								* LONGITUDINAL				
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF		
LIVE LOAD LL13	1	24.767	26.094	0.395	13.047	24.767	0.000	-26.094	0.000	0.000	0.000	0.000		
	2	225.295	-0.006	0.000	-0.004	225.295	375.165	-375.158	0.000	0.000	0.000	0.000		
	3	24.760	-26.087	-0.395	-13.044	24.760	26.087	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL14	1	116.071	54.936	0.797	23.995	116.071	0.000	-54.936	0.000	0.000	0.000	0.000		
	2	237.161	-27.179	-0.447	-17.062	237.161	446.451	-419.272	0.000	0.000	0.000	0.000		
	3	17.777	-20.812	-0.350	-13.879	17.777	20.812	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL15	1	92.970	43.558	0.660	21.779	92.970	0.000	-43.558	0.000	0.000	0.000	0.000		
	2	226.304	0.001	0.000	0.001	226.304	440.084	-440.085	0.000	0.000	0.000	0.000		
	3	92.960	-43.559	-0.660	-21.779	92.960	43.559	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL16	1	176.118	-91.198	-1.382	-45.596	176.118	573.898	-482.699	0.000	0.000	0.000	0.000		

PIER-56-8-140-99.out												
	2	-77.408	0.012	0.000	0.009	-77.408	-241.324	241.312	0.000	0.000	0.000	0.000
	3	176.111	91.180	1.382	45.593	176.111	482.573	-573.752	0.000	0.000	0.000	0.000
LIVE LOAD LL17	1	238.726	-44.252	-0.711	-26.124	238.726	516.508	-472.256	0.000	0.000	0.000	0.000
	2	-20.350	-34.039	-0.556	-21.017	-20.350	-77.625	111.664	0.000	0.000	0.000	0.000
	3	152.633	86.287	1.267	39.146	152.633	430.090	-516.377	0.000	0.000	0.000	0.000
LIVE LOAD LL18	1	194.048	-40.399	-0.612	-20.197	194.048	430.423	-390.024	0.000	0.000	0.000	0.000
	2	24.146	0.011	0.000	0.008	24.146	23.251	-23.262	0.000	0.000	0.000	0.000
	3	194.037	40.383	0.612	20.194	194.037	389.932	-430.314	0.000	0.000	0.000	0.000

CAP ANALYSIS AND DESIGN DATA

CAP MOMENTS AND SHEARS

POINT	MOMENTS(KIP-FEET)							SHEARS(KIPS)						
	D.L.TOT.	G1 MAX.+	G1 MAX.-	G2 MAX.+	G2 MAX.-	G3 MAX.+	G3 MAX.-	DL T.LT	DL T.RT	G1 + LT	G1 + RT	G1 - LT	G1 - RT	
P 1	-21.480	-21.480	-21.480	-21.480	-21.480	-21.480	-21.480	-15.029	-357.112	-15.029	-357.112	-15.029	-511.713	
P 2	-1905.319	-1905.319	-2687.447	-1905.319	-1905.319	-1905.319	-2373.659	-388.883	-388.883	-388.883	-388.883	-543.484	-543.484	
C 1L	-3103.559	-3103.559	-4349.491	-3103.559	-3103.559	-3103.559	-3849.626	-409.943		-409.943		-564.545		
C 1R	-2855.419	-2822.568	-4014.650	-1261.061	-4449.778	-2080.529	-4304.788		481.159		680.361		472.411	
P 4	-1443.532	-1127.378	-2289.670	-253.058	-2634.006	-690.312	-2514.108	460.099	460.099	659.301	659.301	451.350	451.350	
P 5	442.035	1412.121	-90.928	1062.358	-178.288	1316.761	-170.940	430.369	30.207	629.571	114.241	421.621	-62.790	
P 6	467.777	792.959	370.432	876.955	58.598	856.318	215.666	-23.475	-423.637	60.559	-339.603	-116.472	-708.638	
P 7	116.746	388.559	-108.939	636.724	-403.232	525.813	-264.699	-429.414	-429.414	-345.380	-345.380	-714.415	-714.415	
C 2L	-1203.086	-679.172	-2205.030	-279.224	-2126.949	-451.748	-2240.670	-450.474		-366.440		-735.475		
C 2R	-1203.086	-679.199	-2164.308	-279.224	-2126.949	-451.764	-2216.285		450.474		706.698		366.456	
P 8	116.746	388.581	-254.520	636.724	-403.232	525.826	-351.873	429.414	429.414	685.638	685.638	345.396	345.396	
P 9	467.777	792.966	162.570	876.956	58.598	856.322	91.198	423.637	23.475	679.861	106.492	339.619	-60.543	
P10	442.035	1060.563	-90.793	1062.358	-178.288	1106.247	-170.860	-30.207	-430.369	52.810	-408.620	-114.225	-629.546	
P11	-1443.532	-1242.414	-2289.456	-253.058	-2634.006	-759.196	-2513.979	-460.099	-460.099	-438.349	-438.349	-659.276	-659.276	
C 3L	-2855.419	-2822.561	-4014.384	-1261.061	-4449.778	-2080.525	-4304.629	-481.159		-459.410		-680.336		
C 3R	-3103.559	-3103.559	-4349.176	-3103.559	-3103.559	-3103.559	-3849.437		409.943		564.505		409.943	
P13	-1905.319	-1905.319	-2687.249	-1905.319	-1905.319	-1905.319	-2373.541	388.883	388.883	543.445	543.445	388.883	388.883	
P14	-21.480	-21.480	-21.480	-21.480	-21.480	-21.480	-21.480	357.112	15.029	511.674	15.029	357.112	15.029	

PT.	CAP DESIGN DATA		LEFT STIRRUPS		RIGHT STIRRUPS		D IN.	FC PSI	PS %	FS/FF RATIO	FS/FZ RATIO
	M+ UNF. K-FT.	M- UNF. K-FT.	AS NO. SIZE	AS NO. SIZE	M.SP. AV/IN BAR&SPAC	M.SP. AV/IN BAR&SPAC					
P 1	-16.523	-16.523	3.12 2 # 11	3.12 2 # 11	0.00 0.000 #5@ 0.00	24.00 0.060 #5@10.33	56.82		0.08	0.000	0.067
P 2	-1465.630	-1825.892	9.10 6 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.18	0.515	1.361
C 1	-2181.345	-2961.251	14.84 10 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.32	0.637	1.133
P 4	-964.784	-1500.155	9.10 6 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.18	0.618	1.118
P 5	786.865	94.535	3.12 2 # 11	6.15 4 # 11	24.00 0.060 #5@10.33	0.00 0.000 #5@ 0.00	72.00		0.12	0.833	0.998
P 6	509.613	314.990	3.12 2 # 11	3.81 3 # 11	0.00 0.000 #5@ 0.00	24.00 0.060 #5@10.27	72.00		0.08	0.391	0.943
P 7	215.006	-14.150	3.12 2 # 11	3.12 2 # 11	24.00 0.062 #5@10.00	24.00 0.062 #5@10.00	72.00		0.11	0.534	0.000
C 2	-684.127	-1386.964	9.10 6 # 11	3.12 2 # 11	24.00 0.068 #5@ 9.12	24.00 0.060 #5@10.33	72.00		0.18	0.732	1.034
P 8	215.016	-81.207	3.12 2 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.11	0.543	0.000
P 9	509.616	219.245	3.12 2 # 11	3.81 3 # 11	24.00 0.060 #5@10.33	0.00 0.000 #5@ 0.00	72.00		0.08	0.548	0.943
P10	624.932	94.597	3.12 2 # 11	4.81 4 # 11	0.00 0.000 #5@ 0.00	24.00 0.060 #5@10.33	72.00		0.10	0.638	0.792
P11	-1017.771	-1500.056	9.10 6 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.18	0.568	1.118
C 3	-2181.341	-2961.106	14.84 10 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.32	0.636	1.133
P13	-1465.630	-1825.801	9.10 6 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	24.00 0.060 #5@10.33	72.00		0.18	0.515	1.361
P14	-16.523	-16.523	3.12 2 # 11	3.12 2 # 11	24.00 0.060 #5@10.33	0.00 0.000 #5@ 0.00	56.82		0.08	0.000	0.067

NOTE: *** FS/FZ RATIO EXCEEDS 1.0! ***

COLUMN ANALYSIS AND DESIGN OUTPUT

CN	T B	CRITICAL COLUMN LOADS							PF	MTF	MLF	PM	MTM	MLM	PU	MTU	MLU	PU/PM	B	D
		GR	LLC	WC	R	E S	C F	S F												
1	T	1	LL 2	0.0				1857.0	-334.8	0.0	1857.0	1284.3	3313.9	5337.1	3691.0	9524.3	2.874	72.00	72.00	
1	B	2		5.1				2023.5	642.3	-5798.0	2023.5	2068.0	11884.4	2383.4	2434.1	13988.8	1.177	72.00	112.00	
2	T	1	LL11	0.0				1436.0	-40.7	0.0	1436.0	991.4	1857.8	6505.9	4492.6	8418.4	4.531	72.00	72.00	
2	B	2		5.1				1567.8	822.2	-5798.0	1567.8	1602.3	9262.8	2370.2	2419.3	13986.2	1.510	72.00	112.00	

3 T 1 LL 6 0.0 1857.0 334.8 0.0 1857.0 PIER-56-8-140-99.out
 1284.2 3313.8 5337.2 3691.1 9524.2 2.874 72.00 72.00
 3 B 2 5.1 R 2023.5 -642.3 5798.0 2023.5 2068.0 11884.4 2383.4 2434.1 13988.8 1.177 72.00 112.00

COLUMN DESIGN DATA

CN	T B	FACE 1 NO.SIZE	FACE 2 NO.SIZE	FACE 3 NO.SIZE	FACE 4 NO.SIZE	AS	PS	BD12	BD	SUMPU	SUMPC	DEL.T	DEL.L	CM	R	PHIC
1	T	11 # 11	11 # 11	6 # 11	6 # 11	53.04	1.023	1.00	0.780	5080.	38372.	1.153	2.974	1.000	2	0.70
1	B	16 # 11	16 # 11	10 # 11	10 # 11	81.12	1.006	1.00	0.000	4484.	51682.	1.095	2.050	1.000	2	0.70
2	T	11 # 11	11 # 11	6 # 11	6 # 11	53.04	1.023	1.00	0.000	5289.	40404.	1.151	2.156	1.000	2	0.70
2	B	16 # 11	16 # 11	10 # 11	10 # 11	81.12	1.006	1.00	0.000	4484.	51682.	1.095	1.598	1.000	2	0.70
3	T	11 # 11	11 # 11	6 # 11	6 # 11	53.04	1.023	1.00	0.780	5080.	38371.	1.153	2.974	1.000	2	0.70
3	B	16 # 11	16 # 11	10 # 11	10 # 11	81.12	1.006	1.00	0.000	4484.	51682.	1.095	2.050	1.000	2	0.70

FOOTING 1 IS BEING GOVERNED BY UPLIFT OF-16.904 KIPS WITH 12 PILES

FOOTING 1 IS BEING GOVERNED BY UPLIFT OF-15.695 KIPS WITH 13 PILES

FOOTING 1 IS BEING GOVERNED BY UPLIFT OF-15.695 KIPS WITH 13 PILES

□

FOOTING 1 DESIGN LOADS

F	G	LLID	WC	ES	C	S	P	MT	VT	ML	VL	P4	P3	P2	P1	MTF	VBF	VPF	LOAD
3	2		4.1R				1588.908	-856.065	-15.541	4169.614	41.033	191.712	24.635	61.034	228.111	50.054	0.000	25.711	MAX.P1
3	2		4.1R				2065.580	-1112.885	-20.203	5420.498	53.342	249.225	32.025	79.344	296.544	65.070	0.000	33.425	MAX.MT
3	2		5.1R				2023.506	-642.255	-11.086	5798.022	56.891	263.823	31.523	58.735	291.035	60.266	0.000	32.761	MAX.VT
3	2		4.1R				2065.580	-1112.885	-20.203	5420.498	53.342	249.225	32.025	79.344	296.544	65.070	0.000	33.425	MAX.VP
3	2		5.1R				2023.506	-642.255	-11.086	5798.022	56.891	263.823	31.523	58.735	291.035	218.590	39.096	32.761	MAX.ML
3	2		5.1R				2023.506	-642.255	-11.086	5798.022	56.891	263.823	31.523	58.735	291.035	218.590	39.096	32.761	MAX.VL
2	2		4.1				1206.037	1020.899	20.536	-4169.614	-41.033	160.691	-6.386	37.358	204.435	41.345	0.000	19.671	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
14.500	14.500	4.250	0.777	0.57	41 # 4	@ 4.125	TOP TRAN	86.536	41.613	83.226	34.480	0.000
				1.42	17 #10	@10.125	BOT.LONG	228.574	42.681	85.363	35.365	0.000

NUMBER OF PILES = 14 BP = 2.000 DP = 2.000

FOOTING 2 DESIGN SAME AS FOOTING 1

FOOTING 3 DESIGN SAME AS FOOTING 1