DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

ERIC G. CRISPIN, AIA
ACTING DIRECTOR

[redacted]

BARBARA KIM STANTON
DEPUTY DIRECTOR

RECEIVED
'03 JAN 29 A11 :5[redacted]
OFC. OF ENVIRONMENTAL
QUALITY CONTROL

2002/ED-6

January 28, 2003

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
State Office Tower, Room 702
235 South Beretania Street
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Environmental Assessment (EA)/Determination
Finding of No Significant Impact

Recorded Owner	:	A&B Properties, Inc.
Applicant/ Agent	:	A&B Waikiki LLC
Tax Map Keys	:	2-6-016: 2, 4, 6, 7, 8, 12 through 19, 62, 64, 70, 75, 76 and 77
Request	:	Special District Permit
Proposal	:	To construct a 25-story multi-family building consisting of approximately 100 dwelling units and a 5-level parking structure; and a 2-story commercial building with 10,000 square feet of floor area
Determination	:	A Finding of No Significant Impact is Issued

Attached and incorporated by reference is the Final EA prepared by the applicant for the project. Based on the significance criteria outlined in Title 11, Chapter 200, Hawaii Administrative Rules, we have determined that preparation of an Environmental Impact Statement is not required.

We have enclosed a completed OEQC Bulletin Publication Form, a 3-1/2" Floppy Disk with "Summary" of the subject project and four copies of the Final EA. If you have any questions, please contact Joyce Shoji of our staff at 527-5354.

Sincerely yours,

Barbara A Moon

for ERIC G. CRISPIN, AIA
Acting Director of Planning
and Permitting

EGC:js
Encls.

200231

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: D1-0525/D1-0526
Counted By: TI/RR
Weather: Clear
Other:

File Name : kuholoa
Site Code : 00000003
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

	Okohana St Southbound					Kuhio Ave Westbound					Okohana St Northbound					Kuhio Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	3	15	5	0	23	0	28	17	0	45	0	0	0	0	0	10	75	0	0	85	153
07:15 AM	1	24	2	0	27	0	24	14	0	38	0	0	0	0	0	4	127	0	0	131	196
07:30 AM	3	29	2	0	34	0	30	34	0	64	0	0	0	0	0	6	142	0	0	148	246
07:45 AM	2	43	4	0	49	0	34	25	0	59	0	0	0	0	0	14	158	0	0	172	280
Total	9	111	13	0	133	0	116	90	0	206	0	0	0	0	0	34	502	0	0	536	875
08:00 AM	3	23	4	0	30	0	41	23	0	64	0	0	0	0	0	5	121	0	0	126	220
08:15 AM	4	25	2	0	31	0	39	23	0	62	0	0	0	0	0	7	115	0	0	122	215
08:30 AM	5	20	2	0	27	0	40	28	0	68	0	0	0	0	0	9	140	0	0	149	244
08:45 AM	2	25	5	0	32	0	33	21	0	54	0	0	0	0	0	11	206	0	0	217	303
Total	14	93	13	0	120	0	153	95	0	248	0	0	0	0	0	32	582	0	0	614	982
Grand Total	23	204	26	0	253	0	269	185	0	454	0	0	0	0	0	66	1084	0	0	1150	1857
Apprch %	9.1	80.6	10.3	0.0		0.0	59.3	40.7	0.0		0.0	0.0	0.0	0.0		5.7	94.3	0.0	0.0		
Total %	1.2	11.0	1.4	0.0	13.6	0.0	14.5	10.0	0.0	24.4	0.0	0.0	0.0	0.0	0.0	3.6	58.4	0.0	0.0	61.9	

	Okohana St Southbound					Kuhio Ave Westbound					Okohana St Northbound					Kuhio Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	08:00 AM																				
Volume	14	93	13	0	120	0	153	95	0	248	0	0	0	0	0	32	582	0	0	614	982
Percent	11.7	77.5	10.8	0.0		0.0	61.7	38.3	0.0		0.0	0.0	0.0	0.0		5.2	94.8	0.0	0.0		
08:45 Volume	2	25	5	0	32	0	33	21	0	54	0	0	0	0	0	11	206	0	0	217	303
Peak Factor																					0.810
High Int.	08:45 AM					08:30 AM					6:45:00 AM					08:45 AM					
Volume	2	25	5	0	32	0	40	28	0	68	0	0	0	0	0	11	206	0	0	217	
Peak Factor					0.938					0.912										0.707	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
By Approach	07:30 AM					07:45 AM					07:00 AM					08:00 AM					
Volume	12	120	12	0	144	0	154	99	0	253	0	0	0	0	0	32	582	0	0	614	
Percent	8.3	83.3	8.3	0.0		0.0	60.9	39.1	0.0		-	-	-	-		5.2	94.8	0.0	0.0		
High Int	07:45 AM					08:30 AM										08:45 AM					
Volume	2	43	4	0	49	0	40	28	0	68	-	-	-	-	-	11	206	0	0	217	
Peak Factor					0.735					0.930										0.707	

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: T-1841
Counted By: CL
Weather: Clear
Other:

File Name : alakala
Site Code : 00000002
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

	Kalaimoku St Southbound					Ala Wai Blvd Westbound					Kalaimoku St Northbound					Ala Wai Blvd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	521	0	0	521	0	0	45	0	45	0	0	0	0	0	566
07:15 AM	0	0	0	0	0	0	582	0	0	582	0	0	33	0	33	0	0	0	0	0	615
07:30 AM	0	0	0	0	0	0	670	0	0	670	0	0	41	0	41	0	0	0	0	0	711
07:45 AM	0	0	0	0	0	0	609	0	0	609	0	0	42	0	42	0	0	0	0	0	651
Total	0	0	0	0	0	0	2382	0	0	2382	0	0	161	0	161	0	0	0	0	0	2543
08:00 AM	0	0	0	0	0	0	496	0	0	496	0	0	47	0	47	0	0	0	0	0	543
08:15 AM	0	0	0	0	0	0	446	0	0	446	0	0	45	0	45	0	0	0	0	0	491
08:30 AM	0	0	0	0	0	0	413	0	0	413	0	0	36	0	36	0	0	0	0	0	449
08:45 AM	0	0	0	0	0	0	452	0	0	452	0	0	53	0	53	0	0	0	0	0	505
Total	0	0	0	0	0	0	1807	0	0	1807	0	0	181	0	181	0	0	0	0	0	1988
Grand Total	0	0	0	0	0	0	4189	0	0	4189	0	0	342	0	342	0	0	0	0	0	4531
Apprch %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	92.5	0.0	0.0	92.5	0.0	0.0	7.5	0.0	7.5	0.0	0.0	0.0	0.0	0.0	

	Kalaimoku St Southbound					Ala Wai Blvd Westbound					Kalaimoku St Northbound					Ala Wai Blvd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:00 AM																				
Volume	0	0	0	0	0	0	2382	0	0	2382	0	0	161	0	161	0	0	0	0	0	2543
Percent	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
07:30 Volume	0	0	0	0	0	0	670	0	0	670	0	0	41	0	41	0	0	0	0	0	711
Peak Factor																					0.894
High Int	6:45:00 AM					07:30 AM					07:00 AM					6:45:00 AM					
Volume	0	0	0	0	0	0	670	0	0	670	0	0	45	0	45						
Peak Factor										0.889					0.894						
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
By Approach	07:00 AM					07:00 AM					08:00 AM					07:00 AM					
Volume	0	0	0	0	0	0	2382	0	0	2382	0	0	181	0	181	0	0	0	0	0	
Percent	-	-	-	-		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		-	-	-	-		
High Int	-					07:30 AM					08:45 AM										
Volume	-	-	-	-	-	0	670	0	0	670	0	0	53	0	53	-	-	-	-	-	
Peak Factor										0.889					0.854						

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: D1-0528
Counted By: IQ
Weather: Clear
Other:

File Name : alaolop
Site Code : 00000001
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

Start Time	Olohana St Southbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Westbound Right	Thru	Left	Peds	App. Total	Olohana St Northbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	0	636	32	0	668	0	0	0	0	0	0	0	0	0	0	668
04:15 PM	0	0	0	0	0	0	637	40	0	677	0	0	0	0	0	0	0	0	0	0	677
04:30 PM	0	0	0	0	0	0	601	27	0	628	0	0	0	0	0	0	0	0	0	0	628
04:45 PM	0	0	0	0	0	0	556	36	0	592	0	0	0	0	0	0	0	0	0	0	592
Total	0	0	0	0	0	0	2430	135	0	2565	0	0	0	0	0	0	0	0	0	0	2565
05:00 PM	0	0	0	0	0	0	583	25	0	608	0	0	0	0	0	0	0	0	0	0	608
05:15 PM	0	0	0	0	0	0	651	24	0	675	0	0	0	0	0	0	0	0	0	0	675
05:30 PM	0	0	0	0	0	0	549	25	0	574	0	0	0	0	0	0	0	0	0	0	574
05:45 PM	0	0	0	0	0	0	541	27	0	568	0	0	0	0	0	0	0	0	0	0	568
Total	0	0	0	0	0	0	2324	101	0	2425	0	0	0	0	0	0	0	0	0	0	2425
Grand Total	0	0	0	0	0	0	4754	236	0	4990	0	0	0	0	0	0	0	0	0	0	4990
Apprch %	0.0	0.0	0.0	0.0		0.0	95.3	4.7	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	95.3	4.7	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Start Time	Olohana St Southbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Westbound Right	Thru	Left	Peds	App. Total	Olohana St Northbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	0	0	0	0	0	0	2430	135	0	2565	0	0	0	0	0	0	0	0	0	0	2565
Percent	0.0	0.0	0.0	0.0		0.0	94.7	5.3	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
04:15 Volume	0	0	0	0	0	0	637	40	0	677	0	0	0	0	0	0	0	0	0	0	677
Peak Factor																					0.947
High Int.	3:45:00 PM					04:15 PM					3:45:00 PM					3:45:00 PM					
Volume	0	0	0	0	0	0	637	40	0	677											
Peak Factor										0.947											
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach	04:00 PM					04:00 PM					04:00 PM					04:00 PM					
Volume	0	0	0	0	0	0	2430	135	0	2565	0	0	0	0	0	0	0	0	0	0	
Percent	-	-	-	-		0.0	94.7	5.3	0.0		-	-	-	-		-	-	-	-		
High Int.	-					04:15 PM					-					-					
Volume	-	-	-	-	-	0	637	40	0	677	-	-	-	-	-	-	-	-	-	-	
Peak Factor										0.947											

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: D1-0769/D1-0527
Counted By: RQF/MKO
Weather: Clear
Other:

File Name : kuhkala
Site Code : 00000004
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	4	43	0	0	47	5	23	4	0	32	0	81	4	0	85	164
07:15 AM	0	0	0	0	0	3	39	0	0	42	7	18	6	0	31	0	117	6	0	123	196
07:30 AM	0	0	0	0	0	6	55	0	0	61	7	23	4	0	34	0	137	6	0	143	238
07:45 AM	0	0	0	0	0	5	57	0	0	62	7	26	7	0	40	0	143	9	0	152	254
Total	0	0	0	0	0	18	194	0	0	212	26	90	21	0	137	0	478	25	0	503	852
08:00 AM	0	0	0	0	0	8	57	0	0	65	14	32	5	0	51	0	110	4	0	114	230
08:15 AM	0	0	0	0	0	4	54	0	0	58	11	33	5	0	49	0	106	5	0	111	218
08:30 AM	0	0	0	0	0	7	64	0	0	71	19	24	5	0	48	0	126	4	0	130	249
08:45 AM	0	0	0	0	0	9	46	0	0	55	16	30	5	0	51	0	184	6	0	190	296
Total	0	0	0	0	0	28	221	0	0	249	60	119	20	0	199	0	526	19	0	545	993
Grand Total	0	0	0	0	0	46	415	0	0	461	86	209	41	0	336	0	1004	44	0	1048	1845
Apprch %	0.0	0.0	0.0	0.0		10.0	90.0	0.0	0.0		25.6	62.2	12.2	0.0		0.0	95.8	4.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	2.5	22.5	0.0	0.0	25.0	4.7	11.3	2.2	0.0	18.2	0.0	54.4	2.4	0.0	56.8	

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App Total	Kuhio Ave Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	08:00 AM																				
Volume	0	0	0	0	0	28	221	0	0	249	60	119	20	0	199	0	526	19	0	545	993
Percent	0.0	0.0	0.0	0.0		11.2	88.8	0.0	0.0		30.2	59.8	10.1	0.0		0.0	96.5	3.5	0.0		
08:45 Volume	0	0	0	0	0	9	46	0	0	55	16	30	5	0	51	0	184	6	0	190	296
Peak Factor																					0.839
High Int.	6:45:00 PM					08:30 AM					08:00 AM					08:45 AM					
Volume	0	0	0	0	0	7	64	0	0	71	14	32	5	0	51	0	184	6	0	190	
Peak Factor										0.877					0.975					0.717	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
By Approach	07:00 AM					07:45 AM					08:00 AM					08:00 AM					
Volume	0	0	0	0	0	24	232	0	0	256	60	119	20	0	199	0	525	19	0	545	
Percent	-	-	-	-		9.4	90.6	0.0	0.0		30.2	59.8	10.1	0.0		0.0	96.5	3.5	0.0		
High Int.	-					08:30 AM					08:00 AM					08:45 AM					
Volume	-	-	-	-	-	7	64	0	0	71	14	32	5	0	51	0	184	6	0	190	
Peak Factor										0.901					0.975					0.717	

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter:D1-0769/D1-0527
Counted By: TF/RT
Weather: Clear
Other:

File Name : kuhkalp
Site Code : 00000004
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	22	84	0	0	106	12	69	13	0	94	0	190	14	0	204	404
04:15 PM	0	0	0	0	0	10	93	0	0	103	18	72	6	0	96	0	215	13	0	228	427
04:30 PM	0	0	0	0	0	17	83	0	0	100	20	32	8	0	60	0	174	17	0	191	351
04:45 PM	0	0	0	0	0	12	72	0	0	84	14	44	4	0	62	0	200	10	0	210	356
Total	0	0	0	0	0	61	332	0	0	393	64	217	31	0	312	0	779	54	0	833	1538
05:00 PM	0	0	0	0	0	8	87	0	0	95	9	57	8	0	74	0	206	13	0	219	388
05:15 PM	0	0	0	0	0	5	79	0	0	84	13	52	4	0	69	0	195	13	0	208	361
05:30 PM	0	0	0	0	0	13	77	0	0	90	14	54	10	0	78	0	184	10	0	194	362
05:45 PM	0	0	0	0	0	9	85	0	0	94	17	43	4	0	64	0	188	17	0	205	363
Total	0	0	0	0	0	35	328	0	0	363	53	206	26	0	285	0	773	53	0	826	1474
Grand Total	0	0	0	0	0	96	660	0	0	756	117	423	57	0	597	0	1552	107	0	1659	3012
Apprch %	0.0	0.0	0.0	0.0		12.7	87.3	0.0	0.0		19.6	70.9	9.5	0.0		0.0	93.6	6.4	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	3.2	21.9	0.0	0.0	25.1	3.9	14.0	1.9	0.0	19.8	0.0	51.5	3.6	0.0	55.1	

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Kuhio Ave Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection 04:00 PM																					
Volume	0	0	0	0	0	61	332	0	0	393	64	217	31	0	312	0	779	54	0	833	1538
Percent	0.0	0.0	0.0	0.0		15.5	84.5	0.0	0.0		20.5	69.6	9.9	0.0		0.0	93.5	6.5	0.0		
04:15 Volume	0	0	0	0	0	10	93	0	0	103	18	72	6	0	96	0	215	13	0	228	427
Peak Factor																					0.900
High Int.	3:45:00 PM					04:00 PM					04:15 PM					04:15 PM					
Volume	0	0	0	0	0	22	84	0	0	106	18	72	6	0	96	0	215	13	0	228	
Peak Factor										0.927					0.812					0.913	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach 04:00 PM						04:00 PM					04:00 PM					04:15 PM					
Volume	0	0	0	0	0	61	332	0	0	393	64	217	31	0	312	0	795	53	0	848	
Percent	-	-	-	-		15.5	84.5	0.0	0.0		20.5	69.6	9.9	0.0		0.0	93.8	6.2	0.0		
High Int.	-					04:00 PM					04:15 PM					04:15 PM					
Volume	-	-	-	-	-	22	84	0	0	106	18	72	6	0	96	0	215	13	0	228	
Peak Factor					-					0.927					0.812					0.930	

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter:T-1841
Counted By: CL
Weather: Clear
Other:

File Name : alakalp
Site Code : 00000002
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	0	605	0	0	605	0	0	105	0	105	0	0	0	0	0	710
04:15 PM	0	0	0	0	0	0	567	0	0	567	0	0	94	0	94	0	0	0	0	0	661
04:30 PM	0	0	0	0	0	0	577	0	0	577	0	0	69	0	69	0	0	0	0	0	646
04:45 PM	0	0	0	0	0	0	525	0	0	525	0	0	68	0	68	0	0	0	0	0	593
Total	0	0	0	0	0	0	2274	0	0	2274	0	0	336	0	336	0	0	0	0	0	2610
05:00 PM	0	0	0	0	0	0	597	0	0	597	0	0	76	0	76	0	0	0	0	0	673
05:15 PM	0	0	0	0	0	0	560	0	0	560	0	0	55	0	55	0	0	0	0	0	615
05:30 PM	0	0	0	0	0	0	509	0	0	509	0	0	72	0	72	0	0	0	0	0	581
05:45 PM	0	0	0	0	0	0	502	0	0	502	0	0	57	0	57	0	0	0	0	0	559
Total	0	0	0	0	0	0	2168	0	0	2168	0	0	260	0	260	0	0	0	0	0	2428
Grand Total	0	0	0	0	0	0	4442	0	0	4442	0	0	596	0	596	0	0	0	0	0	5038
Apprch %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	88.2	0.0	0.0	88.2	0.0	0.0	11.8	0.0	11.8	0.0	0.0	0.0	0.0	0.0	

Start Time	Kalaimoku St Southbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Westbound Right	Thru	Left	Peds	App. Total	Kalaimoku St Northbound Right	Thru	Left	Peds	App. Total	Ala Wai Blvd Eastbound Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection 04:00 PM																					
Volume	0	0	0	0	0	0	2274	0	0	2274	0	0	336	0	336	0	0	0	0	0	2610
Percent	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
04:00 Volume	0	0	0	0	0	0	605	0	0	605	0	0	105	0	105	0	0	0	0	0	710
Peak Factor																					0.919
High Int.	3:45:00 PM					04:00 PM					04:00 PM					3:45:00 PM					
Volume	0	0	0	0	0	0	605	0	0	605	0	0	105	0	105						
Peak Factor										0.940					0.800						
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach 04:00 PM						04:00 PM					04:00 PM					04:00 PM					
Volume	0	0	0	0	0	0	2274	0	0	2274	0	0	336	0	336	0	0	0	0	0	
Percent	-	-	-	-		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		-	-	-	-		
High Int.	-					04:00 PM					04:00 PM					-					
Volume	-	-	-	-	-	0	605	0	0	605	0	0	105	0	105	-	-	-	-	-	
Peak Factor					-					0.940					0.800					-	

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: D1-0525/D2-0526
Counted By: TI/MK
Weather: Clear
Other:

File Name : kuholop
Site Code : 00000003
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

	Olohana St Southbound					Kuhio Ave Westbound					Olohana St Northbound					Kuhio Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	4	21	3	0	28	0	54	38	0	92	0	0	0	0	0	5	207	0	0	212	332
04:15 PM	8	16	7	0	31	0	48	43	0	91	0	0	0	0	0	5	220	0	0	225	347
04:30 PM	6	16	7	0	31	0	48	33	0	81	0	0	0	0	0	10	189	0	0	199	311
04:45 PM	3	23	3	0	29	0	34	38	0	72	0	0	0	0	0	7	213	0	0	220	321
Total	21	76	20	0	119	0	184	152	0	336	0	0	0	0	0	27	829	0	0	856	1311
05:00 PM	3	18	5	0	26	0	50	39	0	89	0	0	0	0	0	9	210	0	0	219	334
05:15 PM	7	18	3	0	28	0	58	31	0	89	0	0	0	0	0	4	200	0	0	204	321
05:30 PM	4	12	7	0	23	0	62	25	0	87	0	0	0	0	0	6	186	0	0	192	302
05:45 PM	5	13	3	0	21	0	54	30	0	84	0	0	0	0	0	8	197	0	0	205	310
Total	19	61	18	0	98	0	224	125	0	349	0	0	0	0	0	27	793	0	0	820	1267
Grand Total	40	139	38	0	217	0	408	277	0	685	0	0	0	0	0	54	1622	0	0	1676	2578
Apprch %	18.4	64.1	17.5	0.0		0.0	59.6	40.4	0.0		0.0	0.0	0.0	0.0		3.2	96.8	0.0	0.0		
Total %	1.6	5.4	1.5	0.0	8.4	0.0	15.8	10.7	0.0	26.6	0.0	0.0	0.0	0.0	0.0	2.1	62.9	0.0	0.0	65.0	

	Olohana St Southbound					Kuhio Ave Westbound					Olohana St Northbound					Kuhio Ave Eastbound					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	20	75	22	0	117	0	180	153	0	333	0	0	0	0	0	31	832	0	0	863	1313
Percent	17.1	64.1	18.8	0.0		0.0	54.1	45.9	0.0		0.0	0.0	0.0	0.0		3.6	96.4	0.0	0.0		
04:15 Volume	8	16	7	0	31	0	48	43	0	91	0	0	0	0	0	5	220	0	0	225	347
Peak Factor																					0.946
High Int.	04:15 PM					04:15 PM					3:45:00 PM					04:15 PM					
Volume	8	16	7	0	31	0	48	43	0	91	0	0	0	0	0	5	220	0	0	225	
Peak Factor					0.944					0.915										0.959	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach	04:00 PM					05:00 PM					04:00 PM					04:15 PM					
Volume	21	78	20	0	119	0	224	125	0	349	0	0	0	0	0	31	832	0	0	863	
Percent	17.6	65.5	16.8	0.0		0.0	64.2	35.8	0.0		-	-	-	-		3.6	96.4	0.0	0.0		
High Int.	04:15 PM					05:00 PM										04:15 PM					
Volume	8	16	7	0	31	0	50	39	0	89	-	-	-	-	-	5	220	0	0	225	
Peak Factor					0.960					0.980					-					0.959	

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically a 15-min analysis period. The criteria are given in the following table.

Table 1: Level-of-Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec/veh)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group.

Level of Service A describes operations with low control delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

Level of Service B describes operations with control delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

Level of Service C describes operations with control delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

Level of Service D describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level of service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

"Highway Capacity Manual," Transportation Research Board, 2000.

Level of Service E describes operation with control delay greater than 55 and up to 80 sec per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

Level of Service F describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

"Highway Capacity Manual," Transportation Research Board, 2000

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK HOUR TRAFFIC ANALYSIS

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2363		146					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	A			
Thru					Thru				
Right					Right				
Peds					Peds				
WB Left					SB Left				
Thru	A				Thru				
Right					Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	46.0					34.0			
Yellow	4.0					4.0			
All Red	1.0					1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3465	6780	0.77	0.51	18.8	B	18.8	B
Northbound								
L	1297	3433	0.13	0.38	18.3	B	18.3	B
Southbound								

Intersection Delay = 18.7 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2249		333					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru		A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		44.0				36.0		
Yellow		4.0				4.0		
All Red		1.0				1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3315	6780	0.72	0.49	19.0	B	19.0	B
Northbound								
L	1373	3433	0.30	0.40	18.6	B		
							18.6	B
Southbound								

Intersection Delay = 18.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	127	483			189	20	121	99	26			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right					Right	A		
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right	A				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	45.0					35.0		
Yellow	4.0					4.0		
All Red	1.0					1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	561	1122	0.06	0.50	11.6	B		
T	1770	3539	0.33	0.50	13.6	B	13.5	B
Westbound								
TR	1750	3499	0.14	0.50	12.1	B	12.1	B
Northbound								
LTR	1340	3446	0.12	0.39	17.7	B	17.7	B
Southbound								

Intersection Delay = 13.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	55	786			319	61	130	217	64			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right					Right	A			
Peds					Peds				
WB Left					SB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		41.0				39.0			
Yellow		4.0				4.0			
All Red		1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	420	923	0.14	0.46	14.4	B		
T	1612	3539	0.54	0.46	18.0	B	17.8	B
Westbound								
TR	1576	3460	0.26	0.46	15.2	B	15.2	B
Northbound								
LTR	1484	3425	0.25	0.43	16.3	B	16.3	B
Southbound								

Intersection Delay = 16.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		497	34	192	118					113	114	9
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
WB Left		A	A		SB Left	A			
Thru		A	A		Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		37.0	8.0			35.0			
Yellow		0.0	4.0			4.0			
All Red		0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1441	3505	0.47	0.41	19.6	B	19.6	B
Westbound								
L	391	1770	0.29	0.50	19.1	B		
T	1770	3539	0.08	0.50	11.8	B	15.0	B
Northbound								
Southbound								
LTR	1356	3488	0.15	0.39	17.9	B	17.9	B

Intersection Delay = 18.2 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2002
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		820	27	158	191					21	83	23
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
WB Left		A	A		SB Left	A			
Thru		A	A		Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		40.0	8.0			32.0			
Yellow		0.0	4.0			4.0			
All Red		0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1566	3523	0.57	0.44	19.1	B	19.1	B
Westbound								
L	338	1770	0.51	0.53	24.8	C		
T	1887	3539	0.11	0.53	10.4	B	16.9	B
Northbound								
Southbound								
LTR	1214	3414	0.11	0.36	19.5	B	19.5	B

Intersection Delay = 18.5 (sec/veh) Intersection LOS = B

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2005 PEAK HOUR TRAFFIC
ANALYSIS WITHOUT PROJECT

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIHOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: KALAIHOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2481		150					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	47.0				33.0			
Yellow	4.0				4.0			
All Red	1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3541	6780	0.79	0.52	18.7	B	18.7	B
Northbound								
L	1259	3433	0.13	0.37	19.0	B	19.0	B
Southbound								

Intersection Delay = 18.7 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIHOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: KALAIHOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2362		380					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	45.0				35.0			
Yellow	4.0				4.0			
All Red	1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3390	6780	0.74	0.50	18.8	B	18.8	B
Northbound								
L	1335	3433	0.36	0.39	19.7	B	19.7	B
Southbound								

Intersection Delay = 18.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	127	570			221	24	121	99	56			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right					Right	A			
Peds					Peds				
WB Left					SB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		45.0				35.0			
Yellow		4.0				4.0			
All Red		1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	539	1078	0.06	0.50	11.7	B		
T	1770	3539	0.39	0.50	14.1	B	14.0	B
Westbound								
TR	1749	3498	0.16	0.50	12.3	B	12.3	B
Northbound								
LTR	1310	3368	0.15	0.39	17.9	B	17.9	B
Southbound								

Intersection Delay = 14.2 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	155	928			399	75	134	250	144			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right					Right	A			
Peds					Peds				
WB Left					SB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		42.0				38.0			
Yellow		4.0				4.0			
All Red		1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	374	801	0.16	0.47	14.0	B		
T	1652	3539	0.62	0.47	18.7	B	18.4	B
Westbound								
TR	1615	3460	0.31	0.47	15.1	B	15.1	B
Northbound								
LTR	1416	3354	0.37	0.42	17.9	B	17.9	B
Southbound								

Intersection Delay = 17.5 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		582	34	102	127					15	114	9
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	38.0	10.0			32.0			
Yellow	0.0	4.0			4.0			
All Red	0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1482	3510	0.53	0.42	19.8	B	19.8	B
Westbound								
L	397	1770	0.32	0.53	19.5	B		
T	1887	3539	0.08	0.53	10.3	B	14.4	B
Northbound								
Southbound								
LTR	1239	3486	0.16	0.36	19.9	B	19.9	B

Intersection Delay = 18.6 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2005 WITHOUT PROJECT
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		961	27	189	237					24	83	23
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds					Peds			
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	39.0	10.0			31.0			
Yellow	0.0	4.0			4.0			
All Red	0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1528	3525	0.68	0.43	21.7	C	21.7	C
Westbound								
L	321	1770	0.65	0.54	34.1	C		
T	1927	3539	0.13	0.54	10.1	B	20.8	C
Northbound								
Southbound								
LTR	1176	3413	0.11	0.34	20.2	C	20.2	C

Intersection Delay = 21.3 (sec/veh) Intersection LOS = C

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2005 PEAK HOUR TRAFFIC
ANALYSIS WITH PROJECT

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2495		191					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru		A			Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		47.0				33.0		
Yellow		4.0				4.0		
All Red		1.0				1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3541	6780	0.79	0.52	18.8	B	18.8	B
Northbound								
L	1259	3433	0.17	0.37	19.3	B	19.3	B
Southbound								

Intersection Delay = 18.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: ALA WAI BLVD

Inter.: ALA WAI BLVD/KALAIHOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: KALAIHOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	4	0	2	0	0	0	0	0
LGConfig					T		L					
Volume					2404		458					
Lane Width					12.0		12.0					
RTOR Vol												

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	45.0				35.0			
Yellow	4.0				4.0			
All Red	1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
T	3390	6780	0.75	0.50	19.1	B	19.1	B
Northbound								
L	1335	3433	0.43	0.39	20.4	C	20.4	C
Southbound								

Intersection Delay = 19.3 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIHOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: KALAIHOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	28	571			221	24	21	100	56			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds					Peds			
WB Left					SB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		45.0			35.0			
Yellow		4.0			4.0			
All Red		1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	539	1078	0.06	0.50	11.7	B		
T	1770	3539	0.39	0.50	14.1	B	14.0	B
Westbound								
TR	1749	3498	0.16	0.50	12.3	B	12.3	B
Northbound								
LTR	1310	3369	0.15	0.39	17.9	B	17.9	B
Southbound								

Intersection Delay = 14.2 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/KALAIMOKU ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: KALAIMOKU ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	0	0	2	0	0	0	0
LGConfig	L	T			TR			LTR				
Volume	157	929			399	78	34	259	144			
Lane Width	12.0	12.0			12.0			12.0				
RTOR Vol						5			9			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left		A			NB Left	A			
Thru		A			Thru	A			
Right					Right	A			
Peds					Peds				
WB Left					SB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		42.0				38.0			
Yellow		4.0				4.0			
All Red		1.0				1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	372	798	0.17	0.47	14.1	B		
T	1652	3539	0.62	0.47	18.7	B	18.4	B
Westbound								
TR	1614	3458	0.31	0.47	15.1	B	15.1	B
Northbound								
LTR	1418	3358	0.37	0.42	18.0	B	18.0	B
Southbound								

Intersection Delay = 17.5 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: AM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		583	34	102	127					16	116	9
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
WB Left		A	A		SB Left	A			
Thru		A	A		Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		38.0	10.0			32.0			
Yellow		0.0	4.0			4.0			
All Red		0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1482	3510	0.53	0.42	19.8	B	19.8	B
Westbound								
L	397	1770	0.32	0.53	19.6	B		
T	1887	3539	0.08	0.53	10.3	B	14.4	B
Northbound								
Southbound								
LTR	1239	3486	0.17	0.36	19.9	B	19.9	B

Intersection Delay = 18.6 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1b

Analyst: IQ
Agency: WILSON OKAMOTO & ASSOC., INC.
Date: 5/15/2002
Period: PM PEAK
Project ID: 6616-01 WAIKIKI CONDOMINIUM
E/W St: KUHIO AVE

Inter.: KUHIO AVE/OLOHANA ST
Area Type: All other areas
Jurisd:
Year : 2005 WITH PROJECT
N/S St: OLOHANA ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T						LTR	
Volume		963	27	189	237					25	86	23
Lane Width		12.0		12.0	12.0						12.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
WB Left		A	A		SB Left	A			
Thru		A	A		Thru	A			
Right					Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		39.0	10.0			31.0			
Yellow		0.0	4.0			4.0			
All Red		0.0	1.0			1.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
TR	1528	3525	0.68	0.43	21.8	C	21.8	C
Westbound								
L	320	1770	0.65	0.54	34.3	C		
T	1927	3539	0.13	0.54	10.1	B	20.9	C
Northbound								
Southbound								
LTR	1177	3416	0.12	0.34	20.2	C	20.2	C

Intersection Delay = 21.4 (sec/veh) Intersection LOS = C

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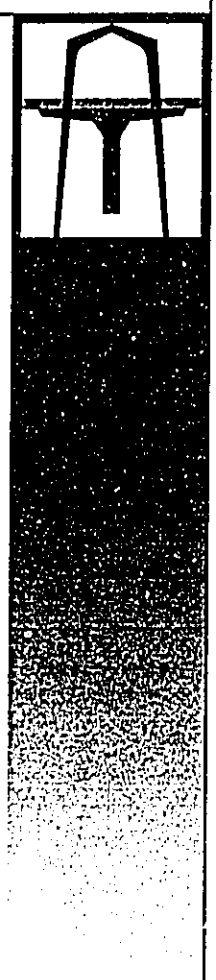
Final Environmental Assessment and Finding of No Significant Impact

A&B Waikiki Condominium



Prepared For:

A&B Waikiki LLC

Prepared By:

Wilson Okamoto & Associates, Inc.

January 2003

Final Environmental Assessment
And
Finding of No Significant Impact

A&B Waikiki Condominium Project
Waikiki, Oahu, Hawaii

Prepared for:
A&B Waikiki LLC
822 Bishop Street
Honolulu, Hawaii 96813

Prepared by:
Wilson Okamoto & Associates, Inc.
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

January 2003

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PREFACE

This Final Environmental Assessment (EA) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes, and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawaii. Proposed is an applicant action by A&B Properties, Inc. to develop a residential high-rise condominium and low-rise mixed use commercial building in Waikiki on the island of Oahu. Compliance with the provisions of Chapter 343, HRS is required because of the project's location within the "Waikiki Special District." The accepting agency is the City and County of Honolulu Department of Planning and Permitting, in conjunction with the processing of a Waikiki Special District Major permit required for the proposed action.

SUMMARY

Applicant:	A&B Waikiki, LLC
Approving Agency:	City and County of Honolulu, Department of Planning and Permitting
Project Location:	Waikiki, Oahu, Hawaii
Tax Map Keys:	2-6-16: 2, 4,6,7,8, 12 through 19, 62, 64, 70, 75, 76, and 77
Area:	71,000 square feet
Recorded Fee Owner:	A&B Waikiki, LLC
Existing Use:	Vacant
State Land Use Classification:	Urban
Development Plan Designation:	Medium Density Apartment (MDA)
County Zoning Designation:	Waikiki Special District Apartment Precinct and Apartment Mixed Use Sub-Precinct
Proposed Action:	Construction of a 25-story high-rise condominium development comprised of up to 100 residential units, 5-level parking garage, up to 10,000 square feet of commercial space in a free-standing 2-story building, residential amenities, open space and landscaping.
Impacts:	No significant impacts are anticipated during the construction and subsequent occupation/operation of the proposed project. Construction activities are anticipated to have short-term noise, ground vibration, traffic and air-quality impacts in the surrounding area. Construction noise and air quality impacts will be minimized by compliance with applicable State Department of Health rules. Alternative construction methods will be examined to mitigate the potential for ground vibration damage to nearby structures. No significant long-term traffic impact in the vicinity of the project site is anticipated. The project will comply with all applicable

Waikiki Special District development standards, including those for building height, density, open space, and setbacks.

Determination: Finding of No Significant Impact

Parties Consulted During Pre-Assessment:

State of Hawaii (9)
Department of Land and Natural Resources (DLNR)
State Historic Preservation Division
Land Division
Department of Business, Economic Development and Tourism – Office of Planning
Department of Health (DOH)
Environmental Planning Office
Office of Environmental Quality Control
Environmental Management Division
Office of Hawaiian Affairs
Department of Education

City and County of Honolulu (6)
Department of Planning and Permitting
Department of Transportation Services
Department of Environmental Services
Board of Water Supply
Police Department
Fire Department

Organizations (1)
Waikiki Neighborhood Board (No. 9)

Parties Consulted During The Draft EA Public Review:

Federal Agencies (4)
U.S. Department of the Army - Corps of Engineers
U.S. Department of the Interior - Fish and Wildlife Service
U.S. Department of the Interior - Geological Survey
U.S. Department of Agriculture – Natural Resources Conservation Service

Parties Consulted During The Draft EA Public Review (con't.):

State of Hawaii (17)
Department of Land and Natural Resources (DLNR)
- State Historic Preservation Division
- Land Division
- Division of State Parks
- Commission on Water Resource Management
- Division of Forestry and Wildlife

Department of Business, Economic Development and Tourism (DBEDT)
- Office of Planning
- Land Use Commission

Department of Health (DOH)
- Environmental Planning Office
- Office of Environmental Quality Control
- Environmental Management Division

Office of Hawaiian Affairs
Department of Education
Oahu Island Burial Council
U.H. Environmental Center

City and County of Honolulu (9)
Department of Planning and Permitting (7)
Department of Transportation Services
Department of Environmental Services
Department of Design and Construction
Department of Parks and Recreation
Board of Water Supply
Police Department
Fire Department
Office of Waikiki Development

Elected Officials (3)
Senator Les Ihara (10th District)
Representative Galen Fox (21st District)
Councilmember Duke Bainum (4th District)

Organizations (5)
Waikiki Neighborhood Board (No. 9)
Waikiki Improvement Association
Outdoor Circle
Waikiki Residence Association
Kapahulu – Waikiki Public Library

Parties Consulted During The Draft EA Public Review (con't.):

Surrounding Property Owners
The Twin Towers, Inc. Condo Master
Yoshiko Yokokura
Irene V. Conrad Trust
La Casa Condo Master
Ai Hotels Corporation
Royal Garden at Waikiki Condo Master
Dean W. Limric
Charles Man Yuen Lam
Kalaimoku/Kuhio Development Corporation
C K/P L C Lau Trust
Maile Sky Court Company, Ltd.
K & S Enterprises USA Corporation
WBL, Inc.
KKK Corporation
Li May Tang Trust
Yee H. Yuen Trust
John P. Thornton

1. SETTING AND PROJECT DESCRIPTION

1.1 Project Background and Location

A&B Properties, Inc. (A&B) is proposing to construct a high-rise residential condominium and low-rise mixed-use commercial building in Waikiki (see Figure 1). Located mauka (northeast) of the existing Niketown development, the project site occupies most of the block bounded by Kuhio Avenue, Olohana Street, Ala Wai Boulevard and Kalaimoku Street. The project site encompasses 71,000 square feet (1.63 acres) of land area and is identified by 19 contiguous parcels, including TMK 2-6-16: 2, 4,6,7,8, 12 through 19, 62, 64, 70, 75, 76, and 77 (see Figure 2).

1.2 Existing and Surrounding Uses

The project site is currently vacant, with the exception of various trees, shrubbery, and other vegetation. Previous land uses were primarily residential including homes and apartment buildings. All prior structures, however, were demolished at least 10 years ago. The project site is flat, and consists predominantly of bare soil with some areas of asphalt and concrete. A four- to six-foot high chain link fence generally delineates the project boundary. (See Photographs 1 and 2).

Land uses surrounding the project site include high-rise hotels and condominiums, low-rise apartments, single-family homes, and businesses (See Figure 3). Four uses currently share the same block with the project site, as follows: a) The 18-story Twin Towers condominium located immediately mauka of the project site; b) Two single-family residences on Kalaimoku Street including a two-story Spanish, stucco-style house and an abandoned wooden house; and c) The 24-story La Casa condominium located on the corner of Kuhio Avenue and Kalaimoku Street. Located to the northwest of the project site across Olohana Street are the Maile Sky Court condominium, Royal Garden at Waikiki condominium, and Ala Wai Hale apartments. To the southeast of the project site across Kalaimoku Street is the Waikiki Palms apartment building. Beyond Ala Wai Boulevard to the northeast of the project is the Ala Wai Canal. Makai (southwest) of the project site across Kuhio Avenue is the Nike Town development. Other nearby uses include the Waikiki Gateway Hotel and ABC Store located to the west, diagonally across the intersection of Kuhio Avenue and Olohana Street, and the 2100 Kalakaua development currently under construction to the south of the project at the corner of Kuhio Avenue and Kalaimoku Street.

1.3 Project Description

The project will include a high-rise tower condominium tower atop a 5-story parking structure, a free-standing 2-story commercial building, an at-grade guest parking lot, residential amenities, driveways and loading areas, and landscaped open space. Figure 4 illustrates the conceptual site plan for the project, while Figure 5 depicts an artist's rendering of the project. Major elements of the project include:

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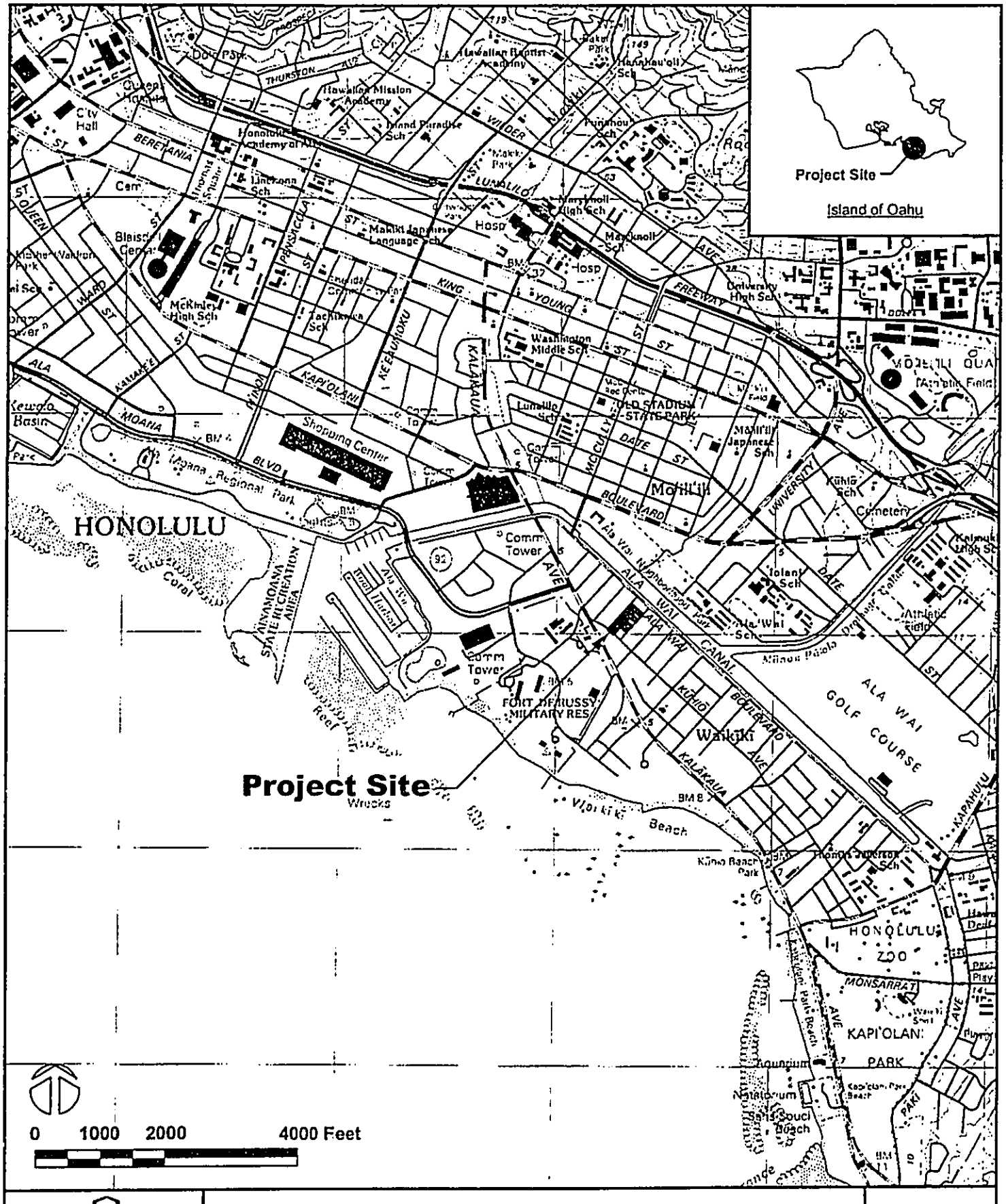
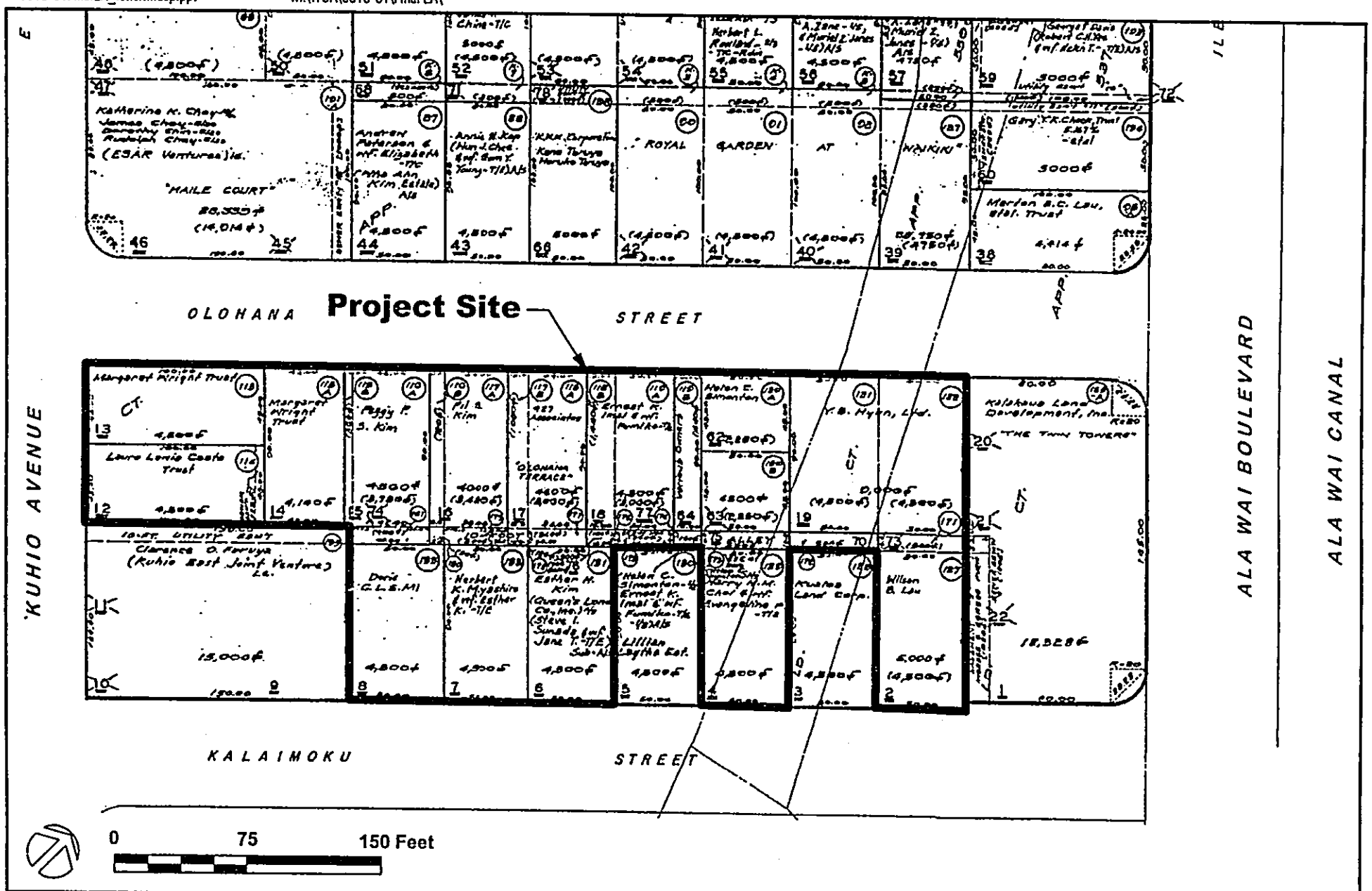


WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	A & B WAIKIKI CONDOMINIUM Location Map	FIGURE 1



WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Tax Map Key 2-6-16

FIGURE
2

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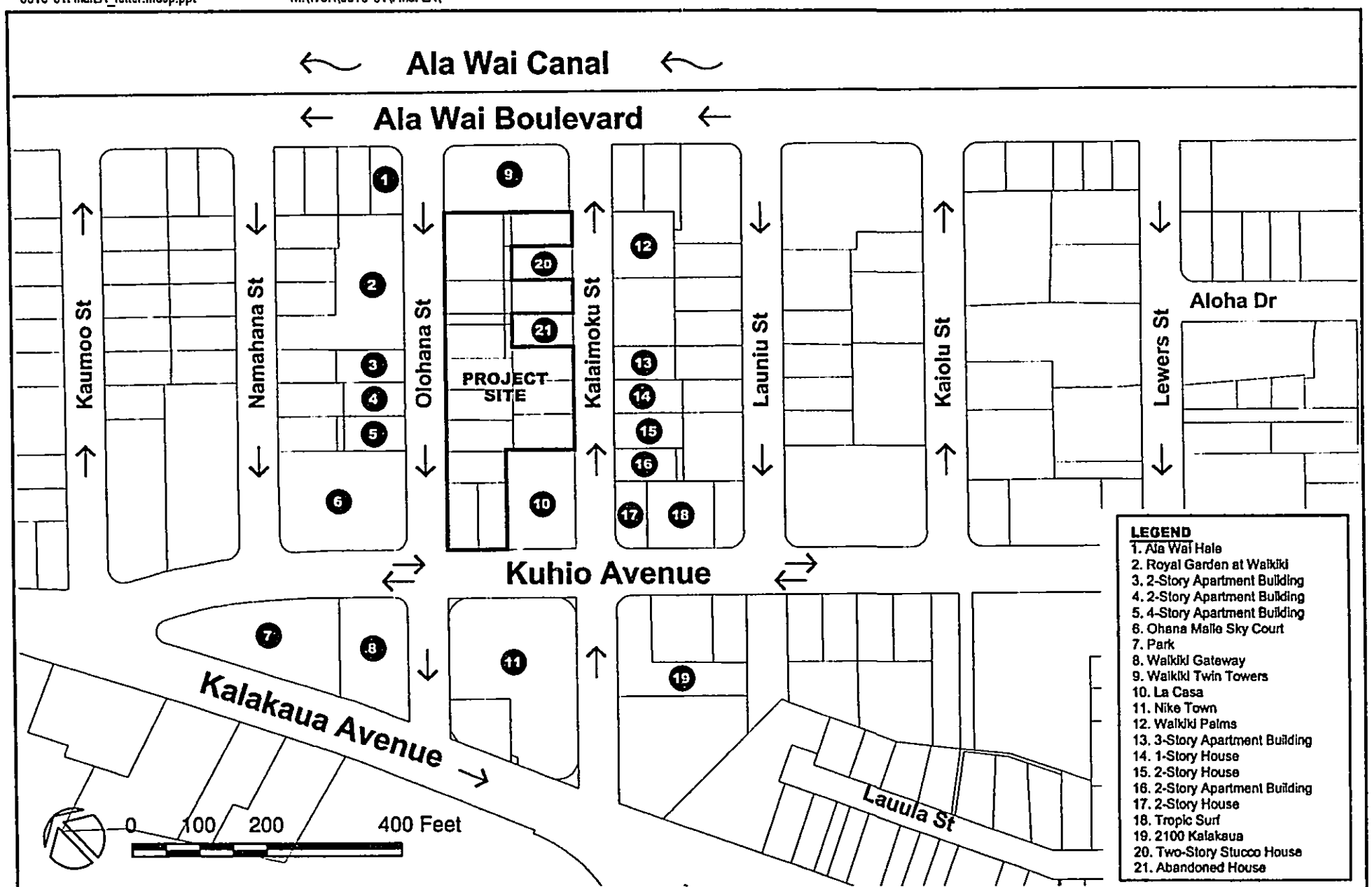

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Surrounding Uses Map

FIGURE 3

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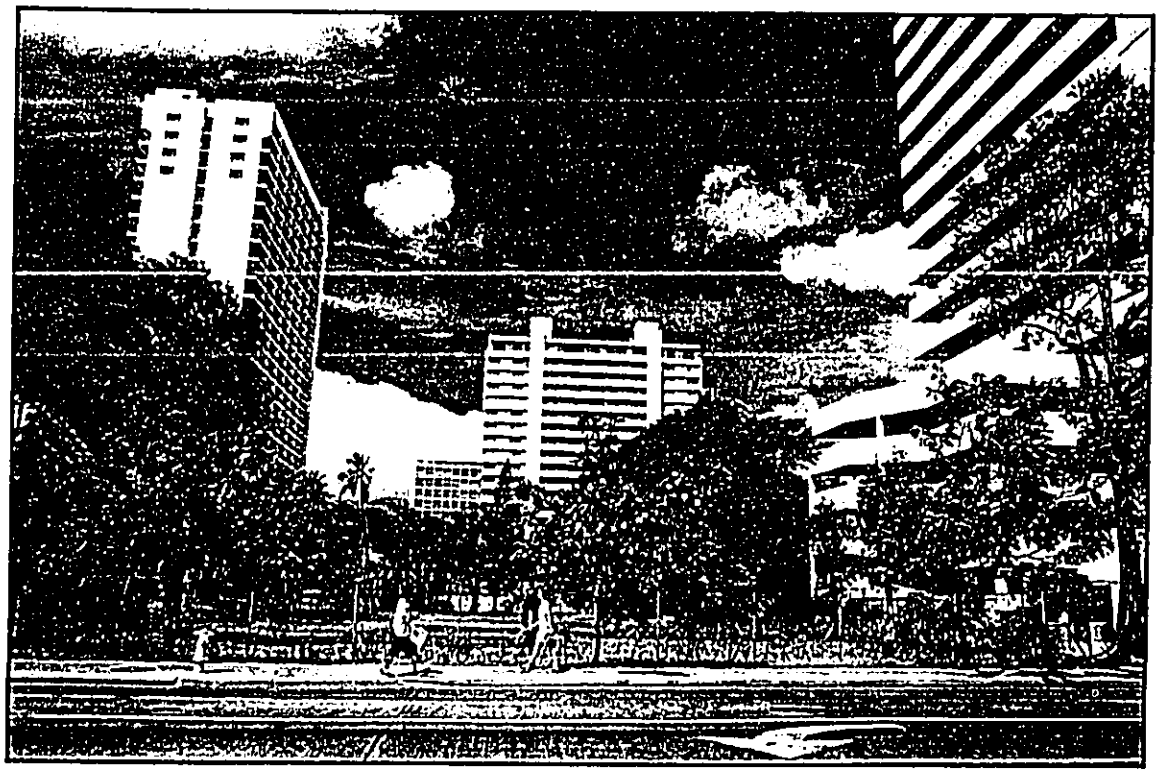
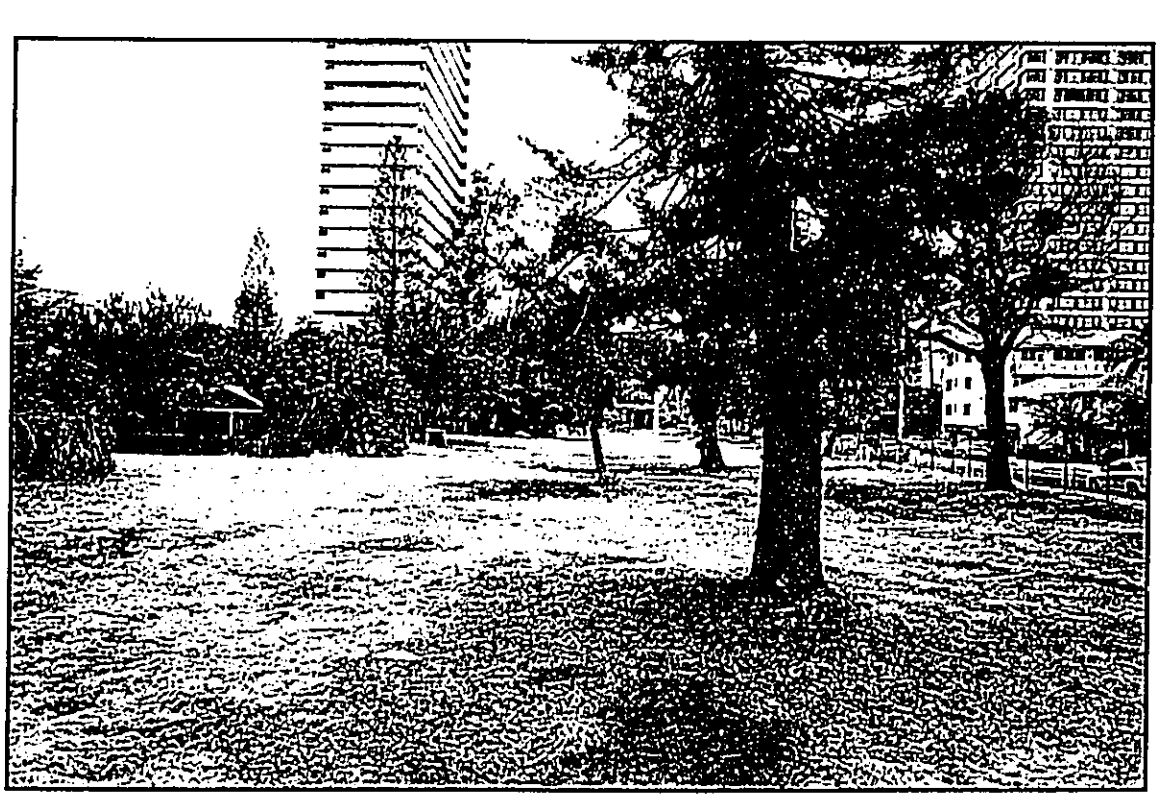
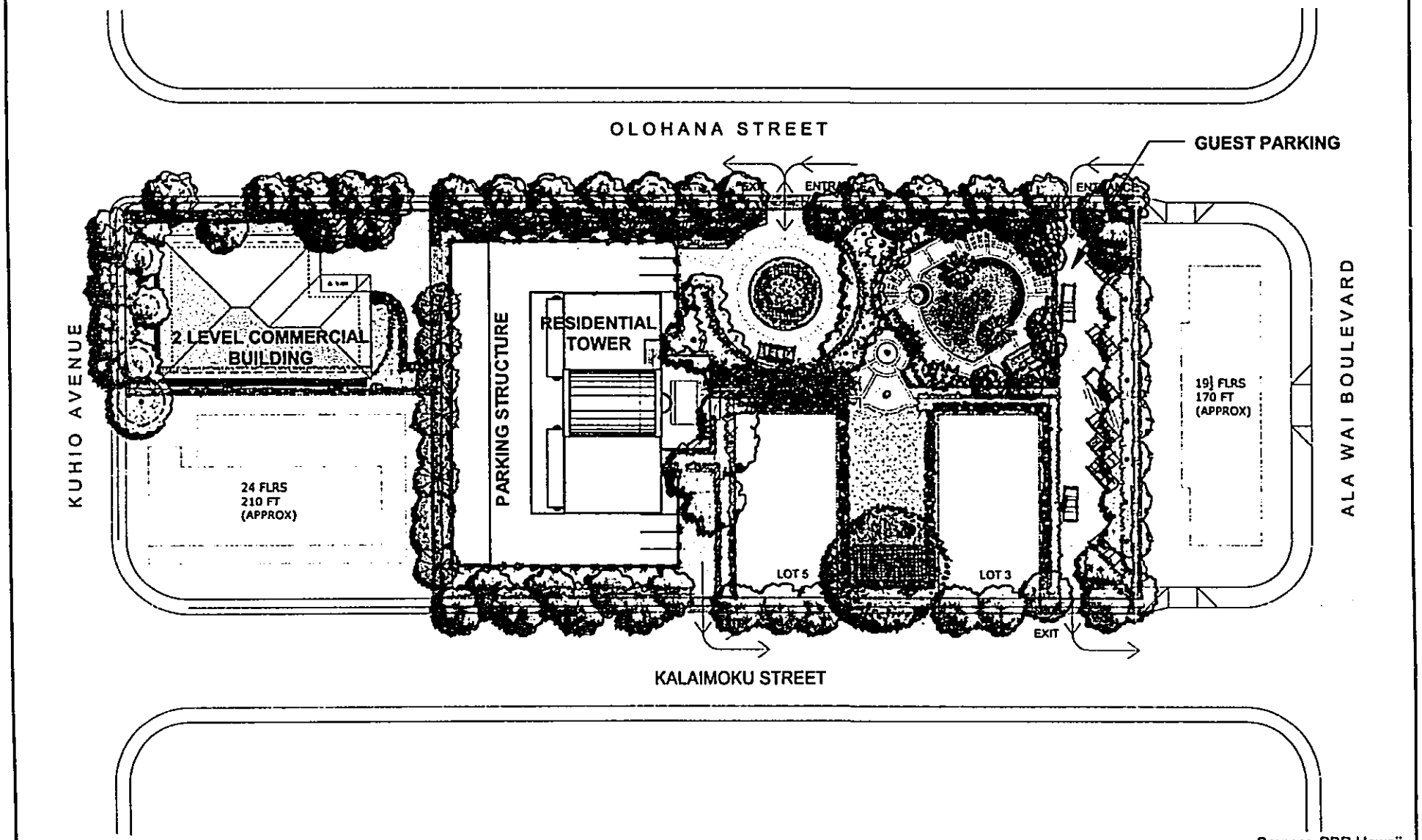


Photograph 1: View of Project Site Facing Mauka



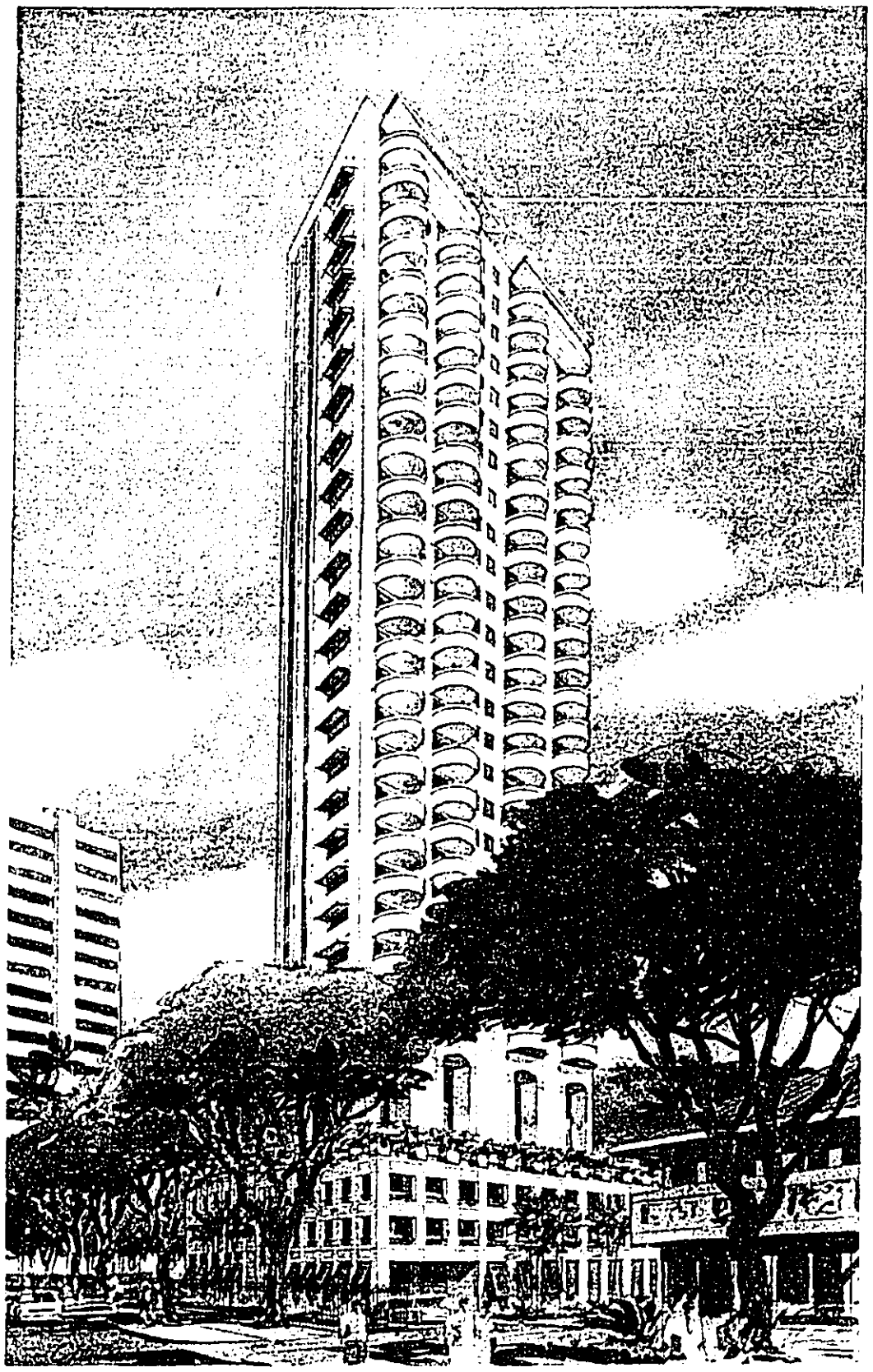
Photograph 2: View of Project Site Facing Makai

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	**A & B WAIKIKI CONDOMINIUM**	PHOTOGRAPHS 1 AND 2
	Existing Project Site	



Source: PBR Hawaii

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	A & B WAIKIKI CONDOMINIUM Conceptual Site Plan	FIGURE 4



Source: Architects Hawaii, Ltd.

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Rendering of Proposed Project From The Corner of Kuhio Avenue and Olohana Street

FIGURE **5**

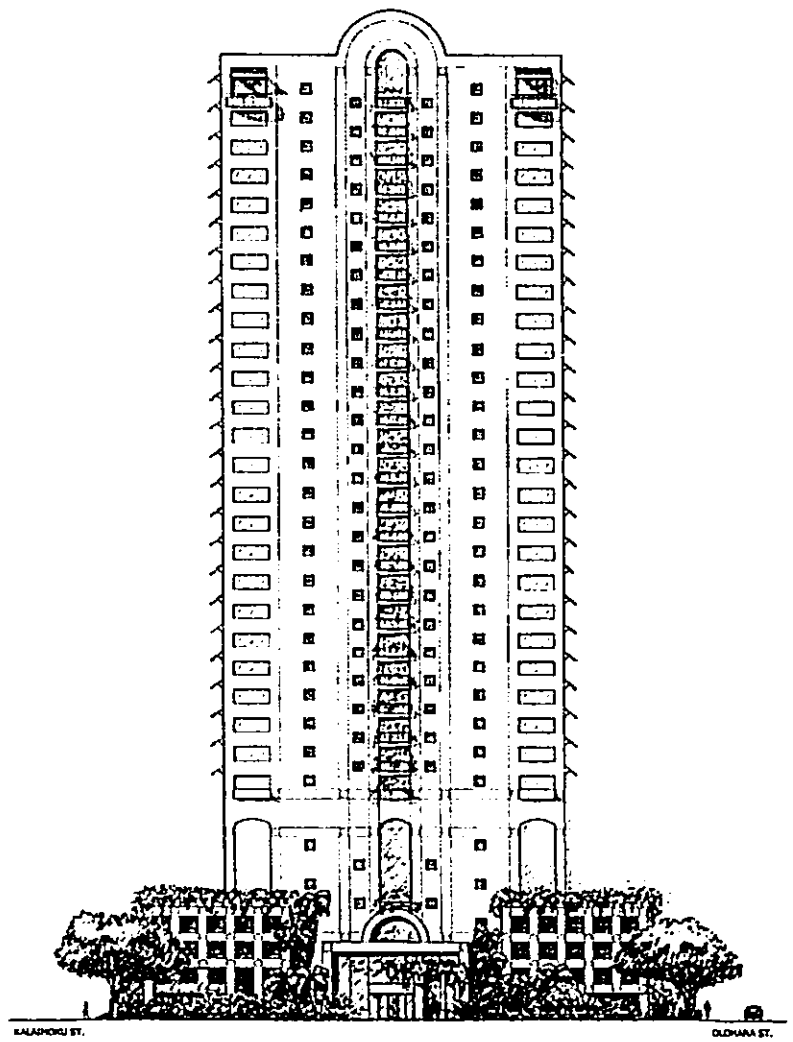
- **High-rise Condominium Tower** – The condominium tower will be comprised of approximately 100 residential units on 25 floors, with a total floor area of approximately 130,275 sf. The proposed building elevations and sections are illustrated in Figures 6 through 9. Each floor will have four units, with a total floor area of approximately 5,200 square feet (sf). The layout of each floor will be based on a combination of three options, including: a) 1-bedroom / 1-½ bath (700 sf); b) 2-bedrooms / 2-baths (1,100 sf); and c) 3-bedrooms / 2-bath units (1,350 sf). Each unit will also include 100-sf of open lanai area. The condominium tower will stand approximately 260 feet high atop a five-story parking structure (described below) for a total height of 300 feet from ground level.

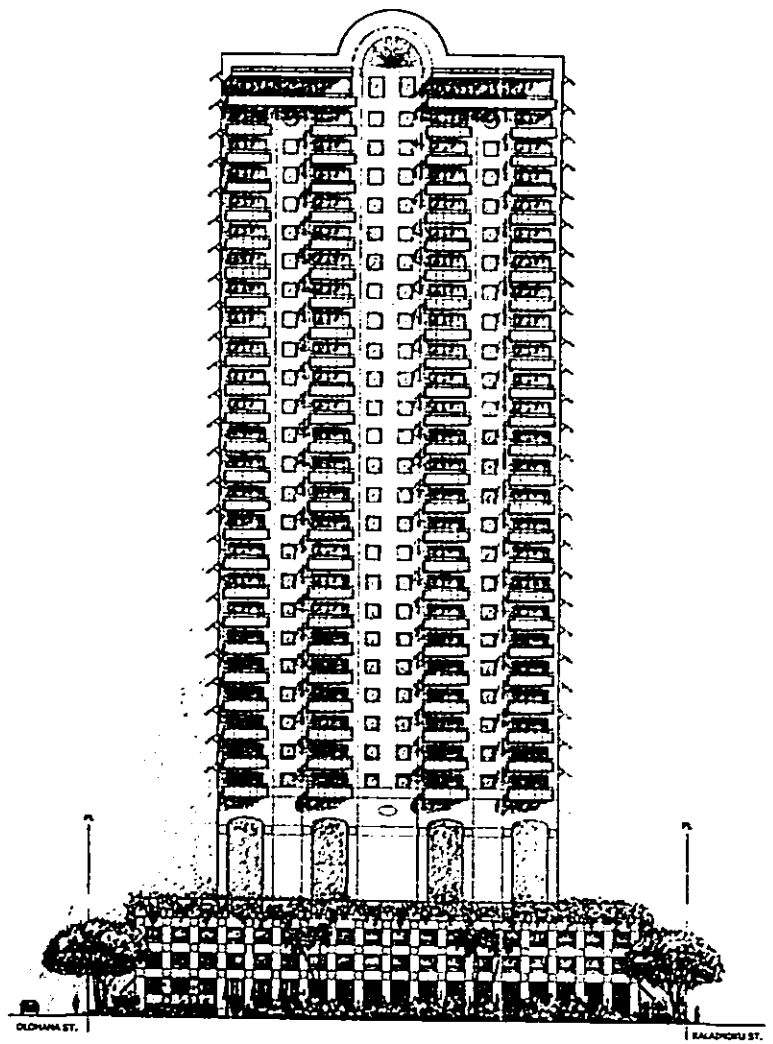
- **Commercial Building** – A free-standing, 2-story commercial building (to be developed in the future) with approximately 10,000 square feet of commercial space will be located at the corner of Kuhio Avenue and Olohana Street. It is envisioned to accommodate permitted uses such as eating establishments and convenience stores.

- **Parking** - A 231-stall parking structure will serve both the condominium tower and the commercial building with separate access/egress driveways and circulation. The 5-level structure will extend from ground level to a height of approximately 40 feet . Of the 231 parking stalls, 200 stalls will be for residents of the condominium tower, and 31 stalls will be for the commercial building. In addition, there will be 13 on-grade parking stalls, of which 12 stalls will be a guest parking lot for the condominium tower and one stall will be an accessible stall behind the commercial building. Hence, a total of 244 parking stalls will be provided within the parking structure and on-grade. (In the Draft EA the parking garage was described as extending ½ -level below grade. The proposed design has since been revised to comply with flood hazard requirements by eliminating the ½-level of below grade parking. The number of parking spaces, however, remains unchanged).

- **At-Grade Loading** – One at-grade off-street loading bay will serve the condominium tower on its Kalaimoku Street side, and a second bay will be provided for the commercial users on the Olohana Street side.

- **Vehicular Access** – Five vehicular access/egress points will serve the project. The main entry serving the condominium tower will be from Olohana Street, approximately mid-block between Ala Wai Boulevard and Kuhio Avenue. This driveway will provide one-way access into the residential portion of the parking structure and two-way access to the passenger loading area fronting the lobby. An additional two-way access may be added on the Kalaimoku Street side, if needed.





Source: Architects Hawaii, Ltd.

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Kuhio Avenue and Ala Wai Boulevard Building Elevations

FIGURE **6**

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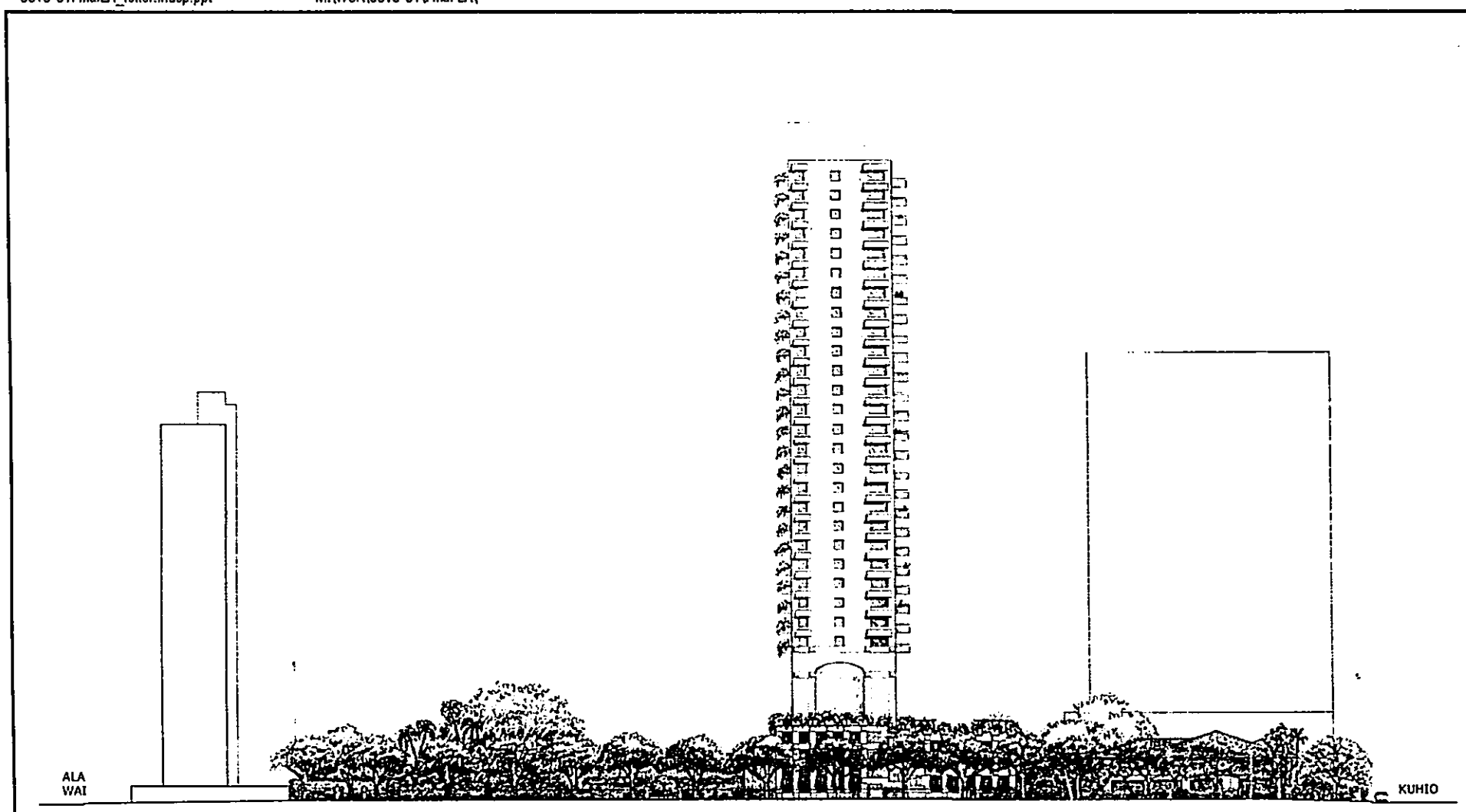


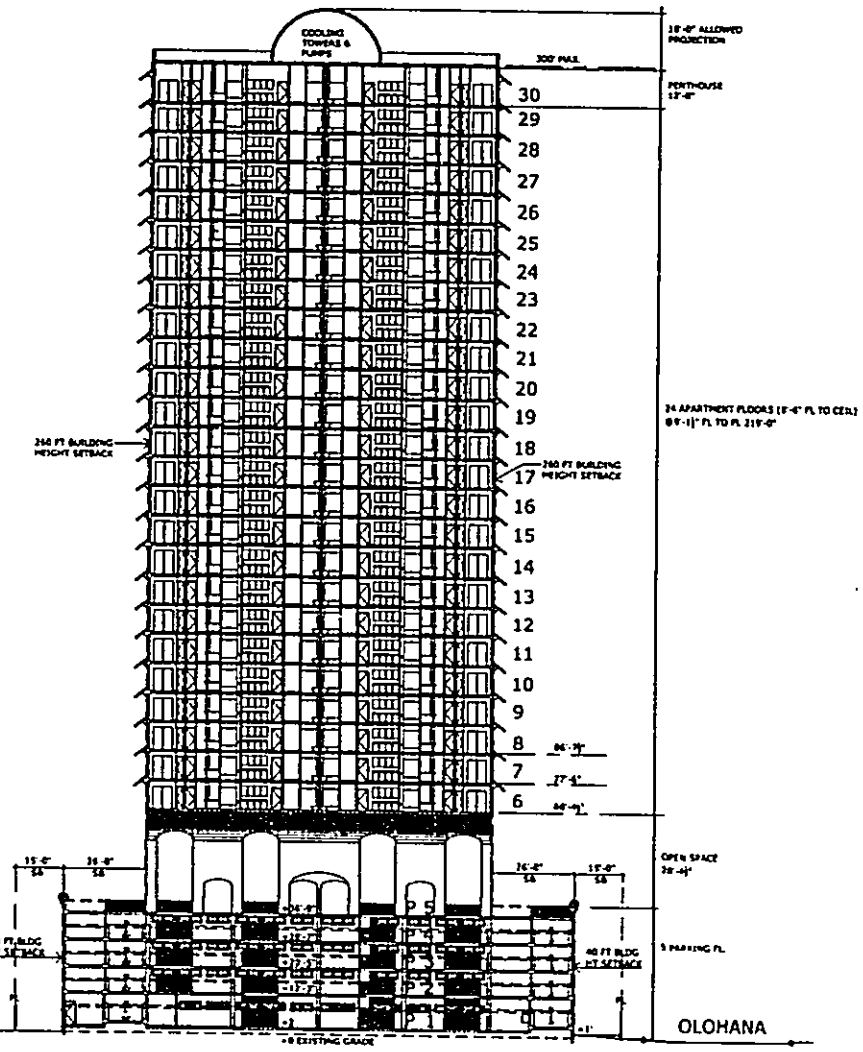
Source: Architects Hawaii, Ltd.

WILSON OKAMOTO
& ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Olohana Street Elevation

FIGURE
7



0 30 60 120 Feet

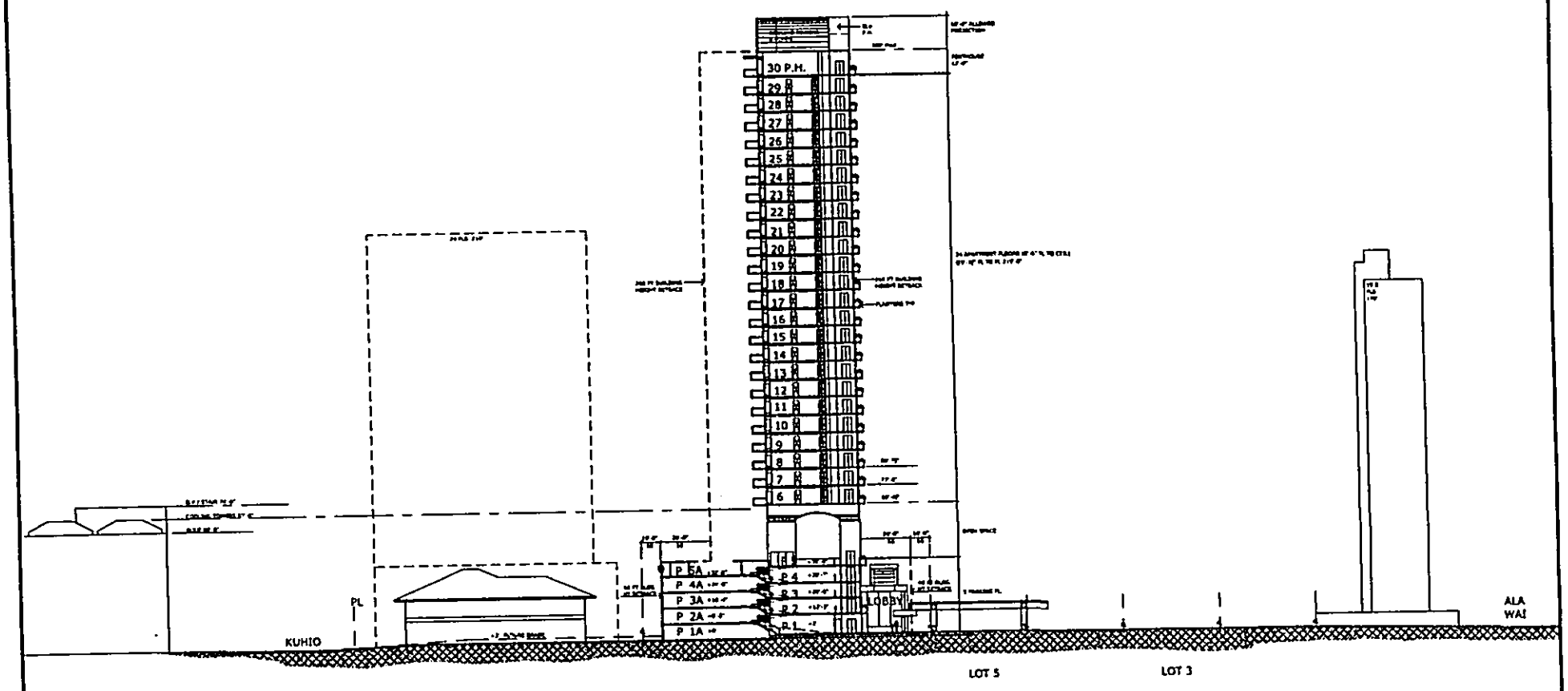
Source: Architects Hawaii, Ltd.

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Longitudinal Building Section

FIGURE **8**



0 40 80 160 Feet

Source: Architects Hawaii, Ltd.

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Horizontal Building Section

FIGURE 9

The main entry serving the commercial building is also on Olohana Street, toward Kuhio Avenue. This driveway will provide two-way access for the commercial portion of the parking structure and for the accessible stall and off-street loading bay. A back-in turnaround space will allow vehicles using the accessible stall and loading bay to avoid backing out onto Olohana Street.

The main egress driveway from the parking structure for the residential parking stalls will be on Kalaimoku Street, approximately mid-block between Ala Wai Boulevard and Kuhio Avenue. The at-grade guest parking lot which will provide 12 parking stalls will have an access-only driveway from Olohana Street and an egress-only driveway on Kalaimoku Street.

- **Residential Amenities** – A pool, kitchenette, and landscaped picnic area will be provided for the residents of the condominium tower.

- **Landscaping** – The project's landscaped areas will encompass approximately half of the project's required open space. A circular landscaped feature, reminiscent of street roundabouts used in the past, such as the palm circle at Fort Shafter, will be incorporated into the entry driveway.

1.4 Project Schedule and Cost

Construction of the proposed project is anticipated to commence in August, 2003 with completion estimated by December, 2004. The preliminary estimated cost of the proposed project is $32 million.

2. DESCRIPTION OF THE EXISTING ENVIRONMENT, PROJECT IMPACTS AND MITIGATION MEASURES

The following is a description of the existing environment, assessment of potential project impacts and proposed mitigation measures.

2.1 Climate

The climate of the Honolulu area is typical of the leeward coastal lowlands of Oahu. The area is characterized by abundant sunshine, persistent tradewinds, relatively constant temperatures, moderate humidities, and the infrequent severe storms.

Northeasterly tradewinds prevail throughout the year although their frequency varies from more than 50 percent during the summer months to 90 percent in January. The average annual wind velocity is approximately 10 miles per hour.

The mean temperature measured at Honolulu International Airport ranges from 70 degrees Fahrenheit (°F) in the winter to 84°F in the summer. The temperatures in the Waikiki project area may be slightly higher due to localized urban heating effects. The average annual precipitation in the vicinity of the project site is approximately 24 inches, with most of the rainfall occurring between November and April. Relative humidity ranges between 56 and 72 percent.

Impacts

The proposed project will not affect regional climate conditions.

2.2 Geology, Topography and Soils

Geology: A preliminary geotechnical report was prepared by Ernest K. Hirata & Associates, Inc. in December 2001. Excerpts from the report are included herein, while the report in its entirety is included as Appendix A. Results of the boring analysis indicate that the surface soil of the project site is classified as tan silty sand with coral fragments. Underlying the silty sand is approximately 3 feet of soft to firm gray silty clay. Both the soft silty clay and loose silty sand layers appear to be highly compressible. Tan coral was encountered at a depth of about 37 feet. The upper portion of the coral stratum is in medium hard condition that transitions to a dense and highly fragmented condition at a depth of about 43.5 feet. The coral stratum extends to a depth of about 52 feet. Underlying the coral stratum is coralline material consisting of tan silty sand with varying amounts of coral fragments and silt pockets. The silty sand is generally in a medium dense condition with occasional loose soils. Brown clayey silt was encountered at a depth of about 95 feet. The clayey silt is in a medium stiff to stiff condition extending down to the maximum depth drilled.

Topography: The project site and surrounding areas are relatively flat and contain no unusual or unique topographic features. The site elevation is approximately five feet above Mean Sea Level (MSL).

Soils: According to the U.S. Department of Agriculture Soil Conservation Service, the soils underlying the project site are classified as Fill land, mixed (FL). This soil type consists of material dredged from the ocean bottom or hauled in from nearby areas. Landscaped areas are likely comprised of imported soils.

The *Detailed Land Classification - Island of Oahu* published by the University of Hawaii Land Study Bureau (LSB), evaluates the quality or productive capacity of certain lands on Oahu for selected crops and overall suitability in agricultural use. A five-class productivity rating system was established with "A" representing the highest productivity and "E" the lowest. Since the project site is classified as "U" or Urban, it is not rated for agricultural productivity.

Impacts and Mitigation Measures

Geology: The preliminary geotechnical report indicates that the project site is feasible for development of a high-rise building. The report recommends various foundation systems including pre-stressed concrete piles, or drilled shafts. In addition, due to the soft and compressible condition of the silty clay underlying the project site, a structural slab system will be required for the building. The selection of the foundation system is contingent on determining structural loads, cost, environmental and construction noise considerations, as well as construction schedule.

In the short-term, construction of the ½-level underground parking area, pool, and elevator core will require excavation to a depth of up to 12 feet below the existing ground level, entailing removal of previous fill material, as well as alluvial and coral deposits.

Topography and Soils: The area of soil disturbance within the project site will be greater than one-acre and, as such, a National Pollutant Discharge Elimination System (NPDES) permit for Construction Storm Water Activities will be required from the State of Hawaii Department of Health (DOH). Storm runoff from the project site during site preparation will be controlled in compliance with the City's "Rules Relating to Storm Drainage Standards" . Typical mitigation measures include: appropriately stockpiling materials on-site to prevent runoff; and, establishing landscaping as early as possible on completed areas. These measures, including those required pursuant to the NPDES permit for Construction Storm Water activities will reduce the potential for siltation of drainage facilities, the Ala Wai Canal and coastal receiving waters at Ala Wai Harbor.

2.3 Hydrology

Oahu's south central coast, geographically referred to as the Honolulu Plain, is underlain by a broad elevated coral reef which has been partly covered by alluvium

carried down from the mountains. Core samples reveal that lava flows of the Honolulu Volcanic Series are interbedded with these reef deposits which were formed when the sea level was higher than it is now.

The same interbedding of coral and alluvial deposits which play an important role in Oahu's geology also influenced the hydrological character of Oahu's leeward coastline. The interface between upper sedimentary layers and the underlying basalt constitutes a zone of low permeability known as caprock. This caprock extends along the coastline about 800 to 900 feet below sea level, forming an impervious zone which prevents the seaward movement of potable water from the basaltic aquifers.

Historically, Makiki, Manoa and Palolo streams flowed into the area known as Waikiki. Waikiki means the "land of spouting waters" and was extensively cultivated in taro by Hawaiians and later with rice by immigrant farmers. The Ala Wai Canal was dredged in 1921, creating fast lands and demarcating the area now known as Waikiki.

There is no surface water within the project site. The nearest surface water body is the man-made Ala Wai Canal.

According to the State Commission on Water Resource Management there are no registered potable water wells in the Waikiki area.

The City and County of Honolulu Board of Water Supply Pass/No Pass line delineates the boundary of the potable water aquifer. The project site falls within areas makai of the Pass line, which infers that activities on the project site will not impact potable groundwater resources.

Impacts and Mitigation Measures

In the short-term, construction of the ½-level underground parking area, pool, and elevator core will require excavation to a depth of up to 12 feet below existing ground level, entailing removal of previous fill material, as well as alluvial and coral deposits. Since the water table will be encountered at a depth of approximately 4 feet below existing grade, the project may require temporary dewatering. If discharges are anticipated as a result of dewatering activities, a NPDES permit for Discharges Associated with Construction Activity Dewatering will be obtained from the DOH.

Additionally, disposal of the dewatering effluent into the municipal storm drain system will require a permit from the City and County of Honolulu Department of Planning and Permitting.

Storm runoff from the project site during site preparation will be controlled in compliance with the City's "Rules Relating to Storm Drainage Standards". Typical mitigation measures include: appropriately stockpiling materials on-site to

prevent runoff; and, establishing landscaping as early as possible on completed areas. These measures, including those required pursuant to the aforementioned NPDES permits for Construction Dewatering and Construction Storm Water activities, will reduce the potential for siltation of drainage facilities, the Ala Wai Canal and coastal receiving waters at Ala Wai Harbor.

2.4 Hazardous Materials

A Phase I Environmental Site Assessment was prepared by EnviroServices & Training Center, LLC (ETC) in August 2001. Excerpts from the report are included herein, while the report in its entirety is included as Appendix B.

According the assessment, there were no obvious indicators to suggest that the project site has been significantly impacted by hazardous materials, wastes, above or below ground storage tanks, petroleum contamination, or polychlorinated biphenyl (PCB)-containing equipment.

Stained soil was observed throughout the project site in addition to one car battery, located on the northeast portion of the project site. There was no evidence of heavy staining, stressed vegetation, or olfactory detection to indicate chemical contamination. A HECO vault containing a 4,000-volt (4kV) transformer was identified on-site. The transformer is currently in use.

The project site is not listed on the available state and federal databases, although a search of areas within a specified radii surrounding the project site identified numerous facilities. Specifically, two NFRAP CERCLA sites (No Further Remedial Action Planned, Comprehensive Environmental Response, Compensation, and Liability Act of 1980 – Delisted CERCLA Site), two RCRA generator facilities (Resource Conservation and Recovery Act of 1976), ten DOCKET facilities (Enforcement Docket System – Office of Enforcement and Compliance Monitoring), fifteen LUST facilities (Leaking Underground Storage Tank), and seven UST facilities (Underground Storage Tank).

During this research, seven facility files were requested from the State of Hawaii Department of Health (DOH) Solid and Hazardous Waste Branch based on the possibility of contamination due to their corresponding geographic location with respect to the subject property. The six LUST files reviewed all received letters of "No Further Action". The single UST file showed no evidence of a release. Upon review of the LUST facility file for Chevron USA, Inc., EETC found that during the UST's clean-up and closure activities, a suspect leaking septic tank was found. The issue of the septic tank was then referred to the DOH Hazard Evaluation and Emergency Response office. A review of the file was conducted indicating that the owner was subsequently sent a letter of "No Further Action" in October, 1997.

Impacts and Mitigation Measures

Based on historic review, surface site inspection, and current and prior uses of the subject property, the environmental conditions related to hazardous materials can be remediated. The battery located on the northeast portion of the project site will be properly disposed of. The stained soils found within the property will be properly characterized for any potential contamination and to determine appropriate methods of disposal. HECO will be contacted to determine possible PCB content within the 4kV transformer vault in conjunction with discussions to relocate the vault and associated transmission lines.

2.5 Flood Hazard

According to the Flood Insurance Rate Map (FIRM), Number 15003C0370E effective November 20, 2000, prepared by the Federal Emergency Management Agency (FEMA), the entire project site is designated as Zone AO, special flood areas inundated by 100-year floods. The flood depth at the project site averages two feet.

Impacts and Mitigation Measures

In compliance with City flood ordinances, the lowest floor must be elevated at least two feet above the highest adjacent grade and the lowest level in the parking garage must be at-grade. The project will comply with the rules and regulations of the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency.

2.6 Flora and Fauna

An arborist was consulted to verify on-site tree species and to determine their size, height, and trunk diameter, as well as to determine the health of the trees and whether the trees could be considered transplantable. Sixteen trees were identified including: Octopus tree, Pink Tacoma tree, Chinese Banyan tree, Sea Grape tree, two Opiuma trees, two Mango trees, two Norfolk Island Pine trees, three Golden Shower trees, and three Paperbark trees.

Other plant species growing in the project site include shrubs, grasses, and weeds commonly found in urbanized areas, such as Spanish needle, dandelion, crabgrass, morning glory, amarynth, swollen finger grass, Ilima, haole koa, Guinea grass, and pluchea.

Faunal species including cats, rats and mice that are common to inner city environments are probably present at the site. Avifaunal species identified at the project site include those common to urban areas such as the ring neck dove, mynah, sparrow, Brazilian cardinal, and finches.

No federally protected, threatened or endangered species of plants or animals are known to inhabit the project area, nor has any critical habitat been identified.

Impacts and Mitigation Measures

The arborist determined that, of the 16 trees existing on-site, five were suitable to be retained, including the Sea Grape tree, Mango tree, and three Golden Shower trees. These are currently being considered for incorporation into the project's landscape design.

Site preparation will otherwise remove most of the existing plant species that provide a small habitat for various bird, mammal and insect species that commonly occur in sub-tropical urban environments. When landscaping for the proposed project is planted, many of these displaced species are anticipated to return.

2.7 Noise

Y. Ebisu & Associates prepared a noise impact assessment for the proposed project (Appendix C). Traffic and background ambient noise level measurements were made in July , 2002 to assess the existing acoustical environment in and around the project site. Ground level acoustical measurements within the project site were made at the following five locations:

- 50 feet from the centerline of Olohana Street
- 70 feet from the centerline of Olohana Street
- 50 feet from the centerline of Kalaimoku Street
- 60 feet from the centerline of Kuhio Avenue
- 50 feet from the centerline of Ala Wai Boulevard

Noise levels were assessed based on the Day-Night Average Sound Level (Ldn or DNL), which is a noise descriptor currently used by federal agencies (such as FHA/HUD) to assess environmental noise. This descriptor is a 24-hour average of measured sound levels with an additional 10-decibel (dB) "penalty" on noise levels occurring during the nighttime hours of 10:00 PM to 7:00 AM. In general, noise levels of 55 Ldn or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas, locations shielded from high volume streets generally range from 55 to 65 Ldn. Locations fronting major roadways may be exposed to levels of 65 Ldn, and as high as 75 Ldn, when the roadway is a high-speed freeway. In the Waikiki area, Ldn levels tend to be high and greater than 65 Ldn due to the higher concentration of tour and city buses, and higher activity levels during the nighttime period.

Major contributors to the existing background ambient noise levels within the project area are: traffic along Ala Wai Boulevard and Kuhio Avenue; refuse collection trucks; tour buses and delivery trucks which are idling or positioning at curbside; loud motorcycles; the sirens of emergency and police vehicles; and nearby construction activities.

The typical hourly variations in noise levels within the project area are controlled by motor vehicle traffic along two high volume roadways: Ala Wai Boulevard and Kuhio Avenue. Traffic noise levels tend to be lowest during the early morning hours between 3:00 and 5:00 AM, and tend to be highest during the AM and PM peak commuting hours.

In the vicinity of the project site, the Twin Towers and La Casa high-rises, which front Ala Wai Boulevard and Kuhio Avenue, respectively, are currently experiencing traffic noise levels ranging between 65 and 70 Ldn. At the upper floors of buildings which front lower volume streets such as Kalaimoku Street and Olohana Street, distant traffic noise plus the other non-traffic noise sources in the area can cause ambient noise levels to exceed 65 Ldn.

Within the project site, the location of the proposed condominium tower is partially shielded from traffic noise along Ala Wai Boulevard by the Twin Towers building and from traffic noise along Kuhio Avenue by the La Casa building. Hence, existing traffic noise levels at ground level and at 75 feet above-ground level are currently less than 65 Ldn.

Aircraft noise levels at the project site do not exceed 60 Ldn, which the Hawaii State Department of Transportation, Airports Division considers the acceptable threshold for residences. According to the most recent airport noise projections for Honolulu International Airport, the project site will be exposed to less than 55 Ldn in 2007.

Impacts and Mitigation Measures

Construction Noise: Construction noise will be unavoidable during the entire project construction period. The total time period for construction of the project is anticipated to be 16 months. It is expected that actual construction work will be moving from one location on the project site to another during that period. Hence, the length of exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project.

The residence adjacent to the project site on Kalaimoku Street (Lot 5) and the residences in the La Casa building are predicted to experience the highest noise levels during construction activities due to their close proximity to the proposed condominium tower, where construction activities will be the greatest. Adverse impacts from construction noise, however, are not expected to be in the range affecting "public health and welfare" due to the temporary nature of the work, and regulations governing construction noise. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

Construction noise will comply with State Department of Health (DOH) rules for "Community Noise Control" (Chapter 1-46, Hawaii Administrative Rules). Mitigation of construction noise to inaudible levels will not be practical due to the anticipated intensity of noise sources (80 to 90+ dB at 50 FT distance), and due to the exterior nature of the work (excavation, grading, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment will be required on the job site.

The DOH rules limit construction activities to the hours between 6:30 am to 6:00 pm on weekdays, except holidays, and 8:30 am to 6:00 pm on Saturday.

Construction Vibration: Pile driving, if required during construction, has the potential to cause architectural and structural damage to structures. Ground vibrations are generally described in terms of peak particle (or ground) velocity in units of inches/second. While people can feel ground vibrations as low as 0.01 to 0.04 inches/second, damage to structures would occur at much higher levels. The most commonly used damage criterion for structures is 2.0 inches/second, derived from the U.S. Bureau of Mines. A more conservative limit of 0.2 inches/second is also used, and is suggested for planning purposes for pile driving because of its repetitive nature, which can increase the risk of damage.

The use of pile drivers on the project site could generate vibrations exceeding the 0.2 inches/second threshold at a distance of 47 to 71 feet. This distance from pile driving will be considered in determining where the use of piles may be appropriate. If pile driving is necessary within this distance to existing structures, vibration from test piles will be monitored to determine if the limit is being exceeded and if the use of alternative pile driving equipment or construction method can reduce the risk of damage.

Traffic Noise: Projections of future traffic noise levels were based on year 2005 traffic volume assignments presented in the Traffic Impact Report for the proposed project (See Appendix E). The traffic volume assignments include projections with and without the proposed project, to determine the contribution of project-related traffic. Future average vehicle speeds and traffic mixes along all roadways were assumed to be identical to 2002.

In 2005, the dominant traffic noise sources in the project area will continue to be traffic noise from Ala Wai Boulevard and Kuhio Avenue where the difference between conditions with and without the project would be insignificant, with 0.3 dB or less attributable to the project. Traffic noise levels along Kalaimoku Street and Olohana Street between Kuhio Avenue and Ala Wai Boulevard will remain relatively low (between 60 Ldn to 65 Ldn) with or without the proposed project. Although a 1.4 dB (or Ldn) increase in traffic noise along Olohana Street is attributable to project traffic, this increase is also insignificant, and would be

difficult to measure or perceive. The increase in traffic noise attributable to the project along Kalaimoku Street is 0.4 dB, which is insignificant.

All project activities will comply with the Administrative Rules of the Department of Health, Chapter 11-46 regarding "Community Noise Control".

2.8 Air Quality

Air quality in the vicinity of the project site is primarily affected by vehicular emissions generated along surrounding streets. Among the various air pollutants for which State and National standards have been established, carbon monoxide level is the primary concern in areas near heavy traffic flow. The federal standard for carbon monoxide is a maximum of 40 micrograms per cubic meter ($\mu g/m^3$) for 1-hour samples and 10 $\mu g/m^3$ for and 8-hour sample. State of Hawaii regulations, which are more stringent, limit carbon monoxide to 10 $\mu g/m^3$ for 1-hour samples and 5 $\mu g/m^3$ for 8-hour samples. According to the State Department of Health Clean Air Branch, the Waikiki Air Monitoring Station on Kalakaua Avenue reported that carbon monoxide levels have not exceeded State or Federal standards in the past five years.

Impacts and Mitigation Measures

The proposed project will have short-term construction-related impacts on air quality, including the generation of dust and emissions from construction vehicles, equipment and commuting construction workers. The construction contractor is responsible for complying with State Department of Health Administrative Rules, Title 11, Chapter 60-11.1 regarding "Air Pollution Control, specifically Section 11-60.1-33 regarding fugitive dust and the prohibition of visible dust emissions at property boundaries.

Mitigation measures to address short-term impacts include:

- Minimizing the movement of construction vehicles during peak traffic periods; and,

- Controlling the generation of fugitive dust through frequent watering of unpaved roads and areas of exposed soil and planting landscaping as soon as possible on completed areas.

In the long-term, it is not anticipated that traffic associated with the proposed project will adversely affect air quality since the Traffic Impact Report (see Appendix E) projected no significant increase in traffic attributable to the project in the vicinity of the project site.

2.9 Archaeological, Historic, and Cultural Resources

An archaeological inventory survey of the project site was conducted by Cultural Surveys Hawaii in August 2002. The report is reproduced in its entirety in Appendix D.

The inventory survey included a review of cultural and historic documentation of Waikiki and the project site as well as a subsurface survey of the project site. The findings of the inventory survey are summarized below.

2.9.1 Archaeological Resources

Based on the historic documentation, the traditional Hawaiian landscape within the portion of Waikiki where the project site is located was a complex of wetland and dryland agricultural fields, irrigation channels, and ponds. Results of previous archaeological research in this portion of Waikiki indicates possible subsurface traditional Hawaiian historic properties – and subsequent modifications of those properties – within the project site:

- Three burials were exposed at the Hilton Hawaiian Village during the construction of the hotel's Tapa Tower in 1980.

- During the late 80's and early 90's, excavation and monitoring work at Fort DeRussy documented substantial subsurface archaeological deposits--prehistoric, historic, and modern. These deposits included buried fishpond sediments, *'auwai* sediments, midden and artifact enriched sediments, structural remains such as post holes and fire pits, historic trash pits, and a human burial.

- In 1994 an inadvertent burial discovery was made during excavation for a water line at the intersection of Kalakaua Avenue and Kuamo'o Street, two blocks northwest of the project site.

- An archaeological inventory survey (Pacific Legacy, Inc., 1996) of the block immediately south of the project site for the present Niketown development indicated that the area was "...extremely wet and probably marshy. This type of environment was not conducive for traditional economic practices...The current project area appears to have been unused because it was too wet and marshy." The report concluded that no further archaeological investigations of the parcel were warranted since "no potentially significant traditional sites or deposits were found" but cautioned of the "possibility, however remote in this instance, that human burials may be encountered during large scale excavations."

- An archaeological inventory survey (Cultural Surveys Hawaii, 2000) in the block diagonally southeast of the project site for the 2100 Kalakaua development located the upper reaches of a previously identified cultural irrigation ditch—the *'Auwai O Pau* and areas of possible fishpond and agricultural cultivation. No habitation areas or human burials were identified during the sub-surface survey and no further archaeological research was recommended.

The subsurface survey of the project site yielded a subsurface cultural layer(s), which

has been documented and assigned a State Site number (# 50-80-14-6407) by the State Historic Preservation Division of the Department of Land and Natural Resources (SHPD/DLNR). Radiocarbon analysis of two recovered charcoal samples yielded a calibrated date range of *ca.* A.D. 1410-1640. Both samples appear to represent the same event, related to the development of an agricultural feature. No burials or dry Jaucus sand deposits were encountered. Burial finds in Waikiki have almost exclusively been associated with dry Jaucus sand deposits.

2.9.2 Historic Building Resources

Potential historic resources in the vicinity of the project site include two residential structures within the block occupied by the project site. These structures are located in TMK parcels 2-6-16:03 and 05, respectively, which are not within the project site. According to the "Waikiki Special District Design Guidelines" prepared by the City Department of Land Utilization, these structures are included on a list of properties near to or more than 50 years old that "have been identified by the State Department of Land and Natural Resources as having scenic, cultural, historic or architectural significance."

2.9.3 Cultural Impact Assessment

Based on a history of total urbanization of the area, including and surrounding the project site, over the past eight decades, and consultation with the SHPD/DLNR, no on-going cultural practices are likely due to the absence of the following:

- Surface archaeological sites within the project site;
- Known burials on the project site;
- Fishing, hunting and gathering resources or opportunities within the project site;
- Known sacred sites within the project site;
- Known historic trails traversing the project site; and,
- Known storied places (Wahi Pana) within or associated with the project site.

Impacts and Mitigation Measures

Archeological Resources: The subsurface cultural layer(s) identified in the project site (State Site # 50-80-14-6407) has the potential to yield additional significant information and limited further data collection will be conducted.

Based on the wetland type of environment that characterized the project area prior to the 1920's and the absence of dry Jaucus sands, burial finds within the project site are unlikely. If burials are inadvertently encountered during construction, however, all work will cease and the SHPD/DLNR will be notified, in accordance with Chapter 6E, Hawaii Revised Statutes.

Historical Building Resources: On July 29, 2002 Cultural Surveys Hawaii consulted with Ms. Carol Ogata, Chief, Architecture Branch, SHPD/DLNR

concerning the two residential structures. Ms. Ogata noted that, because of their age, the buildings may be eligible for nomination to State and National Registers of Historic Places. Although the two structures are not within the project site, the proposed project will modify the setting in which they are located. Notably, the structures are located in the portion of the project site proposed for at-grade parking, low-rise residential amenities and landscaped open space, as shown in Figure 4. Within this context, the impact of the proposed project on the structures' historical context would be minimized. Further consultation with the SHPD/DLNR was pursued through their review of the Draft Environmental Assessment and the Waikiki Special District Major Permit application.

Potential impacts on the two residential structures due to ground vibration from pile driving, if required during construction, are discussed in Section 2.7.

Cultural Impact Assessment: No adverse impacts on cultural practices are anticipated as a result of the proposed project.

The project developer, A&B Properties, Inc., is committed to identifying and documenting any significant archaeological, cultural, historic, architectural features, and consulting with the SHPD, OHA, Oahu Island Burial Council and other Hawaiian interest groups to that end.

2.10 Views

None of the four streets bordering the property including Ala Wai Boulevard, Kuhio Avenue, Olohana Street, or Kalaimoku Street, are identified as significant public view corridors in the Waikiki Special District Guidelines pursuant to Section 7.80-3(a) of the Land Use Ordinance. Public view corridors identified include:

- Views of Diamond Head from as many vantage points as possible, but especially from Ala Wai Boulevard and the Punchbowl lookout.
- Continuous views of the ocean along Kalakaua Avenue, from Kuhio Beach to Kapahulu Avenue.
- Intermittent ocean views from Kalia Road across Fort DeRussy Park, Ala Wai Yacht Harbor, and the Ala Wai Bridge on Ala Moana Boulevard.
- Mauka views from the following streets mauka of Kuhio Avenue:
  - Nohonani and Nahua Streets;
  - Kanekapolei and Kaiolu Streets;
  - Lewers and Walina Streets; and
  - Seaside Avenue and the Ala Wai Promenade.
- Views of Ala Wai Yacht Harbor from Magic Island Park.

Impacts and Mitigation Measures

A visual simulation was prepared to assess the impact of views from five selected public vantage points including two makai views from the Ala Wai Canal, and from the corner of Ala Wai Boulevard and Kalaimoku Street, as well as two mauka views from Kalakaua Avenue, and from the corner of Kuhio Avenue and Kalaimoku Street (see Photographs 3 through 10).

The proposed project will alter the visual setting by replacing an existing vacant property with a new low-rise commercial and high-rise residential development. None of the four streets bordering the property including Ala Wai Boulevard, Kuhio Avenue, Olohana Street, or Kalaimoku Street, however, are identified by the Urban Design Controls as major public view corridors. Further, the new structures will comply with applicable development standards of the Waikiki Special District precincts in which they are located, including those for height, density, open space and setback requirements, and will reflect a "Hawaiian Sense of Place" pursuant to the Waikiki Special District Guidelines.

2.11 Socio-Economic Characteristics

Population and Housing: The 2000 Census reported the population of Oahu at 876,156. According to a demographic profile of various Oahu neighborhoods prepared by the City's Department of Planning and Permitting using the 2000 Census data, Neighborhood Area 9: Waikiki had a population of 10,720. In comparison to Oahu as whole, the Waikiki population is generally older; has a racial mix with proportionately more Whites and less Asians and Native Hawaiian or Pacific Islanders; much lower proportion of family households and an even lower proportion of households with children under 18; proportionately lower homeownership rates; and, greater vacancy rates. (See Table 1).

Economy: As updated information from the 2000 Census regarding economic trends by census tracts in Hawaii is not yet available, data from the 1990 Census was reviewed. According to the 1990 Census data, median household income for Neighborhood Area 9: Waikiki was $26,980, which is significantly lower than the median household income of $40,581 for Oahu.

Impacts and Mitigation Measures

Population and Housing: Marginal impacts on the population and the housing inventory in Waikiki are anticipated to result from the construction and

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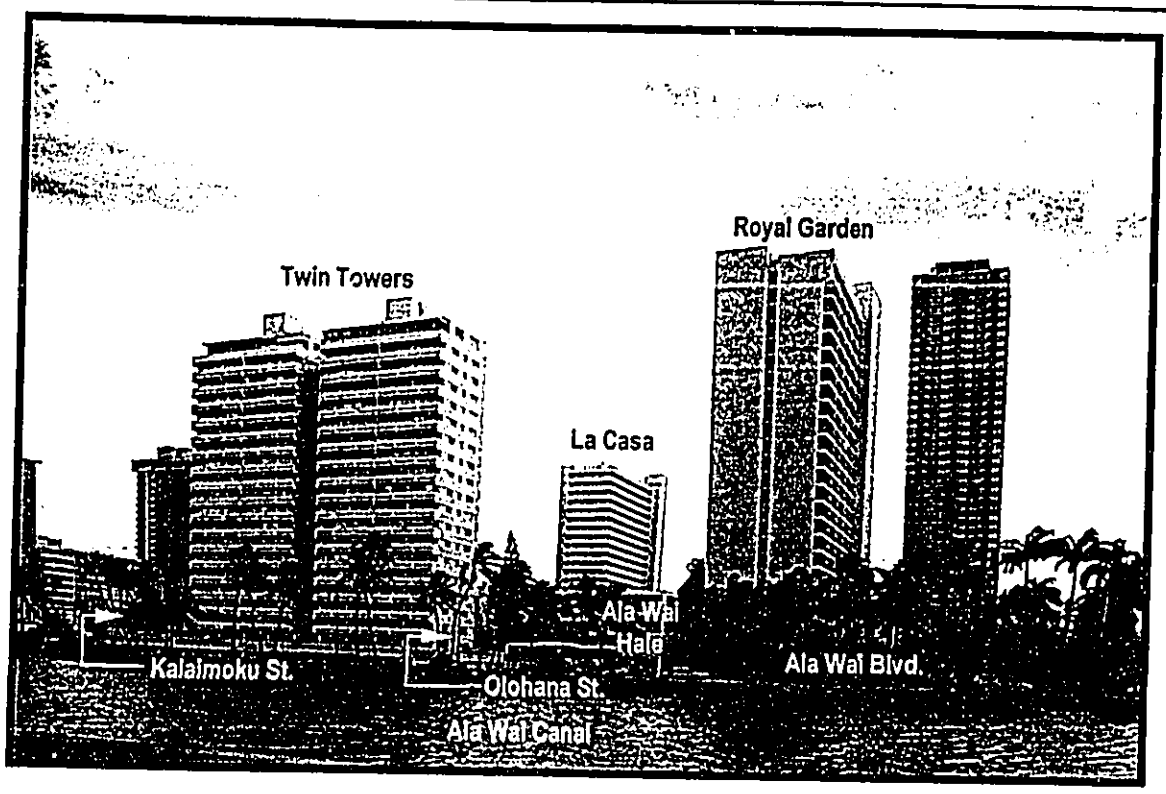

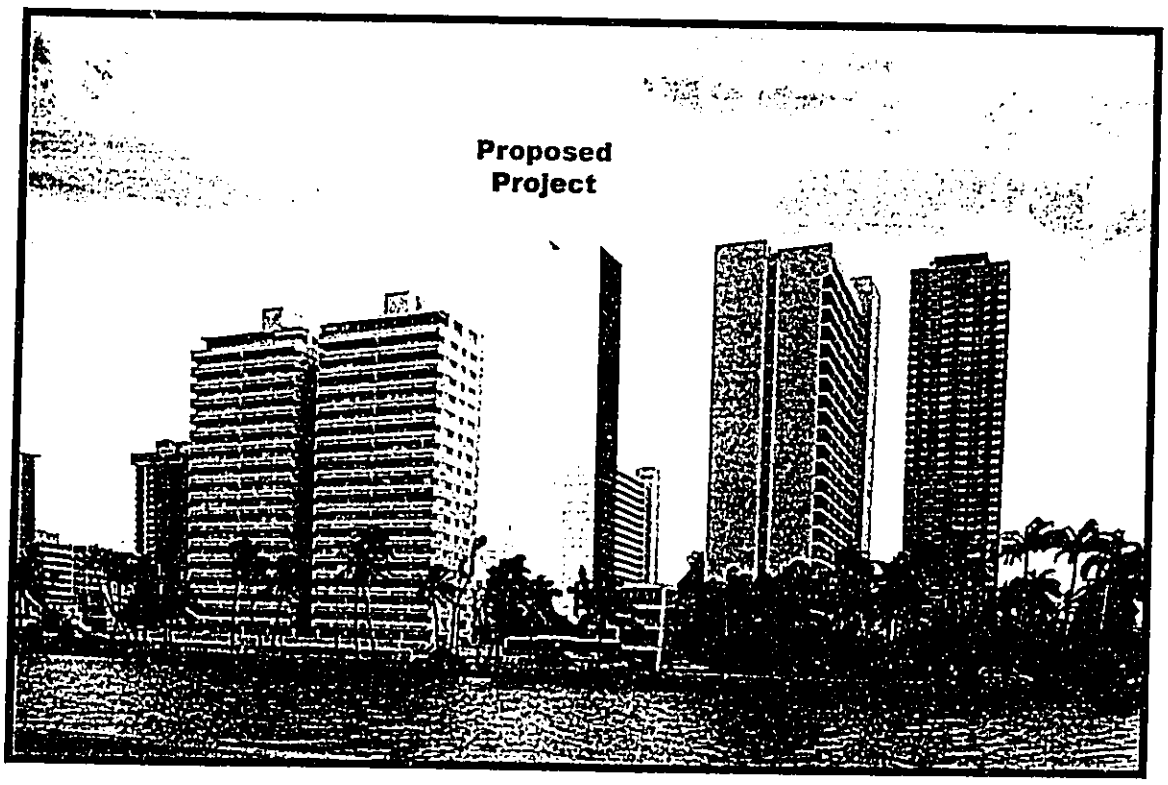

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	A & B WAIKIKI CONDOMINIUM Existing and Proposed Makai (South) View From Ala Wai Canal	PHOTOGRAPHS 3 AND 4

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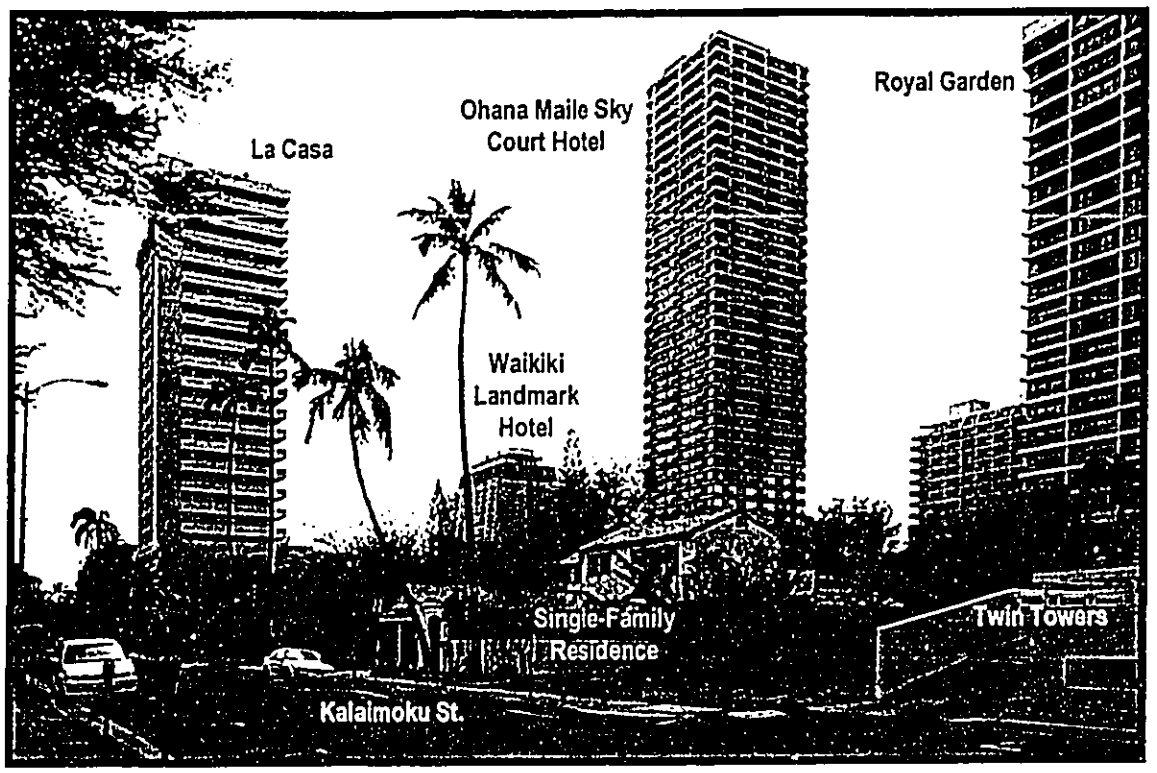

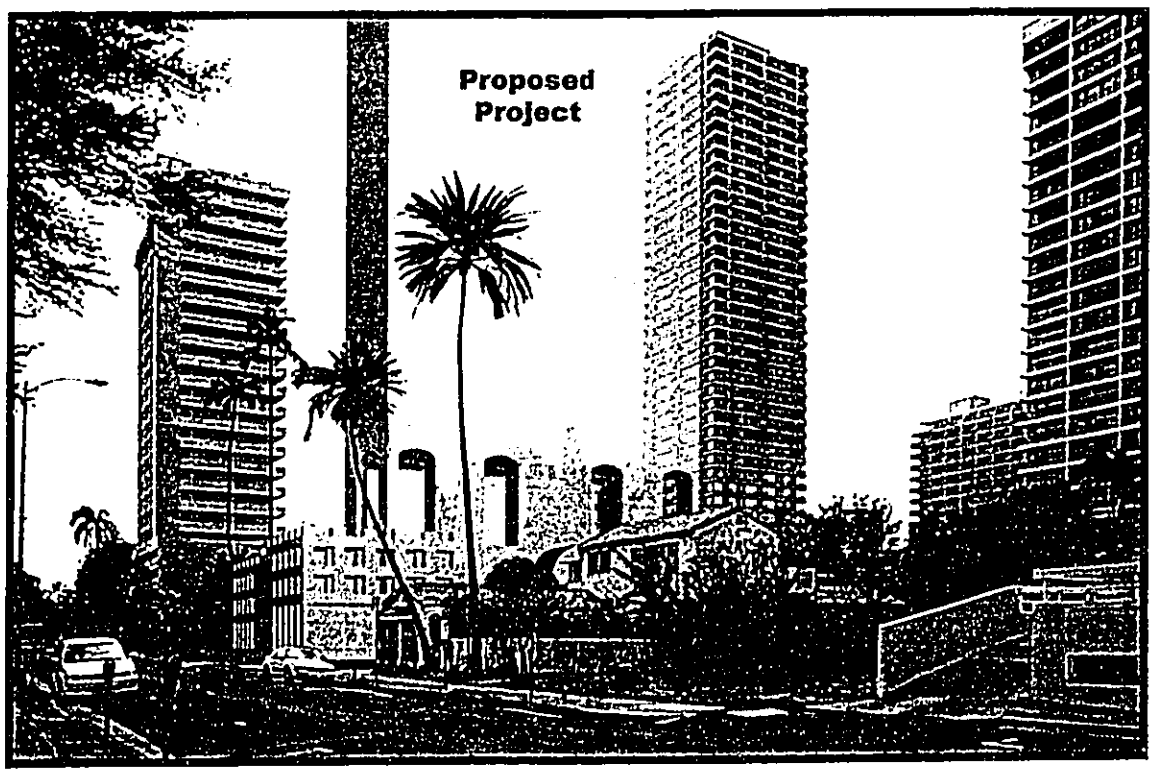

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Existing and Proposed Makai (Southwest) View From Corner of Ala Wai Boulevard and Kalaimoku Street

PHOTOGRAPHS 5 AND 6

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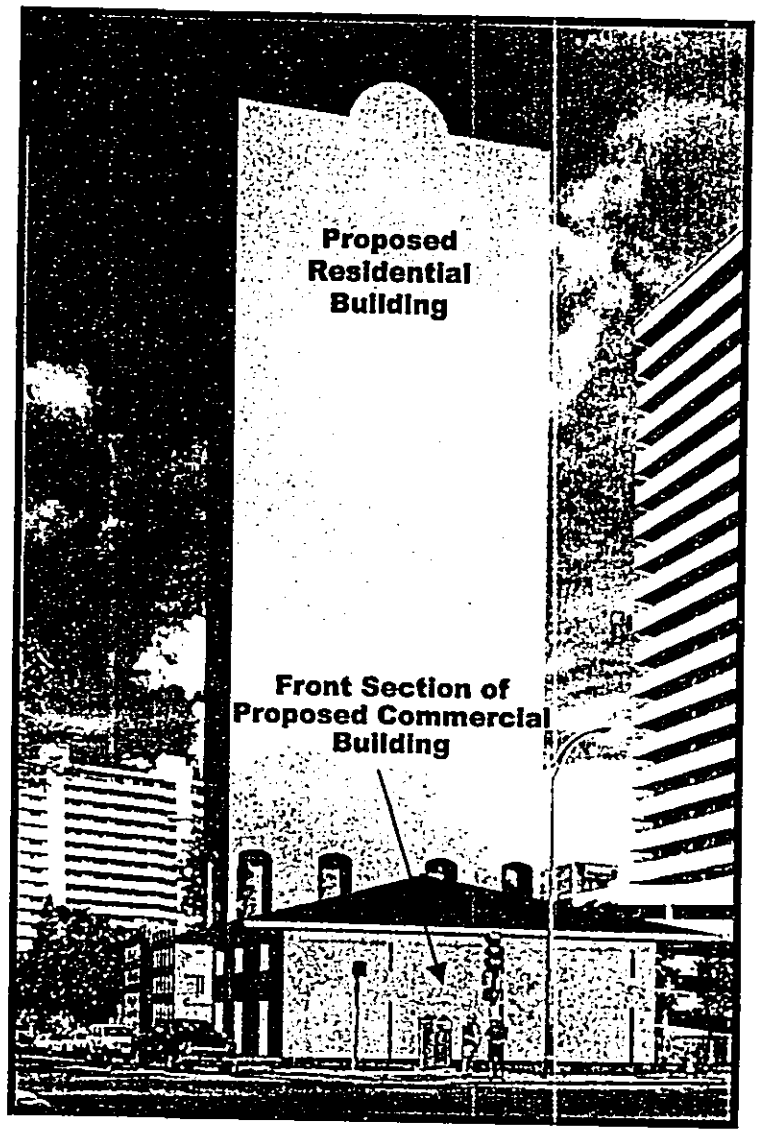

WILSON OKAMOTO
& ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Existing and Proposed Mauka (Northeast) View
From Corner of Kuhio Avenue and Olohana Street

PHOTOGRAPHS
7 AND 8

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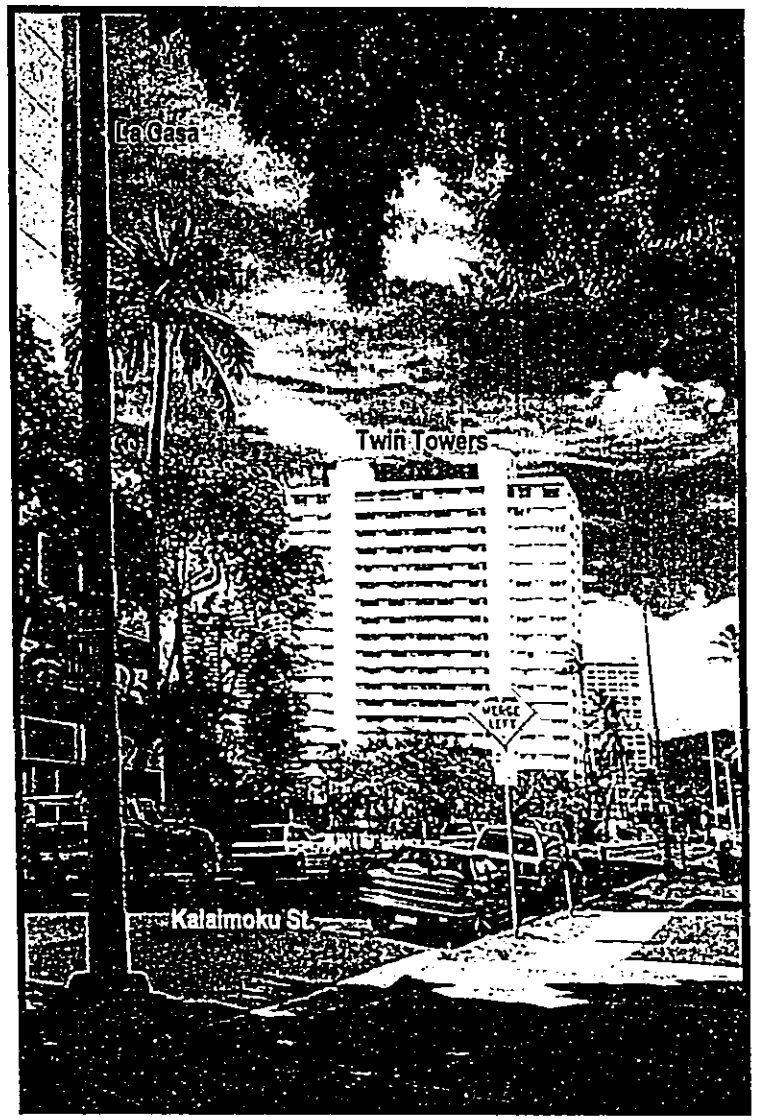

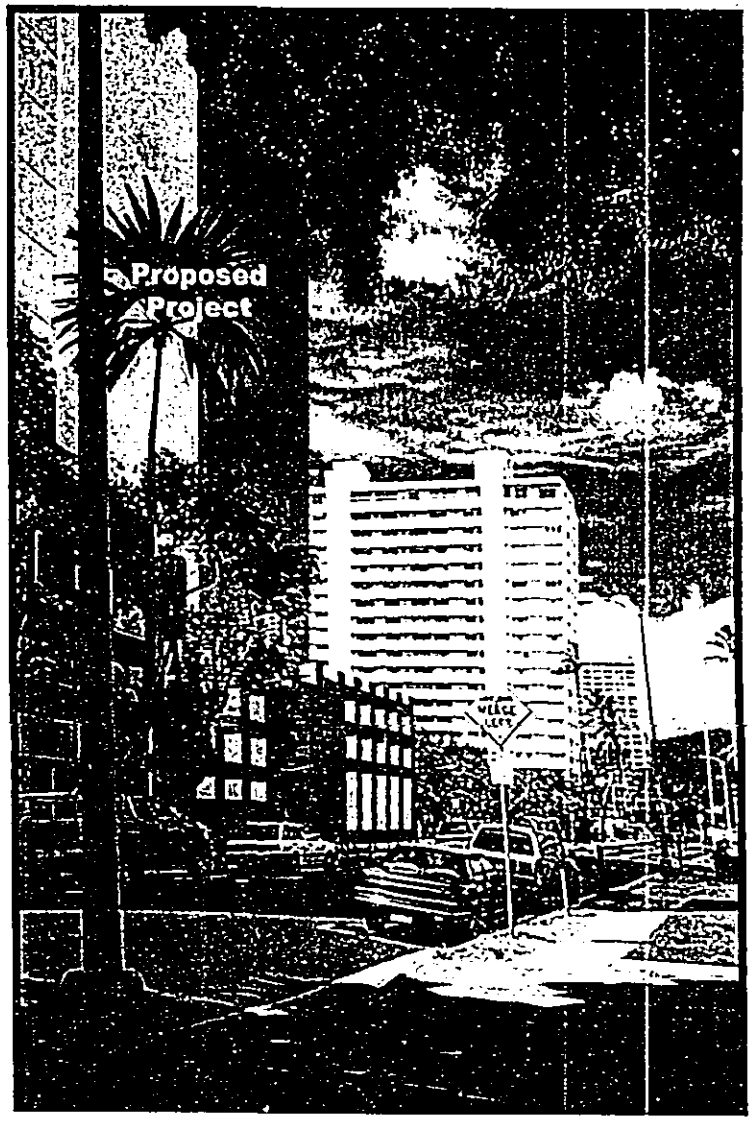

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	**A & B WAIKIKI CONDOMINIUM** Existing and Proposed Mauka (North) View From Corner of Kuhio Avenue and Kalaimoku Street	PHOTOGRAPHS 9 AND 10

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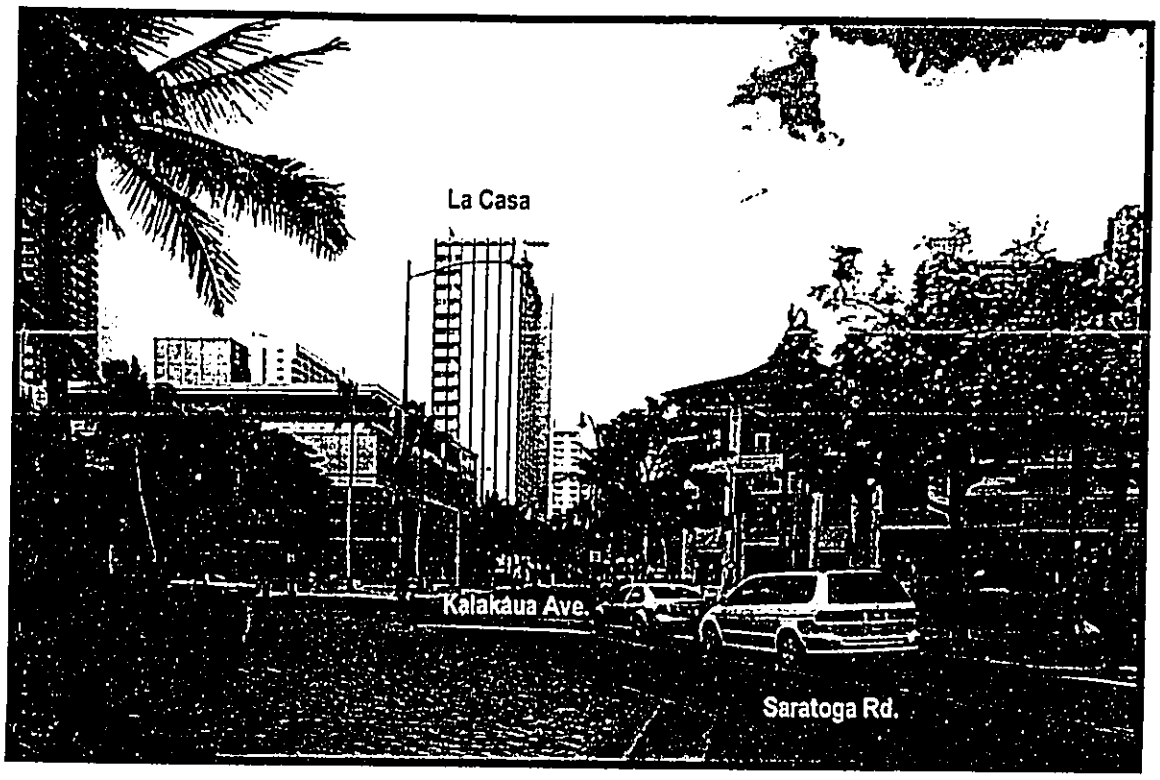

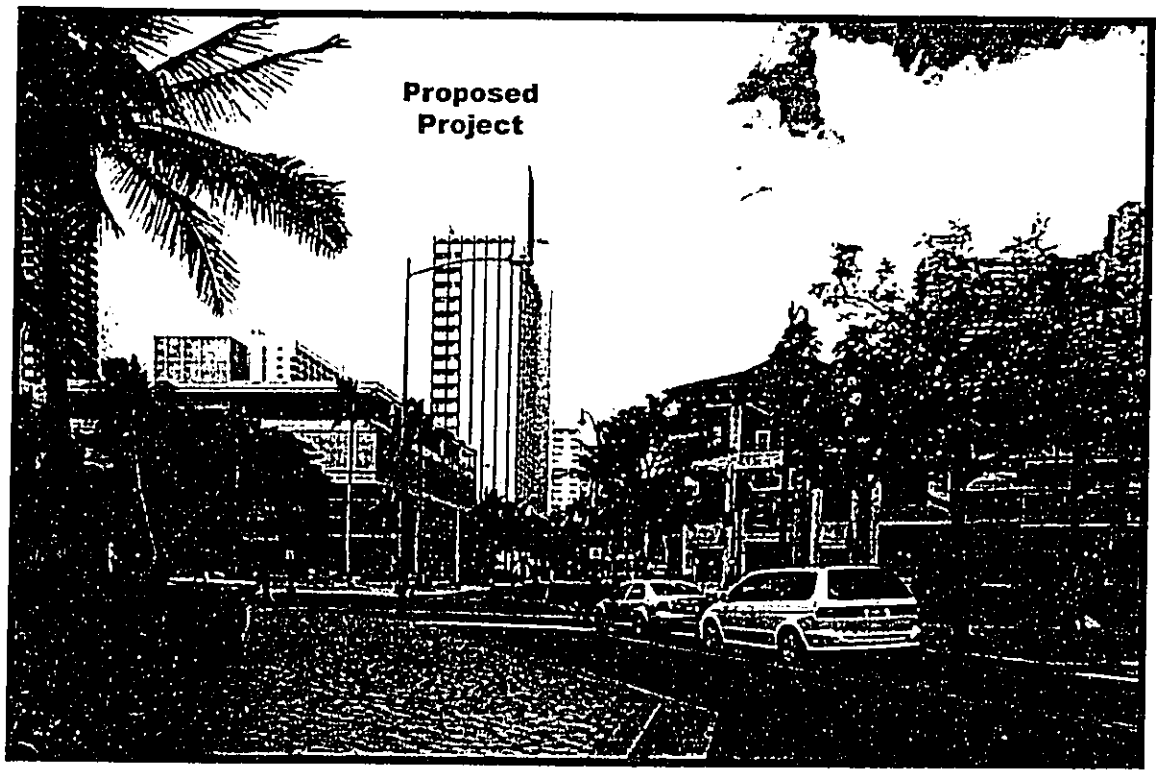

WILSON OKAMOTO & ASSOCIATES, INC. ENGINEERS - PLANNERS	A & B WAIKIKI CONDOMINIUM Existing and Proposed Mauka (North) View From Saratoga Road	PHOTOGRAPHS 11 AND 12

TABLE 1
DEMOGRAPHIC CHARACTERISTICS: 2000

Subject	Neighborhood Area #9		Oahu	
	Number	Percent	Number	Percent
Total population	**19,720**	**100**	**876,156**	**100**
AGE				
Under 5 Years	688	3.5	56,849	6.5
5 – 17 years	1,187	6.0	151,909	17.3
18 – 64 years	14,222	72.1	549,661	62.7
65 years and over	3,623	18.4	117,737	13.4
Median age (years)	42.2	--	35.7	--
RACE (alone or in combination with other races)				
White	10,005	50.7	308,838	35.2
Black or African American	605	3.1	29,764	3.4
American Indian and Alaska Native	292	1.5	15,921	1.8
Asian	8,876	45.0	539,384	61.6
Native Hawaiian and other Pacific Islander	1,725	8.7	189,292	21.6
Other	534	2.7	32,003	3.7
HOUSEHOLD (BY TYPE)				
Total Households	**11,397**	**100**	**286,450**	**100**
Family households (families)	4,087	35.9	205,672	71.8
With own children under 18 years	1,167	10.2	91,022	31.8
Married-couple family	3,129	27.5	156,195	54.5
With own children under 18 years	777	6.8	70,442	24.6
Female householder, no husband present	643	5.6	35,138	12.3
With own children under 18 years	293	2.6	15,235	5.3
Non – families	7,310	64.1	80,778	28.2
Living with nonrelatives	1,475	12.9	18,815	6.6
Living alone and 65 years and over	1,503	13.2	20,021	7.0
Average persons per household	1.72	--	2.95	--
HOUSING OCCUPANCY AND TENURE				
Total Housing Units	**18,370**	**100**	**315,988**	**100**
Occupied units	11,397	62.0	286,450	90.7
By owner	3,819	20.8	156,290	49.5
By renter	7,578	41.3	130,160	41.2
Vacant units	6,973	38.0	29,538	9.3
Available housing vacancy rate (%)	23.1		4.9	--
Homeownership rate (%)	33.5		54.6	--

Source: 2001 Census File, City & County of Honolulu, Department of Planning & Permitting

subsequent occupancy of the proposed project. The proposed project will provide approximately 100 housing units to an existing inventory of 18,370 units, an increase of about 0.5 percent. Assuming an average occupancy of 1.72 persons per household for Waikiki, the project will increase the resident population of Waikiki by approximately 172 people. This would represent a population increase of less than 1 percent for Waikiki.

Economy: In the short term, an estimated expenditure of $32 million during the anticipated 16-month construction period will confer some positive benefits to the local economy. This would include generating indirect sales of $30.7 million, for a total expenditure and sales of $62.7 million, or an annual average of $47.0 million. An annual average of 174 construction jobs and 237 support jobs would also be created, with average annual total earnings of $14.6 million over the 16-month period. State and County Tax revenue associated with construction expenditures would be $3.6 million or $2.7 million annually over the 16-month period.

2.12 Public Services

2.12.1 Police Services

Waikiki is located within the Honolulu Police Department's District 1, and is patrolled by officers stationed at the substation located on Kuhio Beach. In addition, the Aloha Patrol, which was established in 1996 and is comprised of volunteer citizens, provides an added security presence for Waikiki. Approximately four to five volunteers patrol the Waikiki area every evening, offering advice and directions to tourists and directing police attention as needed.

Impacts and Mitigation Measures

Development of the proposed project will help to improve the safety of the project area by increasing pedestrian and vehicular activity in an area that is currently subject to vagrancy and crime.

The Honolulu Police Department expressed concern regarding short-term construction-related impacts such as dust emissions, noise, and traffic in a letter dated June 7, 2002. They further indicated that they do not anticipate significant impacts on police services or facilities as a result of the project. The contractor, once selected, will coordinate with the Honolulu Police Department prior to construction commencement.

2.12.2 Fire Services

Waikiki is located within the Honolulu Fire Department's Battalion Two. It is served by the Waikiki and McCully Fire Stations located on Kapahulu Avenue and Date Street, respectively. The former is equipped with a fire engine and ladder truck, while the latter is equipped with a fire engine.

Impacts and Mitigation Measures

By constructing new facilities to current building codes and landscaping the project site, the project is anticipated to decrease the potential for on-site fires. In letters dated May 29, 2002 and October 14, 2002, the Honolulu Fire Department indicated that they do not anticipate adverse impacts on fire services as a result of the project

2.12.3 Medical Services

The proposed project is located less than five miles away from four of the state's major hospitals, including Straub Hospital, Queen's Hospital, Kapiolani Hospital for Women and Children, and the Kaiser Permanente Honolulu Clinic. These hospitals offer a full range of emergency and acute-care services. Physicians' offices are also located throughout the Honolulu area. Within Waikiki, Queen's Hospital operates a walk-in clinic at the Hilton Hawaiian Village, located approximately one mile makai of the project site.

Impacts and Mitigation Measures

No significant impacts to medical services are anticipated as a result of the project.

2.12.4 Public Educational Services

The project is located in the State Department of Education's Honolulu District, and is serviced by Ala Wai Elementary School, Washington Middle School, and Kaimuki High School.

Impacts and Mitigation Measures

The proposed project may increase the number of students enrolled at the aforementioned public schools, contingent on the number of school-aged children expected to live at the project. In a letter dated May 31, 2002, the State of Hawaii Department of Education confirmed that the project is consistent with its state land use designation and county zoning.

2.12.5 Recreation

Various public recreational opportunities are provided throughout Waikiki. These include Waikiki, De Russy, Sans Souci, and Queens Surf beaches, Kapiolani Park, Ala Wai Golf Course, Ala Wai Field and Golf Course, Ala Wai Canal, and Ala Wai Boat Harbor.

Impacts and Mitigation Measures

Since the project will include residential units, it will be subject to compliance with Park Dedication Ordinance No. 4621. The ordinance requirements may be satisfied through the provision of park lands, payment of fees equal to the land area required, provision of privately maintained parks and playgrounds, or any

combination equal to the dedication requirements. The provision of on-site private park area is proposed to fulfill the requirements for park dedication.

2.13 Traffic

A Traffic Impact Report for the proposed project was prepared for the proposed project by Wilson Okamoto & Associates, Inc. in August 2002. Excerpts from the report are included herein, while the report in its entirety is attached as Appendix E.

Ala Wai Boulevard borders the north edge of the block occupied by the project site. Ala Wai Boulevard serves as the westbound component of a one-way couplet system with eastbound Kalakaua Avenue, which lies one block further south of the project site. The couplet system serves as the primary vehicular access route through most of Waikiki. Ala Wai Boulevard runs along the northern edge of Waikiki between Kapahulu Avenue to the east and terminates as a dead-end road at Ala Moana Boulevard. While traffic in Waikiki is stimulated by both the visitor industry and the overall growth of Oahu, the traffic volumes on Ala Wai Boulevard have experienced minimal growth in recent years.

Between the one-way couplet of Ala Wai Boulevard and Kalakaua Avenue, Kuhio Avenue provides an alternate two-way access for east and west-bound traffic through the core of Waikiki. Extending as a fork from Kalakaua Avenue to the west, Kuhio Avenue runs along the southern edge of the block occupied by the project site and continues eastward, terminating at its intersection with Kapahulu Avenue. Left turn storage lanes on Kuhio Avenue are provided at major intersections. Like Ala Wai Boulevard, traffic volumes on Kuhio Avenue have experienced minimal growth in recent years.

In the vicinity of the project site, Ala Wai Boulevard is a four-lane, one way westbound City and County of Honolulu roadway with a posted speed limit of 35 miles per hour (mph) with parking restrictions on the north side of the roadway during peak traffic periods. At the northwest corner of the block occupied by the project site, Ala Wai Boulevard intersects with Olohana Street, a two-lane, one-way southbound City and County of Honolulu roadway with a posted speed limit of 25 mph. At this unsignalized intersection, the only vehicular approach to the intersection is westbound from Ala Wai Boulevard, which serves through and left-turn movements. At the northeast corner of the block occupied by the project site, Ala Wai Boulevard intersects with Kalaimoku Street, a predominantly two-lane, one-way northbound City and County of Honolulu roadway with a posted speed limit of 25 mph. The intersection of Ala Wai Boulevard and Kalaimoku Street is controlled by a two-phase traffic signal system. The northbound approach of Kalaimoku Street serves left-turn movements, while the westbound approach of Ala Wai Boulevard serves through movements.

Approximately 600 feet south of the intersection with Ala Wai Boulevard, at the southeast corner of the block occupied by the project site, Kalaimoku Street intersects with Kuhio Avenue, a two-lane, two-way City and County of Honolulu roadway with a

posted speed limit of 25 mph. Vehicular movements at the intersection of Kuhio Avenue and Kalaimoku Street are controlled by a traffic signal system. The eastbound approach on Kuhio Avenue serves through and right-turn movements and the westbound approach serves through and left-turn movements. The northbound approach on Kalaimoku Street serves through, left, and right-turn movements.

Approximately 250 feet west of the intersection with Kalaimoku Street, at the southwest corner of the block occupied by the project site, Kuhio Avenue intersects with Olohana Street. Vehicular movements at the intersection of Kuhio Avenue and Olohana Street are controlled by a traffic signal system. The eastbound and westbound approaches on Kuhio Avenue serve through and left-turn, and through and right-turn movements, respectively. The southbound approach on Olohana Street serves through, left-, and right-turn movements.

A field investigation was conducted on May 9, 2002 and consisted of manual turning movement count surveys between the morning peak hours of 7:00 AM and 9:00 AM, and the afternoon peak hours of 4:00 PM and 6:00 PM at the following intersections:

- Ala Wai Blvd and Kalaimoku St.;
- Ala Wai Blvd and Olohana St.;
- Kuhio Ave and Kalaimoku St.; and
- Kuhio Ave and Olohana St.

A highway capacity analysis based upon "Highway Capacity Manual", Transportation Research Board, 2000, and the "Highway Capacity Software", developed by the Federal Highway Administration was used to determine the Level of Service (LOS) for these intersections. LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions. The existing LOS conditions for these intersections during the morning and afternoon peak hours, respectively, are presented in Table 2 under the "Existing" column.

Impacts and Mitigation Measures

Traffic impacts of the proposed project were assessed based on a comparison of future LOS conditions without the project in year 2005 and conditions with the project. Future LOS conditions without the project in 2005 were projected based upon historical traffic count data obtained from the State DOT, Highways Division. This data were analyzed by linear regression techniques to obtain an annual traffic growth rate of approximately 1.6% compounded over a three-year period, using 2002 as the Base Year. This rate was applied to existing traffic movements on Ala Wai Boulevard and Kuhio Avenue to achieve the projected 2005 traffic demand.

Traffic associated with future development anticipated to be completed by 2005 was also considered. This included the 2100 Kalakaua retail/commercial project (formerly known as King Kalakaua Plaza, Phase II) currently under construction in the block southeast of the project site, and anticipated to be completed in 2002. Traffic data associated with this project was derived from the "Traffic Impact Report of the King Kalakaua Plaza, Phase II" (November 1998).

Future traffic conditions in 2005 without the proposed project, which includes projected historic growth in traffic volume, as well as completion of the 2100 Kalakaua project, is shown in Table 2 for the study intersections during the morning and afternoon peak traffic hours.

Table 2
Comparison Of Existing And Projected Level of Service
Traffic Operating Conditions

Intersection	Approach/ Movement	AM			PM		
		Existing	Year 2005 w/Out Project	Year 2005 w/ Project	Existing	Year 2005 w/Out Project	Year 2005 w/ Project
Ala Wai Blvd. / Kalaimoku St.	Northbound	B	B	B	B	B	C
	Westbound	B	B	B	B	B	B
Kuhio Ave. / Kalaimoku St.	Northbound	B	B	B	B	B	B
	Westbound	B	B	B	B	B	B
	Eastbound	B	B	B	B	B	B
Kuhio Ave. / Olohana St.	Southbound	B	B	B	B	C	C
	Westbound	B	B	B	B	C	C
	Eastbound	B	B	B	B	C	C

Future traffic conditions in 2005 with the proposed project were projected using generally accepted techniques and procedures developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 6th Edition," 1997. The ITE trip rates are developed empirically by correlating the trip generation data with various land use characteristics, such as the number of dwelling units and square footage of development. Future traffic conditions in 2005 with the proposed project were derived by superimposing project-related traffic on future condition without the project, as shown in Table 2 for the study intersections during the morning and afternoon peak traffic hours.

Within the project vicinity, traffic conditions in Year 2005 with the proposed project are expected to be similar to conditions without the proposed project. All approaches at the Kuhio Avenue and Kalaimoku Street intersection will continue

to operate well at LOS "B" conditions, while all approaches at the intersection of Kuhio Avenue and Olohana Street will continue to operate at acceptable LOS "C" conditions. At the intersection of Ala Wai Boulevard and Kalaimoku Street, the through movement of the westbound approach on Ala Wai Boulevard will continue to operate well at LOS "B," however, the left-turn movement on the northbound approach will operate at a slightly lower but acceptable LOS "C."

Based on the analysis of traffic impacts attributable to the proposed project, the following recommendations will be incorporated in the project design:

1. Maintain sufficient sight distances for motorists to safely enter the exit the project access driveways.

2. Provide adequate on-site loading and of-loading service areas and prohibit off-site loading operations.

3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project property. Avoid vehicle reversing maneuvers onto City streets.

4. Provide sufficient driveway width and storage to accommodate safe vehicle ingress and egress.

5. Provide sufficient turning radii for drop-off.

By implementing the above recommendations, the proposed Waikiki Condominium project will not have a significant impact on traffic operations in the vicinity of the project site.

2.14 Utilities

Water: The water system in the project vicinity includes 12-inch waterlines in Olohana as well as Kalaimoku Streets, and 16- and 24-inch waterlines in Kuhio Avenue. There are five existing fire hydrants in the project vicinity including two along Olohana Street, one at the corner of Kuhio Avenue and Olohana Street, and two along Kalaimoku Street.

Wastewater: The wastewater system in the project vicinity includes a 6-inch sewer line traversing the middle of the project site from the mauka property boundary to Kuhio Avenue. In addition, there are 10-inch sewer lines along both Olohana and Kalaimoku Streets, as well as a 16-inch sewer line along Kuhio Avenue.

Preliminary investigations indicate that the aforementioned 6-inch sewer line within the project site serves the Twin Towers condominium, located immediately mauka of the project site. The sewer line also appears to serve the two adjacent single-family

residences located along Kalaimoku Street. The La Casa condominium appears to be served by the existing 16-inch sewer line along Kuhio Avenue.

Drainage: The drainage system in the project vicinity includes an 18-inch drain line located along Kuhio Avenue, and which flows into a 24-inch drain line located along Kalaimoku Street. Catch basins located at the corners of Kuhio Avenue and Olohana Street, and Ala Wai Boulevard and Kalaimoku Street, as well as mid-block on Kalaimoku Street are connected to the drainage system, which discharges into the Ala Wai Canal.

Gas: The Gas Company currently maintains a 6-inch gas main along Kuhio Avenue. In addition, 2-inch gas lines are located along Olohana and Kalaimoku Streets.

Impacts and Mitigation Measures

Water: The City and County of Honolulu Board of Water Supply (BWS) indicated in letters dated June 3, 2002 and October 11, 2002 that the existing water system is presently adequate to accommodate the proposed project. However, final approval by the BWS to connect to the system will be made during the building permit process. The BWS also indicated that the project is subject to Cross-Connection Control and Backflow Prevention requirements prior to approval of the building permit. The developer will also be responsible for Water System Facility Charges.

Wastewater: On July 16, 2001, the City and County of Honolulu Department of Planning and Permitting approved a Sewer Connection Application for 115 residential units within the project. No wastewater system facility charges for the project will be required for the condominium tower. A separate Sewer Connection Application will be required for the proposed commercial building.

To accommodate the proposed project, the 6-inch sewer line within the project site is proposed to be rerouted to discharge into the existing 10-inch sewer line located along Kalaimoku Street.

Drainage: The City and County of Honolulu's Department of Planning and Permitting's (DPP) current policy on storm water run-off requires that there be "no increase" in additional run-off quantities allowed from the site when comparing pre-development to developed conditions. The open space provisions of the project will minimize paved and roofed areas and provide landscape buffers to absorb storm water. If the project results in an increase in storm water run-off, however, an on-site retention/percolation system will be incorporated into the project design.

A Drain Connection License will be required by the DPP in the event that any new drain connections are required for the project.

3. RELATIONSHIP TO PLANS, POLICIES AND CONTROLS

This section discusses State and County of Maui land use controls, and County plans and policies relating to the proposed project.

3.1 State Land Use District

The Hawaii Land Use Law of Chapter 205, Hawaii Revised Statutes, classifies all land in the State into four land use districts: Urban, Agricultural, Conservation, and Rural. The project site is designated within the Urban District which includes *"lands characterized by city-like concentrations of people, structures, streets, urban level of services and other related land uses."* The proposed project is consistent with the Urban classification.

3.2 City and County of Honolulu

3.2.1 General Plan

The General Plan for the City and County of Honolulu (adopted 1977) was amended by the City Council in 1992. The Plan is a statement of the long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of Oahu. The Plan is also a statement of broad policies which facilitate the attainment of the objectives of the Plan. Eleven subject areas provide the framework for the City's expression of public policy concerning the needs of the people and functions of government. These areas include population; economic activity; the natural environment; housing; transportation and utilities; energy; physical development and urban design; public safety, health and education; culture and recreation; and government operations and fiscal management. The relationship of the proposed project to the relevant objectives and policies of the General Plan are as follows:

II. Economic Activity

Objective B: To maintain the viability of Oahu's visitor industry.

Policy 2: Provide for a high quality and safe environment for visitors and residents in Waikiki.

Policy 3: Encourage private participation in improvements to facilities in Waikiki.

Comment: The proposed project will contribute to the viability of the visitor industry by redeveloping an existing vacant property with a new residential and commercial development that is consistent with the Waikiki Special District to promote renovation, replacement and enhancement in the resort districts promote a "Hawaiian Sense of Place" and preserve views and unique Hawaiian features. Development of the proposed project will help to improve public safety in the

project vicinity by increasing pedestrian and vehicular activity in an area that is currently subject to vagrancy and crime.

III. Natural Environment

Objective A: To protect and preserve the natural environment.

Policy 4: Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.

Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.

Policy 9: Protect mature trees on public and private lands and encourage their integration into new developments.

Comment: The proposed project is generally consistent with the General Plan's objectives and policies to protect and preserve the natural environment. With the exception of short-term construction-related impacts, it will not be a significant source of long-term air, water or noise pollution. In addition, no unique or endangered species of flora or fauna, nor any critical habitat, been identified at or near the project site. The existing vegetation on the property was evaluated by an arborist to determine the suitability of the trees for preservation and incorporation into the projected project's landscaping. The arborist determined that, of the 16 trees existing on-site, five were suitable to be retained. These trees are currently being considered for incorporation into the project's landscape design.

IV. Housing

Objective A: To provide decent housing for all the people of Oahu at prices they can afford.

Policy 3: Encourage innovative residential development which will result in lower costs, added convenience and privacy, and more efficient use of streets and utilities.

Comment: The proposed project will increase the inventory of moderately-priced, high quality residential condominiums in Waikiki. The project will be integrated with the existing roadway and utility system in the immediate vicinity, and will not require the development of new roadways or offsite infrastructure.

VII. Physical Development and Urban Design

Objective A: To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.

Policy 2: Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.

Policy 5: Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.

Policy 9: Exclude from residential areas, uses which are major sources of noise and air pollution.

Objective B: To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island's primary urban center.

Policy: 3: Encourage the establishment of mixed-use districts with appropriate design and development controls to ensure an attractive living environment and compatibility with surrounding land uses.

Policy 5: Encourage the development of attractive residential communities in downtown and other business centers.

Objective E: To create and maintain attractive, meaningful, and stimulating environments throughout Oahu.

Policy 4: Require the consideration of urban-design principles in all development projects.

Policy 6: Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.

Policy 8: Preserve and maintain beneficial open space in urbanized areas.

Comment: The proposed project is consistent with the policies to promote development in the Primary Urban Center. With the exception of short-term, construction-related impacts, the project will not be a major source of air or noise pollution and, therefore, it will be compatible with the neighboring high-rise residential developments. The project is also consistent with the policy to provide for more compact development and intensive use of urban lands because it utilizes

the allowable height limit for the property, and complies with open space requirements that can be provided.

VIII. Public Safety

Objective B: To protect the people of Oahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.

Policy 2: Require all developments in areas subject to floods and tsunamis to be located and constructed in a manner that will not create any health or safety hazard.

Policy 6: Reduce hazardous traffic conditions.

Policy 7: Provide adequate fire protection and effective fire prevention programs.

Comment: Development of the proposed project will help to improve public safety in the project vicinity by increasing pedestrian and vehicular activity in an area that is currently subject to vagrancy and crime. The project will be constructed in compliance with all applicable building codes to ensure that public health and safety are protected, particularly during times of natural emergencies. The commercial component of the project has been designed to accommodate dual access via Olohana Street, as preferred by the City and County of Honolulu Department of Transportation Services. Other driveway accesses have been designed for one-way ingress or egress to facilitate greater efficiencies in traffic circulation, particularly given the one-directional traffic patterns on Olohana and Kalaimoku Streets.

X. Culture and Recreation

Objective B: To protect Oahu's cultural, historic, architectural, and archaeological resources.

Policy 2: Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.

Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 9: Require all new developments to provide their residents with adequate recreation space.

Policy 10: Encourage the private provision of recreation and leisure-time facilities and services.

Comment: Based on the results of the archaeological inventory survey prepared by Cultural Surveys Hawaii (See Appendix D), no *iwi kupuna* (human burials) were identified on the project site. However, two agricultural features were identified and, as such, limited data recovery appears warranted. The project developer, A&B Properties, Inc., is committed to identifying and documenting any significant archaeological, cultural, historic, architectural features, and consulting with the SHPD, OHA, Oahu Island Burial Council and other Hawaiian interest groups to that end.

Since the project will include residential uses, it will be subject to compliance with Park Dedication Ordinance No. 4621. The ordinance requirements may be satisfied through the provision of park lands, payment of fees equal to the land area required, provision of privately maintained parks and playgrounds, or any combination equal to the dedication requirements. The provision of on-site private park area is proposed to fulfill the requirements for park dedication.

3.2.2 Primary Urban Center Development Plan

The City and County of Honolulu's Development Plan (DP) program provides a relatively detailed framework for implementing the objectives and policies of the General Plan on an areawide basis. Eight Development Plans have been adopted covering the entire island. The Development Plan Ordinance consists of Common Provisions applicable to all Development Plan areas, Special Provisions for each area, Land Use Map, and Public Facilities Map. The Development Plan Land Use Maps depict land use patterns which are consistent with the objectives and policies for the General Plan.

The project site is located within the Primary Urban Center (PUC) area which includes the communities from Waialae-Kahala to Pearl City. It is the most populated part of the State and is Oahu's largest employment center.

The proposed project is consistent with the following principles which outline the desired three-dimensional implication of the land use pattern depicted on the land use map to be implemented through public and private actions:

(2) *"Medium and higher density residential uses shall occur along the coastal plain, near the major travel corridors, with maximum heights primarily occurring within the central urban core. Medium- and high-rise residential buildings shall be sufficiently spaced for recreational and visual purposes. Suburban low-density, low-rise residential development shall remain along the lower mountain ridges and inner valley floors, and in the coastal areas of Kahala and Diamond Head."*

(3) *"Commercial uses shall continue to be located along the major roadways, with the exception that small neighborhood oriented commercial uses may be located within low-density residential and apartment areas. Apartments in mixed use with commercial shall be permitted, subject to appropriate zoning regulations and*

where: (A) public facilities and services are adequate to serve mixed uses; (B) the area is accessible by major transportation corridors; and (C) such uses area compatible with adjacent uses, within the special areas designated in Section 24-2.2(b) of this development plan "

(8) *"The visual impact of taller structures along major roadways and pedestrian corridors shall be minimized through the use of appropriate building setbacks plantings adjacent to walkways, and open space areas."*

Comment: The proposed project complies with the floor area density, height limit, open space and setback requirements set forth by the Waikiki Special District (See Section 3.2.3 below).

The Proposed Primary Urban Center Development Plan dated May 2002 establishes five key elements of the vision for the region. Two of those key elements are pertinent to the proposed project including:

(2) "Livable neighborhoods have business districts, parks and plazas, and walkable streets."

(3) "The PUC offers in-town housing choices for people of all ages and incomes."

Comment: The proposed project will support livable neighborhoods, provide commercial space, park space, and provide in-town housing choices for people.

The proposed project will increase the inventory of moderately-priced, high quality residential condominiums in Waikiki. It will contribute to the viability of the visitor industry by redeveloping an existing vacant property with a new residential and commercial development that is consistent with the Waikiki Special District to promote renovation, replacement and enhancement in the resort districts promote a "Hawaiian Sense of Place" and preserve views and unique Hawaiian features. Development of the proposed project will help to improve public safety in the project vicinity by increasing pedestrian and vehicular activity in an area that is currently subject to vagrancy and crime.

3.2.3 Land Use Ordinance and Waikiki Special District

The project site is located within the Waikiki Special District (WSD) which provides unique zoning precincts with associated land use and design standards that are generally more stringent that those applicable to the rest of Oahu. The District was established in 1976 to preserve and enhance the character of Waikiki, and to maintain a balance in Waikiki's mix of resort, commercial, residential and recreational use. In February, 1996 the City Planning Department published the Waikiki Planning and Program Guide to provide an overview of recent efforts toward the continued improvement and enhancement of Waikiki. Among its recommendations were amendments to the WSD to promote renovation,

replacement and enhancement in the resort districts, promote a "Hawaiian Sense of Place" and preserve views and unique Hawaiian features. Subsequently, significant amendments to the WSD were made which are intended to implement the recommendations. The District was established in 1976 to preserve and enhance the character of Waikiki, and to maintain a balance in Waikiki's mix of resort, commercial, residential and recreational use.

The project site lies within the Apartment precinct and the Apartment Mixed Use sub-precinct (see Figure 10). As such, pursuant to the requirements of the Waikiki Special District, the proposed project will require a major WSD Permit. The 19 continguous parcels are proposed to be jointly developed as a single zoning lot through a Conditional Use Permit (CUP minor).

The project is currently in the schematic phase of design and, therefore design details, including specific building articulation, material and color, ground level and yard features, and lighting are unavailable at this time. However, at this early stage of design, serious intent to address the "Hawaiian Sense of Place" is manifested in the allocation and configuration of the open space. Given the setback restrictions on the project site, the required open space is carefully laid to out to accommodate a large portion of the required open space. This area will be generously landscaped.

Specific information will become available as the project design progresses and, during the processing of the WSD Major Permit, these details will be finalized and will comply with all WSD permitting requirements. The following discusses, in general terms, the ideas in which the project will address a "Hawaiian Sense of Place".

- Landscaped areas of the project will encompass approximately half of the project's required open space. A circular landscaped feature reminiscent of street roundabouts used in the past, such as the palm circle within Fort Shafter, will be incorporated into the entry driveway;

- Gathering places will be incorporated into the development of ground level open spaces as shown on the conceptual site plan, including the area fronting the commercial building along Kuhio Avenue, pool area, and the picnic area adjacent to the pool;

  The general articulation of the exterior of the building will be carefully studied in the design development phase of the design to create opportunities for incorporation of thematic elements on the façades that represent Hawaiian lore and style. Specifically, the garage structure, being the closest to the pedestrian vista, will be looked at as one of the project's element that will create the first visual impression of the "Hawaiian Sense of Place". The roof will also be designed to cap and complement the design elements that will be established for the project.

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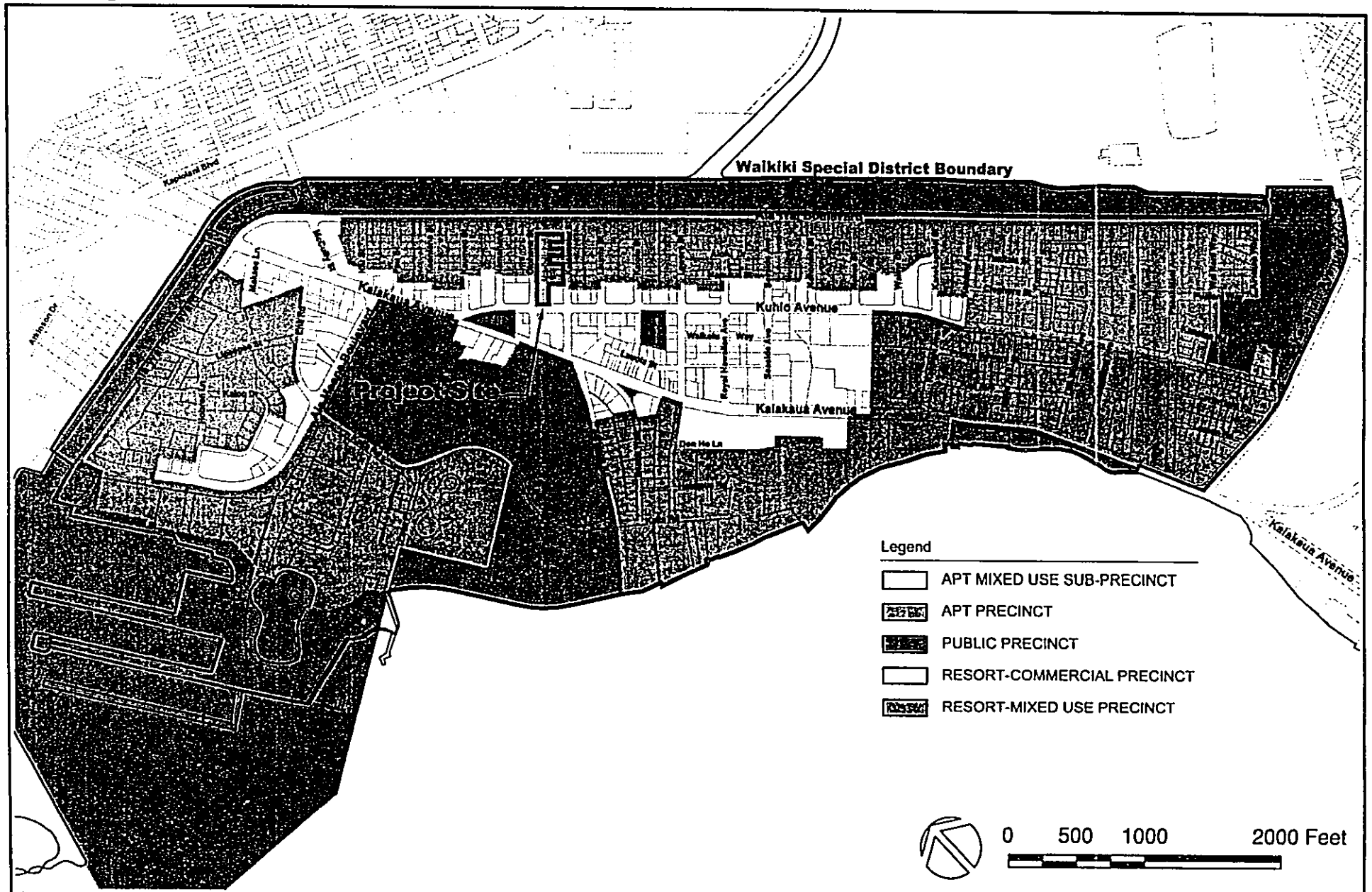


WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Waikiki Special District Map

FIGURE **10**

designed to cap and complement the design elements that will be established for the project;

- For historical reference, exterior paving materials that will be evocative of materials used in Hawaii's historically significant areas will be incorporated into the project;

- Fences and gates around the project site will be designed to echo traditional fence and gate designs used in historically significant buildings in Honolulu, such as at the Iolani Palace and the YWCA at Richards Street; and

- Site lighting standards to be selected will have historical links to Old Waikiki by way of its design and style.

The project site is located within and will conform to the allowable uses and design standards of the Apartment Precinct (see Figure 10). The proposed commercial building will be used for a "Permitted Principal Use(s)" and will be subject to the Development Standards for the Precinct, including those governing lot area/dimensions, yards, density, open space, heights and transitional height setbacks.

The height limit for the project site, as established by the Waikiki Special District Urban Design Controls is 300 feet (LUO Section 7.80-7 *Apartment Precinct,* Table 7.6(B) *Waikiki Special District Precincts Development Standards,* and Exhibit 7-15 *Waikiki Special District Urban Design Controls*). The height of the residential building in the proposed project is approximately 300 feet and complies with the height limit for this area.

The permitted density for the proposed project is established in LUO Section 7.80-7 Apartment Precinct and Table 7.6(B) *Waikiki Special District Precincts Development Standards*. The permitted density determines the amount of floor area that may be developed on the project site. Density is defined by the allowable Floor Area Ratio (FAR) which is basically the ratio of floor area to the land area of the project site. Within the Apartment Precinct, the land area used in the calculation allows one-half of the area of adjacent streets to be included. Based on a preliminary calculation, up to 146,025 sf of floor area can be developed on the project site. By comparison, the proposed project provides approximately 130,275 sf of floor area and, therefore, is in compliance with the floor area requirement.

The Waikiki Special District also includes provisions for the protection of prominent view corridors (LUO Section 7.80-3). None of the four streets bordering the property including Ala Wai Boulevard, Kuhio Avenue, Olohana Street, or Kalaimoku Street, are identified by the Urban Design Controls as major public view corridors.

Pursuant to the requirements of the Waikiki Special District, the proposed project will require a major WSD Permit, which would be reviewed as a new building (LUO Section

7.80-9 *Tables for Permitted Uses and Structures, Development Standards and Project Classification* and Table 7.6(C) *Waikiki Special District Project Classification*). A WSD minor permit will also be required for the removal of trees over six inches in diameter. The WSD major permit requires a presentation of the proposed project to the Waikiki Neighborhood Board No. 9 and a public hearing. The application is subsequently acted upon by the Director of Planning and Permitting. The WSD minor permit is also acted upon by the Director of Planning and Permitting, but does not require a public hearing.

3.2.4 Special Management Area

The project site is located outside the boundaries of the City and County of Honolulu's Special Management Area (SMA) and, is therefore, not subject to the provisions of the SMA Use Permit.

3.2.5 Park Dedication Ordinance

Since the project will include residential uses, it will be subject to compliance with Park Dedication Ordinance No. 4621. The ordinance requirements may be satisfied through the provision of park lands, payment of fees equal to the land area required, provision of privately maintained parks and playgrounds, or any combination equal to the dedication requirements. The provision of an on-site private park area is proposed to fulfill the requirements for park dedication.

3.3 Guidelines for Sustainable Building Design in Hawai'i

The *Guidelines for Sustainable Building Design in Hawai'i* as adopted by the Environmental Council on October 13, 1999, have been refined by the Office of Environmental Quality Control to aid design teams in creating projects that will have a minimal impact on Hawai'i's environment and use natural resources wisely. According to the Guidelines, *"A sustainable building is built to minimize energy use, expense, waste, and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai'i's residents and visitors today without compromising the needs of future generations."*

Comment: The proposed project will incorporate the following techniques for sustainable building design:

- Shading devices on exterior of building to shade windows and minimize solar heat gain to the building, thereby reducing the need for air conditioning;
- Air conditioners with a heat pump system to reduce electrical demand and operational costs by eliminating the need for chillers;
- Natural, cross circulation in the parking garage to minimizes the need for mechanical means of ventilation;
- Preconditioning (moisture removal) air entering the building to minimize the potential for mold growth;
- Tightly fitting doors to reduce the amount of moisture entering the residential units to reduce air conditioning requirements and the potential for mold growth;
- Using locally produced concrete, which contains less embodied energy;

- Using pre-cast concrete over a large portion of the exterior walls and some of the interior walls to minimize construction waste that would otherwise result from excess material produced by cast-in-place methods;
- Installing low energy use light fixtures;
- Using high life-cycle construction materials such as concrete; and
- Using textured paint over the concrete portions of the building, instead of sandblasting which could generate dust.

4. DETERMINATION OF FONSI

A. Applicant

A&B Waikiki LLC.

B. Accepting Authority

City and County of Honolulu, Department of Planning and Permitting.

C. Description of the Proposed Action

Construction of a high-rise condominium development comprised of up to approximately 100 residential units, 5-level parking garage, up to 10,000 square feet of commercial space in a free-standing 2-story building, residential amenities, open space and landscaping. Potential impacts of the proposed project have been evaluated in accordance with the significance criteria of Section 11-200-12 of the Department of Health's Administrative Rules. Discussion of the project's conformance to the criteria is presented as follows:

D. Determination and Reasons Supporting Determination

Potential impacts of the proposed project have been evaluated in accordance with the significance criteria of Section 11-200-12 of the Department of Health's Administrative Rules. In general, the proposed project will not:

(1) Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;

No significant natural resources or habitats have been identified on the project site. The existing vegetation on the property was evaluated by an arborist to determine the suitability of the trees for preservation and incorporation into the projected project's landscaping. The arborist determined that, of the 16 trees existing on-site, five were suitable to be retained, and are currently being considered for incorporation into the project's landscape design.

Based on the results of the archaeological inventory survey prepared for the project, no *iwi kupuna* (human burials) were identified. However, two agricultural features were identified and, as such, limited data recovery appears warranted. The project developer, A&B Properties, Inc., is committed to identifying and documenting any significant archaeological, cultural, historic, architectural features, and consulting with the SHPD, OHA, Oahu Island Burial Council and other Hawaiian interest groups to that end.

(2) Curtail the range of beneficial uses of the environment;

The proposed project will not curtail the beneficial uses of the environment. The proposed project involves the redevelopment of a site within an urban area with uses that are consistent with the City and County of Honolulu General Plan, Primary Urban Center Development Plan, Land Use Ordinance, and Waikiki Special District Guidelines.

(3) Conflict with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;

The proposed project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii. As presented in this EA, the project's potential temporary adverse impacts are associated only with short-term construction-related activities and can be mitigated through adherence to standard construction mitigation practices.

(4) Substantially affect the economic or social welfare of the community or state;

The proposed project would provide short-term economic benefits in the form of construction jobs, and long-term economic benefit through the creation of commercial employment opportunities as well as employment associated with the operation of the project. The proposed project would also positively impact the social welfare of the region by providing new commercial-residential mixed-use development that is consistent with the existing commercial and high-rise residential character of the surrounding area. In addition, the proposed project will help to improve the safety of the area by increasing pedestrian and vehicular activity in an area that is currently subject to vagrancy and crime.

(5) Substantially affect public health;

No impacts to the public's health and welfare are anticipated.

(6) Involve substantial secondary impacts, such as population changes or effects on public facilities;

The proposed project will have a secondary effect in terms of 100 new households in Waikiki. This represents slightly less than a one percent increase to the existing household inventory of 11,397 units. Therefore, this secondary impact is not considered to be significant. With regard to public facilities, the proposed project will not

require the substantial expansion of public services, facilities or infrastructure to support the project.

(7) Involve a substantial degradation of environmental quality;

Construction activities associated with the proposed project are anticipated to result in short-term impacts to noise, air quality, water quality and traffic in the immediate project vicinity. With the incorporation of mitigation measures during the construction period, the project will not result in long-term degradation to the environmental quality. While the physical impacts of the proposed development are greater than those of the existing use due to the increase in land use density, the project is consistent with the existing high-rise buildings in the surrounding area, as well as land use plans and designations and, as such, do not result in the degradation or deterioration of overall environmental quality.

(8) Individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

No cumulative effects are anticipated, inasmuch as the proposed project involves the development of commercial and residential uses within an urban area, and that are consistent with the land use plans and designations.

(9) Substantially affect a rare, threatened, or endangered species, or its habitat;

There are no known rare, threatened or endangered species of flora or fauna or associated habitat that have been identified on the project site that could be adversely affected by the construction and operation of the proposed project.

(10) Detrimentally affect air or water quality or ambient noise levels;

Operation of construction equipment would temporarily elevate ambient noise and concentrations of exhaust emission in the immediate vicinity of the project site. Operation of the proposed project will have no significant long-term impact on air or water quality or ambient noise levels in the vicinity.

(11) Affect or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

According to the Flood Insurance Rate Map (FIRM), Number 15003C0370E effective November 20, 2000, prepared by the Federal Emergency Management Agency (FEMA), the entire project site is designated as Zone AO, special flood areas inundated by 100-year floods. The flood depth at the project site averages two feet.

In compliance with City flood ordinances, the lowest floor will elevated at least two feet above the highest adjacent gradeand the lowest level of the parking structure will be provided at-grade.

(12) Substantially affect scenic vistas and view planes identified in county or state plans or studies; or,

The proposed project will alter the visual setting by replacing an existing vacant property with a new low-rise commercial and high-rise residential development. None of the four streets bordering the property including Ala Wai Boulevard, Kuhio Avenue, Olohana Street, or Kalaimoku Street, however, are identified by the Urban Design Controls as major public view corridors. Further, the new structures will comply with applicable development standards of the existing zoning designation including height, density, open space and setback requirements, and will reflect a "Hawaiian Sense of Place" pursuant to the Waikiki Special District Guidelines.

(13) Require substantial energy consumption.

Construction and operation of the project will not require substantial increases in energy consumption.

5. ALTERNATIVES TO THE PROPOSED ACTION

5.1 No Action Alternative

In the no action alternative, the project site would remain vacant and underutilized. Allowing for the continued underutilization of valuable, highly-visible land in the Waikiki area would result in the loss of potential economic benefits to businesses in the area and tax revenues for the State and County governments.

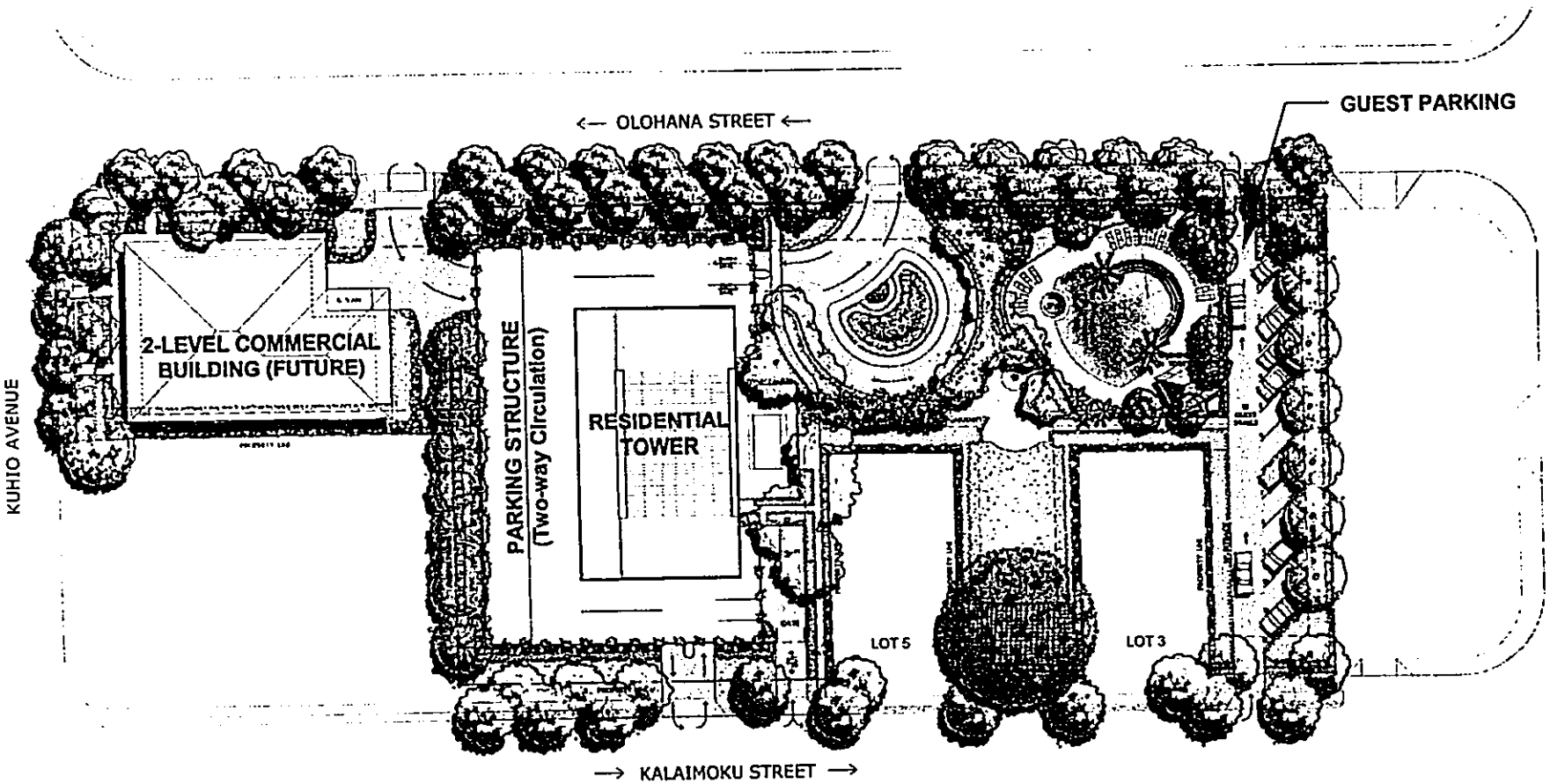
The no action alternative would preclude all short- and long-term beneficial and adverse impacts described in this EA. Construction-related environmental impacts including those on traffic, air and noise, would be avoided. Furthermore, the high initial costs to construct the development would be avoided. The benefits of the project would not be realized, however, including the provision of approximately 100 new residential units, landscaped open spaces, and 10,000 square feet of commercial space to service the development's residential component as well as the surrounding community.

5.2 Alternative Site Development Concepts

A variety of alternative site development concepts were developed as part of the master planning process to analyze and evaluate the project's density, height, and open space requirements. The project site is limited by the allowable uses and development standards pursuant to the Waikiki Special District, including density (floor area ratio), height, open space, parking and building setbacks. The proposed design was developed to comply with the Waikiki Special District requirements and will not require any design variances.

5.3 Two-Way Circulation Alternative

This alternative largely parallels the proposed project in terms of physical character, layout and unit count. The primary difference is that two-way (versus one-way) vehicular circulation within the residential parking structure and a two-way (versus one-way) access driveway will be provided on Kalaimoku Street. In addition, the vehicular circulation within the at-grade guest parking lot would be reversed to allow for ingress via Kalaimoku Street and egress via Olohana Street. This alternative will be presented for consideration in the Waikiki Special District major permit application (See Figure 11).



Source: PBR Hawaii

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS - PLANNERS

A & B WAIKIKI CONDOMINIUM

Two-way Circulation Alternative

FIGURE 11

6. PERMITS AND APPROVALS

The following is a list of permits and approvals, which may be required prior to construction of the proposed project:

State of Hawaii

Department of Health
- Noise Variance Permit
- Permit for Air Emissions
- National Pollutant Discharge Elimination System (NPDES) Permit for Construction Stormwater Activity

Disabilities Communication and Access Board (DCAB)
- Review pursuant to the Americans with Disabilities Act Accessibility Guidelines (ADAAG)

City and County of Honolulu

Department of Planning and Permitting
- Waikiki Special District Minor Permit for Removal of Trees Over Six Inches in Diameter
- Waikiki Special District Major Permit for a New Building
- Conditional Use Permit (CUP minor), for Joint Development of Two or More Adjacent Zoning Lots
- Wastewater Permit
- Sewer Connection Permit
- Grading Permit
- Drain Connection License
- Excavation Permit
- Permit to Excavate Public Right-of-Way
- Building Permit
- Park Dedication
- Street Trees
- Flood Hazard District Certification

7. CONSULTATION

7.1 Parties Consulted During The Pre-Ea Consultation Period

The following agencies and organizations were consulted during the pre-assessment consultation phase of the Draft EA. Of the 9 parties that formally replied during the review period, all provided substantive comments as indicated by the "✓". All written comments are reproduced herein.

State of Hawaii (9)
- Department of Land and Natural Resources (DLNR)
  - State Historic Preservation Division
  - ✓ Land Division
- Department of Business, Economic Development and Tourism
  - Office of Planning
- Department of Health (DOH)
  - ✓ Environmental Planning Office
  - ✓ Office of Environmental Quality Control
  - Environmental Management Division
- ✓ Office of Hawaiian Affairs
- ✓ Department of Education

City and County of Honolulu (6)
- Department of Planning and Permitting
- ✓ Department of Transportation Services
- Department of Environmental Services
- ✓ Board of Water Supply
- ✓ Police Department
- ✓ Fire Department

Organizations (1)
- Waikiki Neighborhood Board (No. 9)

7.2 Parties Consulted During The Draft EA Review Period

The following agencies and organizations were consulted during the public review period of the Draft EA. Of the 21 parties that formally replied during the review period, some had no comments while other provided substantive comments as indicated by the ✓ and ✓✓, respectively. All written comments are reproduced herein.

Federal Agencies (4)

✓✓ U.S. Department of the Army - Corps of Engineers
U.S. Department of the Interior - Fish and Wildlife Service
U.S. Department of the Interior - Geological Survey
U.S. Department of Agriculture – Natural Resources Conservation Service

State of Hawaii (17)

Department of Land and Natural Resources (DLNR)
✓✓ State Historic Preservation Division
✓✓ Land Division
✓ Division of State Parks
✓ Commission on Water Resource Management
✓ Division of Forestry and Wildlife
Department of Business, Economic Development and Tourism (DBEDT)
Office of Planning
✓✓ Land Use Commission
✓✓ Department of Health (DOH)
Environmental Planning Office
✓✓ Office of Environmental Quality Control
✓✓ Environmental Management Division
Office of Hawaiian Affairs
✓✓ Department of Education
Oahu Island Burial Council
U.H. Environmental Center

City and County of Honolulu (10)

✓✓ Department of Planning and Permitting (7)
Department of Transportation Services
✓✓ Department of Environmental Services
✓ Department of Facility Maintenance
✓ Department of Design and Construction
✓ Department of Parks and Recreation
✓✓ Board of Water Supply
✓✓ Police Department
✓✓ Fire Department
Office of Waikiki Development

Elected Officials (3)

Senator Les Ihara (10th District)
Representative Galen Fox (21st District)
Councilmember Duke Bainum (4th District)

Organizations (5)

Waikiki Neighborhood Board (No. 9)
Waikiki Improvement Association
Outdoor Circle
Waikiki Residence Association
Kapahulu – Waikiki Public Library

Surrounding Property Owners (17)

The Twin Towers, Inc. Condo Master
Yoshiko Yokokura
✓✓ Irene V. Conrad Trust
La Casa Condo Master
Ai Hotels Corporation
Royal Garden at Waikiki Condo Master
Dean W. Limric
Charles Man Yuen Lam
Kalaimoku/Kuhio Development Corporation
C K/P L C Lau Trust
✓✓ Maile Sky Court Company, Ltd. (via Matsubara, Lee & Kotake)
K & S Enterprises USA Corporation
WBL, Inc.
KKK Corporation
Li May Tang Trust
Yee H. Yuen Trust
John P. Thornton

Comment and Response Letters From The Pre-Environmental Assessment Consultation

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

GENEVIEVE SALMONSON
DIRECTOR

RECEIVED
MAY 29 2002
WILSON OKAMOTO & ASSOC., INC.

May 28, 2002

Mr. Earl Matsukawa
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Subject: Environmental Assessment Pre-Assessment Consultation
A&B Waikiki Condominium, Waikiki, Oahu, Hawaii

Dear Mr. Matsukawa:

We have reviewed the information provided for the above referenced project. As with any project, we are concerned with traffic impacts, which may contribute to congestion in the area. Many large projects are proposed in Waikiki, we suggest you consult with area residents and the neighborhood board.

We have no other comments to offer at this time, but will reserve further comments when the documents are submitted.

Should you have any questions, please feel free to call our office at 586-4185.

Sincerely,

Genevieve Salmonson
Director

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

6616-01
August 23, 2002

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Ms. Salmonson:

Thank you for your letter dated May 28, 2002 commenting on the subject project.

A traffic impact assessment is currently being prepared to assess existing and future traffic conditions in relation to the proposed project. The report will be included as part of the Draft EA.

Residents in the immediate vicinity of the project site and the Waikiki Neighborhood Board will be consulted during the Draft EA review period. In addition, a presentation of the proposed project to the Neighborhood Board will also be conducted on September 10, 2002 in conjunction with the Waikiki Special District permit application.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

PATRICIA HAMAMOTO
SUPERINTENDENT

OFFICE OF THE SUPERINTENDENT

May 31, 2002

RECEIVED
JUN 05 2002
WILSON OKAMOTO & ASSOC., INC

Mr. Earl Matsukawa, AICP, Project Manager
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826

Dear Mr. Matsukawa:

Subject: A&B Waikiki Condominium Pre-Assessment Consultation

The pre-assessment consultation notes that the proposed project is consistent with its state land use designation and county zoning. As such, the Department of Education has no comment at this time.

Thank you for the opportunity to respond.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:hy

cc: A. Suga, OBS

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

6616-01
August 23, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
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HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Ms. Patricia Hamamoto, Superintendent
Department of Education
State of Hawaii
P.O. Box 2360
Honolulu, Hawaii 96804

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Ms. Hamamoto:

Thank you for your letter dated May 31, 2002 confirming that the project is consistent with its state land use designation and county zoning. We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

for Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

RECEIVED
JUN 18 2002
WILSON OKAMOTO & ASSOC., INC.

June 5, 2002

Wilson Okamoto & Asscociates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826
Attention: Earl Matsukawa , AICP, Project Manager

HRD #02-607

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
A&B Waikiki, O'ahu, Hawai'i

Dear Mr. Matsukawa:

Mahalo for the opportunity to comment on the above referenced project. The Office of Hawaiian Affairs (OHA) offers the following comments.

Historical / Cultural Resources

The Waikiki area is known to have many Native Hawaiian burials. OHA has concerns about ground-disturbing activities at the proposed project site and the potential impact it may have on these burials and other cultural deposits. Native Hawaiian Organizations or individuals familiar with the area should be consulted with prior to any ground-disturbing activities. In addition, a cultural monitor or archaeological monitor should be present during such work at the project area.

OHA anticipates the Draft EA for further review and comment of the proposed project. If you have any questions, please contact Mark A. Mararagan, policy analyst at 594-1756, or e-mail him at markm@oha.org.

Sincerely,

Jalna Keala
Acting Hawaiian Rights Division Director

cc: OHA Board of Trustees
Clyde W. Namu'o, OHA Administrator

6616-01
August 23, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

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1907 S. BERETANIA ST.
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HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Ms. Jalna Keala, Acting Director
Hawaiian Rights Division
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4 to 8, 12 to 19, 62, 64, 70, 73, and 75
Waikiki, Hawaii

Dear Ms. Keala:

Thank you for your letter of June 5, 2002 (Reference No. HRD #02-607) commenting on the subject project.

An archaeological reconnaissance report is currently being prepared by Cultural Surveys Hawaii to identify potential archaeological resources within the project site and recommend mitigation measures as necessary. Preliminary findings indicate, however, that the project site consists of fill material and no *iwi* have been identified. The report will be included as part of the Draft EA which will be forwarded to you for review and comment during the public review phase of the project.

Native Hawaiian organizations will be consulted during the Draft EA review period regarding any traditional cultural practices associated with the project site. For your information, we have contacted Mr. Van Diamond, chair of the Oahu Island Burial Council regarding the project. Mr. Diamond preliminarily indicated that *iwi kūpuna* are not likely to occupy the project site. We will continue to consult with the Oahu Island Burial Council to confirm their preliminary opinion as the project progresses.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McManigle, CM&D

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to
File:
02-132/epo

June 12, 2002

RECEIVED
JUN 14 2002
WILSON OKAMOTO & ASSOC., INC.

Mr. Earl Matsukawa, AICP, Project Manager
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96814

Dear Mr. Matsukawa:

Subject: Pre-Environmental Assessment (PEA) Consultation
A&B Waikiki Condominium, Oahu, Hawaii
Tax Map Key: 2-6-016: 2, 4-8, 12-19, 62, 64, 70, 73, and 75.

Thank you for the opportunity to review and comment on the subject proposal. The PEA was routed to the various branches of the Environmental Health Administration. We have the following comments.

Clean Water Branch (CWB)

1. The applicant should contact the Army Corps of Engineers to identify whether a federal permit (including a Department of Army permit) is required for this project. A Section 401 Water Quality Certification is required for "Any applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...", pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act");

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following discharges to waters of the State:

   a. Discharge of storm water runoff associated with industrial activities, as define in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi);

   b. Discharge of storm water runoff associated with construction activities that involve the disturbance of five (5) acres or greater, including clearing, grading, and excavation;

   c. Discharge of treated effluent from leaking underground storage tank remedial activities;

   d. Discharge of once through cooling water less than one million gallons per day;

   e. Discharge of hydro-testing water;

   f. Discharge of construction dewatering effluent;

   g. Discharge of treated effluent from petroleum bulk stations and terminals; and

   h. Discharge of treated effluent from well drilling activities.

   Any person requesting to be covered by a NPDES general permit for any of the above activities should file a Notice of Intent with the Department of Health, Clean Water Branch (CWB) at least thirty (30) days prior to commencement of any discharges to State waters;

3. If construction activities involve the disturbance of one acre or greater, including clearing, grading, and excavation, and will take place or extend after March 10, 2003, an NPDES general permit coverage is required for discharges of storm water runoff into State waters; and

4. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters.

If you have any questions, please contact the Clean Water Branch at (808) 586-4309.

Clean Air Branch

Control of Fugitive Dust

There is a significant potential for fugitive dust emissions during the construction activities. Implementation of adequate dust control measures during all phases of development and construction activities is warranted.

Construction activities must comply with provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust.

The contractor should provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to:

   a. Planning the different phases of construction, focusing on minimizing the amount of dust generating materials and activities, centralizing on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;

b. Providing an adequate water source at the site prior to start up of construction activities;

c. Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

d. Controlling of dust from shoulders and access roads;

e. Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and

f. Controlling of dust from debris being hauled away from project site.

If you have any questions regarding these issues on fugitive dust, please contact the Clean Air Branch at (808) 586-4200.

Noise, Radiation and Indoor Air Quality (NRIAQ) Branch

All project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control".

If you have any questions, please contact the NRIAQ at (808) 586-4701.

Environmental Planning Office (EPO)

The proposed project site is near the Ala Wai Canal. The Canal is currently listed under section 303(d) of the Clean Water Act as being impaired by nutrients, pathogens, metals, turbidity, and suspended solids. The impaired status of these waters requires that the Department of Health establish Total Maximum Daily Loads (TMDLs) suggesting how much the existing pollutant loads should be reduced in order to attain water quality standards in the harbor waters.

In 1996 the U.S. Environmental Protection Agency approved TMDLs for nitrogen and phosphorous in the Ala Wai Canal and revisions to these are pending. Implementation of Ala Wai Canal TMDLs is guided by the Ala Wai Canal Watershed Water Quality Improvement Project's 1998 Management & Implementation Plan and coordinated by the Ala Wai Watershed Association (AWWA).

A first step in achieving TMDL objectives would be to prevent any project-related increases in Ala Wai Canal pollutant loads. We therefore encourage A&B Properties, Inc. to participate in the TMDL process and to contact the AWWA about water quality improvement opportunities in the watershed. We also suggest consultation with the Department of Health, Clean Water Branch (Engineering Section); to discuss how project-related water pollution control permitting may be linked with TMDL implementation.

If you have any questions about these comments or the Total Maximum Daily Load program, please contact David Penn at (808) 586-4337.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration

c: CWB
CAB
NRIAQ
EPO

6616-01
August 23, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Mr. Gary Gill, Deputy Director
Environmental Health Administration
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Mr. Gill:

Thank you for your letter dated June 12, 2002 (Reference No. 02-132/epo) commenting on the subject project. We offer the following responses in the respective order of your comments:

Clean Water Branch

1. The U.S. Army Corps of Engineers will be consulted during the Draft EA comment period regarding their jurisdictional determination for any permits that may be required for this project.

2. & 3. We appreciate the information provided regarding NPDES permit requirements. A National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Runoff Associated With Construction Activity will be required for the project. We understand that, while the current regulations require this permit for activities involving the disturbance of five acres or larger, effective March 10, 2003, this permit will apply to areas of disturbance that are one acre or more. Inasmuch as the project site encompasses approximately 1.63 acres and construction activities will extend beyond March 10, 2003, a Notice of Intent (NOI) will be filed at least 30 days prior to the start of construction. In addition, other NOIs will be filed, as required.

4. An individual NPDES permit is not anticipated to be required for the project.

Clean Air Branch

Control of Fugitive Dust

During the short-term construction period, impacts associated with fugitive dust emissions are anticipated. As such, the dust control methods such as those provided in your letter will be included in the forthcoming Draft EA, and will be forwarded to the construction contractor upon selection.

Noise, Radiation and Indoor Air Quality (NRIAQ) Branch

The project will comply with Chapter 11-46, Hawaii Administrative Rules, regarding "Community Noise Control". For your information, a noise impact assessment is currently being prepared by Y. Ebisu and Associates, Inc. to assess the noise impacts associated with construction activities as well as traffic generated by the project. The assessment will be included as part of the Draft EA.

Environmental Planning Office

Thank you for the information provided regarding the Total Maximum Daily Loads (TMDL). Pursuant to a telephone discussion on August 5, 2002 between Mr. David Penn of your office and Ms. Laura Mau of Wilson Okamoto and Associates, Inc., we understand that draft TMDL for the Ala Wai Canal are currently available only for total nitrogen and total phosphorus and these are in the process of being finalized. In addition, there are no TMDL limits for other water quality parameters such as pathogens, metals, turbidity and suspended solids for the Ala Wai Canal.

As aforementioned in our response to the Clean Water Branch, a NPDES Permit for Storm Water Runoff Associated With Construction Activity will be required for the project, and other NOIs will be filed, as required. Your concerns regarding TMDL and the attainment of water quality standards for the Ala Wai Canal will be addressed through the design, operation and maintenance of the best management practices (BMP) proposed in conjunction with the NPDES permit process.

A&B Properties, Inc. is committed to preventing project-related increases in the Ala Wai Canal pollutant loads through the TMDL process and consulting with the AWWA toward achieving this end.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

June 13, 2002

LD-NAV
L-3035//3265/3226/3170/3171

A&BWAIKIKI.RCH

RECEIVED
JUN 14 2002
WILSON OKAMOTO & ASSOC., INC.

Wilson Okamoto & Associates, Inc.
Earl Matsukawa, AICP, Project Manager
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

SUBJECT: Pre-Consultation for Preparation of an Environmental Assessment (EA) Covering the Proposed A&B Waikiki Condominium Project, Waikiki, Island of Oahu, Hawaii

Thank you for your letter dated May 20, 2002, informing us of the proposed A&B Waikiki Condominium project.

The Department of Land and Natural Resources' (DLNR) Land Division Support Services Branch distributed a copy of your letter, the project summary and project location maps to the following DLNR Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Na Ala Hele Trails
- Division of State Parks
- Division of Boating and Ocean Recreation
- Historic Preservation Division
- Commission on Water Resource Management
- Land Division Engineering Branch
- Land Division Planning and Technical Services
- Land Division Oahu Land Office

At this time, the Department of Land and Natural Resources has no comment to offer. Please provide to the DLNR Land Division three(3) copies of the Draft Environmental Assessment covering the A&B Waikiki Condominium project when they become available for review.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 808-587-0438.

Very truly yours,

Charlene P. Unoki
for DIERDRE S. MAMIYA
Administrator

C: Oahu District Land Office

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

July 2, 2002

LD-NAV
A&BWAIKIKI.RCH2
L-3035//3265/3226/3170/3171/3787

RECEIVED
JUL 05 2002
WILSON OKAMOTO & ASSOC., INC.

Wilson Okamoto & Associates, Inc.
Earl Matsukawa, AICP, Project Manager
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

SUBJECT: Pre-Consultation for Preparation of an Environmental Assessment (EA) Covering the Proposed A&B Waikiki Condominium Project, Waikiki, Island of Oahu, Hawaii

This is a follow-up to our letter (Ref.: A&BWAIKIKI.RCH) to you dated June 13, 2002, pertaining to the subject matter.

Attached herewith is a copy of the Land Division Engineering Branch comment.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 808-587-0438.

Very truly yours,

Charlene P. Unoki
for DIERDRE S. MAMIYA
Administrator

C: Oahu District Land Office

DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Engineering Branch

COMMENTS

We have reviewed the Summary Description and Supporting Maps for the Environmental Assessment Pre-Consultation of the subject project parcel and offer the following comment.

According to FIRM panel 370E (November 20, 2000), the subject parcel is within a flood hazard area designated as ZONE AO (depth 2). FEMA's defines a special flood hazard area with a designation of Zone AO as: *"Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding velocities also determined."* This hazard designation is subject to the rules and regulations of the National Flood Insurance Program. § 60.3 (c)(7) and § 60.3 (c)(8) of Title 44 of the Code of Federal Regulations, require that any new or substantial improved structures in flood hazard zone AO must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified). In the case of this project, the depth number specified is 2 feet.

Signed: Andrew M. Monden
ANDREW M. MONDEN, CHIEF ENGINEER

Date: 6/25/02

N:\WLD\MAKAI\SUZIE\OAHU\A&BCondo.Oahu203.doc

6616-01
August 23, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Ms. Dierdre S. Mamiya, Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
P.O. Box 521
Honolulu, Hawaii 96809

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Ms. Mamiya:

Thank you for your letters dated June 13 and July 2, 2002 (Reference Nos. LD-NAC A&BWAIKIKI.RCM2, L-3035//3265/3226/3170/3171/3787) commenting on the subject project. We offer the following in responses to your comments:

June 13, 2002 Letter
As requested, three copies of the Draft EA will be transmitted for your review.

July 2, 2002 Letter
We appreciate the information you provided regarding the flood hazard designation and will forward this information to the project designers to be addressed accordingly.

Thank you for your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McManigle, CM&D

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET 3RD FLOOR • HONOLULU, HAWAII 96813
TELEPHONE (808) 523-4529 • FAX (808) 523-4730 • INTERNET www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

June 12, 2002

TPD5/02-02092R

RECEIVED
JUN 14 2002
WILSON OKAMOTO & ASSOC., INC.

Mr. Earl Matsukawa, Project Manager
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

Subject: Environmental Assessment – A & B Waikiki Condominium

Thank you for this opportunity to comment on the proposal to develop the large Waikiki site.

Based on site location, the overall project scale and the existing traffic pattern of the area, we request the earliest submittal of a traffic impact analysis report to ensure optimum circulation for the A & B Waikiki Condominium and the surrounding neighbors. Since the development site is elongated and occupies nearly the entire Waikiki block, we recommend dual access, via Olohana and Kalaimoku.

Should you have any questions, please contact Bruce Nagao of the Transportation Planning Division at 527-6899.

Sincerely,

CHERYL D. SOON
Director

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808) 946-2277
FAX. (808) 946-2253

6616-01
August 29, 2002

Ms. Cheryl D. Soon, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Ms. Soon:

Thank you for your letter dated June 12, 2002 (Reference TPD5/02-02092R) commenting on the subject project.

A traffic impact assessment was prepared to assess existing and proposed traffic conditions resulting from the proposed project. The report will be included as part of the Draft EA.

As recommended in your letter, and due to the nature of the one-way roadway system surrounding the project site, the proposed project is being designed with multiple access points on both Olohana and Kalaimoku Streets. The driveway connections will be designed to ensure adequate traffic circulation on the City streets as well as within the proposed project parking areas.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulupd.org
www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

LEE D. DONOHUE
CHIEF

ROBERT AU
GLEN KAJIYAMA
DEPUTY CHIEFS

OUR REFERENCE: CS-KP

June 7, 2002

RECEIVED
JUN 10 2002
WILSON OKAMOTO & ASSOC., INC.

Mr. Earl Matsukawa, AICP
Project Manager
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96813

Dear Mr. Matsukawa:

Thank you for the opportunity to review and comment on the Environmental Assessment Pre-Assessment Consultation for the A&B Waikiki Condominium.

We do not anticipate any significant impact on the services and facilities of the Honolulu Police Department as a result of the completed project. However, we do believe that there may be an increase in calls for police service to the area while it is being constructed as a result of related dust, noise, and traffic congestion complaints.

If there are any questions, please call Ms. Carol Sodetani of the Support Services Bureau at 529-3658.

Sincerely,

LEE D. DONOHUE
Chief of Police

By a a/c
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

Serving and Protecting with Aloha

6616-01
August 23, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH: (808)946-2277
FAX: (808)946-2253

Mr. Lee D. Donohue, Chief
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Chief Donohue:

Thank you for your letter dated June 7, 2002 (Reference CS-KP) indicating that you do not expect significant impacts on police services or facilities as a result of the subject project. We acknowledge your concerns regarding short-term construction-related impacts such as dust emissions, noise, and traffic.

During the short-term construction period, impacts associated with fugitive dust emissions are anticipated. Mitigation methods will be implemented to control dust emissions and will be addressed in the forthcoming Draft EA

A noise impact assessment is currently being prepared to assess the noise impacts associated with construction activities as well as traffic generated by the project. In addition, a traffic impact assessment is being prepared to assess existing and future traffic conditions in relation to the proposed project. Both reports will be included as part of the Draft EA.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

for Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Segulrant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

June 3, 2002

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
JAN M.L.Y. AHM
HERBERT S.K. KAOPUA, SR.

BRIAN K. MINAAI, Ex-Officio
ROSS S. SASAMURA, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

RECEIVED
JUN 05 2002
WILSON OKAMOTO & ASSOC., INC.

Mr. Earl Matsukawa
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

Subject: Your Letter of May 20, 2002 on the Environmental Assessment Pre-Assessment for A&B Waikiki Condominium, TMK: 2-6-16: 2, 4 to 8, 12 to 19, 62, 64, 70, 73 and 75

Thank you for the opportunity to review the proposed development in Waikiki.

The existing water system is presently adequate to accommodate the proposed development.

The availability of water will be confirmed when the building permit is submitted for our review and approval. If the development plan requires action by the Department of Planning and Permitting (DPP), the plan should be approved by DPP before we take action on the proposed development. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Joseph Kaakua at 527-6123.

Very truly yours,

for CLIFFORD S. JAMILE
Manager and Chief Engineer

Pure Water . . . our greatest need - use it wisely

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST.
SUITE 400
HONOLULU, HI 96826
PH: (808)946-2277
FAX: (808)946-2253

6616-01
August 23, 2002

Mr. Clifford S. Jamile
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96813

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Mr. Jamile:

Thank you for your letter dated June 3, 2002 indicating that the existing water system is presently adequate to accommodate the proposed project. We acknowledge that the availability of water will be confirmed upon your review and approval of the building permit. We further acknowledge That the project is subject to your department's Cross-Connection Control And Backflow prevention requirements prior to approval of the building permit. For your information, the project requires a Waikiki Special District will be required from the Department of Planning and Permitting. The required Water System Facility Charges will be paid by the developer.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

3375 KOAPAKA STREET, SUITE H425
HONOLULU, HAWAII 96819-1869

JEREMY HARRIS
MAYOR

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

May 29, 2002

RECEIVED
JUN 0 1 2002
WILSON OKAMOTO & ASSOC., INC.

Mr. Earl Matsukawa, AICP
Project Manager
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
A&B Waikiki Condominium
Waikiki, Oahu, Hawaii
Tax Map Key: 2-6-016: 002, 004-008, 012-019, 062, 064, 070, 073, and 075

We received your letter dated May 20, 2002, regarding the Environmental Assessment Pre-Assessment Consultation for the A&B Waikiki Condominium. The proposed project will not have an adverse impact on services provided by the Honolulu Fire Department.

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.

Sincerely,

ATTILIO K. LEONARDI
Fire Chief

AKL/SK:bh

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

6616-01
August 23, 2002

Mr. Attilio K. Leonardi, Chief
Fire Department
City and County of Honolulu
3375 Koapaka Street, Suite H425
Honolulu, Hawaii 96819-1869

Subject: Pre-Environmental Assessment (EA) Consultation
A&B Waikiki Condominium Project
Tax Map Keys: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75, and 77
Waikiki, Hawaii

Dear Chief Leonardi:

Thank you for your letter dated May 29, 2002 indicating that you do not anticipate adverse impacts on fire services as a result of the subject project.

We appreciate your interest and participation in the pre-assessment consultation phase of the EA. Your letter, together with this response, will be reproduced in the forthcoming Draft EA.

Sincerely,

for Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

Comment and Response Letters From The Draft Environmental Assessment Review Period

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF
Regulatory Branch

October 4, 2002

'02 OCT -4 PM 3 59

Mr. Randall K. Fujiki
Director of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

This responds to your request for review of the Draft Environmental Assessment (DEA) for the proposed A&B Waikiki Condominium Project, Waikiki, Oahu, Hawaii (TMK 2-6-16: 2, 4, 6-8, 12-19, 62, 64, 70, 75-77). We have reviewed the document with respect to the Corps' authority to issue Department of the Army (DA) permits under Section 10 of the River and Harbor Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Based on the information provided in the DEA, I have determined that the project will not involve any work in waters of the U.S., including adjacent wetlands, and a DA permit will therefore not be required.

File No. 200300069 has been assigned to this project. Should you have questions concerning this determination, please contact Mr. Peter Galloway of my staff (telephone (808) 438-8416; fax (808) 438-4060). Mailed correspondence should be addressed to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440. Thank you for working with the Corps of Engineers to protect the aquatic resources of Hawaii.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

WILSON OKAMOTO & ASSOCIATES, INC
ENGINEERS PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

6616-01
November 27, 2002

Mr. George P. Young, P.E., Chief
Regulatory Branch (CEPOH-EC-R/P.Galloway)
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, Hawaii 96858-5440

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Young:

Thank you for your letter dated October 4, 2002 confirming that a Department of the Army permit will not be required for the proposed project. We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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BENJAMIN J. CAYETANO
GOVERNOR

ANTHONY J.H. CHING
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, HI 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

October 10, 2002

RECEIVED
OCT 17 2002
DEPT. OF PLANNING & PERMITTING
650 South King St.
HONOLULU, HI 96813

Mr. Randall K. Fujiki
Director of Planning and Permitting
Department of Planning and Permitting
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Recorded Owner/Application: A & B Properties, Inc.
Agent: Wilson Okamoto & Associates, Inc.
Location: Waikiki, Oahu, Hawaii
Tax Map Key Nos. 2-6-16: 2, 4, 6, 7, 8, 12 through 19, 62, 64, 70, 75, 76 & 77
Request: Special District Permit
Proposal: To construct a 25-story multi-family building consisting of 100 dwelling units and a 5-level parking structure; and a 2-story commercial building with 10,000 square feet of floor area

We acknowledge receipt of your letter dated September 26, 2002 regarding the above subject application, and confirm that the subject parcel is designated within the boundary of the State Land Use Urban District.

Given the location, scope, and nature of the proposed activity, the State Land Use Commission defers to the judgment of the City and County of Honolulu in this matter. We have no further comments to offer at this time.

Thank you for the opportunity to comment on the subject project. Please feel free to contact me at 587-3822 should you require clarification or any further assistance.

Sincerely,

ANTHONY J. H. CHING
Executive Officer

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

6616-01
November 27, 2002

Mr. Anthony J.H. Ching, Executive Officer
State of Hawaii
Department of Business, Economic Development & Tourism
Land Use Commission
P.O. Box 2359
Honolulu, HI 96804-2359

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Ching:

Thank you for your letter dated October 10, 2002 confirming that the project site is designated within the State Land Use Urban District. We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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JAN S. CAYETANO
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

October 17, 2002

RECEIVED
OCT 21 2002
DEPT. C... ...TING
HONOLULU, HI 96813

Mr. Randall K. Fujiki
Director of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

Dear Mr Fujiki:

Subject: A&B Waikiki Condominium, Waikiki, Oahu, Hawai'i
TMK: 2-6-16:2,4,6,7,8,12 to 19,62,64,70,75,76,77

The Department of Education (DOE) has reviewed the Environmental Assessment (EA) and Special District Major Permit request from A&B Properties, Inc. (Applicant) for a 100-unit high-rise condominium and a separate commercial building in Waikiki.

The DOE proposes that the City and County include a condition with the standard fair-share language used in decisions on land use changes. The proposed wording is:

> The Applicant shall contribute to the development, funding, and/or construction of school facilities, on a fair-share basis, as determined by and to the satisfaction of the Department of Education. Terms of the contribution shall be agreed upon in writing by the Applicant and the Department of Education prior to the issuance of building permit(s) for the project.

Thank you for the opportunity to review and comment on this EA. Should you have any questions, please call Ms. Heidi Meeker of the Facilities and Support Services Branch at 733-4862.

Sincerely yours,

Raynor M. Minami, Director
Facilities and Support Services Branch

RMM:hy

cc: A. Suga, OBS

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST.
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

6616-01
November 27, 2002

Mr. Raynor M. Minami, Director
Facilities and Support Service Branch
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, HI 96804

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Minami:

Thank you for your letter dated October 17, 2002 commenting on the subject Draft Environmental Assessment (EA). The proposed project represents the replacement of a previous residential use and is consistent with the City and County of Honolulu's Apartment precinct zoning designation. As such, the proposed project does not constitute a "land use change" and should not be subject to the Department's fair-share contribution proposal.

Furthermore, inasmuch as the project proposes 100 condominium units in an area that was previously occupied by 115 residential units, the population of school-aged children who may reside at the proposed project is expected to be no greater than that which was associated with the prior residential use. The prior population should have been accounted for in the Department's enrollment projections for the school district and, therefore, the proposed project would not represent an increase in the district's enrollment.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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BENJAMIN J. CAYETANO
GOVERNOR

'02 OCT 25 AM 9 10

CITY & COUNTY HONOLULU

STATE OF HAWAII
DEPARTMENT OF HEALTH
P O BOX 3378
HONOLULU, HAWAII 96801-3378

BRUCE S. ANDERSON, PH.D., R.P.H.
DIRECTOR OF HEALTH

In reply, please refer to
EMD / CWB

10014PKP.02

October 17, 2002

Mr. Randall K. Fujiki, AIA
Director of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Chapter 343, Draft Environmental Assessment
Special District Permit
A&B Waikiki Condominium

The Department of Health, Clean Water Branch (CWB) has reviewed the subject document and has the following comments:

1. The Army Corps of Engineers should be contacted to identify whether a Federal permit (including a Department of Army permit) is required for this project. If it is determined that a Federal permit is required for the subject project, then a Section 401 Water Quality Certification would also be required from our office.

2. If the project involves any of the following activities during construction, a National Pollutant Discharges Elimination System (NPDES) permit is required for each of the activities:

   a. Construction activities, including clearing, grading, and excavation that result in the disturbance of equal to or greater than five (5) acres of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the commencement of the construction activities.

      Note: After March 10, 2003, an NPDES permit will be required for construction activities, including clearing, grading, and excavation that result in the disturbance of one (1) acre or more.

   b. Discharge of hydrotesting water.

   c. Discharge of treated construction dewatering effluent.

The CWB requires that Notices of Intent (NOI) for NPDES general permits be submitted 30 days before the commencement of the respective activities. The proposed amendments to Hawaii Administrative Rules, Chapter 11-55 may require a copy of the NOI or NPDES permit application to be submitted to the State Department of Land and Natural Resources, State Historic Preservation Division. The NOI forms can be picked up at our office or downloaded from our website at *http://www.state.hi.us/doh/eh/cwb/forms/index.html.*

Should you have any questions, please contact Ms. Kris Poentis of the Engineering Section, CWB, at 586-4309.

Sincerely,

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

KP:ndp

6616-01
November 27, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU HI 96826
PH (808) 946-2277
FAX (808) 946-2253

Mr. Denis R. Lau, P.E., Chief
Clean Water Branch
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, HI 96801-3378

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Lau:

Thank you for your letter dated October 17, 2002 (Ref. 10014PKP.02) commenting on the subject Draft Environmental Assessment (EA). The following is offered in the respective order of your comments:

1. The Army Corps of Engineers has confirmed that a Department of the Army permit is not required for the project.
2. We appreciate the information provided regarding the NPDES permits, which will be obtained as required.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

October 21, 2002

Randall Fujiki
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Attn: Patrick Seguirant

Dear Mr. Fujiki:

Subject: **Draft Environmental Assessment (EA) for A&B Waikiki Condominium**

We have the following comments to offer:

Two-sided pages: The appendices and pre-consultation comment letters are printed duplex in the draft EA. In order to reduce bulk and save on paper, please consider printing on both sides of pages S-i through 7-3 in the final document.

Building height: How many stories will the residential unit be? It is not mentioned in section 1.3, *Project Description*, nor in 4.C, *Description of the Proposed Action*.

Park dedication: Is a park area that is not accessible by the public allowed to fulfill park dedication requirements? If not, how will you fulfill this requirement?

Sustainable building techniques: Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. For a paper copy contact our office or go to our homepage at http://www.state.hi.us/health/oeqc/guidance/sustainable.htm.

Landscaping: We recommend landscaping with unthirsty native Hawaiian plants, trees and shrubs.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,

GENEVIEVE SALMONSON
Director

c. Earl Matsukawa
Rick Stack, A&B Properties

6616-01
November 29, 2002

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808) 946-2277
FAX (808) 946-2253

Ms. Genevieve Salmonson, Director
State of Hawaii
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Ms. Salmonson:

Thank you for your letter dated October 21, 2002 commenting on the subject Draft Environmental Assessment (EA). The following is offered in the respective order of your comments:

Two-sided Pages
We concur duplexing the entire report will reduce bulk and paper requirements and will take this under consideration when printing the Final EA.

Building Height
The residential building will have 25 stories. This information will be included in the Final EA.

Park Dedication
Section 22-7.8, Revised Ordinances of Honolulu (ROH) credits land provided for privately owned parks and playgrounds toward park dedication requirements.

Sustainable Building Techniques
A discussion on sustainable building techniques will be included in Section 3.3 of the Final EA.

Landscaping
The use of landscaping with high water requirements will be avoided in the project's landscape plan. The plan will be prepared in consultation with the Department of Planning and Permitting pursuant to the processing of the Waikiki Special District permit application.

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We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

E OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

LAURA H. THIELEN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
ERIC T. HIRANO
LINNEL NISHIOKA

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

November 1, 2002

Mr. Douglas Borthwick
Cultural Surveys Hawaii, Inc.
733 N. Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 31036
DOC NO: 0210SC14

Dear Mr. Borthwick:

SUBJECT: Chapter 6E-42 Historic Preservation Review -- Archaeological Inventory Survey Report at the A & B Properties Project Site in Waikīkī Waikīkī, Kona, O`ahu
TMKs: (1)-2-6-016: 02, 004, 006, 007, 008, 012 through 019, 062, 064, 070, 075, 076 & 077

This letter reviews this survey report which was received on October 8, 2002, (Borthwick et al. 2002. Archaeological Inventory Survey of an Approximately 71,000-Sq. Ft. Parcel in Waikīkī, Waikīkī Ahupua`a, Kona District, Island of O`ahu [TMK 2-6-16: 02, 4, 6, 7, 8, 12 through 19, 62, 64, 70, 75, 76 & 77] Cultural Surveys Hawaii.).

The survey covered approximately 1.6 acres of land in Waikīkī. Survey methods included a pedestrian survey of the ground surface, and subsurface testing through the excavation of 10 backhoe trenches. The historical and archaeological background sections provide sufficient data for theorizing about likely settlement patterns and site types in the project area. We note in particular that good use was made of the available historical data on traditional agricultural features (i.e., *paukū* and *kuauna* – irrigated kalo ditch and bank) in planning the subsurface testing locations.

One significant historic site was found -- State Site No. 50-80-14-6407, which is the remnant of irrigated kalo cultivation. It contained two features: Feature A includes the sediments associated with LCA 1775 (to Paoa) and the former *paukū* and *kuauna* (ditch and bank); and Feature B, other agriculturally enriched soils. Two radiocarbon dates obtained from wood charcoal removed from bulk samples collected from 6407A provided dates ranging from AD 1400 to 1660. We request that three minor description/interpretation items be clarified (please see the attachment).

We agree that Site 6407 is significant under Criteria A and D.

We also agree with the mitigation commitment – archaeological data recovery. This limited data recovery will need to be carried out immediately prior to construction.

With the understanding that the three minor changes are made and replacement pages submitted, we find this report acceptable. The next step in the historic preservation review process would be the submittal of the archaeological data recovery plan. We will await the revisions and that plan.

Should you have any questions, please feel free to contact Sara Collins at 692-8026.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

SC:jk

ATTACHMENT
INVENTORY SURVEY OF WAIKĪKĪ PARCELS
CULTURAL SURVEYS HAWAII

Summary
B. Excavation Analysis
Page 50, Paragraph 3: The reference to the photographic figure (Figure 12) appears to be incorrect. Figure 12 depicts the modern-day backhoe trench but the discussion here seems to refer to a historic photograph. Please clarify.

C. Charcoal Sampling Results
General: We only find the results of one radiocarbon date reported here and in Appendix A. While you note that the second sample (Beta-196337) provided two-sigma results, please add the specific results to the discussion and the appropriate documentation to Appendix A.
Pages 51-52: The discussion in the last paragraph on page 50 indicates that the two radiocarbon samples were collected in bulk samples taken from Feature A of Site • 6407. On page 51, para 2, you note that Feature A is associated with the LCA 1775 features. We think that you also mean and earlier pre-contact period usage, and not just historic era (Mahele era) use. If that is the case, is Feature A actually a multi-component deposit, with pre- and post-Contact components? Please clarify.

VII. Cultural Impact
Our review does not include evaluation of this section.

IX. Recommendations
General: We concur with the recommendation to conduct limited data recovery of additional portions of Site 6407. Once the archaeological inventory survey report is complete, an archaeological data recovery plan will need to be submitted for review and approval. We also concur with the proposal to conduct the mitigation field work at the beginning of construction.

6616-01
November 27, 2002

WILSON OKAMOTO & ASSOCIATES, INC
ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Dr. Don Hibbard, Administrator
State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
Kakuhihewa Building, Room 566
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Dr. Hibbard:

Thank you for your letter dated November 1, 2002 (Ref. Log. No. 31036, Doc. No. 0210SC14) commenting on the subject Draft Environmental Assessment (EA).

Prior to construction, an archaeological data recovery will be performed at site 6407. The scope of work for an archaeological data recovery plan will be submitted to your office for review and approval. In addition, photographic documentation will be obtained in 35 mm black and white format of the two residential properties located at Tax Map Keys 2-6-16: 3 and 5. Historic Resources Inventory forms and photographs of each property will be submitted to your office.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McManigle, CM&D

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BENJAMIN J. CAYETANO
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BOARD OF LAND AND NATURAL RESOURCES

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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE
COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

NOV -7 2002

L-2268

Loretta K.C. Chee, Acting Director
City and County of Honolulu
Department of Planning & Permitting
650 S. King Street
Honolulu, Hawaii 96813

Subject: Chapter 343, Environmental Assessment Special District Permit 2002/ED-6(JS), owner: A & B Properties, Waikiki, Oahu, tax map keys: (1) 2-6-16:2, 4, 6, 7, 8, 12 to 19, 62, 64, 70, 75, 76 and 77

Dear Ms. Chee:

Please accept our apology in not responding to your request sooner. A copy of your request was distributed within the Department.

Attached is a copy of the Engineering Branch comments. The Department of Land and Natural Resources has no other comment to offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of the Land Division, Support Services Branch at 587-0438.

Sincerely,

Charlene E. Unoki
for DIERDRE S. MAMIYA
Administrator

Cc: Oahu District Land Office

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

October 4, 2002

LD/NAV
A&BWAIKIKI.CMT2
Ref: 2002-ED-6

L-2268
Suspense Date: 10/25/02

MEMORANDUM:

TO:
XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Oahu District Land Office

FROM: for Dierdre S. Mamiya, Administrator
Land Division
Charlene

SUBJECT:
Review: Draft Environmental Assessment (DEA)
Purpose: Special District Permit - I.D. No. 2002-ED-6
Project: Construct a 25-story multi-family building
Location: Waikiki, Island of Oahu, Hawaii
Applicant: A&B Properties, Inc.
Consultant: Wilson Okamoto & Associates, Inc.
Authority: C&CoH Dept. of Planning & Permitting

Please review the DEA covering the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments. (X) Comments attached.

Signed:

Date:

'02OCT 04 PM 12:46 WATER & LAND

DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
ENGINEERING BRANCH

LD-NAV
File: 2002-ED-6

COMMENTS

We confirm that the project site is located in Zone AO. This is an area with flood depths of 1 to 3 feet (usually sheet flow on sloping terrain) and average depths are determined. For areas of alluvial fan flooding, velocities are also determined.

The proposed project must comply with rules and regulations of the National Flood Insurance Program (NFIP) and all applicable County Flood Ordinances. If there are questions regarding the NFIP, please contact the State Coordinator, Mr. Sterling Yong, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please contact applicable County representative.

If you have any questions, please call Mr. Eric Yuasa of the Project Planning Section at 587-0229.

Signed: Andrew M. Monden
ANDREW M. MONDEN, CHIEF ENGINEER

Date: 10/10/02

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HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

October 4, 2002

LD/NAV
A&BWAIKIKI.CMT2
Ref: 2002-ED-6

L-2288
Suspense Date: 10/25/02

MEMORANDUM:

TO:
XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Oahu District Land Office

FROM: for Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Review: Draft Environmental Assessment (DEA)
Purpose: Special District Permit - I.D. No. 2002-ED-6
Project: Construct a 25-story multi-family building
Location: Waikiki, Island of Oahu, Hawaii
Applicant: A&B Properties, Inc.
Consultant: Wilson Okamoto & Associates, Inc.
Authority: C&CoH Dept. of Planning & Permitting

Please review the DEA covering the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments. ( ) Comments attached.

Signed:

Date: 10/15/02

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P O BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

October 4, 2002

LD/NAV
A&BWAIKIKI.CMT2
Ref: 2002-ED-6

L-2268
Suspense Date: 10/25/02

MEMORANDUM:

TO: XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Review: Draft Environmental Assessment (DEA)
Purpose: Special District Permit - I.D. No. 2002-ED-6
Project: Construct a 25-story multi-family building
Location: Waikiki, Island of Oahu, Hawaii
Applicant: A&B Properties, Inc.
Consultant: Wilson Okamoto & Associates, Inc.
Authority: C&CoH Dept. of Planning & Permitting

Please review the DEA covering the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(✓) We have no comments. ( ) Comments attached.

Signed: W. Roy Hardy

Date: 10/9/02

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P O BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

October 4, 2002

LD/NAV
A&BWAIKIKI.CMT2
Ref: 2002-ED-6

L-2268
Suspense Date: 10/25/02

MEMORANDUM:

FROM: XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Oahu District Land Office

TO: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Review: Draft Environmental Assessment (DEA)
Purpose: Special District Permit - I.D. No. 2002-ED-6
Project: Construct a 25-story multi-family building
Location: Waikiki, Island of Oahu, Hawaii
Applicant: A&B Properties, Inc.
Consultant: Wilson Okamoto & Associates, Inc.
Authority: C&CoH Dept. of Planning & Permitting
TMKs: 2-6-16:2,4,6,7,8, 12-19, 62, 64, 70, 75, 76 & 7

Please review the DEA covering the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(X) We have no comments. ( ) Comments attached.

Signed:

Date: 10/11/02

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

October 4, 2002

LD/NAV
A&BWAIKIKI.CMT2
Ref: 2002-ED-6

L-2268
Suspense Date: 10/25/02

MEMORANDUM:

TO:
XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Oahu District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT:
Review: Draft Environmental Assessment (DEA)
Purpose: Special District Permit - I.D. No. 2002-ED-6
Project: Construct a 25-story multi-family building
Location: Waikiki, Island of Oahu, Hawaii
Applicant: A&B Properties, Inc.
Consultant: Wilson Okamoto & Associates, Inc.
Authority: C&CoH Dept. of Planning & Permitting

Please review the DEA covering the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

NOTE: One (1) copy of the DEA is available for your review in the Land Division Office, room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(X) We have no comments. ( ) Comments attached.

Signed: MICHAEL G. BUCK, ADMINISTRAT
DIVISION OF FORESTRY AND WILDLI

Date:

WILSON OKAMOTO & ASSOCIATES, INC
ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

6616-01
November 27, 2002

Dierdre S. Mamiya, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 521
Honolulu, HI 96809

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Ms. Mamiya:

Thank you for your letter dated October 4, 2002, (L-2268) commenting on the subject Draft Environmental Assessment (EA). We offer the following responses to comments offered by your Engineering Branch. Your Division of Forestry and Wildlife, Commission on Water Resource Management, Division of State Parks, and Oahu District Land Office indicated that they had no comments to offer.

Engineering Branch

Your confirmation of the flood hazard zone designation is appreciated. Section 2.5 of the Draft EA states that the flood depth at the project site averages two feet and that the project will comply with applicable City flood ordinances. The Final EA will also state that the project will comply with the rules and regulations of the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to
File:
02-263/epo

November 8, 2002

Mr. Randall K. Fujiki, Director
Department of Planning Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Draft Environmental Assessment (DEA)
Construction of a 25-Story Multi-Family Building Consisting of
100 Dwelling Units, and a 5-Level Parking Structure; and a
2-Story Commercial Building with 10,000 Square Feet of Floor Area
Tax Map Key: 2-6-016: 2, 4, 6-8, 12-19, 62, 64, 70, 75, 76 & 75

Thank you for the opportunity to review and comment on the subject proposal. The DEA was routed to the various branches of the Environmental Health Administration. We have the following comments:

Wastewater Branch (WWB)

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We reserve the right to review the detailed wastewater plans for conformance to applicable rules.

If you have any questions, please contact the Wastewater Branch at (808) 586-4294.

Clean Air Branch (CAB)

Control of Fugitive Dust

There is a significant potential for fugitive dust emissions during the removal, transport, and installation activities for this project. The project site will be within close proximity to residential dwellings and major thoroughfares. Provided that the mitigative measures concerning short-term air quality (Section 2.8) control proposed in the EA are adequate for compliance with the Hawaii Administrative Rules, Chapter 11-60.1-33, on Fugitive Dust, the Clean Air Branch has no further comments.

If you have any questions regarding these issued on fugitive dust, please contact the Clean Air Branch at (808) 586-4200.

Solid and Hazardous Waste Branch

The Office of Solid Waste Management recommends the development of a solid waste management plan that encompasses all project phases including demolition, construction, and occupation of the buildings.

Specific examples of elements that the plan should address include:

- Recycling of green-waste during clear and grub activities;
- Recycling construction and demolition wastes, as appropriate;
- Use of locally produced compost in landscaping;
- Use of recycled content building materials.

The developer should also consider providing space in the development for recycling activities. The provision of space for recycling bins for paper, aluminum, glass, plastic, and food/wet waste would help encourage the recycling of solid wastes generated by building occupants. The developer shall ensure that all solid waste generated during construction is directed to a Department of Health permitted solid waste disposal or recycling facility.

If you have any questions, please contact the Solid and Hazardous Waste Branch, Office of Solid Waste Management at (808) 586-4240.

Noise, Radiation and Indoor Air Quality (NRIAQ) Branch

All project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control."

If you have any questions, please contact the NRIAQ at (808) 586-4701.

Environmental Planning Office (EPO)

Please note that revised Total Maximum Daily Loads (TMDLs) for total nitrogen and total phosphorous in the Ala Wai Canal were approved by the U.S. Environmental Protection Agency in July 2002. We suggest that the Environmental Assessment for the proposed project include identification of the receiving waters for any existing and new connections to City and County of Honolulu storm water disposal system. Since the revised TMDLs include waste load allocations to the City system, if the proposed project's storm drain connections lead to the Ala Wai receiving waters, then we suggest that non-exceedance of these allocations be reflected in project operations and in any new drain connection license.

If you have any questions, please call David Penn of the Environmental Planning Office at (808) 586-4337.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration

c: WWB
CAB
SHWB
NRIAQ
EPO

6616-01
November 27, 2002

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Mr. Gary Gill, Deputy Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Gill:

Thank you for your letter dated November 8, 2002 (Ref. 02-263/epo) commenting on the subject Draft Environmental Assessment (EA). The following is offered in the respective order of your comments:

Wastewater Branch (WWB)
The project will comply with Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems" as they apply to the preparation and review of wastewater plans.

Clean Air Branch (CAB)
As stated in Section 2.8 of the Draft EA, we concur that the proposed project will have short-term construction-related impacts on air quality, including the generation of dust and emissions from construction vehicles, equipment and commuting construction workers. The construction contractor is responsible for complying with State Department of Health Administrative Rules, Title 11, Chapter 60-11.1 regarding "Air Pollution Control, specifically Section 11-60.1-33 regarding fugitive dust and the prohibition of visible dust emissions at property boundaries.

Solid and Hazardous Waste Branch
A solid waste management plan will be prepared for the construction and occupation phases of the project. The project is currently vacant and, as such, a demolition component of the solid waste management plan is not applicable.

A&B Waikiki, LLC acknowledges the important function of recycling and, as such, the development will provide space for recycling activities.

All solid waste generated during construction will be transported to a Department of Health approved solid waste disposal or recycling facility.

Noise, Radiation and Indoor Air Quality (NRIAQ) Branch
We appreciate the information you provided regarding noise regulations. The Final EA will include a statement regarding the compliance of all project activities with the Administrative Rules of the Department of Health, Chapter 11-46 regarding "Community Noise Control".

Environmental Planning Office (EPO)
Section 2.14 of the Draft EA states that the drainage system serving the project vicinity discharges into the Ala Wai Canal. New connections to the drainage system are undetermined at this time. A Drain Connection License, however, will be obtained from the City and County of Honolulu Department of Planning and Permitting in the event that any new drain connections are required for the project. As with all developments discharging into the municipal drainage system, the proposed project will comply with City requirements necessary for the City to comply with their waste load allocations.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 Fax: (808) 523-4567
Website: www.co.honolulu.hi.us

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JEREMY HARRIS
MAYOR

CITY & COUNTY OF HONOLULU

RAE M. LOUI, P. E.
DIRECTOR

ERIC G. CRISPIN, AIA
DEPUTY DIRECTOR

GEORGE T. TAMASHIRO, P. E.
ASSISTANT DIRECTOR

October 11, 2002

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: RAE M. LOUI, P. E., DIRECTOR

SUBJECT: A & B WAIKIKI CONDOMINIUM
DRAFT ENVIRONMENTAL ASSESSMENT
TAX MAP KEYS 2-6-16: 2, 4, 6, 7, 8, 12-19, 62, 64, 70, and 75-77
DPP REFERENCE NO. 2002/ED-6(JS)

This is in response to your memorandum of September 26, 2002 regarding the subject project.

We have no comments to make but appreciate the opportunity to review the document.

Please call Mr. Douglas Collinson at extension 6375 if there are any questions.

RML:ei

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808) 946-2277
FAX (808) 946-2253

6616-01
November 27, 2002

Ms. Rae M. Loui, P.E., Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Ms. Loui:

Thank you for your letter dated October 11, 2002 indicating that you have no comments on the subject Draft Environmental Assessment (EA). We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

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DEPT OF PLANNING & PERMITTING
CITY & COUNTY OF HONOLULU

October 11, 2002

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice Chairman
JAN M.L.Y. AHI
HERBERT S.K. KAOPUA, SR
DAROLYN H. LENOKI

BRIAN K. MINAAI, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: for CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER

SUBJECT: YOUR MEMORANDUM OF SEPTEMBER 26, 2002 ON THE ENVIRONMENTAL ASSESSMENT SPECIAL DISTRICT PERMIT FOR A & B WAIKIKI CONDOMINIUM PROJECT, TMK: 2-6-16: 2, 4, 6, 7, 8, 12 THROUGH 19, 62, 64, 70, 75, 76, 77

The existing water system is presently adequate to accommodate the proposed condominium project.

The availability of water will be confirmed when the building permit is approved. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The proposed project is subject to Board of Water Supply's Cross-Connection Control and Backflow Prevention requirements prior to issuance of the Building Permit Application.

If you have any questions, please contact Joseph Kaakua 527-6123.

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

6616-01
November 27, 2002

Mr. Clifford S. Jamile
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Jamile:

Thank you for your letter dated October 11, 2002 indicating that the existing water system is presently adequate to accommodate the proposed project. We acknowledge that the availability of water will be confirmed upon your review and approval of the building permit. We further acknowledge that the project is subject to your department's Cross-Connection Control And Backflow prevention requirements prior to approval of the building permit. The required Water System Facility Charges will be paid by the developer.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAPAKA STREET, SUITE H425 • HONOLULU, HAWAII 96819-1869
TELEPHONE (808) 831-7761 • FAX (808) 831-7133 • INTERNET www.honolulu.gov

JEREMY HARRIS
MAYOR

'02 OCT 16 PM 3 12

CITY & COUNTY HONOLULU

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

October 14, 2002

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: ATTILIO K. LEONARDI, FIRE CHIEF

SUBJECT: CHAPTER 343, ENVIRONMENTAL ASSESSMENT
SPECIAL DISTRICT PERMIT (SDP)

RECORDED OWNER/ APPLICANT:	A & B PROPERTIES, INC.
AGENT:	WILSON OKAMOTO & ASSOCIATES, INC.
LOCATION:	WAIKIKI, OAHU, HAWAII
TAX MAP KEYS:	2-6-016: 002, 004, 006, 007, 008, 012 THROUGH 019, 062, 064, 070, 075, 076, AND 077
REQUEST:	SPECIAL DISTRICT PERMIT
PROPOSAL:	TO CONSTRUCT A 25-STORY MULTI-FAMILY BUILDING CONSISTING OF 100 DWELLING UNITS AND A 5-LEVEL PARKING STRUCTURE; AND A 2-STORY COMMERCIAL BUILDING WITH 10,000 SQUARE FEET OF FLOOR AREA

We received your memorandum dated September 26, 2002, requesting our review and comments regarding an environmental assessment for the above-mentioned project. This project will not have any adverse impact on services provided by the Honolulu Fire Department.

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.

ATTILIO K. LEONARDI
Fire Chief

AKL/SD:jl

6616-01
November 27, 2002

WILSON OKAMOTO & ASSOCIATES INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU HI 96826
PH (808) 946-2277
FAX (808) 946-2253

Mr. Attilio K. Leonardi, Fire Chief
Fire Department
City and County of Honolulu
3375 Koapaka Street, suite H425
Honolulu, Hawaii 96819-1869

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Chief Leonardi:

Thank you for your letter dated October 14, 2002 indicating that you do not anticipate adverse impacts on fire services as a result of the subject project. The aforementioned was included in the Draft EA in response to your comments on the pre-environmental assessment.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813
Phone: (808) 523-4341 • Fax: (808) 527-6857

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CITY & COUNTY OF HONOLULU

JEREMY HARRIS
MAYOR

LARRY J. LEOPARDI
ACTING DIRECTOR AND CHIEF ENGINEER

ALVIN K.C. AU
DEPUTY DIRECTOR

IN REPLY REFER TO:

PRO 02-017

October 16, 2002

MEMORANDUM

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: LARRY J. LEOPARDI, ACTING DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF FACILITY MAINTENANCE

SUBJECT: CHAPTER 343, ENVIRONMENTAL ASSESSMENT
SPECIAL DISTRICT PERMIT
A & B WAIKIKI CONDOMINIUM

The Department of Facility Maintenance does not have any comments at this time, but will reserve further comments when the construction documents are submitted.

If you have any questions, please call Laverne Higa at 523-6246.

LJL:lh

6616-01
November 27, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808)946-2277
FAX (808)946-2253

Mr. Larry J. Leopardi, Acting Director and Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Leopardi:

Thank you for your letter dated October 16, 2002 indicating that you have no comments on the subject Draft Environmental Assessment (EA). As required, the construction documents for the project will be submitted for your review and comment.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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DEPARTMENT OF PARKS AND RECREATION

CITY AND COUNTY OF HONOLULU

1000 ULUOHIA STREET, SUITE 309 • KAPOLEI, HAWAII 96707
PHONE: (808) 692-5561 • FAX: 692-5131 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

'02 OCT 22 PM 3 55

CITY & COUNTY HONOLULU

WILLIAM D. BALFOUR, JR.
DIRECTOR

EDWARD T. "SKIPPA" DIAZ
DEPUTY DIRECTOR

October 18, 2002

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: WILLIAM D. BALFOUR, JR., DIRECTOR

SUBJECT: ENVIRONMENTAL ASSESSMENT
SPECIAL DISTRICT PERMIT (SDP)

Thank you for the opportunity to review and comment on the Environmental Assessment relating to the Special District Permit application of A & B Properties to construct a 25-story, 100-unit multi-family building in Waikiki.

The Department of Parks and Recreation has no comment on this project.

Should you have any questions, please contact Mr. John Reid, Planner, at 692-5454.

WILLIAM D. BALFOUR, JR.
Director

WDB:cu
(16388)

cc: Mr. Don Griffin, Department of Design and Construction

6616-01
November 27, 2002

WILSON OKAMOTO & ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST.
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Mr. William D. Balfour, Jr.
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Balfour:

Thank you for your letter dated October 18, 2002 indicating that you have no comments on the subject Draft Environmental Assessment (EA). We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 • AREA CODE (808) 529-3111
http://www.honolulupd.org
www.co.honolulu.hi.us

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CITY & COUNTY OF HONOLULU

JEREMY HARRIS
MAYOR

LEE D. DONOHUE
CHIEF

ROBERT AU
GLEN KAJIYAMA
DEPUTY CHIEFS

OUR REFERENCE CS-KP

October 25, 2002

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: CHAPTER 343, ENVIRONMENTAL ASSESSMENT, SPECIAL DISTRICT PERMIT (SDP) FOR A&B WAIKIKI CONDOMINIUM

Thank you for the opportunity to review and comment on the subject project.

In order to minimize the impact of construction-related calls for police service, please have the contractor call Major Thomas Nitta of District 6 (Waikiki) at 529-3361.

If there are any questions, please call Ms. Carol Sodetani of the Support Services Bureau at 529-3658.

LEE D. DONOHUE
Chief of Police

By Kenneth B. Simmons
KENNETH SIMMONS
Acting Assistant Chief of Police
Support Services Bureau

6616-01
November 27, 2002

WILSON OKAMOTO & ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH (808) 946-2277
FAX (808) 946-2253

Mr. Lee D. Donohue, Chief
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Chief Donohue:

Thank you for your letter dated October 25, 2002 (Reference CS-KP) commenting on the subject Draft Environmental Assessment (EA). The contractor, once selected, will be referred to Major Thomas Nitta for appropriate coordination prior to construction commencement. We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McManigle, CM&D

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C&C ENVIRONMENTAL SVCS

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HI 96707
(808) 692-5111, Fax (808) 692-5113

Jeremy Harris
Mayor

Timothy E. Steinberger, P.E.
Director

Frank J. Doyle, P.E.
Deputy Director

PRO 02-69

November 4, 2002

MEMORANDUM

TO: LORETTA CHEE, ACTING DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: TIMOTHY E. STEINBERGER, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL SERVICES

SUBJECT: A&B WAIKIKI CONDOMINIUM PROJECT,
DRAFT ENVIRONMENTAL ASSESSMENT

We have reviewed the subject Draft Environmental Assessment, which was transmitted via your memo dated September 26, 2002, ref. #2002/ED-6 (JS), and have the following comments:

1. The 6-inch sewer line within the project site that is proposed to be rerouted serves multiple properties. The City will need to retain its access rights to the existing easement and 6-inch sewer until it is verified that all services have been rerouted. The applicant should address the potential need for new easements for the rerouted sewer lines.

2. The applicant should state the impacts on existing downstream sewers resulting from the new proposed developments, and from changing the discharge location of the existing 6-inch sewer line. It would be helpful if the report included site maps of the sewers in the area, and proposed locations for new connections.

Should you have any questions, please call Jack Pobuk, Program Coordinator, at 692-5727.

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
PLANNERS
1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

6616-01
November 27, 2002

Mr. Timothy E. Steinberger, Director
Department of Environmental Services
City and County of Honolulu
1000 Uluohia Street, Suite 308
Kapolei, HI 96707

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Steinberger:

Thank you for your letter dated November 4, 2002 (Reference PRO 02-69) commenting on the subject Draft Environmental Assessment (EA). An infrastructure assessment including wastewater systems will be prepared for the project as design development progresses. The assessment will include consultation with your department to discuss the implications of rerouting the 6-inch sewer line and to identify any constraints or limitations to accommodating the project. Site maps of the sewers in the project area and proposed locations for new connections will be included as part of the assessment.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX (808) 527-6743 • INTERNET www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

[redacted]
Acting Director

2002/ED-6(JS)

November 7, 2002

RECEIVED
NOV 8 2002
WILSON OKAMOTO & ASSOC., INC.

Ms. Laura Mau
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Ms. Mau:

Comments on the Draft Environmental Assessment (EA)
Special District Permit
Waikiki, Oahu, Hawaii
Tax Map Keys 2-6-16: 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 75, 76 & 77

The following are comments from our department relating to the Draft EA for the above-referenced project. We have also attached copies of all comments we have received to date. In accordance with the provisions of Chapter 343, Hawaii Revised Statutes (HRS), you must respond in writing to these and any other comments which were received during the 30-day comment period which began with the publication of a notice of availability of the Draft EA in The Environmental Notice on September 26, 2002. The Final EA must include these comments and responses, as well as revised text, if appropriate.

Department of Planning and Permitting (DPP)

Zoning Regulations and Permits Branch:

1. Summary (page S-1): Under "County Zoning Designation," the correct zoning classification for the lots fronting Kuhio Avenue is "Apartment Mixed Use Subprecinct. There is no AMX "Precinct" in the WSD. The same revision/clarification should be made to Figure 10, "Waikiki Special District Map."

2. Figure 3, "Surrounding Land Uses Map": This exhibit should identify the existing uses on the 2 small lots fronting Kalaimoku Street on the same block as the project.

3. The DEA states that the 2-story commercial building is part of the project and will accommodate retail uses. This structure will be located on that portion of the site which is in the Apartment Mixed Use Subprecinct. It should be clarified that retail establishments are not a permitted use in the subprecinct. (See page 1-8, second bubble; page 3-8, second-to-the-last paragraph). The DEA should correctly identify the types of permitted uses which may locate within the proposed commercial structure (convenience stores, eating establishments, financial institutions, medical clinics, personal services). Please refer to Table 21-9.6(A) of the Land Use Ordinance (LUO).

4. Section 3.2.4 (page 3-9; first paragraph): The DEA incorrectly states that "*by providing accessible open spaces, additional floor area referred to as bonus open space can be included in the calculation of allowable floor area.*" There is a minimum open space requirement of 50 percent of the lot area in the Apartment Precinct; no exceptions or open space bonuses are provided.

5. We concur with the applicant's recommendation that a FONSI be issued for the project.

Community Action Plans Branch:

1. Primary Urban Center Development Plan

   The proposed multi-family development does not appear to conflict with the existing Development Plan for the Primary Urban Center (PUC). However, the applicant should be advised that the PUC Development Plan is in the process of being revised. In the *draft*, one of the key elements of visioning for the PUC's future is the promotion of livable In-Town Residential Neighborhoods:

2. Streetscape Environment

   The condominium building's street-side facades should be designed to reflect human scale, to create pleasant walking conditions, and to provide attractive front entrances where appropriate. The development should promote safe and inviting pedestrian entrances directly from the street to contribute to the livability of neighborhoods. While the proposed development appears to be attentive toward vehicular access (5 driveways), it gives little sense of pedestrian entry from Kalaimoku and Olohana Streets. The pedestrian entry should face the sidewalk/street, and provide easy access to neighborhood services.

Furthermore, the Waikiki/Diamond Head Community Vision Group (CVG no. 17) has several ongoing projects, the Kuhio Avenue Master Plan and the Waikiki Comprehensive Landscape Plan, that may affect the proposed development, or may benefit from related and coordinated improvements of the project. The proposal should be presented to the CVG for their information and input. The applicant should contact their City Facilitator, Mr. Eric Crispin at 523-4716, to arrange a presentation.

Urban Design Branch:

1. Section 1.3 Project Description

   High-rise Condominium Tower:

   Provide the area of the right-of-way (½ of the area of the adjacent right-of-way) used to determine the maximum permitted floor area.

   Clarify whether lanais were included in the floor area calculations. Lanais are not counted as floor area within Waikiki.

   Commercial Building:

   Proposed uses shall conform with Table 21-9.6(A) of the LUO.

   Specific commercial uses are permitted within the Apartment Mixed Use Subprecinct (parcels 12, 13 & 14) but they are not permitted within the Apartment Precinct (all other parcels). Therefore, a 10-foot rear yard may be required on parcel 14. All required yards must be landscaped. Parking and loading would not be permitted within any required yard.

   Parking:

   Within the Apartment Precinct, a commercial parking lot or garage is not permitted use. Proposed uses shall conform with Table 21-9.6(A) of the LUO. The applicant should state what they intend to do with the excess parking.

   The 244 stalls proposed exceeds the required 100 parking spaces by 144 stalls. The applicant should discuss a proposed alternate which provides only the required parking and illustrate the resultant reduction in size of the parking structure and tower.

   Clarify number of on-grade guest parking spaces. Figure 4 and written description differ.

2. Section 2.4 Hazardous Materials

   The soils study should be provided to discuss soils remediation.

3. Section 2.6 Flora and Fauna

   A detailed existing landscape plan should be provided which identifies trees to remain or be removed. All trees which have or exceed six inches in trunk diameter shall be shown on the plan. All trees should be retained on site unless removal is required due to disease or impact by structures. Include an Arborist's report and the justification for removing each tree.

4. Section 2.7 Noise

   The Noise study should be expanded to discuss mitigative measures, particularly related to pile driving and vibration. Also, explain why a noise variance will be necessary. The discussion should address whether temporary relocation of the tenants living in the adjoining single-family residences are feasible. It should also consider mitigative measures to adjoining buildings.

5. Section 2.8 Air Quality

   The air quality study shall discuss the impacts of 244 additional vehicles in the area to the air quality.

6. Section 2.92 Historic Building Resources

   Discuss impacts and mitigative measures. This discussion should include construction methods and measures which would avoid damage to the existing structures due to dewatering and pile driving. The mitigative measures should also include a detailed assessment of the existing structures' condition and plans to repair damages to the existing structures.

7. Section 2.13 Traffic

   Discuss and consider dual access via Olohana and Kalaimoku Streets as an alternate, as well as two-way internal parking circulation. In addition, the circulation pattern through the at-grade guest parking should be reversed. The objective for these alternates is to minimize vehicles circulating around the block to access the project.

An increase to the property line radii will be required at the corner of Kuhio Avenue and Olohana Street.

8. Section 3.2.3 LUO and Waikiki Special District

Add Figure 11 as noted on page 3.8.

The minimum open space requirement within the Apartment Precinct and Apartment Mixed Use Subprecinct is 50%. Provide open space calculations.

"Open space bonus" is not permitted within the Apartment Precinct and Apartment Mixed Use Subprecinct.

9. Section 6 Permits and Approvals

Add Park Dedication and Street Trees to the list of required permits.

Clarify the intent and necessity of the Conditional Use Permit (CUP) for Joint Use of Parking.

Omit "Type 1" in the description of the CUP.

10. Section 7.2 Parties to be Consulted During the Draft EA Review Period

Add the Land Division of the State Department of Land and Natural Resources.

11. The Department of Design and Construction (DDC) should be contacted to discuss whether the City's proposed improvements on Olohana and Kalaimoku Streets [i.e. Waikiki Mauka/Makai Streets (DDC job no. 6201)] are necessary.

Wastewater Branch:

The municipal sewer system is available and adequate to accommodate the proposed twenty-five story multi-family building consisting of 100 apartment units, a five level parking garage, and a two story commercial building with 10,000 square feet of floor area. A Site Development Division Master Application Form for Sewer Connection (2001/SCA-0448) was submitted and approved on July 18, 2001 for 125 apartment units. The applicant is required to submit a revised application that also includes the commercial building.

Civil Engineering Branch (CEB):

1. Page 2-2 Topography and Soils:

   Revise the second sentence to read "Storm Runoff from the project site...in compliance with the City's 'Rules Relating to Storm Drainage Standards.'" Similarly, the last paragraph of page 2-3 should be revised.

2. Section 6 Permits and Approvals (City):

   a. Clarify "Drainage Permit." Does the applicant mean "Drain Connection Permit?" If so, revise.

   b. Please have the applicant clarify what is meant by "Construction Permit."

   c. There are no such permits as "Electrical, Plumbing and Sidewalk/Driveway Work Permits." These are all covered under a Building Permit.

   d. The project may require a Dewatering Permit from CEB.

3. Include the appropriate FEMA Floodzone Certifications in the list of permits and approvals.

Park Dedication:

The applicant will need to submit a conceptual private park plan (showing all proposed facilities) for our review and approval.

If we can be of further assistance, please contact Joyce Shoji of our Urban Design Branch at 527-5354.

Sincerely yours,

for LORETTA K. C. CHEE
Acting Director of
Planning and Permitting

LKCC:pl
Attachments
doc185337

WILSON
OKAMOTO
& ASSOCIATES, INC.
ENGINEERS
PLANNERS
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PH (808)946-2277
FAX (808)946-2253

6616-01
November 22, 2002

Loretta K. C. Chee
Acting Director
City and County of Honolulu
Department of Planning & Permitting
650 S. King Street, 7th Floor
Honolulu, Hawai'i 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Ms. Chee,

Thank you for your letter of November 7, 2002 [2002/ED-6 (JS)] commenting on the subject Draft Environmental Assessment. We offer the following responses in the respective order of your numbered comments:

Zoning Regulations and Permits Branch

1. We acknowledge that "Apartment Mixed Use" is a sub-precinct designation. The Final EA will include the corrected references.

2. Pursuant to your recommendation, Figure 3, "Surrounding Land Uses Map" in the Final EA will identify the existing residential uses in TMK parcels 2-6-16: 5 and 3.

3. We acknowledge that retail uses are not permitted in the "Apartment Mixed Use" sub-precinct. The Final EA will refer to allowable uses such as convenience stores and eating establishments in the commercial building.

4. We acknowledge that the reference to "bonus open space" is incorrect and will omit it in the Final EA.

5. We appreciate your concurrence that a Finding of No Significant Impact would be an appropriate determination for the Final EA.

Community Action Plans Branch

1. We acknowledge that the PUC Development Plan is in the process of being revised and that the Draft Plan (May 2002) promotes Livable In-Town Residential Neighborhoods. The Final EA will reference the Draft Plan and the two pertinent Key Elements, which the proposed project will support.

2. The design of street facades and pedestrian entry for enhancing the pedestrian environment along the sidewalk will be examined for further discussion and refinement in conjunction with Waikiki Special District (WSD) permit processing.

3. We note that the Department of Design and Construction had no comments to offer on the Draft EA. Nevertheless, we acknowledge the important function of the Waikiki/Diamond Head Community Vision Group and will contact Mr. Eric Crispin to discuss how the proposed project may relate to their efforts.

Urban Design Branch

1. Section 1.3 Project Description
High-rise Condominium Tower – Floor area calculations, including those based on adjacent rights-of-way and the exclusion of lanai area, will be provided in the WSD permit application.

Commercial Building – Use of the commercial building will comply with those permitted in the "Apartment Mixed Use" (AMX) sub-precinct, in which it will be located, as specified in Table 21-9.6(A) of the Land Use Ordinance (LUO). With regard to the rear yard, the Final EA will note that a Conditional Use Permit (minor) application for joint development of the project site as a single zoning lot has been filed with the DPP. We understand that, as a single zoning lot, the portion of the lot within the AMX sub-precinct will not have a rear yard where it abuts the adjoining Apartment precinct.

Parking – The LUO defines a commercial parking lot as one which is "not accessory to another use in the same zoning lot." By jointly developing the project site as single zoning lot, we understand that

proposed parking within that lot would be accessory to the other uses in that lot and, hence, would not fall under this definition.

The provision of parking exceeding minimum requirements addresses the expectations of the target market for the proposed residential units. Moreover, it addresses a major concern of neighboring residents that inadequate on-site parking for the project will exacerbate demand for street parking in the vicinity. We feel that to include a new alternative for reducing on-site parking in the Final EA would be contrary to the assurances given at presentations to the Waikiki Neighborhood Board that the project would not rely on street parking.

The Final EA will clarify that 13 at-grade parking stalls are proposed. Of these, 12 will be for guest parking, as shown in Figure 4, and one will be an accessible stall for the commercial building.

2. Section 2.4 Hazardous Materials
In the discussion of Impacts and Mitigation Measures in Section 2.4 of the Draft EA, it states that environmental conditions related to hazardous materials can be remediated, based upon the findings of the Phase I Environmental Site Assessment report. It further states that the stained soils found within the property will be properly characterized to determine appropriate methods of disposal. We feel this discussion provides sufficient basis for determining that no significant environmental impacts related to hazardous materials are associated with the implementation of the proposed project. The soil characterization report, including remediation measures, will be provided for your review when it is completed.

3. Section 2.6 Flora and Fauna
A certified arborist's report identifying existing trees, their condition and plan for disposition and justification will be included in the WSD permit application.

4. Section 2.7 Noise
As discussed in the Draft EA, mitigation measures to reduce construction noise impacts include properly muffled construction equipment and compliance with State Department of Health (DOH) rules for construction activities. Although it is anticipated that

construction activities will occur within allowable times specified by DOH rules, a noise variance to allow construction activities to occur beyond specified times was listed as possible permit. This option could provide some flexibility in shortening the number of days a specific activity such as pile driving, if necessary, would require. Such a variance could conceivably be requested if neighboring residents feel that it would lessen impacts on them.

As discussed in the Draft EA, mitigation measures to prevent vibration damage to nearby structure will be determined based on a conservative vibration limit.

As discussed in the Draft EA, noise impacts are not expected to be in the range affecting "public health and welfare." Therefore, temporary relocation of residents during construction would not be warranted.

5. Section 2.8 Air Quality
As discussed in the Draft EA, carbon monoxide levels recorded at the DOH Air Monitoring Station on Kalakaua Avenue have not exceeded State or Federal air quality standards for the past five years. This is largely due to the attrition of older vehicles lacking currently required emission control devices. Your reference to an additional 244 vehicles is apparently based on the total of 244 parking stalls proposed for the project. Carbon monoxide levels along streets, however, depend on traffic and wind conditions since parking stalls do not produce emissions. Emissions from moving vehicles are dispersed over the distance traveled while idling vehicles depend on wind conditions for dispersing emissions. Hence, carbon monoxide emissions would increase with traffic congestion under calm wind conditions. With respect to the proposed project, the Draft EA indicates that the intersections likely to be affected by project-related traffic presently operate well during peak hours and that the addition of project-related traffic in the future would have an insignificant impact on their operation. Therefore, air quality impacts associated with the proposed project would also be insignificant at the intersections.

6. Section 2.9 Historic Building Resources
As discussed in item 4, above, a conservative threshold for vibration damage will be used in determining construction methods to prevent damage to nearby structures. The Draft EA refers to Section 2.7

where vibration impacts are discussed. Since the construction contractor would be responsible for any damage to nearby structures attributable to construction activities, a thorough assessment and documentation of existing conditions would help to identify existing damage and damage-prone conditions and protect him (her) against claims for pre-existing damage or damage resulting from pre-existing damage-prone conditions. The contractor will be encouraged to prepare such an assessment, but it cannot be characterized as a mitigation measure to reduce potential impacts reasonably attributable to construction activities.

With regard to dewatering, the Final EA will describe that the parking garage has been modified such that the lowest level will be at-grade instead of ½ -level below grade. This will significantly reduce the amount of dewatering required and the potential for impacts on nearby structures.

7. Section 2.13 Traffic
The traffic circulation pattern around the project site results from the one-way couplet system established by the City. Although dual-access driveways can reduce specific traffic movements, the traffic report indicates that even with these movements, the projected increase in traffic attributable to the project will have an insignificant impact on the operation of the key intersections that were assessed.

We acknowledge the requirement for increasing the property line radii at the corner of Kuhio Avenue and Olohana Street.

8. Section 3.2.3 LUO and Waikiki Special District
The reference to Figure 11 on page 3.8 is incorrect. The Final EA will correctly refer to Figure 10.

We acknowledge that the minimum open space requirement within the Apartment Precinct and Apartment Mixed Use sub-precinct is 50% and that there is not "open space bonus." Open space calculations will be provided in the WSD permit application.

9. Section 6 Permits and Approvals
The Final EA will include Park Dedication and Street Trees to the list of required permits.

The Final EA will clarify that a CUP minor application for joint development of the project site is required. The reference to Type 1 will be omitted.

10. Section 7.2 Parties to be Consulted During the Draft EA Review Period
The Land Division of the State Department of Land and Natural Resources was inadvertently omitted from the list of agencies and will be added to the list in the Final EA. The agency was, however, consulted during the Draft EA.

11. We understand from Mr. Greg Hee of the Department of Design and Construction (DDC) that DDC Job No. 6201 as it relates to the proposed project recommends the planting of Narra trees along Olohana and Kalaimoku Streets. Specific tree species for the proposed project will be addressed in the WSD application.

Wastewater Branch

We appreciate your confirmation of the availability and adequacy of the sewer system to accommodate the proposed project. A revised Site Development Division Master Application Form for Sewer Connection, including the proposed commercial building will be submitted for your consideration shortly.

Civil Engineering Branch

1. The corrected references to the City's "Rules Relating to Storm Drainage Standards" will be incorporated in the Final EA.

2. Section 6 Permits and Approvals
   a. We understand that the proper reference is to a "Drain Connection License", which will be corrected in the Final EA.

   b. The reference to Construction Permit will be omitted in the Final EA.

   c. The reference to the "Electrical, Plumbing and Sidewalk Driveway Work Permits" will be omitted in the Final EA.

3. A Flood Hazard Districts Certification will be included on the list of permits and approvals in the Final EA.

Park Dedication

A conceptual private park plan will be submitted in conjunction with the Park Dedication approval.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Final EA. Should you have any questions, please call Laura Mau or me at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Department of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

IRENE V. CONRAD TRUST
Patsy Jorgensen, Trustee
2649 Gemini Court
Camarillo, CA 93010
(805) 987-7810

October 30, 2002

Mr. Randall K. Fujiki, AIA
Director of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Proposed A & B Waikiki Condominium Project
Waikiki, Oahu, Hawaii

Dear Mr. Fujiki:

Thank you for your letter dated September 26, 2002 informing us of the proposed A & B Waikiki Condominium Project. Our Lot #3 is one of the four properties located in the same block as the project site.

Of the 17 surrounding properties, we are the most vulnerable to damage by the pile driving equipment. Our small 3-unit, Spanish stucco is older, renter-occupied, and is approximately 100 feet from the pile driving area. This is the only means of income for my two sisters and I, and any structural damage or rendering of the unit inhabitable would be a catastrophe.

According to Table 8, page 29, of the Draft Environmental Assessment report (DEA), the threshold of damages in older homes (such as ours) is 0.4 in/sec whereas you have a vibration limit of 2.0 in/sec planned for the project. The DEA page 2-8 suggests that a more conservative limit of 0.2 in/sec be used to decrease the risk of damage from the piling driving.

I request that alternative construction methods should be examined in order to mitigate any possible structural damage to our building.

Further, the DEA page 3-8 indicates the garage structure will be looked upon as the first visual impression of the "Hawaiian Sense of Place" for this project. Kalaimoku, Saratoga and Kalakaua is the main intersection where hundreds of millions of dollars are being invested over the next 10 years. Looking down Kalaimoku from Kalakaua, the garage structure along with two small, old buildings (Lots 3 and 5) certainly does not give a visual impression of a "Hawaiian Sense of Place."

I feel that A & B Waikiki Condominium Project should purchase both Lots 3 and 5, relocate the garage on Olahana or off street and surround Kalaimoku with lush Hawaiian vegetation and open space. This would present a more beautiful Hawaiian appearance.

Please give due consideration to my suggestions and should you have any questions, please feel free to contact me at the telephone number listed above.

Sincerely,

Patsy Jorgensen

Patsy Jorgensen
Trustee of the Irene V. Conrad Trust

PJ:qss

cc: Wilson Okamoto & Associates, Inc.
Attn: Mr. Earl Matsukawa, AICP, Project Manager

6616-01
November 27, 2002

WILSON
OKAMOTO
& ASSOCIATES, INC

ENGINEERS
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Irene V. Conrad Trust
Patsy Jorgensen, Trustee
2849 Gemini Court
Camarillo, CA 93010

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Ms. Jorgensen :

Thank you for your letter dated October 30, 2002 commenting on the subject Draft Environmental Assessment (EA). . We offer the following responses in the respective order of your numbered comments:

1. We acknowledge your concern regarding potential damage to your property if pile driving is required during construction. As discussed in the Draft EA, based on the conservative threshold limit of 0.2 in./sec., a distance of 42 – 71 feet from pile driving will be considered in determining where the use of piles, if required, may be appropriate. If piles need to be driven closer than this distance to existing structures, vibration from test piles driven at a safe distance will be monitored to determine if the distance threshold can be reduced or if alternative pile driving equipment or construction method can reduce the risk of damage.

2. While we concur that the inclusion of Lots 3 and 5 in the proposed project would provide an opportunity to present a more visually integrated street frontage along Kalaimoku Street, A&B Properties, Inc.'s efforts to negotiate acquisition of these properties were unsuccessful.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

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DONNA A. O. YOSHIMOTO
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A Limited Liability
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OF COUNSEL
SOJI KATO

November 4, 2002

VIA FACSIMILE & MAIL

Mr. Randall K. Fujiki, AIA
Director of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Re: Chapter 343, Environmental Assessment Special District Permit (SDP)

Recorded Owner / Applicant	:	A & B Properties, Inc.
Agent	:	Wilson Okamoto & Associates, Inc.
Location	:	Waikiki, Oahu, Hawaii
Tax Map Keys	:	2-6-18: 2, 4, 6, 7, 8, 12 through 19, 62, 64, 70, 75, 76 and 77
Request	:	Special District Permit
Proposal	:	To construct a 25-story multi-family building consisting of 100 dwelling units and a 5-level parking structure; and a 2-story commercial building with 10,000 square feet of floor area.

Dear Mr. Fujiki,

This is written in response to your letter dated September 26, 2002, regarding the above-referenced matter. Please be advised that this office represents Maile Sky Court Co., Ltd. ("MSC") regarding this matter. My client owns the leasehold interest in the Ohana Maile Sky Court Hotel (the "Hotel"), which is located across the street from the proposed project. The Hotel is managed by Outrigger Hotels and Resorts ("Outrigger").

My client is concerned that the construction phase could have a significant impact on Hotel operations. My client therefore request that A&B be required to take all reasonable steps to minimize the impact on Hotel operations and the Hotel guests' experience, including, without limitation, the following:

- Provide the name, address, phone, fax and e-mail of a contact person who will be responsive to complaints filed either by MSC, Outrigger or guests of the Hotel.

- Agree to be responsive to any complaints.

- As soon as reasonably possible, advise Outrigger and MSC of the scheduling and details regarding the construction phase. The initial contact person would be Mr. Chuck Shishido, whose address and contact numbers are listed in the enclosed letter.

- As soon as reasonably possible, meet and confer with representatives of Outrigger to discuss scheduling and details regarding the construction phase and ways in which to minimize the impact on Hotel operations.

- Keep Outrigger fully apprised and updated as to any changes in scheduling and construction activities.

- Abide by existing regulatory requirements regarding hours of operations and noise level.

My client is also concerned that construction activity, particularly, the dewatering, pile driving and excavation work, may cause damage to the Hotel. For example, as a result of dewatering during the construction of the Duty Free Store ("DFS"), several adjacent and neighboring properties experienced settlement and cracking problems. Since the water table in Waikiki is only about four to five feet below ground level, when extensive dewatering occurred at the DFS site, the reduction in water pressure in the neighboring sites caused the settlement and cracking problems. As a result, DFS was required to pay for or repair damage to the neighboring properties. Accordingly, my client requests that City approval of this project be subject to the following conditions to help mitigate any negative impacts:

- Prior to commencement of construction, conduct a pre-survey of the Hotel to determine and document the condition of the Hotel.

- During construction monitor the condition of the Hotel.

- Post construction, conduct a survey of the Hotel to determine whether there has been any negative impact on the Hotel, i.e., settlement, cracking of slabs or other structural problems.

- Agree to indemnify Malle Sky Court against any damages resulting from construction activities or provide insurance coverage against such risks.

My client also requested that Outrigger review the Environmental Assessment Report dated September 2002 and provide their comments. Enclosed for your consideration is a copy of Outrigger's comments.

We appreciate the opportunity to comment on this project. If you have any question, kindly contact the undersigned. Thank you.

Very truly yours,

MATSUBARA, LEE & KOTAKE

Melvyn M. Kotake

Enclosure
Cc: Mr. Tony Sato, President
Malle Sky Court Co., Ltd.
Mr. Chuck Shishido

OHANA
HOTELS·RESORTS

Matsubara, Lee & Kotake
Attorneys At Law
Charles R. Kendall Building
888 Mililani Street, Eight Floor
Honolulu, Hawaii 96813

November 1, 2002

Dear Merv,

I have reviewed the Draft Environmental Assessment for the "A&B Waikiki Condominium" dated September 2002. I have also asked David Lee from Outrigger Hotels and Resorts Projects department to review the report as well from a structural impact point of view. The following are our comments:

1. As noted in your letter to Mr. Sato, the construction phase could have a significant impact on Hotel Operations. The effects of this construction; dust, noise, and traffic will have some impact on the guest experience, but because we are not able to know what steps the developer will take to minimize these issues, we are not able to forecast the specific impact on the business outlook. Guest rooms are fairly well insulated against noise due to not having balconies or lanais and main entrances, exits and most public areas are located on the Kuhio Street & Namahana Street sides of the Hotel, away from the construction site which should help in minimizing the business impact.

2. We believe from a building integrity standpoint, it would be prudent to proceed with your request to have A&B take the actions you previously outlined:
   a. Conduct a pre-survey of the Hotel to determine and document the condition of the Hotel.
   b. During construction monitor the condition of the Hotel
   c. Post construction, conduct a survey of the Hotel for any negative impacts.
   d. Indemnify OHANA Malle Sky Court against any damages resulting from their construction activities or provide insurance coverage against such risks.
   e. Provide the name, address, phone, fax and e-mail of a contact person who will be responsive to complaints filed either by MSC, Outrigger Hotels and Resorts or guests of the Hotel.

2155 Kalia Road • Honolulu, Hawaii 96815-1563 • Phone: 808-924-6312 • Fax: 808-922-8109
Toll-free Reservations U.S., Guam & Canada: Phone: 1-800-462-6262 • Fax: 1-800-622-4852
Worldwide Direct Phone: 323-589-7777 • Worldwide Direct Fax: 323-589-5403 • Website: ohanahotels.com • Email: reservations@outrigger.com

Part of the © Outrigger Family of Good Hotels

OHANA
HOTELS·RESORTS

3. I am also investigating, through OH&R's Corporate Office, whether these issues concerning this development affects the terms of the partnership agreement between Sky Court Co. LTD. and Outrigger Hotels and Resorts.

Thank you for allowing us to review the Draft Environmental Assessment and comment on its impact to the operation of the OHANA Maile Sky Court.

Sincerely,

Chuck Shishido

Cc: Mel Kanashige, Mel Willitsky, Perry Sorenson, Barry Wallace, David Lee

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6616-01
November 27, 2002

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Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA)
A&B Waikiki Condominium Project
Tax Map Keys: 2-6-16: 2, 4, 6 to 8, 12 to 19, 62, 64, 70, 75 to 77
Waikiki, Hawaii

Dear Mr. Kotake :

Thank you for your letter of November 4, 2002 and attached letter from 'Ohana Hotels and Resorts dated November 1, 2002, both of which comment on the subject Draft Environmental Assessment (EA). Inasmuch as the comments in both letters reflect similar concerns, the following responses to your comments are also applicable to those of 'Ohana Hotels and Resorts:

1. As discussed in the Draft EA, the construction contractor is required to comply will all regulatory requirements pertaining to the generation of noise and dust and will minimize the movement of construction vehicles during peak traffic periods. We concur that establishing channels of communication with your client is essential and have forwarded your suggestions to the applicant for consideration.

2. We acknowledge your client's concern regarding potential damage that may result from dewatering, pile driving and excavation work. With regard to dewatering, the Final EA will describe that the parking garage has been modified such that the lowest level will be at-grade instead of ½ -level below grade. This will significantly reduce the amount of excavation and dewatering required and the potential for impacts on nearby structures.

   With regard to pile driving, Section 2.7 of the Draft EA states that, based on the conservative threshold limit of 0.2 in./sec., a distance of 42 – 71 feet from pile driving will be considered in determining where the use of piles, if required, may be appropriate. If piles need to be driven closer than this distance to existing structures, vibration from test piles driven at a safe distance will be monitored to determine if the distance threshold can be

reduced or if alternative pile driving equipment or construction method can reduce the risk of damage.

Inasmuch as the construction contractor would be responsible for any damage to nearby structures attributable to construction activities, a thorough assessment and documentation of existing conditions will help the contractor to avoid causing damage and also protect him (her) against claims for pre-existing damage. Your suggestions regarding construction-related damage liability have been forwarded to the applicant for consideration.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter, along with this response, will be reproduced in the forthcoming Final EA.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Mr. Patrick Seguirant, City and County of Honolulu, Dept. of Planning and Permitting
Mr. Rick Stack, A&B Properties, Inc.
Mr. Tim McMonigle, CM&D

Appendix A

Preliminary Geotechnical Report Waikiki Apartment Condominium/Commercial Complex, Honolulu, Hawaii TMK: 2-6-16

Ernest K. Hirata & Associates, Inc.

December 5, 2001

PRELIMINARY GEOTECHNICAL REPORT
WAIKIKI APARTMENT CONDOMINIUM/ COMMERCIAL COMPLEX
HONOLULU, HAWAII
TMK: 2-6-16

for

A & B PROPERTIES, INC.

ERNEST K. HIRATA & ASSOCIATES, INC.
W.O. 01-3503
December 5, 2001

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ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

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December 5, 2001
W.O. 01-3503

Mr. Michael Wright
A & B Properties, Inc.
822 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

Our report, "Preliminary Geotechnical Report, Waikiki Apartment Condominium/Commercial Complex, Honolulu, Hawaii, TMK: 2-6-16," dated December 5, 2001, our Work Order 01-3503 is enclosed. This investigation was conducted in general conformance with the scope of work presented in our proposal dated July 3, 2001.

From a geotechnical engineering viewpoint, it is our opinion that the subject property is feasible for development of a high rise structure. As expected, deep foundations will be required for support of the planned structures.

The following is a summary of alternate foundations systems we believe to be feasible for the proposed development. This summary is not intended to be a substitute for our report which includes more detailed discussion of our conclusions.

- 12-inch square prestressed concrete piles end bearing on coral
- 16.5-inch octagonal prestressed concrete piles end bearing on coral
- 16.5-inch octagonal prestressed concrete piles extending to approximately 100 feet
- Large diameter drilled shaft foundations

We appreciate this opportunity to be of service. Should you have any questions concerning this report, please feel free to call on us.

Very truly yours,

ERNEST K. HIRATA & ASSOCIATES, INC.

Ernest K. Hirata — President

EKH:CCT:ph

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ERNEST K. HIRATA & ASSOCIATES, INC. W.O. 01-3503

APPENDIX

PRELIMINARY GEOTECHNICAL REPORT
WAIKIKI APARTMENT CONDOMINIUM
COMMERCIAL COMPLEX
HONOLULU, HAWAII
TMK: 2-6-16

INTRODUCTION

This report presents the results of our preliminary geotechnical study performed for the proposed apartment condominium/commercial complex development in the Waikiki area of Honolulu, Hawaii. Our work scope for this study included the following:

- A visual reconnaissance of the site and its vicinity to observe existing conditions which may affect the project. The general location of the project site is shown on the enclosed Location Map, Plate 1.
- A review of available soils information pertinent to the site and the proposed project.
- Drilling and sampling one exploratory boring to a depth of approximately 101 feet. The soils encountered in the boring are described on the Boring Logs, Plates B1 through B4. The approximate exploratory boring location is shown on the enclosed Boring Location Plan, Plate 2.
- Laboratory testing of selected soil samples. Testing procedures are presented in the Laboratory Testing section of this report, and results are presented on the Boring Logs, and on Plates C and D.
- Engineering analyses of the field and laboratory data.
- Preparation of this report addressing the feasibility of developing the site for a high rise project from a geotechnical engineering viewpoint, and presenting our opinions regarding alternate foundation types.

PROJECT CONSIDERATIONS

The proposed development being considered consists of a high rise apartment condominium/commercial complex. Although the property covers about 71,000 square

feet, we understand that the tower structure will generally be limited to the two-thirds of the site closer to Kuhio Avenue.

SITE CONDITIONS

The property encompasses nearly the entire block bordered by Kuhio Avenue on the south, Olohana Street on the west, Kalaimoku Street on the east, and Ala Wai Boulevard on the north. Two high rise apartment buildings occupy the north and south ends of the block, along with several one and two story residential dwellings at the north end.

The site is relatively level, with drainage generally flowing in a northerly direction. Except for several mature trees, the site is presently vacant of structures and consists of bare ground.

FIELD EXPLORATION

The project site was explored on October 18, 2001 by drilling one exploratory test boring with a truck-mounted Mobile B40-L22 drill rig to a depth of about 101 feet. The soils were continuously logged by our field engineer and classified by visual examination in accordance with the Unified Soil Classification System. A Boring Log Legend is presented on Plate A1 and the Unified Soil Classification System is shown on Plate A2. The approximate boring location is shown on Plate 2, and the soils encountered are logged on Plates B1 through B4.

Representative and disturbed soil samples and core samples of coral were recovered from the boring for selected laboratory testing and analyses. Representative samples were obtained by driving a 3-inch O.D. thin-walled split tube sampler with a 140-pound hammer from a height of 30 inches. A standard splitspoon sampler was used for obtaining disturbed samples. The blow counts required for 12 inches of penetration are shown at the appropriate depths on the enclosed Boring Logs. Core samples were obtained by drilling with an NX core barrel having an inside diameter of 2.1 inches. Recovery percentages for each core run are also shown on the enclosed Boring Logs.

LABORATORY TESTING

Classification - Field classification was verified in the laboratory in accordance with the Unified Soil Classification System. Laboratory classification was determined by visual examination. The final classifications are shown at the appropriate locations on the Boring Logs, Plates B1 through B4.

Moisture-Density - Representative samples were tested for field moisture content and dry unit weight. The dry unit weight was determined in pounds per cubic foot while the moisture content was determined as a percentage of dry weight. Samples were obtained using a 3-inch O.D. split tube sampler. Test results are shown at the appropriate depths on the Boring Logs, Plates B1 through B4.

Consolidation Test - A consolidation test was performed on a representative soil sample 2.42 inches in diameter and 1 inch high. Porous stones were placed in contact with the top and bottom of the test sample to permit addition and release of pore fluid. Loads were then applied in several increments in a geometric progression, and the resulting deformations recorded at selected time intervals. Test results are plotted on the Consolidation Test Report, Plate C.

Direct Shear Test - A shear test was performed in the Direct Shear Machine which is of the strain control type. The rate of deformation was approximately 0.02 inches per minute. The sample was sheared under varying confining loads in order to determine the Coulomb shear strength parameters, cohesion and angle of internal friction. Eighty percent of the maximum value was taken to determine the shear strength parameters. Test results are presented on Plate D.

SOIL CONDITIONS

The surface soil encountered in our boring was classified as tan silty sand with coral fragments. The soil was in a medium dense condition and about 3 feet in thickness.

Underlying the silty sand was gray silty clay. The silty clay, about 3 feet in thickness, was in a soft to firm condition. Below the silty clay was loose, gray silty sand with coral fragments. Both the soft silty clay and loose silty sand layers appeared to be highly compressible.

Tan coral was encountered at a depth of about 37 feet. The upper portion of the coral stratum was in a medium hard condition. However, the medium hard coral transitioned to a dense and highly fragmented condition at a depth of about 43.5 feet. The coral stratum extended to a depth of about 52 feet.

Underlying the coral stratum was coralline material consisting of tan silty sand with varying amounts of coral fragments and silt pockets. The silty sand was generally in a medium dense condition with occasional loose soils. Brown clayey silt was encountered at a depth of about 95 feet. The clayey silt was in a medium stiff to stiff condition extending down to the maximum depth drilled

Groundwater was encountered at a depth about 4 feet below existing grade.

CONCLUSIONS

From a geotechnical engineering viewpoint, it is our opinion that the subject property is feasible for development of a high rise structure. As expected, deep foundations will be required for support the building. Alternate foundation systems which we believe are feasible for the development are summarized below. Final selection of the foundation system will depend on the structural loads expected, an economic analysis, as well as other factors, such as environmental and noise consideration, and construction schedule. In addition, due to the soft and compressible condition of the silty clay underlying the project site, we believe that a structural slab system will be required for the building.

Prestressed Concrete Pile Foundations

The use of driven pile foundations allows for several alternate foundation systems, depending on the pile bearing loads required. Prestressed concrete piles end bearing on the coral ledge encountered at a depth of about 37 feet may be used for lower capacity piles. We believe that an allowable pile bearing load of about 40 tons is possible for 12-inch square prestressed concrete piles, and approximately 60 tons is possible for 16.5-inch octagonal prestressed concrete piles.

Pre-drilling will not be required to install the piles. However, pre-drilling may be necessary at pile locations near existing structures to reduce the potential for damage due to ground vibrations during pile driving operations. Pre-drilled depths would be on the order of 10 to 15 feet.

For higher allowable pile bearing loads, 16.5-inch octagonal piles will need to extend through the coral ledge and into the underlying medium dense coralline material. The piles will derive their capacity in friction. We believe that allowable pile bearing loads of 80 to 100 tons is possible for piles driven to depths of about 100 feet.

Unlike the shorter pile foundations, the installation of higher capacity piles will require pre-drilling. The piles will not be able to penetrate through the upper coral ledge and as a result, all pile locations will need to be pre-drilled to depths of about 50 feet.

Drilled Shaft Foundations

The use of large-diameter drilled shaft foundations is also feasible for support of a high rise structure. The allowable load capacity will depend on the diameter and length of the drilled shafts.

We expect that shaft diameters of approximately 4 feet will be required, along with shaft lengths on the order of 100 feet. Allowable axial capacities in excess of 400 tons are possible; however, load testing will be necessary to confirm the high allowable bearing load. Due to the anticipated length, drilled shafts should be a minimum 3 feet in diameter.

As a result of the granular nature and occasionally loose condition of the underlying soils, we expect that both temporary and permanent casing will be required for the construction of drilled shaft foundations. To reduce the potential for caving or excessive sloughing of the shaft excavations, the entire length of the drilled shaft excavations should be cased as part of the drilling operations. During placement of concrete, the casing should be removed except for the 37-foot section above the coral ledge. This section of the underlying soils should be permanently cased to help maintain the integrity of drilled shafts by reducing the potential for bulging of the shaft and soil intrusions due to loose/soft soil conditions.

Concrete placed below water level will need to be tremied through a pipe discharging below the surface of fresh concrete. Groundwater being displaced by the concrete will need to be pumped from the shaft excavation and contained for disposal. Each shaft should be poured in one continuous lift, and construction or cold joints should not be allowed.

Slabs-on-Grade

As indicated above, due to the soft and compressible condition of the silty clay underlying the project site, we believe that a structural slab system will be required.

LIMITATIONS

The boring logs indicate the approximate subsurface soil conditions encountered only at the time and location our boring was made, and may not represent conditions at other times and locations.

This report was prepared specifically for A & B Properties, Inc., and addresses only the feasibility of developing an apartment condominium/commercial complex project at the subject property from a geotechnical engineering viewpoint. The boring logs and conclusions presented in this report are for planning purposes only. If the project proceeds beyond the feasibility study, a complete foundation investigation, including additional borings, will be required for design.

Our conclusions are based upon the site materials observed, the preliminary design information made available, the data obtained from our site exploration, our engineering analyses, and our experience and engineering judgement. The conclusions are professional opinions which we have strived to develop in a manner consistent with that level of care, skill, and competence ordinarily exercised by members of the profession in good standing, currently practicing under similar conditions. No other warranty is expressed or implied.

Respectfully submitted,

ERNEST K. HIRATA & ASSOCIATES, INC.

Con C. Truong, P.E.

Paul S. Morimoto, P.E.

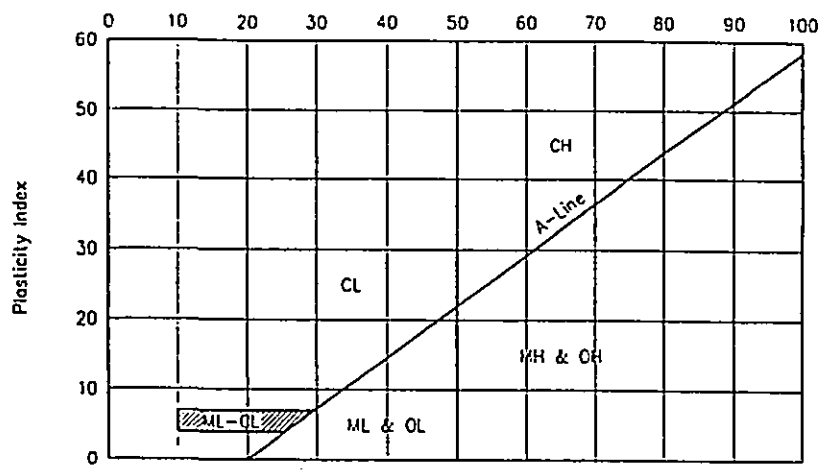
APPENDIX

MAJOR DIVISIONS			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of the material is LARGER than No. 200 sieve size.)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size.)	CLEAN GRAVELS (Little or no fines.)		GW	Well graded gravels, gravel-sand mixtures, little or no fines.
				GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines.)		GM	Silty gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size.)	CLEAN SANDS (Little or no fines.)		SW	Well graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amt. of fines.)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of the material is SMALLER than No. 200 sieve size.)	SILTS AND CLAYS (Liquid limit LESS than 50.)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50.)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				PT	Peat and other highly organic soils.
					FRESH TO MODERATELY WEATHERED BASALT
					VOLCANIC TUFF / HIGHLY TO COMPLETELY WEATHERED BASALT
					CORAL

SAMPLE DEFINITION		
2" O.D. Standard Split Spoon Sampler	Shelby Tube	RQD Rock Quality Designation
3" O.D. Split Tube Sampler	NX / 4" Coring	Water Level

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	BORING LOG LEGEND Plate A1

PLASTICITY CHART



GRADATION CHART

COMPONENT DEFINITIONS BY GRADATION	
COMPONENT	SIZE RANGE
Boulders	Above 12 in.
Cobbles	3 in. to 12 in.
Gravel Coarse gravel Fine gravel	3 in. to No. 4 (4.76 mm) 3 in. to 3/4 in. 3/4 in. to No. 4 (4.76 mm)
Sand Coarse sand Medium sand Fine sand	No. 4 (4.76 mm) to No. 200 (0.074 mm) No. 4 (4.76 mm) to No. 10 (2.0 mm) No. 10 (2.0 mm) to No. 40 (0.42 mm) No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt and clay	Smaller than No. 200 (0.074 mm)

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	UNIFIED SOIL CLASSIFICATION SYSTEM Plate A2

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 01-3503

BORING NO. B1 DRIVING WT. 140 lb. DATE OF DRILLING 10/17/01
SURFACE ELEV. DROP 30 in. WATER LEVEL 4 feet

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Tan, moist, medium dense, with coral fragments.
			11/6" 5/6"	87	22	
			3/6"			Silty CLAY (CL) – Gray, very moist, soft to firm.
5			1/6" 2/6" 27/6"	53	86	Medium stiff, with sand and coral fragments at 5 feet.
						Silty SAND (SM) – Gray, loose, with coral fragments.
10			4	84	32	
15			3		39	
20						
25			6		33	
30						

Plate B1

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 01-3503

BORING NO. B1 (continued) DRIVING WT. 140 lb. DATE OF DRILLING 10/17/01
SURFACE ELEV. DROP 30 in. WATER LEVEL 4 feet

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
30						
35						
			38/6" 10/No Penetration			CORAL – Tan, medium hard.
40						Begin NX coring at 38.5 feet. 60% Recovery from 38.5 to 43.5 feet. Medium hard coral, fragmented.
45						26% Recovery from 43.5 to 48.5 feet. Dense and highly fragmented from 43.5 feet.
50						40% Recovery from 48.5 to 53.5 feet.
						Silty SAND (SM) – Tan, medium dense, with coral fragments. End NX coring at 53.5 feet.
55			21		42	Brown clayey silt at 55 feet, medium stiff.
60			14	72	38	

Plate B2

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 01-3503

BORING NO. B1 (continued) DRIVING WT. 140 lb. DATE OF DRILLING 10/18/01
SURFACE ELEV. DROP 30 in. WATER LEVEL 4 feet

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
60						
65		⋈	10	No Recovery		Loose from 64 to 69 feet.
70		⋈	14		36	
75						
80		□	32	83	32	Medium dense to dense from 79 feet.
85						
90		⋈	49		22	

Plate B3

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

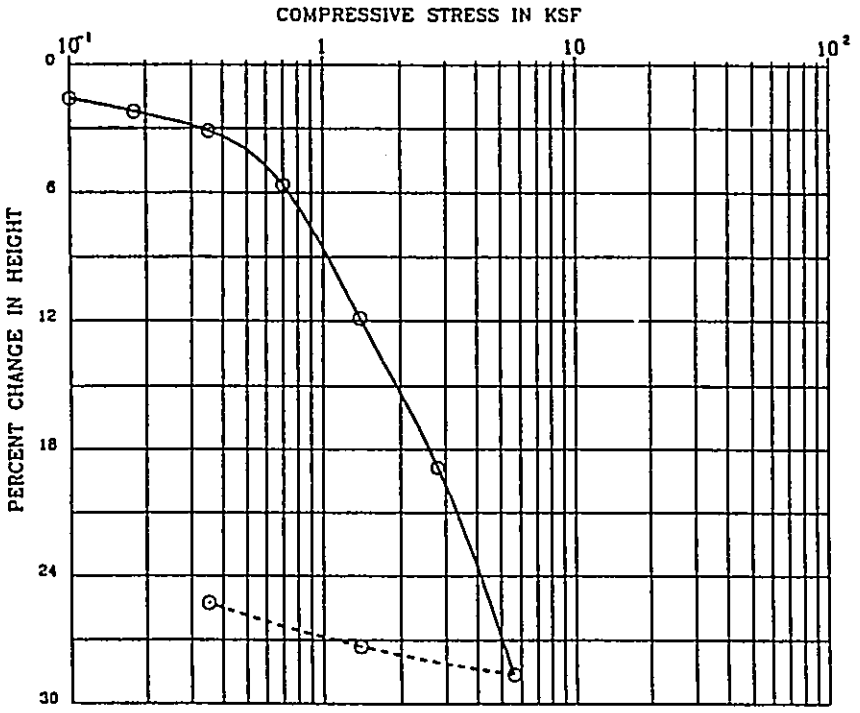
BORING LOG

W.O. 01-3503

BORING NO. B1 (continued) DRIVING WT. 140 lb. DATE OF DRILLING 10/18/01
SURFACE ELEV. DROP 30 in. WATER LEVEL 4 feet

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
90						
95						Clayey SILT (MH) – Brown, medium stiff to stiff, with coral fragments.
100		⋈	16		36	
105						End boring at 101 feet.
110						
115						
120						

Plate B4



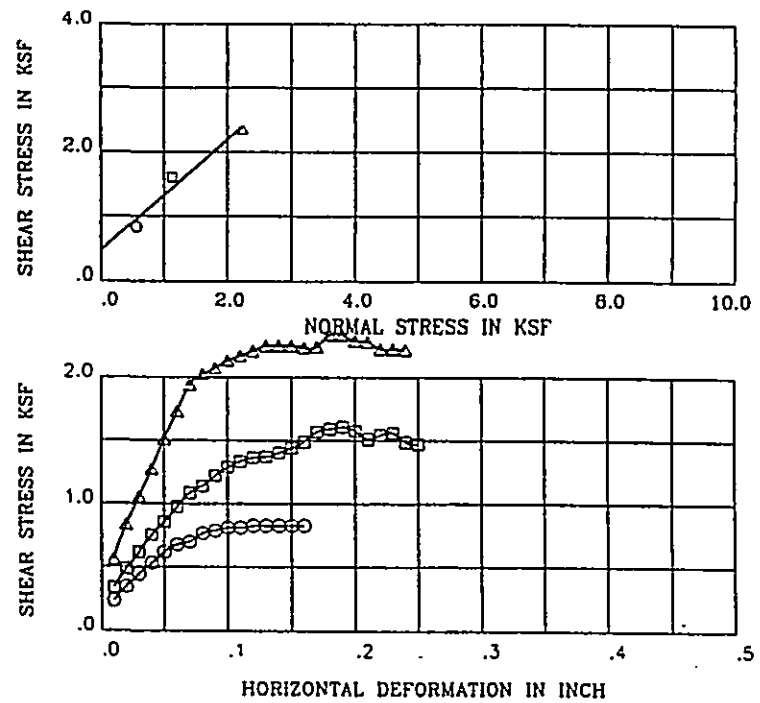
BORING : B1
DEPTH (ft) : 4
SPEC. GRAVITY :

DESCRIPTION : Gray silty clay
LIQUID LIMIT :
PLASTIC LIMIT :

	MOISTURE CONTENT (%)	DRY DENSITY (pcf)
INITIAL	85.7	53.3
FINAL	61.5	73.3

Remark : Date: 11/09/01

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	CONSOLIDATION TEST Plate C

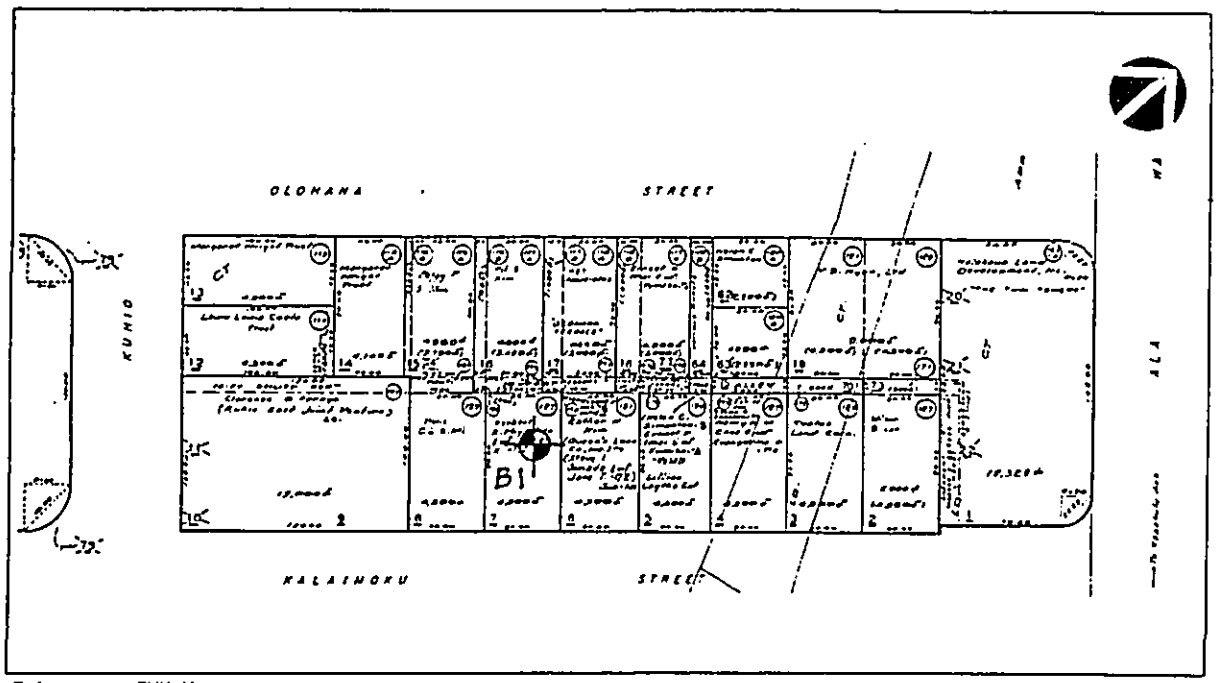


BORING/SAMPLE : B1 DEPTH (ft) : 59
DESCRIPTION : Tan silty sand with coral fragments
STRENGTH INTERCEPT (C) : .460 KSF (PEAK STRENGTH)
FRICTION ANGLE (PHI) : 41.0 DEG (PEAK STRENGTH)

SYMBOL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	VOID RATIO	NORMAL STRESS (ksf)	PEAK SHEAR (ksf)	RESIDUAL SHEAR (ksf)
○	37.8	72.3	1.331	.56	.83	.83
□	37.8	72.3	1.331	1.12	1.61	1.47
△	37.8	72.3	1.331	2.24	2.35	2.22

Remark : Date: 11/9/01

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	DIRECT SHEAR TEST Plate D



Reference: TMK Map.

LEGEND:

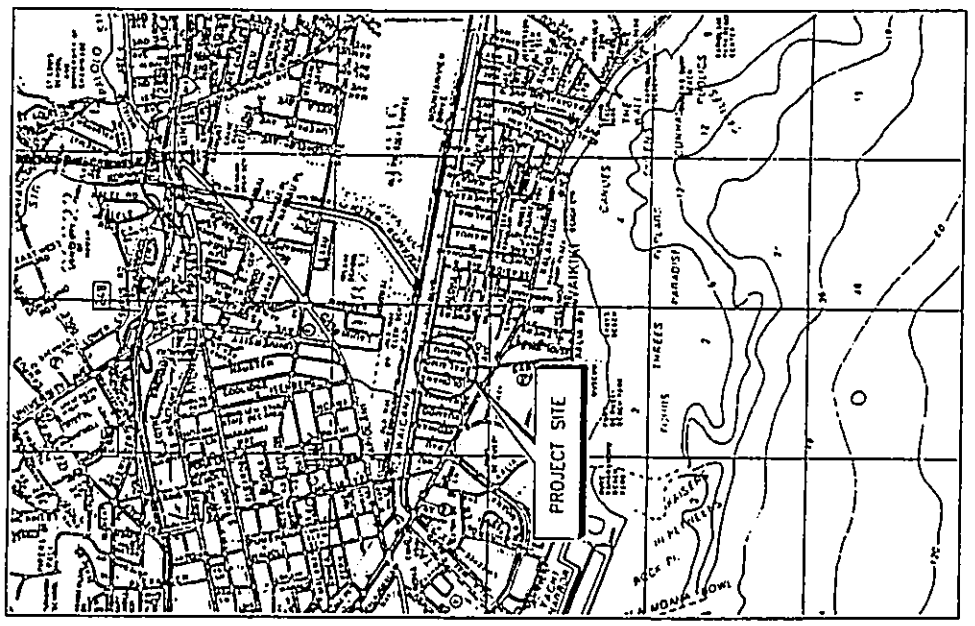
Approximate location of boring

GRAPHIC SCALE:

0 40 80 160FT.

1" = 80'

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	BORING LOCATION PLAN
	Plate 2



Reference: Bryan's Sectional Maps, 2001 Edition
(Copyright J.R. Clere, used with permission)

Scale: 1:24,000

W.O. 01-3503	Waikiki Apartment Condominium/Commercial Complex
Ernest K. Hirata & Associates, Inc.	LOCATION MAP
	Plate 1

Appendix B

Phase I Environmental Site Assessment
2084 Kuhio Avenue, Honolulu, Hawaii

EnviroServices & Training Center, LLC

August 3, 2001

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

2084 Kuhio Avenue
Honolulu, Hawaii
TMK: (1) 2-6-016: Parcels 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 76, 77

Prepared For:
A&B Properties
822 Bishop Street
P.O. Box 32440
Honolulu, HI 96801

Prepared By:
ENVIROSERVICES & TRAINING CENTER, LLC
560 N. Nimitz Highway, Suite 101E
Honolulu, Hawaii 96817
tel: (808) 533-7222

ETC Project No. 01-1006

August 3, 2001

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APPENDICES

I. CERTIFICATIONS AND LIMITATIONS

EnviroServices & Training Center (ETC), LLC has completed this Phase I Environmental Site Assessment Report for the subject property. ETC's findings are based on research, a visual site inspection, and government regulations at the time and location of the study. Even with extensive investigative efforts, ETC cannot dismiss the possibility that parts of the site may be chemically affected.

ETC makes no guarantee or warranty; either expressed or implied, except that our services are consistent with good commercial or customary practices designed to conform to acceptable industry standards.

This report is exclusively for the use and benefit of A&B Properties and is not for the use or benefit of, nor may it be relied upon by, any other person or entity. The contents of this report may not be quoted in whole or in part or distributed to any person or entity without, in each case, the written consent of the undersigned.

Prepared By: _____

Sharla Horiuchi
Environmental Scientist
EnviroServices & Training Center, LLC

II. EXECUTIVE SUMMARY

This report presents the results of ETC's Phase I Environmental Site Assessment (ESA), performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E-1527. Review of the tax records revealed that the land identified as 2-6-016: Parcels: 2, 4, 6-8, 12-19, 62, 64, 70, and 75-77 is currently owned by the Dai Investment, Inc.. Previous owners include various persons, the oldest record dating back to 1933.

The following summarizes the independent conclusions representing ETC's best professional judgment based on information and data available. Information regarding operational conditions and data provided by the Client, Owner, or their representatives have been assumed to be correct and complete. The conclusions presented are based on the conditions that existed at the time of the assessment.

The subject 1.63 acre property is located in Honolulu, Hawaii, in the southern portion of the island of Oahu (Figure 1). Current tax records indicated the recent demolition of various building structures on Parcels 2, 4, 6-8, 12-19, and 62. The land has been vacant for over ten years.

Visual observation for the use and/or storage of chemicals, hazardous materials, and hazardous waste was performed. ETC noted various domestic trash throughout the subject area. ETC did observed stained soil throughout the subject property and one car battery, located on the northeast portion of the site. There was no evidence of gross staining, stressed vegetation, or olfactory detection to indicate chemical contamination.

A visual inspection for hydraulic and electrical equipment or electrical components that use fluid that may contain PCBs was conducted. ETC identified a HECO vault and according to Mr. Andy Keith of HECO, the vault contains a 4kV transformer that is currently in use. The transformer has not been tested for PCBs, however the transformer is over thirty years old, therefore may or may not contain PCBs. A lead or asbestos survey was not completed as part of the scope of work for the Phase I ESA.

The subject property was not listed on the available state and federal databases reviewed. However, the contracted database search identified two (2) NFRAP CERCLA sites, two (2) RCRA Generator facilities, ten (10) DOCKET facilities, fifteen (15) LUST facilities, and seven (7) UST facilities within specified radii.

Subsequently, seven (7) facility files were requested from the State of Hawaii Department of Health (HDOH) Solid and Hazardous Waste Branch (SHWB) based on the possibility of contamination due to their corresponding geographic location with respect to the subject property. The six (6) LUST files reviewed all received letters of "No Further Action." The one (1) UST file showed no evidence of a release. Upon review of the LUST facility file for Cheveron USA, Inc., ETC found that during the USTs cleanup and closure activities a suspect leaking septic tank was found. The issue of the septic tank was referred to the HDOH Hazard Evaluation and Emergency Response (HEER) office. A review of the file was conducted and the facility was consequently sent a letter of "No Further Action" in October of 1997.

Based on historical review, a surficial site inspection, and current and former uses of the subject property, ETC does not believe that there are insuperable environmental problems existing at the subject property. However, ETC recommends that, as a general precaution, the battery located on the northeast portion of the site be removed and disposed. In addition, the stained soil throughout the property should be properly characterized for any potential contamination, such as petroleum, pesticides, etc. HECO should be contacted in order to determine PCB content within the 4kV transformer located on the subject property.

III. SURVEY SCOPE

ETC performed an onsite inspection of the property on July 30, 2001. The scope of the onsite inspection consisted of a walk-through visual reconnaissance for hazardous chemicals, indicators of USTs, obvious chemical or petroleum contamination, and polychlorinated biphenyl (PCB)-containing electrical transformers and capacitors. No subsurface exploration or testing was performed as part of the Phase I ESA and only readily accessible areas were inspected.

ETC also reviewed available federal, state, and local records to identify properties of known or suspected hazardous waste activity located at or near the site which could have an adverse impact on the property. In an attempt to determine whether historical uses of the property and adjacent properties have had an environmental impact on the site, ETC conducted interviews and reviewed available records and documents. This assessment is based on the evaluation of the information gathered and the visual site inspection, as it appeared at the time of the assessment.

The purpose of this report is limited to providing the Client an assessment concerning environmental conditions (limited to those issues identified in the report) as they currently exist at the subject property. This assessment was conducted using generally accepted Phase I industry protocol as described in the ASTM E-1527 standard. The scope of work included an evaluation of the following:

- site background;
- physical characteristics of the site;
- historical site conditions; and
- current site conditions (as applicable) including compliance with appropriate regulations as they pertain to the presence of facility storage tanks, drums, and containers; and transformers and other electrical equipment potentially containing PCBs.

Additionally, the assessment included the following:

- an evaluation of information contained in programs such as the National Priority List (NPL), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Emergency Response Notification System (ERNS), Resource Conservation and Recovery Information System (RCRIS), and other governmental information systems within a specific radius of the subject property to identify any properties that would have the potential to impact the integrity of the subject property; and
- visual observations of the adjacent properties to identify high-risk neighbors and the potential for a chemical to migrate onto the property.

The regulatory agency report provided is based on an evaluation of the data collected and compiled by a contracted data research company. The report is a radius search report, which focuses on both the subject property and adjacent properties that may impact the subject property. Adjacent properties listed in governmental environmental records are identified within a specific search radius. The search radius varies depending on the particular record being researched. The search is designed to meet the requirements of the current industry approach

and ASTM E-1527 standard. The information provided is assumed to be correct and complete, unless noted otherwise.

IV. SITE DESCRIPTION

The subject property (TMK 2-6-016: Parcels 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 75-77) is located in Honolulu, Hawaii, in the southeast portion of the island of Oahu (Figure 1). The subject property encompasses approximately 1.63 acres. Current tax records indicated the demolition of various building structures on Parcels 2, 4, 6-8, 12-19, and 62. There are no structures remaining on the subject property.

The elevation of the subject property is approximately 5-10 feet above mean sea level (msl). The site is relatively flat, with no discernible gradient. Surrounding areas are also flat, with no discernible gradient.

V. HISTORICAL/RECORDS REVIEW

Historical uses of the subject property were investigated through the review of documentation available from public land records and State of Hawaii archived information. Additionally, available aerial photography, plat maps, and topographic maps were reviewed.

A. Chain of Title

ETC conducted a chain of title search at the City and County of Honolulu Tax Assessment office. The current owner of all Parcels was listed as the Dai Investment, Inc. All of the parcels within the subject property were obtained by Dai Investment, Inc in 2000 from FAD Hawaii, Inc. Some of the earliest records date back to 1933. Subsequently, the parcels have been sold and past through numerous owners. FAD Hawaii, Inc. owned all parcels from 1991 until their sale in 2000 to Dai Investment, Inc.

B. Prior Use Interviews/Record

Interview(s) with person(s) familiar with the site or surrounding area also provided information. The following are individual(s) interviewed by ETC to obtain information related to the use of the property or surrounding area:

Mr. Pat Nakamura, ICL International (Vice President)

Mr. Nakamura provided ETC with the following information:

- He is the current Vice President of ICL International and his knowledge of the subject property dates back approximately 3 ½ years.
- ICL International is the most recent previous owner of the subject property.
- When ICL International acquired the property, all parcels were vacant.
- Mr. Nakamura indicated that the source of water is most likely county.
- No known ASTs or USTs on the property.
- There is a easement on the subject property owned by HECO.
- There are no known chemical pipelines on the subject property.
- There are no known businesses past or present on the subject property, only residential homes.
- There are no known businesses in the area conducting auto repair, dry cleaning, etc.
- It is unknown whether the subject property or adjoining properties were used for industrial use past and/or present.
- To the best of his knowledge, in the area there are a few restaurants, but primarily consists of residential dwellings and apartment buildings. The area is generally used for residential and commercial purposes.

Mr. Dennis Simoncelli, A&B Properties (Broker)

Mr. Simoncelli provided ETC with the following information:

- Mr. Simoncelli's knowledge of the site extends approximately 1 ½ years.
- The site has been vacant through the extent of his knowledge.
- To his knowledge, there were only apartment buildings and homes on the property in the past.

present (Macdonald, et al., 1983). It consists of a tholeiitic lava shield and lacks an alkalic cap. It has well defined major dike complex trending northwest-southwest. A third, minor rift zone referred to as the Kaau rift trends southward from Kaau crater, near the upland crest of the Koolau Ridge. After a long dormant period and periods of deep erosion, the Koolau volcano developed abundant and scattered rejuvenation-stage vents, typically aligned on northeast-striking fissures (Macdonald, et al., 1983).

Site Geology

The soil at the site is mapped as Fill Land, mixed (FL). This land type occurs mostly near Pearl Harbor and in Honolulu, adjacent to the ocean. The land consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. This land type is primarily used for urban development including airports, housing areas, and industrial facilities (USDA, 1972).

Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is drawn from basal groundwater. Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. All of the island situated below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water and thus forms a basal lens called the "Ghyben-Herzberg" lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface as a result of tidal fluctuations, seasonal fluctuations in recharge and discharge and aquifer development (Macdonald, et al., 1983).

Downward percolation of rainwater may be stopped by impermeable layers such as dense lava flows, alluvial clay layers and volcanic ash. The groundwater then forms a perched or high level aquifer, which is not in contact with salt water. Recharge of the aquifer occurs in areas of high rainfall, which are the interior mountainous areas. The groundwater flows from the recharge areas to the areas of discharge along the shoreline. Frictional resistance to groundwater flow causes it to pile up within the island until it attains sufficient hydraulic head to overcome friction. Thus, basal groundwater tends to slope toward the shoreline.

Site Hydrogeology

The site is underlain by the Palolo Aquifer System, which is part of the Honolulu Aquifer Sector on the island of Oahu. The aquifer is classified by Mink and Lau, 1990, with the system identification number 301031116 (23321). This system includes an unconfined basal aquifer in sedimentary (nonvolcanic) lithology. The groundwater in this aquifer is described as having potential use and containing groundwater with a moderate salinity (1,000 to 5,000 mg/l Cl^-). The groundwater is neither a drinking water source nor ecologically important, and is also described as replaceable with a high vulnerability to contamination (Mink and Lau, 1990). The site is further underlain by a second aquifer of the same system. The aquifer is a confined, basal aquifer in flank compartments, and is classified with the system identification number 30101121 (11113). The aquifer is described as a currently used drinking water source containing groundwater with a fresh salinity (<250 mg/l Cl^-). It is also described as irreplaceable with a low vulnerability to contamination. The direction of groundwater flow is interpreted to be to the south, toward the Pacific Ocean.

VI. DATABASE SEARCH

A. Federal Database Search

Upon reviewing the federal database search, ETC concludes that the subject property is not a listed site. The area search for properties listed on the following databases identified other facilities within the defined search. The databases reviewed meet or exceed the 90-day updating requirements of the ASTM Standard. Appendix I presents the EcoSearch Environmental Resources, Inc. Priority Risk Report (PRR) describing the results of the database search.

NPL

The National Priorities List (Superfund) is the Environmental Protection Agencies (EPA) database of uncontrolled or abandoned hazardous waste properties, which are considered to pose an immediate threat to human health and the environment. These properties are identified for priority remedial response actions under the Superfund Program. The subject property was not identified as a NPL site. The database search did not identify any NPL sites within a 1-mile radius of the subject property.

CERCLIS

The Comprehensive Environmental Response, Compensation, and Liability Information System (Superfund) database contains information on various aspects of potentially uncontrolled or abandoned hazardous waste properties from initial screening and assessment phases to listing on the NPL. The subject property was not identified as a CERCLIS site. The database search identified two (2) CERCLIS sites reclassified by the EPA as No Further Remedial Action Planned (NFRAP) within a 1-mile radius of the subject property. The CERCLIS sites are mapped out in the colorized PRR Map and are listed on page 13 of Appendix I.

RCRA TSD Facilities

The EPA's Resource Conservation and Recovery Act (RCRA) program identifies and tracks hazardous waste from the point of generation to the point of final disposal. The RCRA TSD database compiles those reporting facilities that treat, store, or dispose of hazardous waste. The subject property was not listed as a RCRA TSD Facility. The database search did not identify any RCRA TSD facilities within a 1-mile radius of the subject property.

RCRA Generator

The RCRA Generator database is a compilation by EPA's Resource Conservation and Recovery Information System (RCRIS) of regulated facilities that generate hazardous waste. The subject property was not identified as a RCRA generator facility. The database search identified two (2) RCRA generator facilities within a 0.25-mile radius of the subject property. The RCRA generator facilities are mapped out in the colorized PRR Map and are listed on page 14 of Appendix I.

CORRACTS

The RCRA Corrective Action Sites (CORRACTS) database contains RCRIS sites with reported corrective action. The subject property was not identified as a CORRACTS facility. The database search did not identify any CORRACTS facilities within a 1-mile radius of the subject property.

ERNS

The Emergency Response Notification System (ERNS) tracks the initial notification of reported oil and hazardous material spills. The database contains information regarding the discharger, release date, material, amount released, incident location and release action taken. The subject property was not identified as an ERNS facilities. The database search did not identify any ERNS facility within a 0.25-mile radius of the subject property.

PADS

The PCB Activity Database System (PADS) stores information about facilities which handle PCBs. The database is divided into storage facilities, disposers, generators, and transporters. The subject property was not identified as a PADS facility. The database search did not identify any PADS facilities within a 1-mile radius of the subject property.

TRI

The Toxic Release Inventory (TRI) contains information from facilities which manufacture, process, or import listed toxic chemicals which are released directly into air, water, or land or are transported off-site. The database includes information on amounts of chemicals stored and emitted from the facility. The subject property was not identified as a TRI facility. The database search did not identify any TRI facilities within a 0.5-mile radius of the subject property.

SSTS

The Section Seven Tracking System (SSTS) tracks the registration of pesticide-producing establishments and tracks the types and amounts of pesticides, active ingredients, and devices which are sold, produced, or distributed annually. The subject property was not identified as a SSTS facility. The database search did not identify any SSTS facilities within a 1-mile radius of the subject property.

DOCKET

The Civil Enforcement Docket is information on actions filed by the Department of Justice for the US Environmental Protection Agency. The subject property was not identified as a DOCKET facility. The database search identified ten (10) DOCKET facilities within a 1-mile radius of the subject property. The DOCKET facilities are mapped out in the colorized PRR Map and are listed on pages 15-17 of Appendix I.

TSCA

The Toxic Substance Control Act (TSCA) Inventory includes the locations and chemical production information of processors and manufacturers of chemicals. The subject property was not identified as a TSCA facility. The database search did not identify any TSCA facilities within a 1-mile radius of the subject property.

B. State of Hawaii Databases

The State of Hawaii databases were also reviewed. The area search for properties listed on the following databases did identify other facilities within the defined search. The databases reviewed either meet or exceed the 90-day updating requirement of the ASTM Standard. Appendix I presents the EcoSearch Environmental Resources, Inc. report describing the results of the database search.

HWS

The CERCLIS List is a compilation of known or suspected uncontrolled or abandoned hazardous waste sites. These sites either have been investigated or are currently under investigation by the EPA for the release, or threatened release, of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priorities List. Due to the fact that the State of Hawaii does not have a formal "State Superfund" program, the federal EPA's CERCLIS database is considered to be the equivalent of a State Hazardous Waste Sites (HWS) List. The properties are a subset of the properties listed in the CERCLIS List already identified within this report; and therefore will not be repeated here.

SWF/LF

The State of Hawaii has on record, all facilities that have received a solid waste management permit, including solid waste landfills, transfer stations, and incinerators. No SWF/LF facilities were identified on the subject property. The subject property was not identified as a SWF/LF facility. The database search did not identify any SWF/LF facilities within a 1-mile radius of the subject property.

Registered Underground Storage Tanks

The HDOH Underground Storage Tank (UST) Program registration system tracks known and registered UST systems. The subject property was not identified as a UST facility. The database search identified seven (7) UST facilities within a 0.25-mile radius of the subject property. The UST facilities are mapped out in the colorized PRR Map and listed on pages 21-22 of Appendix I.

File review indicated that the Beachwalk Wastewater Pump Station (9-101975) has one (1) UST. The UST is a 6,000 gallon diesel fuel tank and was installed in 1988. There has been no evidence of a release thus far. No other UST files were reviewed because none were in the immediate vicinity of the subject property or were separated by the Ala Wai Canal.

Leaking Underground Storage Tanks

The HDOH Underground Storage Tank Program also maintains a listing of all reported leaks and releases from USTs. The subject property was not identified as a LUST facility. The database search identified fifteen (15) LUST facilities within a 0.5-mile radius of the subject property. The LUST facilities are mapped out in the colorized PRR Map and listed on pages 18-20 of Appendix I.

ETC reviewed the following LUST files at the HDOH SHWB:

- King Kalakaua Plaza, 9-103235, Site Cleanup Completed
- Yoncoka and Associates, 9-103024, Site Cleanup Completed
- U.S. Postal Office – Waikiki, 9-101770, Site Cleanup Completed
- Acro 82112, 9-100328, Site Cleanup Completed
- Cheveron USA Inc., 9-101266, Site Cleanup Completed
- Royal Kuhio Condominiums, 9-103574, Confirmed Release

After reviewing the above referenced files, ETC found that all facilities received letters of No Further Action from the HDOH SHWB, indicating that sufficient site cleanup was completed.

Upon review of the Cheveron USA, Inc facility file, documentation of a suspect leaking septic tank was found. The tank was discovered during the cleanup and closure of the USTs. The issue the septic tank was consequently referred to the HDOH HEER office. ETC performed a review of the HEER file and found that the septic tank issued a letter of "No Further Action" in October of 1997.

VII. REGULATED SUBSTANCES

A. Chemicals, Hazardous Materials, and Hazardous Wastes

ETC performed a site reconnaissance of the subject property on July 30, 2001 in order to complete a visual survey for the use and/or storage of chemicals, hazardous materials, and hazardous waste. The entire site is vacant except for a few trees throughout the property. ETC did recognized soil staining throughout the property. Through past and prior use knowledge interviews conducted by ETC, the Hono Group leased the subject property for a short period during the construction of Niketown. The Hono Group reportedly used the site as a temporary office space and storage area. ETC also observed a single car battery on the far southwest portion of the property and observed small amounts of domestic trash throughout the property.

ETC observed one unidentified vault, which belongs to HECO. Electrical wiring which was protruding from the ground was noted however, Mr. Andy Keith of HECO stated that the wires were not currently in use. ETC also observed an easement located near the HECO vault.

B. Lead and Asbestos-Containing Materials

A lead or asbestos survey was not completed as part of the scope of work for the Phase I ESA.

C. Dielectric Fluid Containing Equipment

A visual inspection for hydraulic and electrical equipment or electrical components that use fluid that may contain PCBs was conducted. The following observations were noted:

- No hydraulic equipment was observed within the subject property.
- One HECO vault containing a 4kV transformer was observed on the property. Via telephone correspondence with Mr. Andy Keith of HECO, the unidentified vault contains one 4kV transformer that services the two small homes adjacent to the subject property. The transformer has not been tested for the presence of PCBs. Since, the transformer was purchased prior to 1979, it may or may not contain PCBs.

VIII. BUILDING SYSTEMS

The entire subject property is vacant with no structures. A review of available building permits issued by the City and County of Honolulu indicated that all structures were demolished on the property over 10 years ago. Other building permits prior to the demolition permits predominantly consisted of homes and apartment buildings.

IX. OPERATIONAL ACTIVITIES

The subject property is currently not being used and appears vacant. According to available records and interviews, the vacant areas of the property have been previously used for residential purposes.

X. FACILITY STORAGE TANKS & CONTAINERS

A. Underground Storage Tanks

The subject property was not listed on the State of Hawaii UST database and LUST database. A visual inspection for manways, vent pipes, fill connections, and concrete pads was performed on the subject property. ETC observed no signs or indications of current or past USTs.

B. Aboveground Storage Tanks

A visual inspection for any aboveground storage tanks was also conducted on the subject property and adjoining properties. There were no aboveground storage tanks and there were no other indications of current or past ASTs located on the subject property.

XI. SURFACE AREA & ADJACENT PROPERTIES

The entire subject property is flat and groundcover is predominantly bare soil, with some areas of asphalt and concrete.

Visual observation of the project site and adjacent properties did not identify evidence of surface migration of petroleum releases or hazardous materials onto or off the subject property.

The subject property is bordered by two homes and Kalaimoku Street to the west, Olohana Street to the east, the La Casa Apartments and Kuhio Avenue to the north, and the Twin Towers at Waikiki apartment building to the south.

The entire boundary of the subject property is generally delineated by a four to six-foot high chain link fence. Other properties in the vicinity of the subject property include residential homes and apartment buildings, The Royal Garden Hotel, and TGI Fridays restaurant.

XII. CONCLUSIONS & RECOMMENDATIONS

There were no obvious indicators during the site visit to suggest that the site has been significantly impacted by hazardous materials/wastes, ASTs/USTs, petroleum contamination, and/or polychlorinated biphenyl (PCB)-containing equipment.

A lead and asbestos survey were not within the scope of work of this Phase I ESA. ETC did observe one HECO vault containing a 4kV transformer that may contain PCBs.

The subject property was not listed on the available state and federal databases reviewed. However, the area searches for the property listed in the state and federal databases identified numerous surrounding facilities within the defined radii. Specifically, the contracted database search identified two (2) NFRAP CERCLA sites, two (2) RCRA Generator facilities, ten (10) DOCKET facilities, fifteen (15) LUST facilities, and seven (7) UST facilities within specified radii.

Based on historical review, a surficial site inspection, and current and former uses of the subject property, ETC does not believe that there are insuperable environmental problems existing at the subject property. However, ETC recommends that, as a general precaution, the battery located on the northeast portion of the site be removed and disposed. In addition, the stained soil throughout the property should be properly characterized for any potential contamination, such as petroleum products, pesticides, etc. HECO should be contacted in order to determine PCB content within the 4kV transformer located on the subject property.

XIII. REFERENCES

- City and County of Honolulu, Department of Planning and Permitting, Building Permit Records.
- EcoSearch Environmental Resources, Inc., "EcoSearch Government Records Search," Report ID No. 2527-6001, July 10, 2001.
- Macdonald, G.A., A.T. Abbot, and F.L. Peterson, "Volcanoes and the Sea." University of Hawaii Press, 1983.
- Mink, John F. and Stephen L. Lau, "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii." March 1990.
- State of Hawaii Department of Health, Hazard Evaluation and Emergency Response, CERCLA Files.
- State of Hawaii Department of Health, Solid and Hazardous Waste Branch, LUST Files.
- State of Hawaii Department of Health, Underground Storage Tank Program, "Technical Guidance Manual for Underground Storage Tank Closure & Release Response." March 2000.
- State of Hawaii Taxation Map Bureau, Tax Map Key 1-2-6-016: 2, 4, 6-8, 12-19, 62, 64, 70, 75-77.
- U.S. Department of Agriculture Soil Conservation Service, "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii." 1972.
- U.S. Department of Interior Geological Survey, "Honolulu Quadrangle, 7.5 Minute Series (Topographic Map)," 1983.
- University of Hawaii at Manoa, Hamilton Library Map Collection, Aerial Photographs of Honolulu, 1952, 1959, 1963, 1968, 1969, 1978, 1992 and 1993.

APPENDIX I

EcoSearch Environmental Resources, Inc.
8606 Allisonville Road, Suite 300
Indianapolis, Indiana 46250
ph: (317) 577-9797 fax: (317) 577-9191

EcoSearch

Government Records Search

Type of Report:	Priority Risk Report
Site Location:	2084 Kuhio Ave. 2084 Kuhio Avenue Honolulu, HI 96815
Date:	July 10, 2001
Report ID Number:	2527-6001
Especially Prepared For:	Mr. Damon Hamura Enviro Services & Training Center

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Thank you for choosing EcoSearch.

Introduction

We want to thank you for your order requesting the enclosed site assessment.

EcoSearch makes every effort possible to combine the most accurate environmental data available into an understandable and easy-to-use format.

While every attempt has been made to ensure accuracy of the information presented, we cannot guarantee the accuracy of the data from the original sources, nor can we guarantee that no transcription or plotting errors have occurred.

If any concerns arise from your review of the databases in this report, please call the appropriate agency involved. As a service, we have included phone numbers in the database description section of this report to help you in your evaluation.

The enclosed maps present a working approximation of the location of surrounding environmental sites based primarily on available accurate site addresses. These maps should not be used for purposes more correctly handled by surveys.

EcoSearch is driven by its mission to present the most responsive, technically sound, and cost-effective environmental data services available to our customer.

Read Me First

The following suggestions are offered in an attempt to help you in using and understanding this site assessment from EcoSearch:

1. Skim over the entire report to familiarize yourself with its contents and layout.
2. You will notice that the information is presented following this general concept: we begin by giving sections that summarize data and then give detailed information about these summaries as you proceed further into the report.
3. Then refer to the section titled "Statistical Overview". You will need to take a moment to read the column headings and the data below them. Also, as you go down the first column (left side) you will probably need to look back at the preceeding section titled "Database Descriptions". Please pay particular attention to the radii searched as they vary according to the database. These are ASTM standards that we meet and exceed. Your site's datum is the third, shaded column. Also, the next column showing database hits within the first radius is important as it will include data about adjoining properties. The unmappable sites have their own section with a cover page explaining them.
4. The next section titled "Maps" is important as it gives a very clear visual presentation of the site, and which database(s) are at the site itself or within the study radii.
5. The site summary page(s) tells you by map ID# which database is at that location as well as the site's name and distance/direction from your study site. You will notice that the numbering corresponds to the distance from the subject site – eg. #1 is your site itself or the site closest to it, #2 is further away. This continues until all database hits have been summarized within the largest study radius. Your report may extend further than one mile if you asked us to extend the radii.
6. As you will recall our format goes from summary-type pages to detailed information. Therefore, the next section is "Detailed Data". Here extensive data is given about each database hit. The map ID#, distance, and direction are in the top left corner. Further data follows.
7. The "Unmappable" section was referred to earlier. In this summary you will find those sites. Please read the cover page as it describes unmappable sites and our efforts to minimize and/or eliminate them from all of our site assessments.
8. The last section – "Glossary/Acronyms" is self-explanatory and often helpful to our customers.

If you would like further help in understanding our reports please refer to the frequently asked questions list on our web site or call as our intention is to have this report helpful to you.

Database Descriptions -- Federal Databases

NPL

National Priorities List

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(703) 603-8881

Data Date: May 14, 2001
Release Date: May 14, 2001
Active Date: June 22, 2001
Last Contact Date: June 22, 2001

The NPL is a subset of the CERCLIS and lists over 1,150 of the nation's most dangerous sites of uncontrolled or hazardous waste which require cleanup. Also known as the Superfund List, the sites are scored according to the hazardous ranking system.

CERCLA (Active)

Comprehensive Environmental Response, Compensation, and Liability Information System (Active)

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
1-800-775-5037

Data Date: May 14, 2001
Release Date: May 14, 2001
Active Date: June 22, 2001
Last Contact Date: June 22, 2001

CERCLIS maintains information on over 15,000 sites nationally identified as hazardous or potentially hazardous which may require action. These sites are currently being investigated or an investigation has been completed regarding the release of hazardous substances. The most serious of this list as ranked by the hazardous ranking system are transferred to the NPL.

CERCLA (NFRAP Archive)

Comprehensive Environmental Response, Compensation, and Liability Information System (NFRAP Archive)

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
1-800-775-5037

Data Date: May 14, 2001
Release Date: May 14, 2001
Active Date: June 22, 2001
Last Contact Date: June 22, 2001

For more complete information purposes we include sites which have been reclassified as No Further Remedial Action Planned (NFRAP) by the EPA. This action was taken by the EPA beginning February 1995 as a part of the Brownfields Redevelopment Program. These former CERCLIS sites, also known as the CERCLIS Archive, have been delisted because a lack of significant contamination was found.

RCRA TSD

Resource Conservation and Recovery Information System -- Treatment, Storage, and Disposal Facilities

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-4610

Data Date: June 15, 2000
Release Date: June 15, 2000
Active Date: June 18, 2001
Last Contact Date: June 19, 2001

RCRIS contains information on hazardous waste handlers regulated by the US Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA). It is a national system used to track events and activities which fall under RCRA. The TSD database is a subset of the complete RCRIS file which includes facilities which treat, store, dispose, or incinerate hazardous waste. Additionally, compliance and corrective action (CORRACTS) information is included.

RCRA Generator

Resource Conservation and Recovery Information System - Large and Small Quantity Generators, Transporters, and Notifiers

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
800-424-9346

Data Date: June 20, 2000
Release Date: June 20, 2000
Active Date: June 19, 2001
Last Contact Date: June 19, 2001

RCRIS contains information on hazardous waste handlers regulated by the US Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA). It is a national system used to track events and activities which fall under RCRA. The generators database is a subset of the complete RCRIS file which includes hazardous waste generators which create more than 100kg of hazardous waste per month or meet other requirements of RCRA. We also include RCRA Notifiers, Transporters, and formerly regulated RCRA Sites for more complete hazardous waste information. Additionally, compliance and corrective action information is included.

RAATS

RCRA Administrative Action Tracking System

US Environmental Protection Agency
Office of Enforcement and Compliance Assurance
(202) 564-4104

Data Date: April 14, 1995
Release Date: Not Available
Active Date: April 17, 1995
Last Contact Date: June 10, 2001

The RCRA Administrative Action Tracking System contains additional information on RCRA enforcement actions. Data includes the type of action, proposed penalty, and final penalty amount. This is a historical database and will not be updated by the source agency. EcoSearch will call once a year to verify historical status.

CORRACTS

Resource Conservation and Recovery Information System -- Corrective Action Sites

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-4610

Data Date: April 15, 2000
Release Date: April 15, 2000
Active Date: August 7, 2000
Last Contact Date: June 1, 2001

The CORRACTS database includes RCRIS (Resource Conservation and Recovery Information System) sites with reported corrective action. This information is also reported in the standard RCRIS detailed data.

ERNS

Emergency Response Notification System

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-2342

Data Date: January 1, 2000
Release Date: January 1, 2000
Active Date: March 17, 2000
Last Contact Date: June 1, 2001

ERNS is a national database which contains information on specific notification of releases of oil and hazardous substances into the environment. The system stores data regarding the site of the spill, the material released, and the medium into which it occured.

PADS

PCB Activity Database System

US Environmental Protection Agency
Office of Pollution Prevention and Toxics
(202) 260-3992

Data Date: November 20, 1999
Release Date: November 20, 1999
Active Date: February 18, 2000
Last Contact Date: June 19, 2001

This database stores information about facilities which handle PCBs and file EPA form 7710-53. It is divided into storage facilities, disposers, generators, and transporters.

TRI

Toxic Release Inventory

US Environmental Protection Agency
Office of Pollution Prevention and Toxics
(202) 260-1531

Data Date: October 1997
Release Date: November 2000
Active Date: March 17, 2000
Last Contact Date: June 19, 2001

TRI contains information from facilities which manufacture, process, or import any of the over 300 listed toxic chemicals which are released directly into air, water, or land or are transported off-site. The database includes facts on amounts of chemicals stored and emitted from the facility. This database is released on an infrequent basis by the US EPA. EcoSearch includes information from 1987 through the 1996 reporting year.

SSTS

Section Seven Tracking System

US Environmental Protection Agency
Office of Prevention, Pesticides, and Toxic Substances
(202) 564-5008

Data Date: July 31, 1998
Release Date: Not Available
Active Date: August 27, 1998
Last Contact Date: June 10, 2001

Formerly FATES, this system tracks the registration of pesticide-producing establishments and tracks the types and amounts of pesticides, active ingredients, and devices which are sold, produced, or distributed annually.

DOCKET

Civil Enforcement Docket

US Environmental Protection Agency
Office of Enforcement
(202) 564-4114

Data Date: September 3, 1999
Release Date: Not Available
Active Date: February 3, 1999
Last Contact Date: June 19, 2001

The Civil Enforcement Docket is information on civil and administrative actions filed by the Department of Justice for the US Environmental Protection Agency. This record has been continually updated since 1972 and includes data regarding facility name, dates, laws violated, and penalties assessed.

TSCA

Toxic Substances Control Act Inventory

US Environmental Protection Agency

(202) 554-1404

Data Date: May 14, 1986
Release Date: Not Available

Last Contact Date: June 10, 2001

The Toxic Substances Control Act Inventory includes the locations and chemical production information of more than 7000 processors and manufacturers of chemicals. This database is no longer released to the public by the US EPA.

Database Descriptions -- State Databases

HWS

Hawaii Hazardous Waste Sites List (CERCLA)

US Environmental Protection Agency
Office of Solid Waste and Emergency Response

Data Date: N/A
Release Date: N/A
Active Date: N/A
Last Contact Date: August 19, 2000

The CERCLIS list is a compilation of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated, or are currently under investigation by the EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priorities List. Due to the fact that the State of Hawaii does not have a formal "State Superfund" program, the federal EPA's CERCLIS database is considered to be the equivalent of a State Hazardous Waste Sites list.

SWF

Hawaii Solid Waste Facilities List

Hawaii Department of Health
Solid and Hazardous Waste Branch
808-586-4240

Data Date: June 14, 1999
Release Date: June 14, 1999
Active Date: July 19, 1999
Last Contact Date: June 7, 2001

The Hawaii Solid Waste Facilities List contains summary information pertaining to all permitted landfills located within the State of Hawaii.

LUST

Hawaii Leaking Underground Storage Tank List

Hawaii Department of Health
Solid and Hazardous Waste Branch
808-586-4230

Data Date: January 31, 2001
Release Date: January 31, 2001
Active Date: February 19, 2001
Last Contact Date: June 7, 2001

The Hawaii LUST report is a comprehensive listing of all reported leaking underground storage tanks located within the State of Hawaii.

UST

Hawaii Underground Storage Tank List

Hawaii Department of Health
Solid and Hazardous Waste Branch
808-586-4230

Data Date: January 31, 2001
Release Date: January 31, 2001
Active Date: February 19, 2001
Last Contact Date: June 7, 2001

The Hawaii UST Report contains summary information pertaining to all registered underground storage tanks located within the State of Hawaii.

EcoSearch Statistical Overview

Property Information

2084 Kuhio Avenue
Honolulu, HI 96815

Latitude: 21.28674 N Longitude: 157.832549 W

Search Parameters

Report: Priority Risk Report
Radii: ASTM*
Zip Code(s): 96815 96826 96816 96815
City: Honolulu

FEDERAL DATABASES	Radius (miles)	Mappable Sites Total	Site	Area Vicinity**	within Area	0.01 - 0.25mi	0.26 - 1.0mi	Unmappable Sites Zip Code	City	County
NPL	1.000	0	0	0	0	0	0	0	0	0
CERCLA (Active)	1.000	0	0	0	0	0	0	0	0	0
CERCLA (NFRAP Archive)	1.000	2	0	0	0	1	1	0	0	0
RCRA TSD	1.000	0	0	0	0	0	0	0	0	0
RCRA Generator	0.250	2	0	1	1	-	-	0	0	0
CORRACTS	1.000	0	0	0	0	0	0	0	0	0
ERNS	0.250	0	0	0	0	-	-	-	-	-
PADS	1.000	0	0	0	0	0	0	0	-	-
TRI	0.500	0	0	0	0	0	-	0	0	0
SSTS	1.000	0	0	0	0	0	0	0	0	0
DOCKET	1.000	10	0	0	0	5	5	0	0	0
TSCA	1.000	0	0	0	0	0	0	0	-	-

STATE DATABASES	Radius (miles)	Mappable Sites Total	Site	Area Vicinity**	within Area	0.01 - 0.25mi	0.26 - 1.0mi	Unmappable Sites Zip Code	City	County
HWS	1.000	0	0	0	0	0	0	0	0	0
SWF	1.000	0	0	0	0	0	0	0	0	0
LUST	0.500	15	0	1	4	10	-	0	0	0
UST	0.250	7	0	2	5	-	-	0	0	0

MANUAL GEOCODING:^ For this city/township. 1002 sites were manually plotted by EcoSearch.

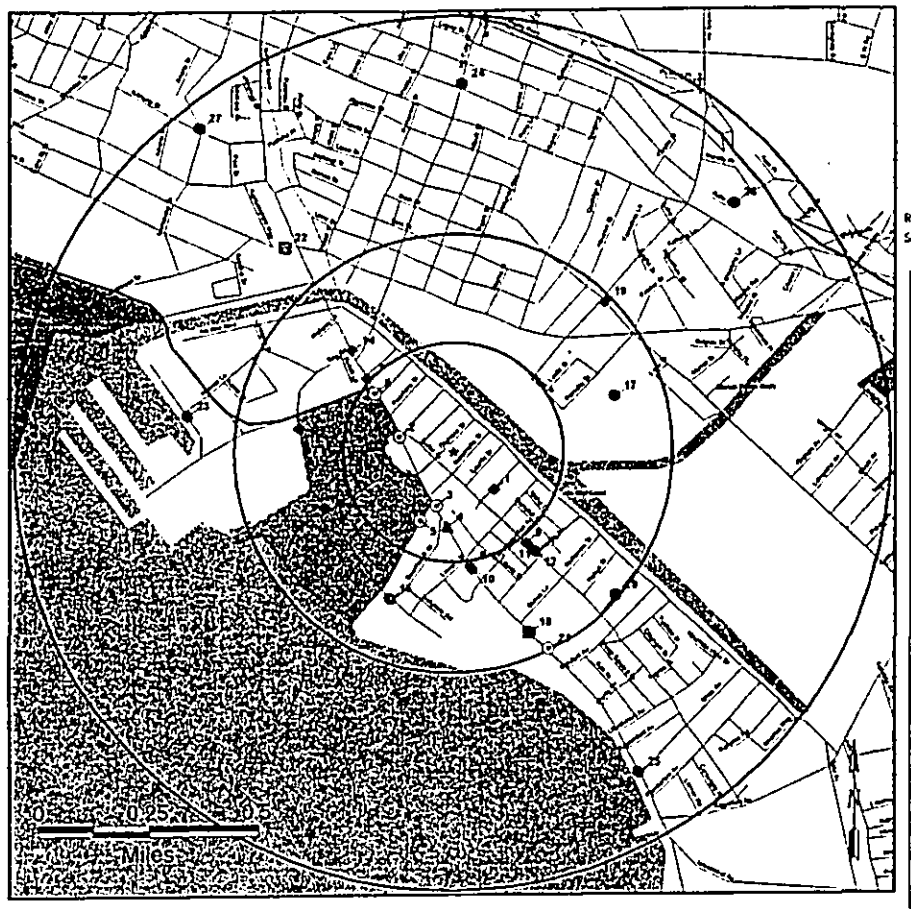
* This database search and study radii meets or exceeds the ASTM (American Society of Testing and Materials) standards for a government records review.

** Area Vicinity indicates that Environmental Area Records were found near your study site. These records detail contamination or other environmental conditions in a wide area which cannot be placed to a single point or more precisely plotted. More research is necessary to determine the possible environmental impact of these Area Records to your study site.

^ Manual Geocoding: Plotting environmental site data using paper maps and phone calls to properly place the information on the map.

Accurate street addresses are required for records to be found at the study property.
Mappable Sites are environmental sites which were located and appear on the enclosed EcoSearch Map, Site Summary, and Detailed Data sections of the report. These sites are summarized based on proximity to the study site.
Unmappable Sites are governmental records with incomplete or inaccurate address information. These sites could not be located on the street map, but have been searched by the Zip Codes, Cities, and County specified in the search parameters. Further investigation of these sites and their relationship to your study site is necessary.

DOCUMENT CAPTURED AS RECEIVED



Note: The information contained on this map is subject to the general disclaimer on the first page.

EcoSearch Environmental Resources, Inc.

Priority Risk Report Map

Report ID: 2527-6001
Site: 2084 Kuhio Avenue
Honolulu, HI 96815

- Study Site
- Study Site Matches Database

FEDERAL DATABASES	Radius (mi)
NPL Sites	1.00
CERCLA (Active) Sites	1.00
CERCLA (NFRAP Archive) Sites	1.00
RCRA TSD Sites	1.00
RCRA Generator Sites	0.25
CORRACTS Sites	1.00
ERNS Sites	0.25
PADS Sites	1.00
TRI Sites	0.50
SSTS Sites	1.00
DOCKET Sites	1.00
TSCA Sites	1.00

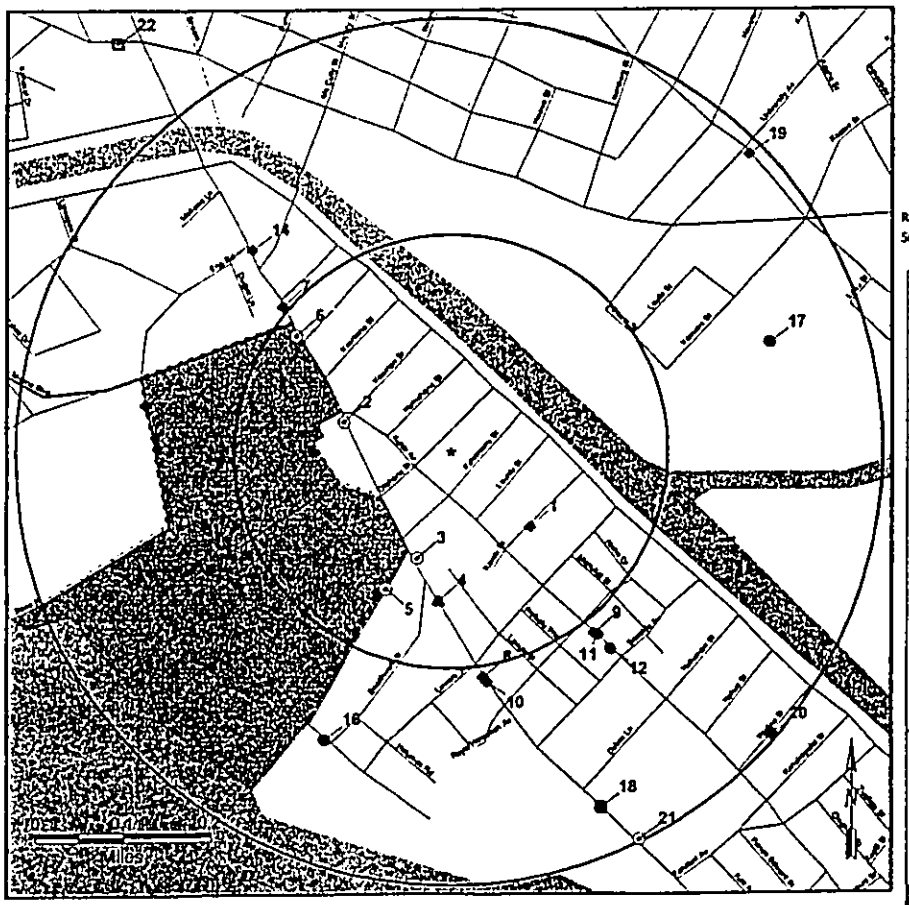
STATE DATABASES	
HWS Sites	1.00
SWF Sites	1.00
LUST Sites	0.50
UST Sites	0.25

MULTIPLE MATCHES / AREAS

- Two Database Matches
- Three or More Matches
- Database Area Site

MAP LEGEND

- Parks
- Incorp. Areas
- Water
- Cemeteries
- Streets
- Secondary Roads
- Primary Roads
- Freeways
- Railroads
- Boundaries



Note: The information contained on this map is subject to the general disclaimer on the first page.

EcoSearch Environmental Resources, Inc.

Priority Risk Report Map

Report ID: 2527-6001
Site: 2084 Kuhio Avenue
Honolulu, HI 96815

- Study Site
- Study Site Matches Database

FEDERAL DATABASES	Radius (mi)
NPL Sites	1.00
CERCLA (Active) Sites	1.00
CERCLA (NFRAP Archive) Sites	1.00
RCRA TSD Sites	1.00
RCRA Generator Sites	0.25
CORRACTS Sites	1.00
ERNS Sites	0.25
PADS Sites	1.00
TRI Sites	0.50
SSTS Sites	1.00
DOCKET Sites	1.00
TSCA Sites	1.00

STATE DATABASES	
HWS Sites	1.00
SWF Sites	1.00
LUST Sites	0.50
UST Sites	0.25

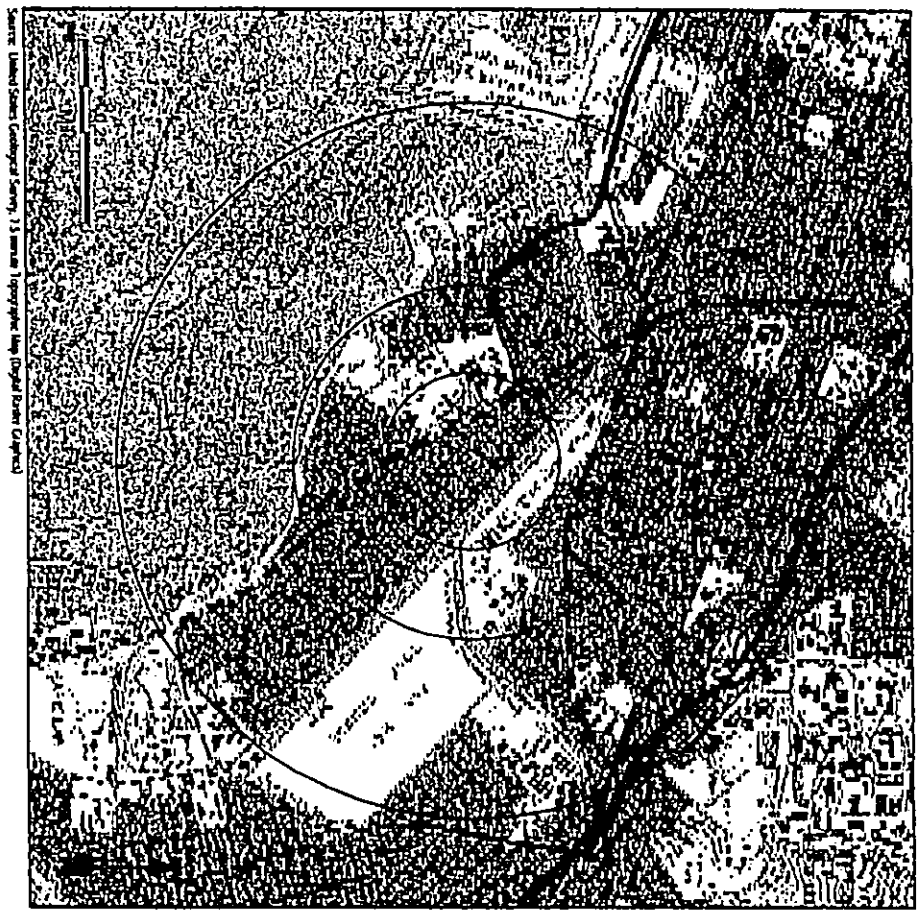
MULTIPLE MATCHES / AREAS

- Two Database Matches
- Three or More Matches
- Database Area Site

MAP LEGEND

- Parks
- Incorp. Areas
- Water
- Cemeteries
- Streets
- Secondary Roads
- Primary Roads
- Freeways
- Railroads
- Boundaries

DOCUMENT CAPTURED AS RECEIVED



Source: United States Geological Survey, 7.5 minute Topographic Map (Digital Raster Graphics)

EcoSearch
Environmental
Resources, Inc.

USGS 7.5 Minute
Topographical Map

Report ID: 2527-6001
Site: 2284 Kuhio Avenue
Honolulu, HI 96815

Target Area

Map Features are Color Coded
Black – Cultural features such as roads and buildings.
Blue – Hydrographic features such as lakes and rivers.
Brown – Hypsographic (elevation) features shown by contour lines.
Green – Woodland cover, scrub, orchards, and vineyards.
Red – Important roads and public land survey system.
Purple – Features added from aerial photographs during map revision.
The changes are not field checked.

A detailed Topographic Map Symbols pamphlet is available from EcoSearch free upon request.

Topographical Map:
Honolulu, HI – 1963

Site Summary

Map ID#	Database / Agency ID#	Site Name, Address, and County	Distance/Direction	
1	UST Hawaii Underground Storage Tank 9-101975	BEACHWALK WASTEWATER PUMP STATION 377 KAIOLU ST HONOLULU, HI 96815-2324 HONOLULU	0.12587 SE	mi
2A	LUST Hawaii Leaking Underground Storage Tank 9-101235	KING KALAKAUA PLAZA 2080 KALAKAUA AVE HONOLULU, HI 96815-2062 HONOLULU	0.12770 WNW	mi
2B	UST Hawaii Underground Storage Tank 9-103235	KING KALAKAUA PLAZA 2080 KALAKAUA AVE HONOLULU, HI 96815-2062 HONOLULU	0.12770 WNW	mi
3A	LUST Hawaii Leaking Underground Storage Tank 9-103024	YONEOKA AND ASSOCIATES 21742190 KALAKAUA AVE HONOLULU, HI 96800	0.12842 SSW	mi
3B	UST Hawaii Underground Storage Tank 9-103024	YONEOKA AND ASSOCIATES 21742190 KALAKAUA AVE HONOLULU, HI 96800	0.12842 SSW	mi
4	RCRA Generator RCRA Small Quantity Generator HIR000000483	ROYAL HAWAIIAN SHOOTING CLUB 2201 KALAKAUA AVE STE A402 HONOLULU, HI 96815-2587 HONOLULU	0.17214 S	mi
5A	LUST Hawaii Leaking Underground Storage Tank 9-101770	U.S. POSTAL SERVICE - WAIKIKI 330 SARATOGA RD HONOLULU, HI 96815-1945 HONOLULU	0.17439 SSW	mi
5B	UST Hawaii Underground Storage Tank 9-101770	U.S. POSTAL SERVICE - WAIKIKI 330 SARATOGA RD HONOLULU, HI 96815-1945 HONOLULU	0.17439 SSW	mi
6A	UST Hawaii Underground Storage Tank 9-100328	ARCO #2112 2025 KALAKAUA AVE HONOLULU, HI 96815-2044 HONOLULU	0.22391 NW	mi
6B	LUST Hawaii Leaking Underground Storage Tank 9-100328	ARCO #2112 2025 KALAKAUA AVE HONOLULU, HI 96815-2044 HONOLULU	0.22391 NW	mi
7	LUST Hawaii Leaking Underground Storage Tank 9-101266	CHEVRON U.S.A., INC. 2002 KALAKAUA AVE HONOLULU, HI 96815-2045 HONOLULU	0.25727 NW	mi
8	LUST Hawaii Leaking Underground Storage Tank 9-102855	SHERATON WAIKIKI HOTEL 2255 KALAKAUA AVE HONOLULU, HI 96815-2515 HONOLULU	0.26279 S	mi
9	LUST Hawaii Leaking Underground Storage Tank 9-103043	MATSUSHITA INVESTMENT AND DEVELO 2237 KUHIO AVE HONOLULU, HI 96815-2835 HONOLULU	0.26559 SE	mi
10	LUST Hawaii Leaking Underground Storage Tank 9-102646	ROYAL HAWAIIAN HOTEL 2259 KALAKAUA AVE HONOLULU, HI 96815-2515 HONOLULU	0.26865 S	mi

Site Summary

Map ID#	Database / Agency ID#	Site Name, Address, and County	Distance/Direction
11	LUST Hawaii Leaking Underground Storage Tank 9-103574	ROYAL KUHIO CONDOMINIUMS 2240 KUHIO AVE HONOLULU, HI 96815-2847 HONOLULU	0.27012 mi SE
12	DOCKET Civil Enforcement Docket 09-86-0026C	SEIBU HAWAII INC 2200 WAIKIKI TRADE CENTER HONOLULU, HI 96815	0.29232 mi SE Manually Geocoded*
13	LUST Hawaii Leaking Underground Storage Tank 9-102744	U.S. ARMED FORCES RECREATION CTR 2055 KALIA RD HONOLULU, HI 96815-1948 HONOLULU	0.32179 mi WSW
14	LUST Hawaii Leaking Underground Storage Tank 9-101106	JIMMY'S CHEVRON SERVICE 1958 KALAKAUA AVE HONOLULU, HI 96815-1831 HONOLULU	0.32705 mi NW
15	LUST Hawaii Leaking Underground Storage Tank 9-100818	HILTON HAWAIIAN VILLAGE 2005 KALIA RD HONOLULU, HI 96815-1917 HONOLULU	0.35667 mi W
16	DOCKET Civil Enforcement Docket 09-91-0007C	OUTRIGGER REEF HOTEL 2169 KALIA HOTEL HONOLULU, HI 96815	0.36244 mi SSW Manually Geocoded*
17	DOCKET Civil Enforcement Docket 09-98-0013A	IOLANI SCH 563 KAMOKU ST HONOLULU, HI 96826-5245 HONOLULU	0.38713 mi ENE Manually Geocoded*
18	CERCLA CERCLA Site (Delisted NFRAP Site) HI0980497325	STAN SHINKAWA INC 2330 KALAKAUA AVE HONOLULU, HI 96815-2953 HONOLULU	0.44451 mi SSE Manually Geocoded*
19	LUST Hawaii Leaking Underground Storage Tank 9-100080	MCCULLY FIRE STATION 2425 DATE ST HONOLULU, HI 96826-4502 HONOLULU	0.48377 mi NE Manually Geocoded*
20	DOCKET Civil Enforcement Docket 09-97-0147A	WEN'S LIFE, INC. 441 WALPHA ST OFC 101 HONOLULU, HI 96815-2950 HONOLULU	0.49307 mi SE
21A	LUST Hawaii Leaking Underground Storage Tank 9-102647	MOANA SURFRIDER HOTEL 2365 KALAKAUA AVE HONOLULU, HI 96815-2946 HONOLULU	0.49651 mi SSE Manually Geocoded*
21B	DOCKET Civil Enforcement Docket 09-98-0050A	SHERATON MOANA SURFRIDER 2365 KALAKAUA AVE HONOLULU, HI 96815-2946 HONOLULU	0.49651 mi SSE Manually Geocoded*
22	CERCLA CERCLA Site (Delisted NFRAP Site) HI0984466060	ALOHA MOTORS 1777 KAPIOLANI BLVD HONOLULU, HI 96814-4718 HONOLULU	0.60793 mi NW
23	DOCKET Civil Enforcement Docket 09-98-0018A	HAWAII PRINCE HOTEL WAIKIKI 100 HOLOMOANA ST HONOLULU, HI 96815-1436 HONOLULU	0.61795 mi W

Site Summary

Map ID#	Database / Agency ID#	Site Name, Address, and County	Distance/Direction
24	DOCKET Civil Enforcement Docket 09-98-0011A	MCCULLEY SHELL STA 1115 MCCULLY ST HONOLULU, HI 96826-2206 HONOLULU	0.84364 mi N
25	DOCKET Civil Enforcement Docket 09-98-0045A	HAWAIIAN WAIKIKI BEACH HOTEL 2570 KALAKAUA AVE HONOLULU, HI 96815-3563 HONOLULU	0.84415 mi SSE
26	DOCKET Civil Enforcement Docket 09-98-0051A	A.T.E. ENVIRONMENTAL, INC. 1055 KALO PL HONOLULU, HI 96826-1636 HONOLULU	0.85311 mi NE
27	DOCKET Civil Enforcement Docket 09-98-0010A	DAIEI USA INC 801 KAHEKA ST HONOLULU, HI 96814-3725 HONOLULU	0.94363 mi NW Manually Geocoded*
28A	RCRA Generator RCRA Notifier Site HI2210222228	USARMY FT DERUSSY MILITARY RESERVE KALIA RD AT INTERSEC HONOLULU, HI 96815 HONOLULU	0.10000 mi WSW Area Manually Plotted***
28B	UST Hawaii Underground Storage Tank 9-101787	FORT DERUSSY CENTRAL OFFICE ALA MOANA BLVD & KALIA RD HONOLULU, HI 96815	0.10000 mi WSW Area Manually Plotted***
28C	UST Hawaii Underground Storage Tank 9-103512	FORT DERUSSY MILITARY RESERVATION BLDG 107 AND 108 HONOLULU, HI 96815	0.10000 mi WSW Area Manually Plotted***
28D	LUST Hawaii Leaking Underground Storage Tank 9-103512	FORT DERUSSY MILITARY RESERVATION BLDG 107 AND 108 HONOLULU, HI 96815	0.10000 mi WSW Area Manually Plotted***

* – Manually Geocoded: Site plotted or corrected using paper maps, phone calls, and other resources to properly place the site on the map.

** – Agency Provided Lat/Long: Site plotted using the latitude and longitude given by the federal or state government agency.

*** – Area Manually Plotted: Area manually drawn using digital and paper maps.

Detailed Data

The following pages contain the detailed data concerning the sites plotted on the map and included in the site summary.

Please Note: Pages are not included for databases not found within the search radii.

These pages are arranged as follows:

- Delisted CERCLA Data
- RCRA TSD and Generators Data
- DOCKET Data
- Hawaii LUST Data
- Hawaii UST Data

CERCLA Archive Data

Delisted Comprehensive Environmental Response, Compensation, and Liability Act Sites (Archive Sites)

Map ID#: 18 Distance (mi): 0.444513
Direction: SSE

EPA ID#:
CERCLIS Site ID#: 0902379
Status: This site has been delisted from CERCLIS
No Further Remedial Action Planned

Facility Name: STAN SHIMKAWA INC
Address: 2330 KALAKAUA AVE
City, State, Zip: HONOLULU, HI 96815
County: HONOLULU

Federal Facility Indicator: Not a Federal Facility
Ownership Indicator: Unknown

Hydro Unit: 20060000
Site Incident Category: Not Reported

Comments: Not Reported
NPL Status: Not on the NPL
RCRIS Facility Indicator: Not Reported

Event	Date Started	Date Completed
DISCOVERY	Not Reported	1980-02-01
PRELIMINARY ASSESSMENT	Not Reported	1984-08-01

Map ID#: 22 Distance (mi): 0.567833
Direction: NW

EPA ID#:
CERCLIS Site ID#: 0903412
Status: This site has been delisted from CERCLIS
No Further Remedial Action Planned

Facility Name: ALOHA MOTORS
Address: 1777 KAPIOLANI BLVD
City, State, Zip: HONOLULU, HI 96813
County: HONOLULU

Federal Facility Indicator: Not a Federal Facility
Ownership Indicator: Unknown

Hydro Unit: Not Reported
Site Incident Category: Not Reported

Comments: Not Reported
NPL Status: Not on the NPL
RCRIS Facility Indicator: Not Reported

Event	Date Started	Date Completed
DISCOVERY	Not Reported	1990-09-26
PRELIMINARY ASSESSMENT	Not Reported	1991-04-22
SITE INSPECTION	Not Reported	1992-03-23

RCRA TSD and Generators Data

Facility and Compliance Information

Map ID#: 4 Distance (mi): 0.172137 Direction: S
EPA ID#: HIR000000463
Status: Small Quantity Generator

Name: ROYAL HAWAIIAN SHOOTING CLUB
Address: 2291 KALAKAUA AVE STE A402
City, State, Zip: HONOLULU HI 96815

SIC Code:
Land Type: Private Land
Contact Name: WARREN KAHAPEA
Contact Phone: 808-922-4122

RCRA Evaluation / Violation / Enforcement Data

No Compliance Information Reported

RAATS (RCRA Administrative Action Tracking System) Data

No RAATS Information Reported for this Site

RCRA Corrective Action Data (CORRACTS) Instrument and Event Data

No Corrective Action Instrument Information for this Site

Map ID#: 28A Distance (mi): 0.190000 Direction: WSW
EPA ID#: HI2210227228
Status: RCRA Notifier (Former RCRA Site)

Name: USARMY FT DERUSSY MILITARY RESERVE
Address: KALIA RD AT INTERSEC
City, State, Zip: HONOLULU HI 96815

SIC Code:
Land Type: Federal Land
Contact Name: RIKI IWASAKI
Contact Phone: 808-438-2978

RCRA Evaluation / Violation / Enforcement Data

No Compliance Information Reported

RAATS (RCRA Administrative Action Tracking System) Data

No RAATS Information Reported for this Site

RCRA Corrective Action Data (CORRACTS) Instrument and Event Data

No Corrective Action Instrument Information for this Site

RCRA Wastes and Waste Code Information previously reported by EcoSearch have been removed from the RCRIS database by the USEPA.

DOCKET Data

Civil Enforcement Docket

Map ID#: 12 Distance (mi): 0.292317 Direction: SE
Docket Number: 09-96-0026C Case Name: SEIBU RAILWAY COMPANY; MYERS D Date Filed: 10/01/96
Federal Penalty Assessed: $125,000 Date Concluded: 04/22/98
Cost Recovery Charged: Case Result:

Law Reported Violated: Clean Air Act
Section: 112
Violation Type: National emission standard for hazardous air pollutant
Pollutant Type: Asbestos

Subject Facilities / EPA ID# / Address / City, State, and Zip
HID981618176 / SEIBU HAWAII INC / 2200 WAIAKI TRADE CENTER / HONOLULU, HI 96815

Subject Defendant(s)
JACK MYERS DEVELOPMENT CORPORATION
SEIBU RAILWAY COMPANY, LTD

Map ID#: 16 Distance (mi): 0.382443 Direction: SSW
Docket Number: 09-91-0007C Case Name: OUTRIGGER HOTELS HAWAII Date Filed: 07/23/92
Federal Penalty Assessed: $30,000 Date Concluded: 11/24/92
Cost Recovery Charged: Case Result:

Law Reported Violated: Clean Air Act
Section: 112
Violation Type: National emission standard for hazardous air pollutant
Pollutant Type:

Subject Facilities / EPA ID# / Address / City, State, and Zip
HID984466482 / OUTRIGGER REEF HOTEL / 2169 KALIA HOTEL / HONOLULU, HI 96815

Subject Defendant(s)
HOTEL OPERATING CO OF HAWAII
OUTRIGGER HOTELS HAWAII
OUTRIGGER SERVICES, INC.

Map ID#: 17 Distance (mi): 0.337127 Direction: ENE
Docket Number: 09-98-0013A Case Name: LLOYD STERN Date Filed: 01/27/98
Federal Penalty Assessed: Date Concluded:
Cost Recovery Charged: Case Result:

Law Reported Violated: Resource Conservation and Recovery Act
Section: 9003
Violation Type:
Pollutant Type:

Subject Facilities / EPA ID# / Address / City, State, and Zip
HID077643950 / IOLANI SCH / 563 KAMOKU ST / HONOLULU, HI 96816

Subject Defendant(s)
LLOYD STERN

Map ID#: 20 Distance (mi): 0.433073 Direction: SE
Docket Number: 09-97-0147A Case Name: WEN'S LIFE, INC. Date Filed: 06/24/97
Federal Penalty Assessed: Date Concluded:
Cost Recovery Charged: Case Result:

Law Reported Violated: Resource Conservation and Recovery Act
Section: 9003
Violation Type:
Pollutant Type:

DOCKET Data

Civil Enforcement Docket

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002023364 / WEN'S LIFE, INC. / 441 WALINA ST., STE 101 / HONOLULU, HI 96815

Subject Defendant(s)
WEN'S LIFE, INC.

Map ID#: 21B
Distance (mi): 0.496612
Direction: SSE
Docket Number: 09-98-0056A
Case Name: SHERATON MOANA SURFRIDER
Date Filed: 11/26/97
Date Concluded: 11/26/97
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

Law Reported Violated	Section	Violation Type	Pollutant Type
Clean Air Act	113A		

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002225316 / SHERATON MOANA SURFRIDER / 2365 KALAKAUA AVE / HONOLULU, HI 96815

Subject Defendant(s)
SHERATON MOANA SURFRIDER

Map ID#: 23
Distance (mi): 0.613944
Direction: W
Docket Number: 09-98-0013A
Case Name: HAWAII PRINCE HOTEL WAIKIKI
Date Filed: 11/26/97
Date Concluded: 11/26/97
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

Law Reported Violated	Section	Violation Type	Pollutant Type
Clean Air Act	SUBCHP6		

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002225266 / HAWAII PRINCE HOTEL WAIKIKI / 100 HOLOMOANA ST / HONOLULU, HI 96815

Subject Defendant(s)
HAWAII PRINCE HOTEL WAIKIKI

Map ID#: 24
Distance (mi): 0.843640
Direction: N
Docket Number: 09-98-0011A
Case Name: HYUN SHIN
Date Filed: 01/26/98
Date Concluded:
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

Law Reported Violated	Section	Violation Type	Pollutant Type
Resource Conservation and Recovery Act	9003		

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002122911 / MCCULLEY SHELL STA / 1115 MCCULLEY ST. / HONOLULU, HI 96826

Subject Defendant(s)
HYUN SHIN

Map ID#: 25
Distance (mi): 0.844151
Direction: SSE
Docket Number: 09-98-0043A
Case Name: HAWAIIAN WAIKIKI BEACH HOTEL
Date Filed: 01/30/98
Date Concluded: 01/30/98
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

DOCKET Data

Civil Enforcement Docket

Law Reported Violated	Section	Violation Type	Pollutant Type
Clean Air Act	113A		

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002380706 / HAWAIIAN WAIKIKI BEACH HOTEL / 2570 KALAKAUA AVE / HONOLULU, HI 96815

Subject Defendant(s)
HAWAIIAN WAIKIKI BEACH HOTEL

Map ID#: 26
Distance (mi): 0.853113
Direction: NE
Docket Number: 09-98-0051A
Case Name: A.T.E. ENVIRONMENTAL, INC.
Date Filed: 05/18/98
Date Concluded:
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

Law Reported Violated	Section	Violation Type	Pollutant Type
Clean Air Act	112	Asbestos	

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002381035 / A.T.E. ENVIRONMENTAL, INC. / 1055 KALO PLACE / HONOLULU, HI 96814

Subject Defendant(s)
A.T.E. ENVIRONMENTAL, INC.

Map ID#: 27
Distance (mi): 0.943827
Direction: NW
Docket Number: 09-98-0016A
Case Name: RON WATABAYASHI
Date Filed: 01/26/98
Date Concluded:
Federal Penalty Assessed:
Cost Recovery Charged:
Case Result:

Law Reported Violated	Section	Violation Type	Pollutant Type
Resource Conservation and Recovery Act	9003		

Subject Facilities / EPA ID# / Address / City, State, and Zip
HI0002373897 / DAIEI USA INC / 801 KAHEKA ST / HONOLULU, HI 96814

Subject Defendant(s)
RON WATABAYASHI

Hawaii LUST Data

Hawaii Leaking Underground Storage Tank Data

ALTEVENTID

Map ID#: 2A — Distance (mi): 0.13 — Direction: WNW — Name: KING KALAKAUA PLAZA — Address: 2080 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-102235

Leak#	Project Manager	Status Date	Status
960085	Mankiti	3/17/00	Site Cleanup Completed

Map ID#: 3A — Distance (mi): 0.13 — Direction: SSW — Name: YONEOKA AND ASSOCIATES — Address: 2174/2190 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96800

Facility ID: 9-103224

Leak#	Project Manager	Status Date	Status
950056	Okaji	7/29/96	Site Cleanup Completed

Map ID#: 5A — Distance (mi): 0.17 — Direction: SSW — Name: U.S. POSTAL SERVICE - WAIKIKI — Address: 330 SARATOGA RD — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-101778

Leak#	Project Manager	Status Date	Status
990009	Mankiti	6/22/00	Site Cleanup Completed

Map ID#: 6B — Distance (mi): 0.22 — Direction: NW — Name: ARCO 02112 — Address: 2025 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-100328

Leak#	Project Manager	Status Date	Status
940190	MankiR	7/7/00	Site Cleanup Completed
960144	MankiR	7/7/00	Site Cleanup Completed

Map ID#: 7 — Distance (mi): 0.26 — Direction: NW — Name: CHEVRON U.S.A., INC. — Address: 2002 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-101256

Leak#	Project Manager	Status Date	Status
920073	Okaji	6/10/97	Site Cleanup Completed
920073	Okaji	6/10/97	Site Cleanup Completed

Map ID#: 8 — Distance (mi): 0.26 — Direction: S — Name: SHERATON WAIKIKI HOTEL — Address: 2255 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-102550

Leak#	Project Manager	Status Date	Status
930027	Ichinotsubo	9/3/97	Site Cleanup Completed

Map ID#: 9 — Distance (mi): 0.27 — Direction: SE — Name: MATSUSHITA INVESTMENT AND DEVELO — Address: 2237 KUHIO AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-103063

Leak#	Project Manager	Status Date	Status
960007	Ruiz	3/11/96	Site Cleanup Completed

Hawaii LUST Data

Hawaii Leaking Underground Storage Tank Data

ALTEVENTID

Map ID#: 10 — Distance (mi): 0.27 — Direction: S — Name: ROYAL HAWAIIAN HOTEL — Address: 2259 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-102648

Leak#	Project Manager	Status Date	Status
930047	Assigned	5/17/93	Site Cleanup Completed

Map ID#: 11 — Distance (mi): 0.27 — Direction: SE — Name: ROYAL KUHIO CONDOMINIUMS — Address: 2240 KUHIO AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-103576

Leak#	Project Manager	Status Date	Status
000065	LI	1/21/00	Confirmed Release

Map ID#: 13 — Distance (mi): 0.32 — Direction: WSW — Name: U.S. ARMED FORCES RECREATION CTR — Address: 2555 KALIA RD — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-102744

Leak#	Project Manager	Status Date	Status
930075	HEER	2/16/99	Case Transferred to HEER

Map ID#: 14 — Distance (mi): 0.33 — Direction: NW — Name: JIMMY'S CHEVRON SERVICE — Address: 1958 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-101106

Leak#	Project Manager	Status Date	Status
970126	Sadoyama	9/11/97	Site Cleanup Completed

Map ID#: 15 — Distance (mi): 0.36 — Direction: W — Name: HILTON HAWAIIAN VILLAGE — Address: 2005 KALIA RD — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-100818

Leak#	Project Manager	Status Date	Status
900106	Goyke	11/11/91	Site Cleanup Completed

Map ID#: 19 — Distance (mi): 0.48 — Direction: NE — Name: MCCULLY FIRE STATION — Address: 2425 DATE ST — City, State Zip: HONOLULU, HI 96826

Facility ID: 9-100098

Leak#	Project Manager	Status Date	Status
910028	Brewer	10/5/95	Site Cleanup Completed

Map ID#: 21A — Distance (mi): 0.50 — Direction: SSE — Name: MOANA SURFRIDER HOTEL — Address: 2366 KALAKAUA AVE — City, State Zip: HONOLULU, HI 96815

Facility ID: 9-102547

Leak#	Project Manager	Status Date	Status
930059	Okaji	10/17/97	Site Cleanup Completed

Hawaii LUST Data

Hawaii Leaking Underground Storage Tank Data

ALTEVENTID

Map ID#: 28D Distance (mi): 0.10 Direction: WSW

Name: FORT DERUSSY MILITARY RESERVATION
Address: BLDG 107 AND 108
City, State Zip: HONOLULU, HI 96815

Facility ID 9-103512

Leakid	Project Manage	Status Date:	Status
000068	DERA	4/1900	Site Cleanup Completed

Hawaii UST Data

Hawaii Registered Underground Storage Tank Data

Map ID#: 1 Distance (mi): 0.12587 Direction: SE

Agency ID: 9-101975

Name: BEACHWALK WASTEWATER PUMP STATION
Address: 377 KAIOLU ST
City, State Zip: HONOLULU, HI 96815

Owner: C&C OF HNL - DEPT OF WASTEWATER MANAG
Address: 650 S KING ST., 3RD FLOOR
City, State Zip: Honolulu, HI 96813

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
M-1	Currently In Use	Diesel	8000	01/08/1988	Not Reported

Map ID#: 2B Distance (mi): 0.12778 Direction: WNW

Agency ID: 9-103235

Name: KING KALAKAUA PLAZA
Address: 2360 KALAKAUA AVE
City, State Zip: HONOLULU, HI 96815

Owner: K. YOUNG KALAKAUA PARTNERS INC.
Address: 841 BISHOP ST. SUITE 2250
City, State Zip: Honolulu, HI 96813

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
R-1	Permanently Out of Use	Diesel	300	Not Reported	7/24/96

Map ID#: 3B Distance (mi): 0.12842 Direction: SSW

Agency ID: 9-103428

Name: YONEOKA AND ASSOCIATES
Address: 2174-2180 KALAKAUA AVE
City, State Zip: HONOLULU, HI 96820

Owner: YONEOKA AND ASSOCIATES
Address: 1088 BISHOP ST, SUITE 1212
City, State Zip: Honolulu, HI 96813

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
1	Permanently Out of Use	Diesel	500	Not Reported	Not Reported

Map ID#: 5B Distance (mi): 0.17438 Direction: SSW

Agency ID: 9-101778

Name: U.S. POSTAL SERVICE - WAIKIKI
Address: 330 SARATOGA RD
City, State Zip: HONOLULU, HI 96815

Owner: U.S. POSTAL SERVICE
Address: 850 CHERRY AVENUE
City, State Zip: San Bruno, CA 94098

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
R-1	Permanently Out of Use	Gasoline	6000	01/07/1972	7/30/90
1A	Currently In Use	Gasoline	6000	06/30/1990	Not Reported

Map ID#: 6A Distance (mi): 0.22381 Direction: NW

Agency ID: 9-100328

Name: ARCO 02112
Address: 2223 KALAKAUA AVE
City, State Zip: HONOLULU, HI 96815

Owner: BC OIL VENTURES, LLC
Address: 1602 RUUANU AVE. SUITE 201
City, State Zip: Honolulu, HI 96817

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
4	Currently In Use	Gasoline	10000	02/06/1985	Not Reported
1	Currently In Use	Gasoline	10000	02/06/1985	Not Reported
R-1	Permanently Out of Use	Used Oil	550	02/06/1985	6/10/94
2	Currently In Use	Gasoline	10000	02/06/1985	Not Reported
3	Currently In Use	Gasoline	10000	02/06/1985	Not Reported

Map ID#: 28B Distance (mi): 0.10000 Direction: WSW

Agency ID: 9-101727

Name: FORT DERUSSY CENTRAL OFFICE
Address: ALA MOANA BLVD & KALIA RD
City, State Zip: HONOLULU, HI 96815

Owner: VERIZON HAWAII
Address: 1177 BISHOP ST.
City, State Zip: Honolulu, HI 96813

Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
R-86-1	Permanently Out of Use	Gasoline	550	07/02/1987	11/12/96

Hawaii UST Data

Hawaii Registered Underground Storage Tank Data

Map ID#:	28C	Distance (mi):	0.10000		
		Direction:	WSW		
Agency ID:	9-103512		Name:	FORT DERUSSY MILITARY RESERVATION	
			Address:	BLDG 197 AND 198	
Owner:	US ARMY PACIFIC		City, State Zip:	HONOLULU, HI 96815	
Address:	FORT DERUSSY				
City, State Zip:	Honolulu, HI 96815				
Tank ID#	Tank Status	Substance	Capacity (gal)	Date Installed	Date Closed
R-2	Permanently Out of Use	Diesel	500	Not Reported	12/21/93
R-1	Permanently Out of Use	Diesel	280	Not Reported	12/21/93

Unmappable Sites

A limitation of many records of governmental databases is incomplete or incorrect address information. Without proper addresses, it is more difficult to locate and map these sites.

Instead of leaving these potentially important sites out of the manually geocoded EcoSearch report, we implement a painstaking manual geocoding strategy aimed at plotting these unmappable sites by looking at zip codes, city names, and county names identified with the radius around your study site. The zip codes, cities, and counties searched are identified on the EcoSearch Statistical Overview page.

Our sophisticated mapping software, enhanced TIGER street maps, and address correction database processing methods find and plot most environmental sites. We then perform manual geocoding, plotting those sites the computer fails to find using a variety of resources. These include using our in-house collection of paper maps, directories, cross-referencing database information, and calling post offices, local government, or the sites themselves to accurately locate environmental records. We also correct obvious TIGER street map errors and omissions.

This effort at manual geocoding results in a short or non-existant orphan/unmappable list and increases accuracy and reliability of the data in our reports. The EcoSearch Instant Online and Preview reports take advantage of all previous geocoding work that has been done providing the highest quality report virtually instantaneously. The potential remains that an order can be placed in an area which has not been worked, thus resulting in more unmappables than typically associated with an EcoSearch report.

The limited number of sites which could not be reasonably found through our geocoding strategy are presented in this section for further review to assess their impact on your study site.

After the summary unmappable site information, the detailed data follows.

Unmappable Sites

Database	Agency ID#	Site Name and Address	County

No unmappable sites were found for this report.

Environmental Glossary

Acid
A large class of substances having a pH less than seven. An acid waste is considered hazardous when the pH is 2.0 or less.

Acute Effect
An adverse effect on a human or animal body, with severe symptoms developing rapidly and coming quickly to a crisis.

Acute Exposure
A dose that is delivered to the body in a single event or in a short period of time.

Aerobic
Occurring in the presence of free oxygen.

Alkaline
A substance with a pH between 7 and 14. An alkaline waste is considered hazardous when its pH is 12.5 or greater.

Ambient
Existing conditions of air, water, and other media at a particular time.

Anaerobic
Occurring in the absence of oxygen.

Assessment
An analysis or examination.

Background Environmental Sample
Samples that are considered to contain no contaminants or known concentrations of contaminants.

Base
A substance which forms a salt when reacted with an acid. Bases have a pH of greater than seven.

Buffer Zone
An area of land which surrounds a hazardous waste facility and on which certain land uses and activities are restricted to protect the public health and safety and the environment from existing or potential hazards caused by the migration of hazardous waste (CH&SC Sec. 25110.3).

Carcinogen
A substance or agent capable of causing or producing cancer in mammals.

Caustics
A large class of substances which form solutions having a high pH.

Chronic Effect
An adverse effect on a human or animal body, with symptoms which develop slowly over a long period of time or which reoccur frequently.

Chronic Exposure
Low doses repeatedly received by the body over a long period of time.

Combustible
A term used by the NFPA, DOT, and others to classify certain liquids that will burn, on the basis of flash points. Both the NFPA and DOT generally define "combustible liquids" as having a flash point of 100° F or higher.

Concentration
The relative amount of a substance when combined or mixed with other substances.

Contingency Plan
A document setting out an organized, planned, and coordinated course of action to be followed in case of a fire or explosion or release of a hazardous waste from a TSD or a generator's facility that could threaten human health or the environment (RCRA).

Corrosive
As defined by DOT, a corrosive material is a liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the site of contact or in the case of leakage from its packaging a liquid that has a severe corrosion rate on steel. A solid or liquid which exhibits these characteristics can be regulated as hazardous waste.

Decomposition
Breakdown of material or substance (by heat, chemical reaction, electrolysis, decay, or other processes) into elements or simpler compounds.

Decontamination
The process of removing contaminants from individuals and equipment.

Deep Well Injection
Disposal of wastes by injecting them into a geological formation deep in the ground, sometimes after pretreatment to avoid solidification.

EPA ID Number
The unique number assigned by EPA to each generator, transporter, or TSD.

Effluent
Waste material, either treated or untreated, discharged into the environment.

Environmental Assessment
The measurement or prediction of the transport, dispersion, and final location of a hazardous substance when released into the environment.

Environmental Emergencies
Incidents involving the release (or potential release) of hazardous materials into the environment which require immediate remedial action.

Environmental Hazard
A condition capable of posing risk of exposure to air, water, soil, plants, or wildlife.

Exception Report
A report that generators who transport waste off-site must submit if they do not receive a properly completed copy of their manifest within 45 days of the date on which the initial transporter accepted the waste.

Generator
The person or facility who, by nature or ownership, management or control, is responsible for causing or allowing to be caused, the creation of hazardous waste.

Glovebag
A device used to remove a section of pipe insulation without isolating the entire space or room.

Groundwater Hydrology
The study of the movement of water below the earth's surface.

Hazard
A circumstance or condition that can cause harm. Hazards are often categorized into four groups: biological, chemical, physical, and radiation.

Hazard Classes
A series of nine descriptive terms that have been established by the UN Committee of Experts to categorize the hazardous nature of chemical, physical, and biological materials. These categories are: flammable liquids, explosives, gases, oxidizers, radioactive materials, corrosives, flammable solids, poisonous and infectious substances, and dangerous substances.

Hazardous Waste
Any material that is subject to the hazardous waste manifest requirements of the EPA specified in the CFR, Title 40, Part 262 or would be subject to these requirements in the absence of an interim authorization to a State under CFR, Title 40, Part 123, Subpart F.

Heavy Metals
Certain metallic elements having a high density and generally toxic, e.g., lead, silver, mercury, and arsenic.

Immediate Removal

Actions undertaken to prevent or mitigate immediate and significant risk of harm to human life or health or the environment. As set forth in the National Contingency Plan, these actions shall be terminated after $1 million has been obligated or six months have elapsed from the date of initial response.

Incident

The release or potential release of a hazardous substance into the environment.

Inert

Exhibiting no chemical activity; totally unreactive.

Innocent Land Owner's Defense

The defense of a purchaser of real property that he or she exercised due diligence in having hazards assessed prior to purchase.

Interim Status

Allows owners and operators of TSDs that were in existence, or for which construction had commenced, prior to November 19, 1980 to continue to operate without a permit after this date pending final issuance from RCRA.

Joint and Several Liability

Under federal law each party that contributed to damages may be held liable for all damages, but each has the right to compel the others to contribute and indemnify.

Liability

Being subject to legal action for one's behavior.

MSDS Material Safety Data Sheet

Required by OSHA of owners to alert employees to hazards, their effect, and protective action.

Manifest

Form which indicates generator, quantity, and type of waste for each shipment of hazardous wastes disposed in off-site facilities.

National Contingency Plan

Policies and procedures that the Federal Government follows in implementing responses to incidents involving hazardous substances.

P Wastes

A federal waste list comprised of substances categorized as acutely hazardous.

Part A

The first part of a two part application that must be submitted by a TSD to receive a permit. It contains general facility information.

Part B

The second part of a two part application that must be submitted by a TSD to receive a permit. It contains highly technical and detailed information.

Planned Removal

The removal of released hazardous substances from the environment within a non-immediate, long term time period. Under CERCLA: Actions intended to minimize increases in exposure such that time and cost commitments are limited to six months and/or $1 million.

Poison, Class A

A DOT term for extremely dangerous poisons, that is, poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. Some examples, phosgene, cyanogen, and hydrocyanic acid.

Poison, Class B

A DOT term for liquid, solid, paste, or semisolid substances, other than Class A poisons, which are known to be toxic to man as to afford a hazard to health during transportation.

Pollutant

A substance or mixture which after release into the environment and upon exposure to any organisms will or may reasonably be anticipated to cause adverse effects in such organisms and their offspring.

Priority Pollutants

A list of chemicals selected from the list of toxic pollutants by the EPA as priority toxic pollutants for regulation under the Clean Water Act.

Remedial Actions

Responses to releases of hazardous substances on the NPL that are consistent with a permanent remedy which would prevent or mitigate the migration of materials into the environment.

Risk

The probability that an unwanted event will occur.

Second Responders

Those personnel required to assist or relieve first responders at a hazardous material incident due to their specialized knowledge, equipment, or experience. These include State environmental protection or health officials, commercial response, cleanup companies, and appropriate industry representatives.

Strict Liability

Holds a party responsible for damages irrespective of the amount of care taken in handling a hazardous substance.

Subtitle C

The part of RCRA which pertains to the management of hazardous waste.

Subtitle I

The part of RCRA which pertains to the storage of petroleum products and hazardous substances, other than wastes, in USTs.

Superfund

See CERCLA.

Synergistic

The action of two materials together which is greater in effect than the sum of the individuals actions.

TIGER Files

The US Census Bureau's TIGER files provide a nationwide computerized map with address range information.

Tort

A legal wrong, sometimes referred to as negligence.

Toxicity

The ability of a substance to produce injury by non-mechanical means once it reaches a susceptible site in or on the body.

U Wastes

A federal list of hazardous wastes which consists of substances deemed to be hazardous for hazards other than acute hazards.

-- Adapted from Lincoln Graduate Center, 1993. Real Estate Environmental Screening. San Antonio, Texas

Acronyms and Abbreviations

-AIRS	Aerometric Information Retrieval System
-AST	Aboveground Storage Tank
-ASTM	American Society for Testing and Materials
-BLM	Bureau of Land Management
-BNA	Bureau of National Affairs
-CAA	Clean Air Act
-CDC	Centers for Disease Control
-CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
-CERCLIS	CERCLA Information System
-CICIS	Chemicals in Commerce Information System
-COE	U.S. Army Corps of Engineers
-CWA	Clean Water Act
-DDT	Dicholoro-diphenyl-dichlorpethane
-DOC	Department of Commerce
-DOCKET	Enforcement Docket System--Office of Enforcement and Compliance Monitoring
-DOE	Department of Energy
-DOT	Department of Transportation
-EPA	Environmental Protection Agency
-ERCS	Emergency Response Cleanup Services
-ERNS	Emergency Response Notification System
-ESA	Environmental Site Assessment
-FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
-FINDS	Facility Index System
-FOIA	Freedom of Information Act
-FWPCA	Federal Water Pollution Control Act
-HHS	Department of Health and Human Services
-HSWA	Hazardous and Solid Waste Amendments of 1984
-HUD	Department of Housing and Urban Development
-LUST	Leaking Underground Storage Tank
-MSDS	Material Safety Data Sheet
-NEPA	National Environment Policy Act
-NESHAP	National Emission Standards for Hazardous Air Pollutants
-NFRAP	No Further Remedial Action Planned (Delisted CERCLA Site)
-NOI	Notice of Intent
-NOV	Notice of Violation
-NPDES	National Pollution Discharge Elimination System
-NPL	National Priorities List
-NRC	Nuclear Regulatory Commission
-NRIS	Nuclear Regulatory Information System
-OSHA	Occupational Safety and Health Administration
-PADS	PCB Activity Database System

Acronyms and Abbreviations

-PCB	Polychlorinated Biphenyls
-POTW	Publicly-Owned Treatment Works
-PPM	Parts Per Million
-PRP	Potentially Responsible Parties
-RAATS	RCRA Administrative Action Tracking System
-RCRA	Resource Conservation and Recovery Act of 1976
-RCRIS	Resource Conservation and Recovery Information System
-RFA	RCRA Facility Assessment
-RFI	RCRA Facility Investigation
-RI	Remedial Investigation (CERCLA)
-SARA	Superfund Amendments and Reauthorization Act of 1986
-SCS	Soil Conservation Service
-SDWA	Safe Drinking Water Act
-SETS	Superfund Enforcement Tracking System
-SSTS	Section Seven Tracking System
-SWF/LF	Solid Waste Facilities / Landfills
-TIGER	Topologically Integrated Geographic Encoding and Referencing System
-TRI	Toxic Release Inventory
-TSCA	Toxic Substances Control Act
-TSD	Treatment, Storage, or Disposal Facility
-USDA	U.S. Department of Agriculture
-USGS	U.S. Geological Survey
-UST	Underground Storage Tank
-WWTP	Wastewater Treatment Plant

EcoSearch Historical Fire Insurance Map Collection
Search Results from VISTAinfo

Site: **2084 Kuhio Ave.**
2084 Kuhio Avenue
Honolulu, HI 96815

Status: **No historic map coverage is available for this site in the ERIIS Historic Map Collection for the period covering the years 1867 - 1994.**

The VISTAinfo Historic Map Collection is the largest and most extensive private collection of prior-use maps in the United States, thereby affording the greatest degree of historic due diligence. VISTAinfo's inventory includes images from the following publishers:

* Bracy
* Bromley
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* William G. Baist

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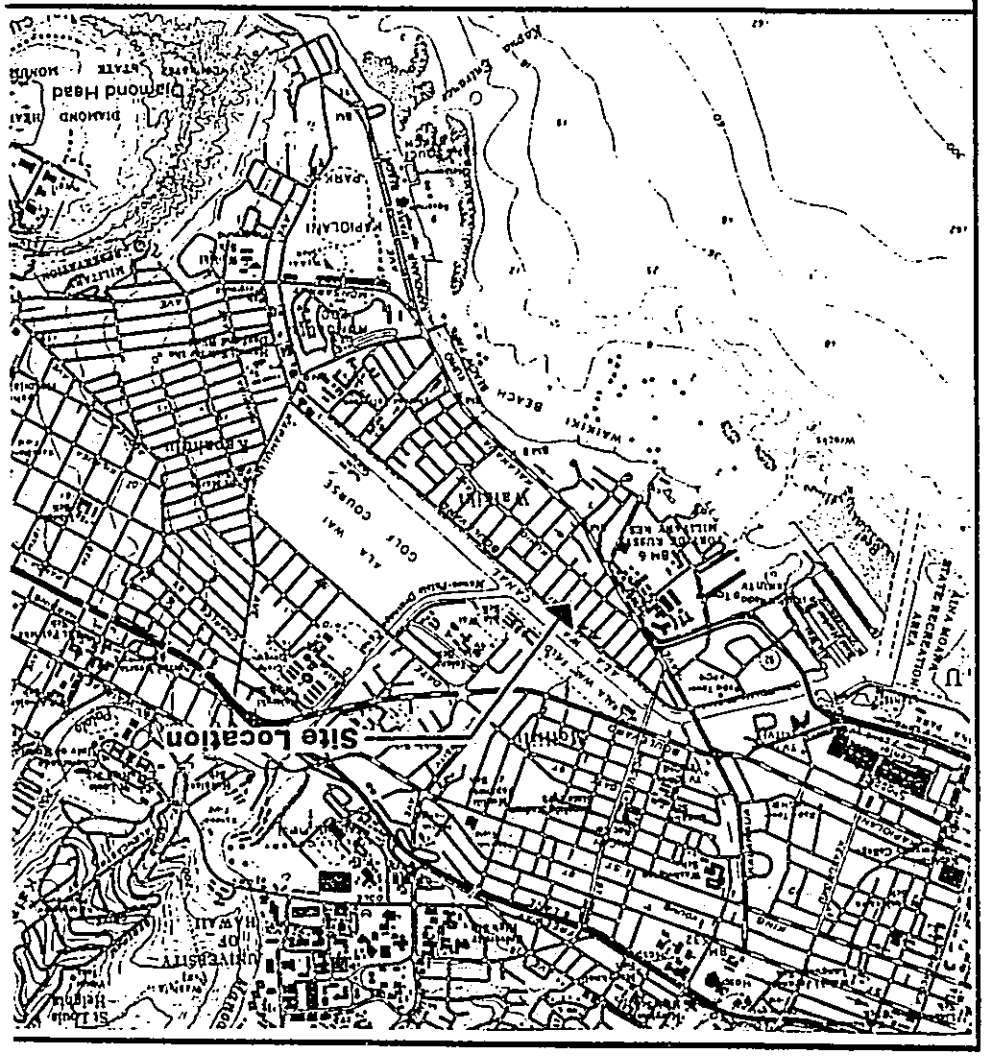
APPENDIX II

EnviroServices & Training Center	Site Location Map	ETC Project #: 01-1007
	A&B Properties	August 3, 2001
	2084 Kuhio Avenue, Honolulu, HI	Figure 1

Source:
U.S. Department of Geological Services
Honolulu Quadrangle
Island of Oahu, 7.5 Minute Series
1983



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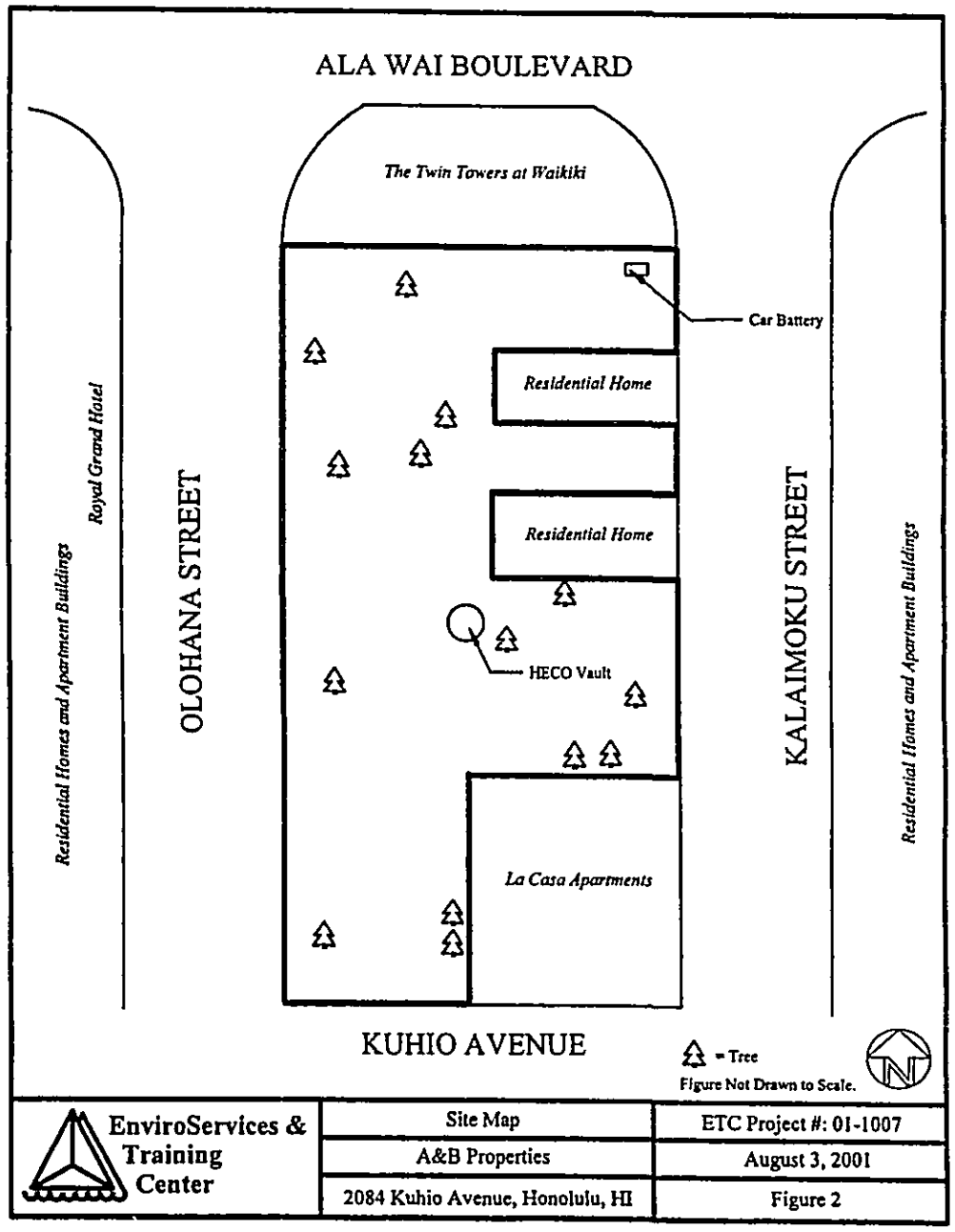
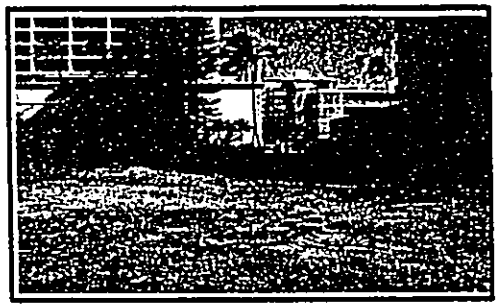
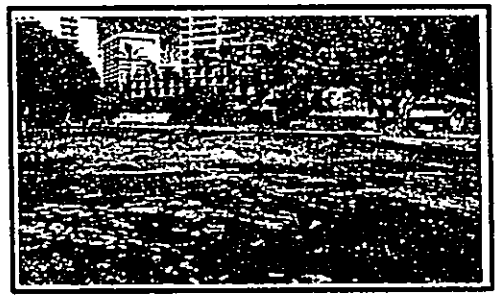

ALA WAI BOULEVARD
The Twin Towers at Waikiki
Car Battery
Residential Home
Residential Home
HECO Vault
La Casa Apartments
Royal Grand Hotel
Residential Homes and Apartment Buildings
OLOHANA STREET
KALAIMOKU STREET
Residential Homes and Apartment Buildings
KUHIO AVENUE
= Tree
Figure Not Drawn to Scale.
EnviroServices & Training Center
Site Map
A&B Properties
2084 Kuhio Avenue, Honolulu, HI
ETC Project #: 01-1007
August 3, 2001
Figure 2

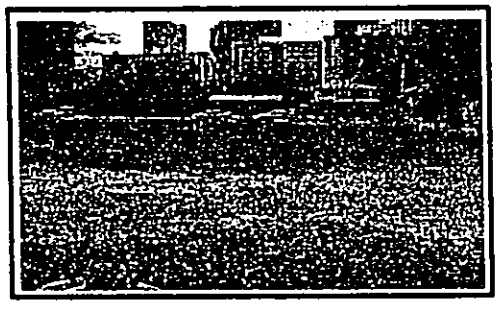
DOCUMENT CAPTURED AS RECEIVED



Photograph 1:
View of northern portion of site, bordered by the Twin Towers at Waikiki Apartment Building.

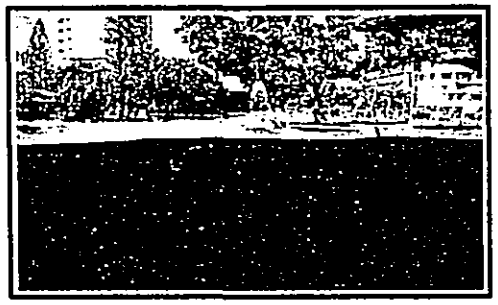


Photograph 2:
View of southwest portion of site, towards Olohana Street.

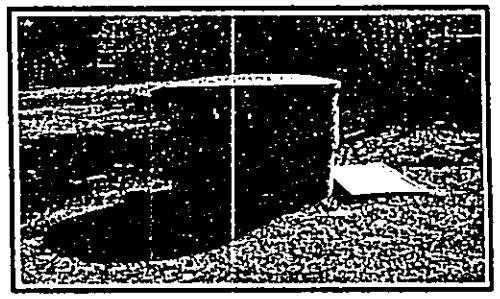


Photograph 3:
View of eastern portion of site, towards Kalaimoku Street.

EnviroServices & Training Center	Photographic Documentaion	ETC Project #: 01-1007
	A&B Properties	
	2084 Kuhio Avenue, Honolulu, HI	August 3, 2001



Photograph 4:
View of western portion of site, along Olohana Street and towards Kuhio Avenue.



Photograph 5:
View of HECO Vault containing one 4,000 V transformer.

Photograph 6:
View of stained soil within the subject property.

EnviroServices & Training Center	Photographic Documentaion	ETC Project #: 01-1007
	A&B Properties	
	2084 Kuhio Avenue, Honolulu, HI	August 3, 2001

Appendix C

Acoustic Study for the A & B Waikiki Condominium Project

Y. Ebisu & Associates

August 2002

ACOUSTIC STUDY FOR THE A & B WAIKIKI CONDOMINIUM PROJECT HONOLULU, HAWAII

Prepared for:

WILSON OKAMOTO & ASSOCIATES, INC.

Prepared by:

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1126 12th Avenue, Room 305
Honolulu, Hawaii 96816

AUGUST 2002

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CHAPTER I. SUMMARY

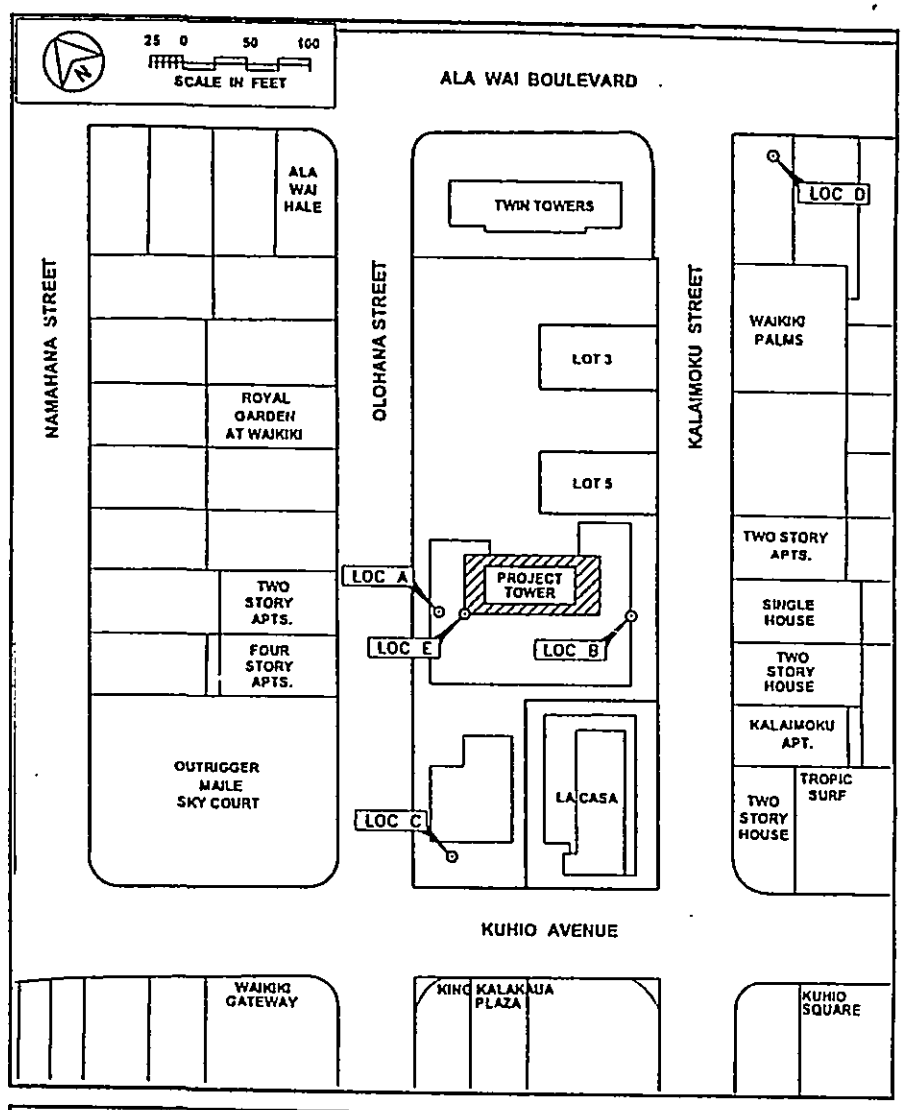
The existing and future traffic noise levels in the vicinity of the proposed A & B Condominium Project in Waikiki (see FIGURE 1) were evaluated for their potential impacts and their relationship to the current FHA/HUD noise standard. The traffic noise level increases along the access roadways to and from the project site were calculated. No significant increases in traffic noise are predicted to occur along Ala Wai Boulevard or Kuhio Avenue as a result of project plus non-project traffic following project build-out by CY 2005. Moderate increases in the relatively low traffic noise levels along Kalaimoku Street and Olohana Street are predicted to occur as a result of project plus non-project traffic by CY 2005. Traffic noise from Ala Wai Boulevard and Kuhio Avenue will continue to control background ambient noise levels in the project environs, with traffic noise levels exceeding 65 Ldn at existing residential and resort units which front Ala Wai Boulevard and Kuhio Avenue. Future traffic noise levels are not predicted to exceed the FHA/HUD standard of 65 Ldn at the project's proposed residential tower.

Project traffic will add less than 0.3 Ldn additional units of noise along the high volume and high noise level roadways such as Ala Wai Boulevard and Kuhio Avenue. The increases in future traffic noise levels resulting from project generated traffic are not considered to be significant.

Larger increases in traffic noise levels of 0.4 and 1.4 Ldn are predicted to occur along Kalaimoku Street and Olohana Street following the proposed project development. However, these increases will be difficult to measure or perceive, and are not considered to be significant.

Unavoidable, but temporary, noise impacts may occur during the excavation and construction activities within the project area, and particularly during the earthwork and pile driving activities on the project site. Because construction activities are predicted to be audible within the project site and at adjoining properties, the quality of the acoustic environment may be degraded to unacceptable levels during periods of construction. Mitigation measures to reduce construction noise to inaudible levels will not be practical in all cases, but the use of quiet equipment is recommended as a standard mitigation measure. The implementation of Hawaii State Department of Health permit procedures and curfew periods for construction activities is also expected for this project.

Because of the presence of low-rise, mid-rise, and high-rise buildings near the project site, and the potential for damage to these buildings from vibration during impact pile driving operations, vibration monitoring is recommended during close-in pile driving operations where vibration levels are expected to exceed 0.2 inches/second. In addition, it is expected that the design and construction methods for the project's buildings will be optimized to minimize risks of damage to adjacent structures from settling or heaving. A vibration limit of 2.0 inches/second should not be exceeded at any of the adjacent buildings, and development of mitigation measures to reduce vibration levels through project design and construction methods are recommended if these limits are expected to be exceeded.



PROJECT SITE MAP AND NOISE MEASUREMENT LOCATIONS

FIGURE 1

CHAPTER II. PURPOSE

The primary objective of this study was to describe the existing and future noise environment in the environs of the proposed A & B Condominium Project in Waikiki on the island of Oahu. Traffic noise level increases and impacts associated with the proposed development were to be determined along the public roadways which are expected to service the project-related traffic. A specific objective was to determine future traffic noise level increases associated with both project and non-project traffic, and the potential noise impacts associated with these increases.

Potential noise impacts from the activities and equipment associated with the planned condominium development were also evaluated. Assessments of possible future impacts from short term construction noise and vibration at the project site were also included as noise study objectives. Recommendations for minimizing identified noise impacts were also to be provided as required.

CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies (such as FHA/HUD) to assess environmental noise is the Day-Night Average Sound Level (Ldn or DNL). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter. By definition, the minimum averaging period for the Ldn descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the Ldn descriptor. A more complete list of noise descriptors is provided in APPENDIX B to this report.

TABLE 1, derived from Reference 1, presents current federal noise standards and acceptability criteria for residential land uses. Land use compatibility guidelines for various levels of environmental noise as measured by the Ldn descriptor system are shown in FIGURE 2. As a general rule, noise levels of 55 Ldn or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, Ldn levels generally range from 55 to 65 Ldn, and are usually controlled by motor vehicle traffic noise. Residences which front major roadways are generally exposed to levels of 65 Ldn, and as high as 75 Ldn when the roadway is a high speed freeway. In the Waikiki area, Ldn levels tend to be high and greater than 65 Ldn due to the higher concentration of tour and city buses, and due to the higher activity levels during the nighttime period.

In the project area, traffic noise levels along the Rights-of-Way of Ala Wai Boulevard and Kuhio Avenue are greater than 65 Ldn due to the large volumes of traffic and heavy vehicles (trucks and buses) on those major thoroughfares. Adding to the noise from the normal traffic along the various roadways are the relatively high noise levels of tour buses idling at curbside, sirens on police and emergency vehicles, outdoor mechanical equipment (fans and air conditioning equipment) at the commercial and resort buildings, maintenance activities, and garbage and delivery truck operations.

For purposes of determining noise acceptability for funding assistance from federal agencies (FHA/HUD and VA), an exterior noise level of 65 Ldn or less is considered acceptable for residences. This standard is applied nationally (Reference 2), including Hawaii. Because of our open-living conditions, the predominant use of naturally ventilated dwellings, and the relatively low exterior-to-interior sound attenuation afforded by these naturally ventilated structures, an exterior noise level of 65 Ldn does not eliminate all risks of noise impacts. Because of these factors, and as recommended in Reference 3, a lower level of 55 Ldn is considered to be the "Unconditionally Acceptable" (or "Near-Zero Risk") level of exterior noise. However, after considering the cost and feasibility of applying the lower level of 55 Ldn, government agencies such as FHA/HUD and VA have selected 65 Ldn as a more appropriate regulatory standard.

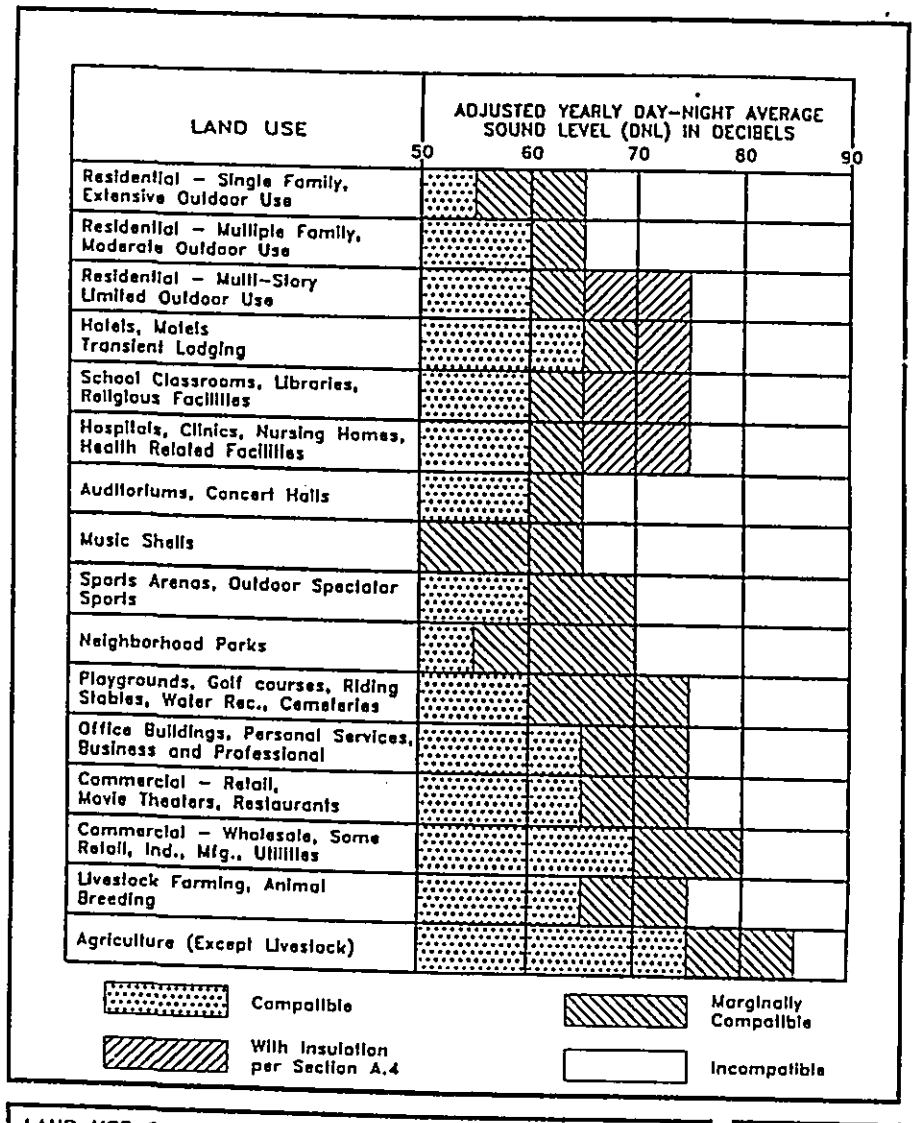
TABLE 1

EXTERIOR NOISE EXPOSURE CLASSIFICATION
(RESIDENTIAL LAND USE)

NOISE EXPOSURE CLASS	DAY–NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL (1) STANDARD
Minimal Exposure	Not Exceeding 55 DNL	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 DNL But Not Above 65 DNL	Above 55 Leq But Not Above 65 Leq	Acceptable(2)
Significant Exposure	Above 65 DNL But Not Above 75 DNL	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 DNL	Above 75 Leq	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.



LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY–NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.
(Source: American National Standards Institute S12.9–1998/Part 5)

FIGURE 2

For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75 Ldn are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 Ldn.

On the island of Oahu, the State Department of Health (DOH) regulates noise from fixed mechanical equipment and construction activities. State DOH noise regulations are expressed in maximum allowable noise limits rather than Ldn (see Reference 4). Although they are not directly comparable to noise criteria expressed in Ldn, State DOH noise limits for single family residential lands equate to approximately 55 Ldn. For multifamily residential, commercial, and resort lands, the State DOH noise limits equate to approximately 60 Ldn. For light and heavy industrial lands, the State DOH noise limits equate to approximately 76 Ldn. Construction activities, which are typically noisier than the State DOH noise limits, are regulated through the issuance of permits for allowing excessive construction noise during limited time periods.

CHAPTER IV. GENERAL STUDY METHODOLOGY

Existing traffic and background ambient noise levels were measured at 5 ground level locations (A, B, C, D, and E) to provide a basis for describing the existing noise environment in the project environs. The locations of the measurement sites are shown in FIGURE 1. The traffic and background ambient noise measurements were performed during the month of July 2002, and those results are summarized in TABLE 2. The results of these measurements plus the results of the traffic noise predictions were used to describe the existing and future noise levels in the project environs.

Traffic noise calculations for the existing conditions as well as noise predictions for CY 2005 were performed using the Federal Highway Administration (FHWA) Traffic Noise Model Version 2.0 (Reference 5). Traffic data entered into the noise prediction model were: roadway and receiver locations; hourly traffic volumes, average vehicle speeds; estimates of traffic mix; and "Pavement" (or hard ground) propagation loss factor. The traffic data and forecasts for the project (Reference 6) were the primary sources of data inputs to the model. APPENDIX C summarizes the AM and PM peak hour traffic volumes for CY 2002 and 2005, which were used to model existing and future traffic noise along the streets surrounding the project site. For existing and future traffic along the streets surrounding the project site, it was assumed that the average noise levels, or Leq(h), during the PM peak traffic hour were approximately 2 dB less than the 24-hour Ldn along those roadways. This assumption was based on the traffic counts from Reference 6 as well as those from References 7 and 8.

Traffic noise calculations for both the existing and future conditions in the project environs were developed for ground level and elevated receptors. Traffic noise levels were also calculated for future conditions with (Build Alternative) and without (No Build Alternative) the proposed project. The forecasted changes in traffic noise levels over existing levels were calculated with and without the project, and noise impact risks evaluated. The relative contributions of non-project and project traffic to the total noise levels were also calculated, and an evaluation of possible traffic noise impacts was made.

Calculations of average exterior and interior noise levels from construction activities were performed for typical naturally ventilated and air conditioned dwellings. Predicted noise levels were compared with existing background ambient noise levels, and the potential for noise impacts was assessed. Potential noise and vibration impacts from pile driving operations were also discussed, and mitigation measures recommended.

TABLE 2 (CONTINUED)

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

	LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
C.	60 FT from the center-line of Kuhio Avenue (7/26/02)	0700 TO 0800	28	562	36	77	66.3	66.5
E.	70 FT from the center-line of Olohana Street (7/26/02)	0539 TO 0802	N/A	N/A	N/A	N/A	60.5	N/A

TABLE 2

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

	LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
A.	50 FT from the center-line of Olohana Street (7/23/02)	1055 TO 1214	35	103	6	4	60.2	60.4
B.	50 FT from the center-line of Kalaimoku Street (7/24/02)	1345 TO 1448	25	264	6	3	59.4	59.3
C.	60 FT from the center-line of Kuhio Avenue (7/25/02)	1629 TO 1732	28	1,205	19	55	66.4	66.3
D.	50 FT from the center-line of Ala Wai Boulevard (7/24/02)	1601 TO 1704	30	2,363	42	19	70.5	70.3
C.	60 FT from the center-line of Kuhio Avenue (7/26/02)	0600 TO 0700	28	457	30	55	65.9	65.2

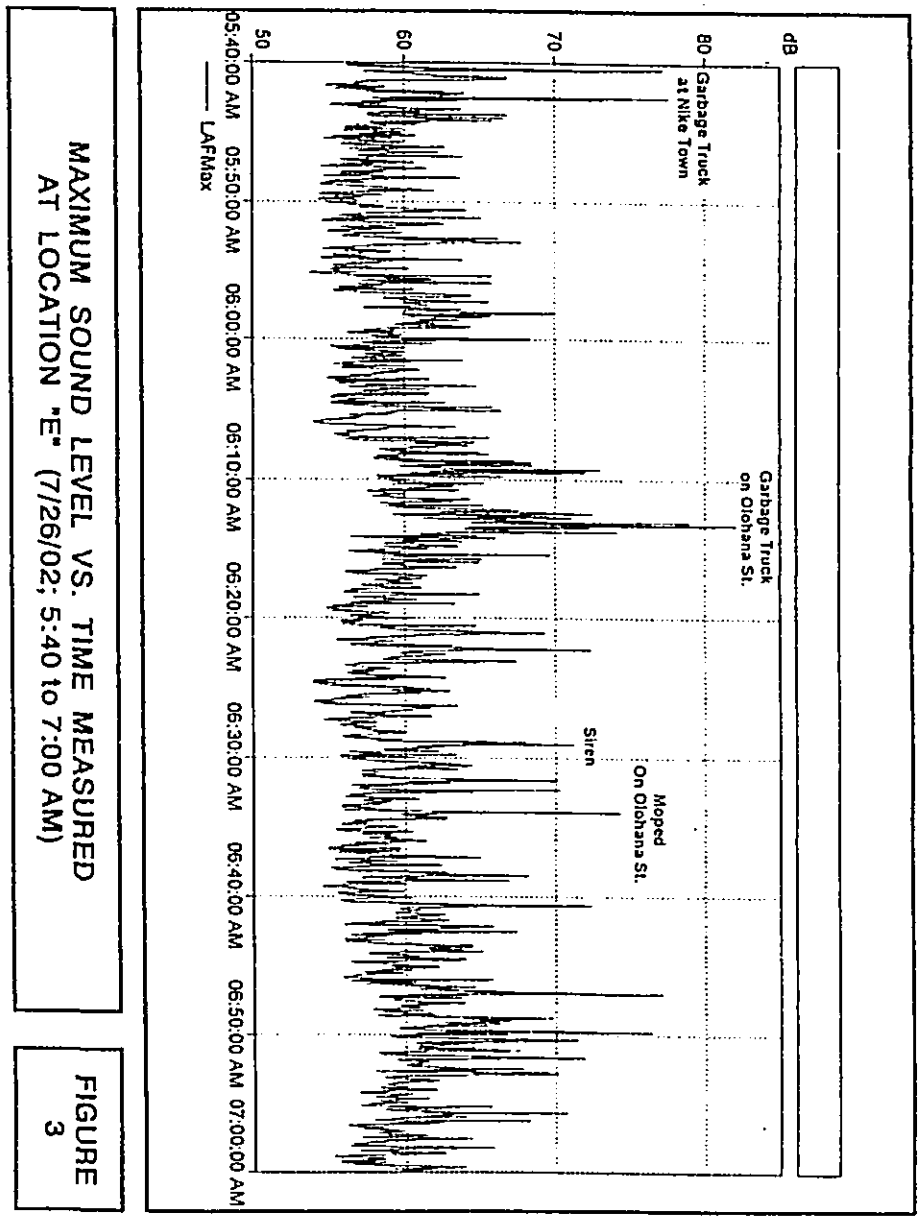
V. EXISTING ACOUSTICAL ENVIRONMENT

Major contributors to the existing background ambient noise levels within the project area are: traffic along Ala Wai Boulevard and Kuhio Avenue; refuse collection trucks; tour buses and delivery trucks which are idling or positioning at curbside; loud motorcycles; the sirens of emergency and police vehicles; and nearby construction activities. Sample strip charts of the louder noise events which were recorded at noise measurement Location E during the early morning period before 7:00 AM are shown in FIGURE 3. These louder noise events can range from 75 to 90 dBA, and are clearly audible above the other background ambient noise sources.

The typical hourly variations in noise levels within the project area are controlled by motor vehicle traffic along two high volume roadways: Ala Wai Boulevard and Kuhio Avenue. Traffic noise levels tend to be lowest during the early morning hours between 3:00 and 5:00 AM, and tend to be highest during the AM and PM peak commuting hours. The estimated variations in average hourly noise levels along Ala Wai Boulevard and Kuhio Avenue are shown in FIGURES 4 and 5, respectively, which were developed using available traffic counts from References 7 and 8.

The existing PM peak hour traffic volumes and their noise contributions at 50, 100, and 200 feet setback distances from the centerlines of the roadways servicing the project are shown in APPENDIX C and TABLE 3. The corresponding setback distances from the roadways' centerlines to their corresponding 65, 70, and 75 Ldn traffic noise contours for ground level receptors are shown in TABLE 4. Based on the results shown in TABLES 3 and 4, as well as the measured sound levels at the various locations, it was concluded that existing background noise levels in the project environs currently exceed 65 Ldn at essentially all buildings which front Ala Wai Boulevard and Kuhio Avenue. In addition, at the upper floors of buildings which front the lower volume streets such as Kalaimoku Street and Olohana Street, distant traffic noise plus the other non-traffic noise sources in the area can cause ambient noise levels to exceed 65 Ldn. At those receptor locations which front Ala Wai Boulevard, existing background ambient noise levels exceed 65 Ldn, and are approaching 70 Ldn.

At receptor locations such as Location E, which are partially shielded from traffic noise, existing background ambient noise levels can be lower due to the noise shielding effects of the buildings. Noise reductions of 5 to 20 dBA can be expected from these noise shielding effects. Calculations of existing traffic noise levels at various receptor locations in the project environs and which accounted for the noise shielding effects from the existing low-rise, mid-rise, and high-rise buildings were performed using the FHWA model. The results of these calculations are shown in TABLE 5. The receptor locations where the calculations were performed are shown in FIGURE 6. As indicated in TABLE 5, those receptor locations in the Twin Towers and La Casa, which have direct lines-of-sight to Ala Wai Boulevard or Kuhio Avenue, are currently experiencing traffic noise levels which range between 65 to 70 Ldn. At the site of the proposed

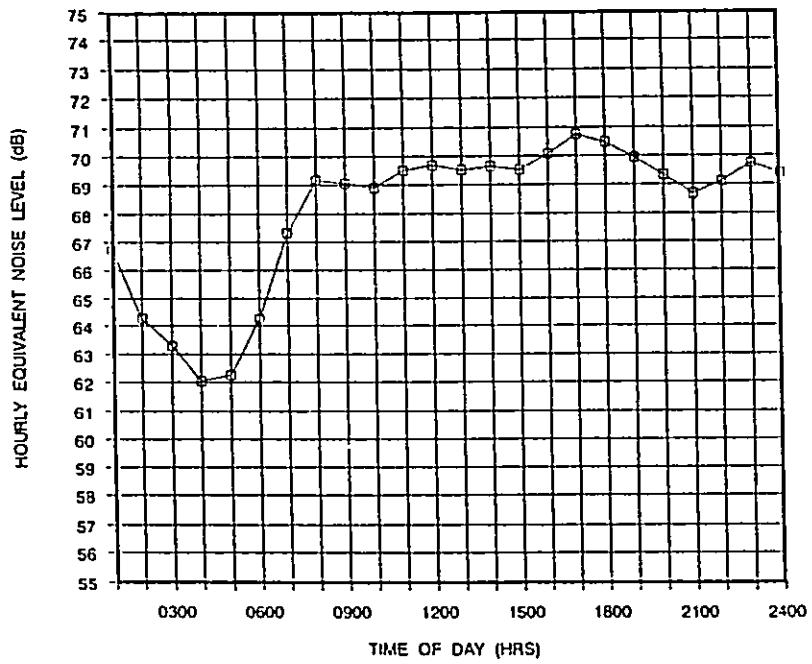


MAXIMUM SOUND LEVEL VS. TIME MEASURED AT LOCATION "E" (7/26/02; 5:40 to 7:00 AM)

FIGURE 3

FIGURE 4

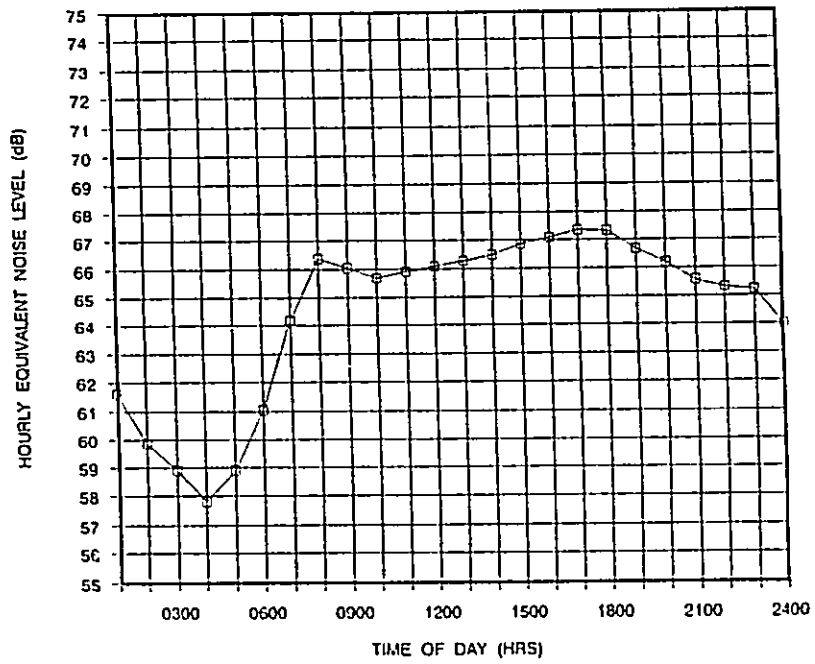
ESTIMATED HOURLY VARIATIONS OF TRAFFIC NOISE
AT 50 FOOT SETBACK DISTANCE FROM THE CENTERLINE
OF ALA WAI BOULEVARD
(AUGUST 9, 2001)



O 73.4 Ldn at 50 FT Setback Distance

FIGURE 5

ESTIMATED HOURLY VARIATIONS OF TRAFFIC NOISE
AT 50 FOOT SETBACK DISTANCE FROM THE CENTERLINE
OF KUHIO AVENUE
(AUGUST 20, 2001)



O 69.4 Ldn at 50 FT Setback Distance

TABLE 4

EXISTING AND CY 2005 DISTANCES TO 65, 70, AND 75 LDN CONTOURS

STREET SECTION	65 Ldn SETBACK (FT) EXISTING	65 Ldn SETBACK (FT) CY 2005	70 Ldn SETBACK (FT) EXISTING	70 Ldn SETBACK (FT) CY 2005	75 Ldn SETBACK (FT) EXISTING	75 Ldn SETBACK (FT) CY 2005
Ala Wai Blvd. - East of Kalaimoku (WB)	228	243	81	87	29	31
Ala Wai Blvd. - Fronting Project (WB)	264	293	92	102	32	36
Ala Wai Blvd. - West of Olohana (WB)	248	275	88	96	32	33
Kuhio Avenue - West of Olohana	107	122	35	41	<24	<24
Kuhio Avenue - Fronting Project	120	140	39	45	<24	<24
Kuhio Avenue - East of Kalaimoku	122	152	41	50	<24	<24
Kalaimoku St. - South of Kuhio (NB)	23	33	<24	<24	<24	<24
Kalaimoku St. - East of Project (NB)	25	33	<24	<24	<24	<24
Olohana St. - West of Project (SB)	33	46	<24	<24	<24	<24
Olohana St. - South of Kuhio (SB)	70	79	22	24	<24	<24

Notes:

(1) All setback distances are from the roadways' centerlines.
(2) See Tables 3 and 6 for traffic volume, speed, and mix assumptions.
(3) Setback distances are for ground level receptors with unobstructed fields-of-view.
(4) "Pavement" or hard ground conditions assumed along all roadways.

TABLE 3

EXISTING (CY 2002) TRAFFIC VOLUMES AND NOISE LEVELS ALONG ROADWAYS IN PROJECT AREA (PM PEAK HOUR)

LOCATION	SPEED (MPH)	TOTAL VPH	••••••• VOLUMES (VPH) ••••••• AUTOS	M TRUCKS	H TRUCKS	50' Leq	100' Leq	200' Leq
Ala Wai Blvd. - East of Kalaimoku (WB)	30	2,249	2,193	34	22	70.1	67.0	63.6
Ala Wai Blvd. - Fronting Project (WB)	30	2,582	2,517	39	26	70.7	67.6	64.3
Ala Wai Blvd. - West of Olohana (WB)	30	2,455	2,393	37	25	70.5	67.4	64.0
Kuhio Avenue - West of Olohana	28	1,061	997	16	48	66.4	63.3	59.9
Kuhio Avenue - Fronting Project	28	1,190	1,118	18	54	66.9	63.8	60.4
Kuhio Avenue - East of Kalaimoku	28	1,230	1,157	18	55	67.1	63.9	60.5
Kalaimoku St. - South of Kuhio (NB)	25	311	302	6	3	59.7	56.8	53.6
Kalaimoku St. - East of Project (NB)	25	333	323	7	3	60.0	57.1	53.9
Olohana St. - West of Project (SB)	35	127	114	8	5	61.2	58.3	54.9
Olohana St. - South of Kuhio (SB)	35	268	241	16	11	64.4	61.5	58.2

Notes:

1. Traffic noise levels calculated for ground level receptors.
2. Hard ground and unobstructed field-of-view conditions assumed.

TABLE 5

EXISTING AND FUTURE TRAFFIC NOISE LEVELS
(NO BUILD AND BUILD ALTERNATIVES)

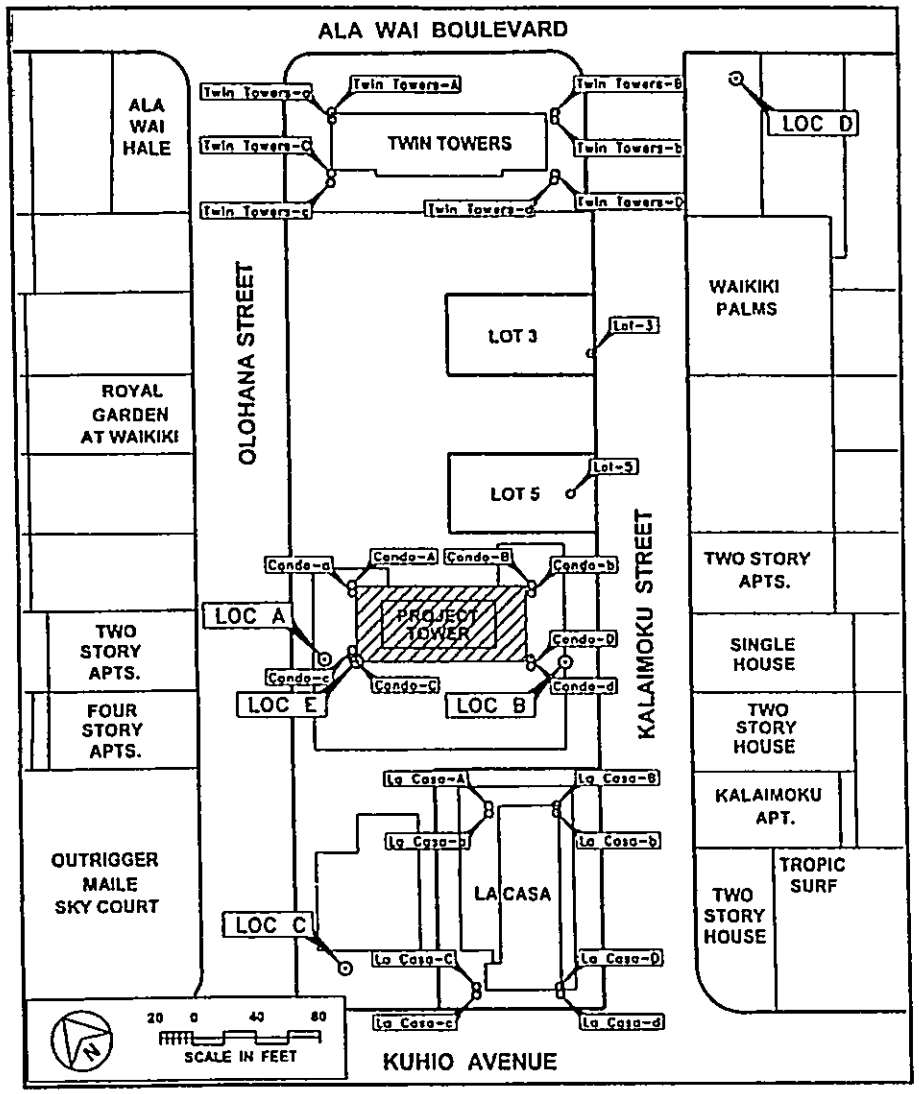
RECEPTOR LOCATION	SETBACK DIST. FROM ROADWAY C.L.	RECEPTOR ELEVATION	EXISTING (CY 2002) Ldn	FUTURE (CY 2005) LEVELS NO BUILD Ldn	FUTURE (CY 2005) LEVELS BUILD Ldn
Location A	50 FT from the Centerline of Olohana Street	0 and 40 FT*	64.9	65.2	58.6
Location B	50 FT from the Centerline of Kalaimoku Street	0 and 40 FT*	64.0	64.6	64.6
Location C	60 FT from the Centerline of Kuhio Avenue	Ground Level	69.0	69.5	69.5
Location D	50 FT from the Centerline of Ala Wai Boulevard	Ground Level	71.9	72.1	72.3
Location E	70 FT from the Centerline of Olohana Street	0 and 40 FT*	64.1	64.4	54.1
Lot 3	33 FT from the Centerline of Kalaimoku Street	Ground Level	65.3	65.9	66.3
Lot 5	48 FT from the Centerline of Kalaimoku Street	Ground Level	63.5	64.1	64.5
Twin Towers-A	72 FT from the Centerline of Ala Wai Boulevard	40 FT Above Ground	60.9	61.2	61.5
Twin Towers-B	59 FT from the Centerline of Kalaimoku Street	40 FT Above Ground	66.9	67.2	67.5
Twin Towers-C	59 FT from the Centerline of Olohana Street	40 FT Above Ground	61.5	61.2	61.4
Twin Towers-D	59 FT from the Centerline of Kalaimoku Street	40 FT Above Ground	65.9	66.2	66.5
Twin Towers-a	72 FT from the Centerline of Ala Wai Boulevard	75 FT Above Ground	67.7	67.9	68.4
Twin Towers-b	59 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	68.0	68.3	68.5
Twin Towers-c	59 FT from the Centerline of Olohana Street	75 FT Above Ground	66.0	66.4	67.0
Twin Towers-d	59 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	66.1	66.5	66.7

TABLE 5 (CONTINUED)

EXISTING AND FUTURE TRAFFIC NOISE LEVELS
(NO BUILD AND BUILD ALTERNATIVES)

RECEPTOR LOCATION	SETBACK DIST. FROM EXIST. C/L	RECEPTOR ELEVATION	EXISTING (CY 2002) Ldn	FUTURE (CY 2005) LEVELS NO BUILD Ldn	FUTURE (CY 2005) LEVELS BUILD Ldn
Condo-A	50 FT from the Centerline of Olohana Street	0 and 40 FT*	63.4	63.6	59.5
Condo-B	50 FT from the Centerline of Kalaimoku Street	0 and 40 FT*	62.9	63.4	60.1
Condo-C	60 FT from the Centerline of Kuhio Avenue	0 and 40 FT*	64.1	64.4	54.3
Condo-D	50 FT from the Centerline of Ala Wai Boulevard	0 and 40 FT*	63.2	63.8	57.6
Condo-a	70 FT from the Centerline of Olohana Street	75 FT Above Ground	64.1	64.5	63.9
Condo-b	33 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	64.3	64.8	64.0
Condo-c	48 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	64.4	64.7	64.3
Condo-d	48 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	64.3	64.8	64.2
La Casa-A	50 FT from the Centerline of Olohana Street	40 FT Above Ground	59.3	59.7	55.7
La Casa-B	39 FT from the Centerline of Kalaimoku Street	40 FT Above Ground	63.8	64.5	64.4
La Casa-C	45 FT from the Centerline of Kuhio Avenue	40 FT Above Ground	68.3	68.9	68.9
La Casa-D	39 FT from the Centerline of Kalaimoku Street	40 FT Above Ground	68.7	69.5	69.5
La Casa-a	70 FT from the Centerline of Olohana Street	75 FT Above Ground	62.0	62.5	61.6
La Casa-b	39 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	64.1	64.9	65.2
La Casa-c	45 FT from the Centerline of Kuhio Avenue	75 FT Above Ground	69.5	70.2	70.2
La Casa-d	39 FT from the Centerline of Kalaimoku Street	75 FT Above Ground	69.7	70.5	70.6

* Ground Level for Existing and No Build Conditions, and 40 feet above ground for Build Condition.



LOCATIONS OF NOISE SENSITIVE RECEPTORS WHERE TRAFFIC NOISE LEVELS WERE MODELED FOR EXISTING AND FUTURE CONDITIONS

FIGURE 6

project's residential tower building, existing traffic noise levels at ground level and at 75 foot above ground level are currently less than 65 Ldn, so the proposed residential tower site is in the "Moderate Exposure, Acceptable" noise exposure category.

Aircraft noise levels at the project site do not exceed 60 Ldn, which is the level above which the Hawaii State Department of Transportation, Airports Division, considers to be unacceptable for residences. The most recently published airport noise contours for Honolulu International Airport indicate that the project site is located beyond (or outside) the 55 Ldn contour for the Year 2007. Therefore, special noise mitigation measures for aircraft noise should not be required.

CHAPTER VI. FUTURE NOISE ENVIRONMENT

Predictions of future traffic noise levels were made using the traffic volume assignments of Reference 6 for CY 2005 with and without the proposed project. The future projections of non-project and project traffic volumes for the No Build and Build Alternatives are shown in APPENDIX C.

TABLE 6 contains the CY 2005 traffic volumes and noise levels at 50, 100, and 200 feet from the roadways' centerlines for the Build Alternative during the PM peak hour. TABLE 4 contains the setback distances to the 65, 70, and 75 Ldn contours for CY 2005 under the Build Alternative. Future average vehicle speeds and traffic mixes along all roadways were assumed to be identical to those used for CY 2002 (see TABLE 3).

In CY 2005, the dominant traffic noise sources in the project area will continue to be traffic noise from Ala Wai Boulevard and Kuhio Avenue. This situation will continue to occur with or without the proposed project. Traffic noise levels along Kalaimoku Street and Olohana Street between Kuhio Avenue and Ala Wai Boulevard will remain relatively low (between 60 Ldn to 65 Ldn) with or without the proposed project.

Calculations of future traffic noise levels (with and without the project) at various receptor locations in the project environs were performed as shown in TABLE 5. The receptor locations where the calculations were performed are shown in FIGURE 6. As indicated in TABLE 5, those receptor locations in the Twin Towers and La Casa which have direct lines-of-sight to Ala Wai Boulevard or Kuhio Avenue will experience traffic noise levels which range between 65 to 71 Ldn. At the site of the proposed project's residential tower, CY 2005 traffic noise levels will remain below 65 Ldn.

TABLE 7 presents the predicted increases in future traffic noise levels associated with non-project and project related traffic by CY 2005. Except for the 1.4 dB (or Ldn) increase in traffic noise along Olohana Street attributable to project traffic, the predicted increases in traffic noise from project traffic should be less than 0.5 dB. Along Olohana Street west of the project site, future traffic noise levels should remain below 65 Ldn at the 50-foot setback distance from the roadway's centerline. The increases in future traffic noise levels resulting from project traffic are not significant, and will be difficult to measure or perceive. For these reasons, traffic noise mitigation measures should not be required.

Aircraft noise levels over the project site should not change significantly between CY 2002 and 2007, and should remain at or near the current levels and below 55 and 60 Ldn. Aircraft noise mitigation measures should not be required.

TABLE 6

FUTURE (CY 2005) TRAFFIC VOLUMES AND NOISE LEVELS
ALONG ROADWAYS IN PROJECT AREA
(PM PEAK HOUR, BUILD)

LOCATION	SPEED (MPH)	TOTAL VPH	------- VOLUMES (VPH) -------- AUTOS	M.TRUCKS	H.TRUCKS	50' Leg	100' Leg	200' Leg
Ala Wai Blvd. - East of Kalaimoku (WB)	30	2,446	2,385	37	24	70.5	67.3	64.0
Ala Wai Blvd. - Fronting Project (WB)	30	2,933	2,860	44	29	71.2	68.1	64.8
Ala Wai Blvd. - West of Olohana (WB)	30	2,708	2,640	41	27	70.9	67.8	64.5
Kuhio Avenue - West of Olohana	28	1,250	1,175	19	56	67.1	63.9	60.6
Kuhio Avenue - Fronting Project	28	1,417	1,332	21	64	67.6	64.5	61.1
Kuhio Avenue - East of Kalaimoku	28	1,550	1,457	23	70	68.1	64.9	61.5
Kalaimoku St. - South of Kuhio (NB)	25	437	424	9	4	61.2	58.3	55.1
Kalaimoku St. - East of Project (NB)	25	439	426	9	4	61.2	58.3	55.1
Olohana St. - West of Project (SB)	35	181	163	11	7	62.6	59.7	56.4
Olohana St. - South of Kuhio (SB)	35	302	272	18	12	64.9	62.0	58.7

Notes:

1. Traffic noise levels calculated for ground level receptors.
2. Hard ground and unobstructed field-of-view conditions assumed.

TABLE 7

CALCULATIONS OF PROJECT AND NON-PROJECT TRAFFIC NOISE CONTRIBUTIONS (CY 2005) (PM PEAK HOUR)

STREET SECTION	NOISE LEVEL INCREASE (IN DB) DUE TO: NON-PROJECT TRAFFIC	PROJECT TRAFFIC
Ala Wai Blvd. - East of Kalaimoku (WB)	0.2	0.1
Ala Wai Blvd. - Fronting Project (WB)	0.2	0.3
Ala Wai Blvd. - West of Olohana (WB)	0.2	0.2
Kuhio Avenue - West of Olohana	0.6	0.0
Kuhio Avenue - Fronting Project	0.7	0.0
Kuhio Avenue - East of Kalaimoku	1.0	0.0
Kalaimoku St. - South of Kuhio (NB)	1.5	0.0
Kalaimoku St. - East of Project (NB)	0.8	0.4
Olohana St. - West of Project (SB)	0.0	1.4
Olohana St. - South of Kuhio (SB)	0.5	0.0

CHAPTER VII. DISCUSSION OF PROJECT-RELATED NOISE IMPACTS AND POSSIBLE MITIGATION MEASURES

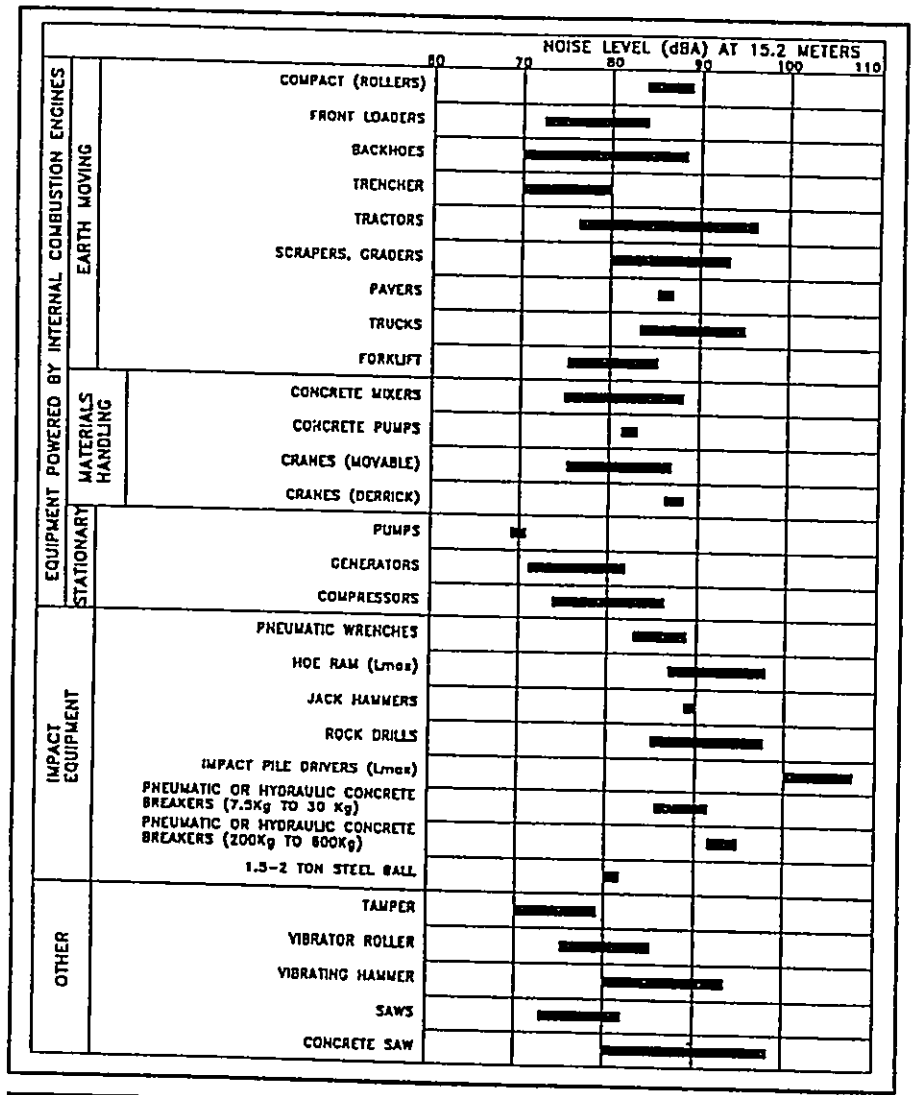
Traffic Noise. Because of the relatively small increases in traffic noise attributable to project related traffic, the proposed project is not expected to generate adverse noise impacts. Special traffic noise mitigation measures should not be required. Potential noise impacts from tire squeal within the project's parking structure should be minimized through the use of coarse finishes for the circulation driveway surfaces within the parking structure.

General Construction Noise. Audible construction noise will probably be unavoidable during the entire project construction period. The total time period for construction of the project is anticipated to be 18 months. It is expected that actual construction work will be moving from one location on the project site to another during that period. Actual length of exposure to construction noise at any receptor location will probably be less than the total construction period for the entire project. FIGURE 7 depicts the range of noise levels of various types of construction equipment when measured at 50 FT distance from the equipment.

Typical levels of exterior noise from construction activity (excluding pile driving activity) at various distances from the job sites are shown in FIGURE 8. The impulsive noise levels of impact pile drivers are approximately 15 dB higher than the levels shown in FIGURE 8, while the intermittent noise levels of vibratory pile drivers are at the upper end of the noise level ranges depicted in the figure.

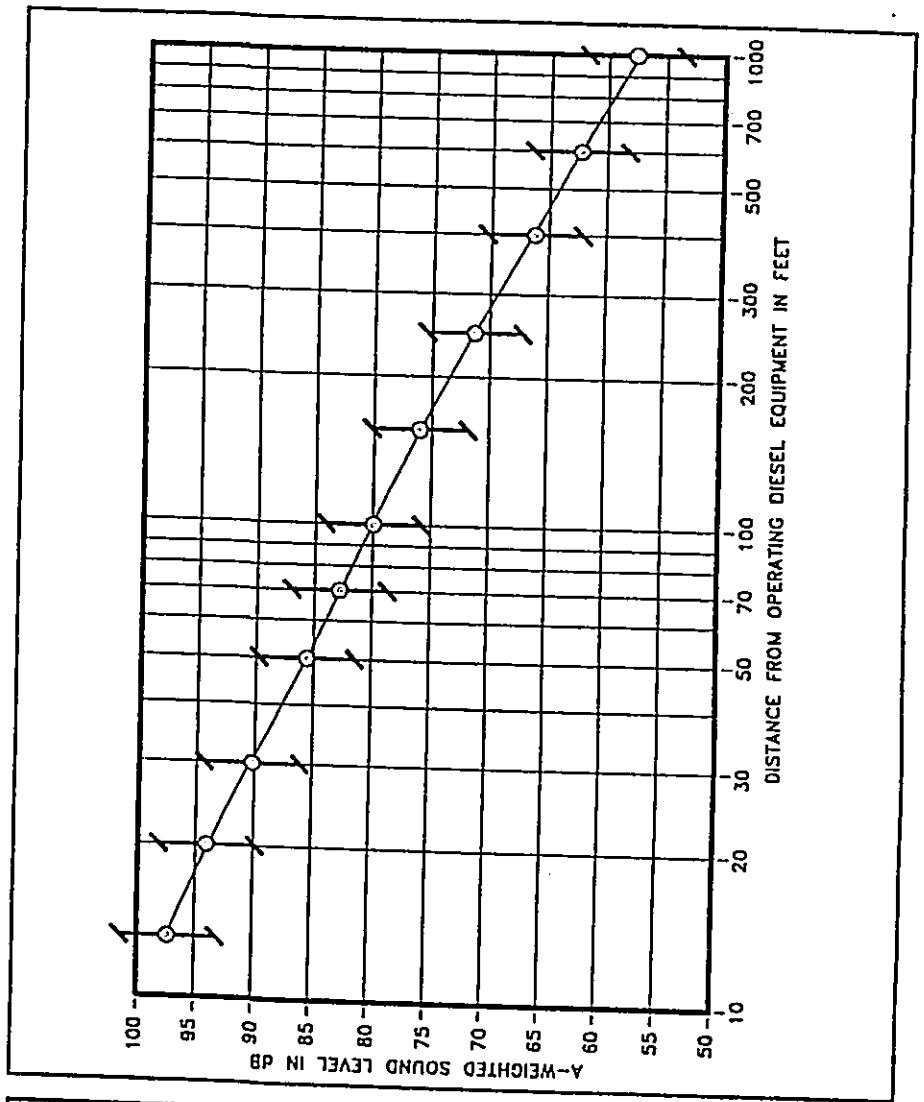
FIGURE 8 is useful for predicting exterior noise levels at short distances (within 100 FT) from the work when visual line of sight exists between the construction equipment and the receptor. Direct line-of-sight distances from the construction equipment to existing resort, single family, apartment, and commercial buildings will range from 10 FT to 600+ FT, with corresponding average noise levels of 100 to 62 dBA (plus or minus 5 dBA). For receptors along a cross-street, the construction noise level vs. distance curve of FIGURE 8 should be reduced by approximately 8 dBA when the work is occurring at the intersection with the cross street, and should be reduced by 15 dBA when work is occurring at least 100 FT from the intersection (and the visual line-of-sight is blocked by intervening buildings). Typical levels of construction noise inside naturally ventilated and air conditioned structures are approximately 10 and 20 dB less, respectively, than the levels shown in FIGURE 8.

The single family residential building (Lot 5 in FIGURE 1) northeast of the project's residential tower building, and the La Casa units southeast of the proposed residential tower building are predicted to experience the highest noise levels during construction activities due to their close proximity to the construction sites. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work, and due to the administrative controls available for regulation of construction noise. Instead, these im-



RANGES OF HEAVY EQUIPMENT NOISE LEVELS

FIGURE 7



ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE

FIGURE 8

pacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the project site.

Mitigation of construction noise to inaudible levels will not be practical in all cases due to the intensity of construction noise sources (80 to 90+ dB at 50 FT distance), and due to the exterior nature of the work (excavation, grading, trenching, concrete pouring, hammering, etc.). The use of properly muffled construction equipment should be required on the job site.

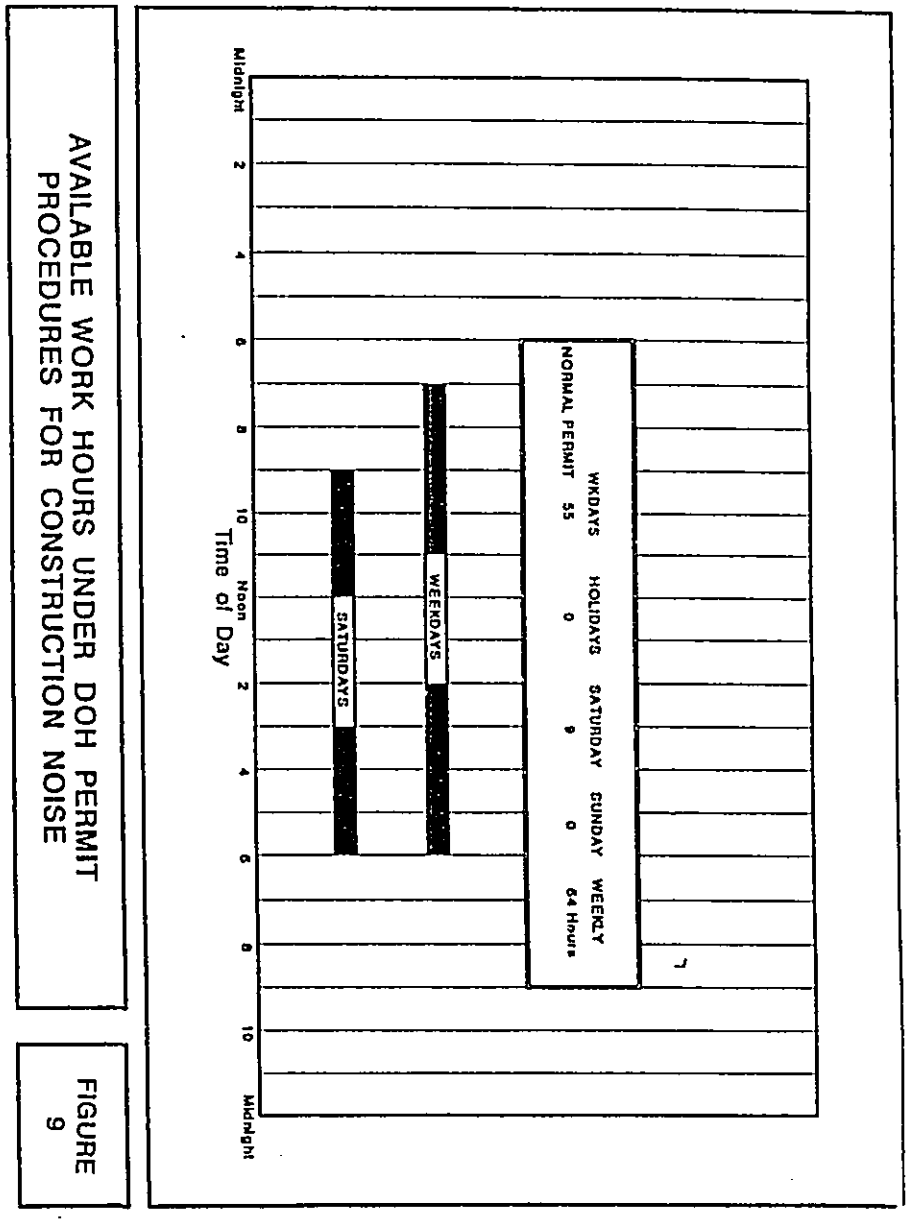
Severe noise impacts are not expected to occur inside air conditioned structures which are beyond 70 to 450 FT from the project construction sites. Inside naturally ventilated structures, interior noise levels (with windows or doors opened) are estimated to range between 73 to 55 dBA at 70 FT to 450 FT distances from the construction site. Closure of all doors and windows facing the construction site would generally reduce interior noise levels by an additional 5 to 10 dBA.

The incorporation of State Department of Health construction noise limits and curfew times, which are applicable throughout the State of Hawaii (Reference 4), is another noise mitigation measure which is normally applied to construction activities. FIGURE 9 depicts the normally permitted hours of construction. Noisy construction activities are not allowed on Sundays and holidays, during the early morning, and during the late evening and nighttime periods under the DOH permit procedures.

Vibration from Pile Driving. Pile driving will probably be necessary to implant piles into the ground in the new construction areas. Impact driven concrete and sheet piles may both be used on the project site. Induced ground vibrations from the pile driving operations have the potential to cause architectural and structural damage to structures.

Ground vibrations generated during pile driving operations are generally described in terms of peak particle (or ground) velocity in units of inches/second. The human being is very sensitive to ground vibrations, which are perceptible at relatively low particle velocities of 0.01 to 0.04 inches/second. Damage to structures, however, occur at much higher levels of vibration as indicated in TABLE 8. The most commonly used damage criteria for structures is the 2.0 inches/second limit derived from work by the U.S. Bureau of Mines. A more conservative limit of 0.2 inches/second is also used, and is suggested for planning purposes on this project because of the repetitive nature of pile driving operations which can increase risks of damage due to fatiguing.

Based on measured vibration levels during pile driving operations under various soil conditions and at various distances, estimates of ground vibration levels vs. distance from the pile driver have been made for various soil conditions and for various energy ratings of the pile drivers. FIGURE 10, which was extracted from Reference 9, may be used to predict vibration levels for the soil conditions indicated. When coral layers must be penetrated, vibration levels can be expected to be higher than those



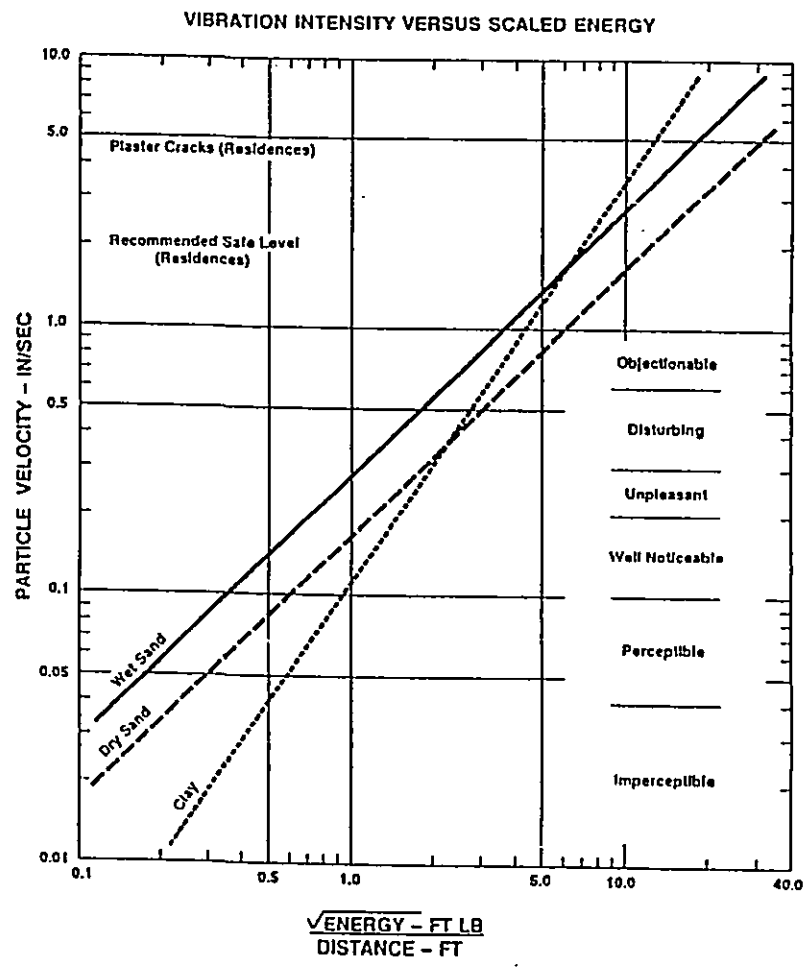
AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE

FIGURE 9

TABLE 8
SUMMARY OF BUILDING DAMAGE CRITERIA

PEAK GROUND VELOCITY (mm/sec)	PEAK GROUND VELOCITY (in/sec)	COMMENT
193.04	7.6	Major damage to buildings (mean of data).
137.72	5.4	Minor damage to buildings (mean of data).
101.16	4.0	'Engineer structures' safe from damage.
50.8	2.0	Safe from damage limit (probability of damage <5%).
		No structural damage.
33.02	1.3	Threshold of risk of 'architectural' damage for houses.
25.4	1.0	No data showing damage to structures for vibration <1 in./sec.
15.24	0.6	No risk of 'architectural' damage to normal buildings.
10.16	0.4	Threshold of damage in older homes.
5.08	0.2	Statistically significant percentage of structures may experience minor damage (including earthquake, nuclear event, and blast data for old and new structures).
		No 'architectural' damage.
3.81	0.5 to 0.15	Upper limits for ruins and ancient monuments.
1.0	0.04	Vertical vibration clearly perceptible to humans.
0.32	0.01	Vertical vibration just perceptible to humans.

Source: 'State-of-the-Art Review: Prediction and Control of Groundborne Noise and Vibration from Rail Transit Trains'; U.S. Department of Transportation; December 1983.



MINIMUM VIBRATION INTENSITIES EXPECTED FROM PILE DRIVING

FIGURE 10

shown in FIGURE 10, particularly if the adjacent structures are supported by the common coral layer. From FIGURE 10, and for wet sand soil conditions, the 0.2 inches/second vibration damage criteria will be exceeded at a scaled energy distance factor of approximately 0.7. The scaled energy distance factor is equal to the square root of the energy (in foot-pounds) per blow of the hammer divided by the distance (in feet) between the pile tip and the monitoring location. For a 2,500 foot-pound small pile driver, a scaled energy distance of 0.7 equates to a required separation distance of 71 FT. Under clay soil conditions, and using the prediction procedures contained in FIGURE 10, a shorter separation distance of 47 FT is required to not exceed the 0.2 inches/second criteria when using a 2,500 foot-pound pile driver. It should be noted that 0.2 inches/second vibration levels were measured from a much larger 22,400 foot-pound pile driver at even shorter separation distances of approximately 30 FT in sandy, layered soil (Reference 10). The measurement data reported in Reference 10 are significantly lower than the vibration levels predicted by the methodology of Reference 9.

As indicated above, predictions of peak ground vibration levels vs. scaled energy distance factor from the driven pile are not precise, with initial uncertainty factor for a given location in the order of 10:1. For this reason, it is standard practice to employ seismograph monitoring of ground vibrations during pile driving operations with a 3-axis geophone or accelerometer. If pile drivers of approximately 2,500 foot-pounds or smaller ratings are anticipated to be used on the job site, the initial vibration predictions indicate that there is some risk of exceeding the 0.2 inches/second vibration damage criteria at 47 to 71 FT separation distances, and monitoring during pile driving operations is warranted if pile driving are planned at those distances from any existing structures. The following preventive measures are recommended for implementation during the planning and design phases of the project:

- In addition to the normal planning and design concerns regarding potential damage due to settling and heaving during construction, consideration should also be given to risks of damage due to vibration from pile driving. A damage criteria of 0.2 inches/second should be used in conjunction with the vibration prediction method of Reference 9 to identify the potential damage risk distances to the driven piles.

- If predicted vibration levels from pile driving exceed 0.2 inches/second at a building, and predicted levels cannot be reduced by sizing of the pile driver, test piles should be driven and their vibrations monitored and recorded prior to completion of the foundation design. The monitoring of the test piles should be designed to measure the expected peak, 3-axis vibration levels at the building. The results of the monitoring should be used to define empirical distance from the driven pile to the 0.2 inches/second damage risk location, and to evaluate the risks of structural damage to the adjacent structure during actual construc- tion.

- If predicted vibration levels from pile driving exceed 2.0 inches/second at a building, the use of alternate types of piles or shoring should be considered for implementation during the design phase.

APPENDIX A. REFERENCES

(1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.

(2) "Environmental Criteria and Standards, Noise Abatement and Control, 24 FR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.

(3) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety;" Environmental Protection Agency (EPA 550/9-74-004); March 1974.

(4) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.

(5) "FHWA Traffic Noise Model User's Guide;" FHWA-PD-96-009, DOT-VNTSC-FHWA-98-1, Federal Highway Administration; Washington, D.C.; January 1998 and Version 1.1 Addendum dated September 2000.

(6) Existing and Future AM and PM Peak Hour Traffic Turning Movements for the A & B Condominium Project; Transmittal from Wilson Okamoto & Associates, Inc. dated July 12, 2002.

(7) 24-Hour Traffic Counts At Station SL-52, McCully Street at Ala Wai Canal Bridge; Hawaii State Department of Transportation; August 9-10, 2001.

(8) 24-Hour Traffic Counts At Station SL-51, Kalakaua Avenue at Ala Wai Canal Bridge; Hawaii State Department of Transportation; August 20-21, 2001.

(9) Wiss, John F., Janney, Elstner and Assoc.; "Damage of Pile Driving Vibration;" Highway Research Record, Number 155.

(10) Gutowski, T.G.; Wittig, L.E.; and Dym, C.L.; "Some Aspects of the Ground Vibration Problem;" Noise Control Engineering; May-June 1978.

APPENDIX B

EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "Lepk" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, dBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PNL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

APPENDIX B (CONTINUED)

TABLE I

A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

TERM	SYMBOL
1. A-Weighted Sound Level	L_A
2. A-Weighted Sound Power Level	L_{WA}
3. Maximum A-Weighted Sound Level	L_{max}
4. Peak A-Weighted Sound Level	L_{Apk}
5. Level Exceeded x% of the Time	L_x
6. Equivalent Sound Level	L_{eq}
7. Equivalent Sound Level over Time (T) (1)	$L_{eq(T)}$
8. Day Sound Level	L_d
9. Night Sound Level	L_n
10. Day-Night Sound Level	L_{dn}
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$
12. Sound Exposure Level	L_{SE}

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is $L_{eq(1)}$). Time may be specified in non-quantitative terms (e.g., could be specified a $L_{eq(WASH)}$ to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

APPENDIX B (CONTINUED)

TABLE II

RECOMMENDED DESCRIPTOR LIST

TERM	A-WEIGHTING	ALTERNATIVE(1) A-WEIGHTING	OTHER(2) WEIGHTING	UNWEIGHTED
1. Sound (Pressure)(3) Level	L_A	L_{pA}	L_B, L_{pB}	L_p
2. Sound Power Level	L_{WA}		L_{WB}	L_W
3. Max. Sound Level	L_{max}	L_{Amax}	L_{Bmax}	L_{pmax}
4. Peak Sound (Pressure) Level	L_{Apk}		L_{Bpk}	L_{pk}
5. Level Exceeded x% of the Time	L_x	L_{Ax}	L_{Bx}	L_{px}
6. Equivalent Sound Level	L_{eq}	L_{Aeq}	L_{Beq}	L_{peq}
7. Equivalent Sound Level Over Time(T) (4)	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	L_d	L_{Ad}	L_{Bd}	L_{pd}
9. Night Sound Level	L_n	L_{An}	L_{Bn}	L_{pn}
10. Day-Night Sound Level	L_{dn}	L_{Adn}	L_{Bdn}	L_{pdn}
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12. Sound Exposure Level	L_S	L_{SA}	L_{SB}	L_{Sp}
13. Energy Average Value Over (Non-Time Domain) Set of Observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level Exceeded x% of the Total Set of (Non-Time Domain) Observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average L_x Value	L_x	L_{Ax}	L_{Bx}	L_{px}

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is Leq(1). Time may be specified in non-quantitative terms (e.g., could be specified as Leq(WASH) to mean the washing cycle noise for a washing machine.

APPENDIX C

SUMMARY OF BASE YEAR AND CY 2005
TRAFFIC VOLUMES IN PROJECT ENVIRONS

ROADWAY LANES	**** CY 2002 ***** AM VPH	PM VPH	CY 2005 (NO BUILD) AM VPH	PM VPH	CY 2005 (BUILD) AM VPH	PM VPH
Ala Wai Blvd. - East of Kalaimoku (WB)	2,363	2,249	2,481	2,362	2,512	2,446
One-Way (EB)	2,363	2,249	2,481	2,362	2,512	2,446
Ala Wai Blvd. - Fronting Project (WB)	2,509	2,582	2,631	2,747	2,716	2,933
One-Way (EB)	2,509	2,582	2,631	2,747	2,716	2,933
Ala Wai Blvd. - West of Olohana (WB)	2,373	2,455	2,492	2,622	2,541	2,708
One-Way (EB)	2,373	2,455	2,492	2,622	2,541	2,708
Kuhio Ave. - West of Olohana (WB)	127	214	136	260	136	260
Kuhio Ave. - West of Olohana (EB)	531	847	616	988	617	990
One-Way (EB)	658	1,061	752	1,248	753	1,250
Kuhio Ave. - Fronting Project (WB)	210	349	236	430	236	430
Kuhio Ave. - Fronting Project (EB)	510	841	597	984	599	987
Two-Way	720	1,190	833	1,414	835	1,417
Kuhio Ave. - East of Kalaimoku (WB)	209	380	245	474	245	477
Kuhio Ave. - East of Kalaimoku (EB)	509	850	626	1,072	627	1,073
One-Way (WB)	718	1,230	871	1,546	872	1,550
Kalaimoku St. - South of Kuhio (NB)	146	311	176	428	177	437
One-Way (WB)	146	311	176	428	177	437
Kalaimoku St. - East of Project (NB)	146	333	150	380	178	439
One-Way (EB)	146	333	150	380	178	439
Olohana St. - West of Project (SB)	136	127	138	130	158	181
One-Way (EB)	136	127	138	130	158	181
Olohana St. - South of Kuhio (SB)	240	268	250	299	252	302
Two-Way	240	268	250	299	252	302

Appendix D

Archaeological Reconnaissance Survey

Cultural Surveys Hawaii

August 2002

ARCHAEOLOGICAL INVENTORY SURVEY OF AN APPROXIMATELY 71,000-SQ.FT. PARCEL IN WAIKĪKĪ, WAIKĪKĪ *AHUPUA'A*, KONA DISTRICT, ISLAND OF O'AHU (TMK 2-6-16: 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 75, 76, and 77)

by

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Prepared for

Wilson Okamoto & Associates, Inc.

Cultural Surveys Hawai'i
August 2002

ABSTRACT

Cultural Surveys Hawai'i Inc. conducted an archaeological inventory survey of a roughly 71,000-sq.-ft. project area in Waikīkī, O'ahu (TMK 2-6-16: 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 75, 76, and 77). The project area is bounded by Olohana Street, Kuhio Avenue, Kalaimoku Street, and Ala Wai Boulevard.

The inventory survey was primarily a subsurface survey as the project area had been cleared of buildings prior to survey commencement. Ten backhoe trenches were excavated and documented. A single new state site, # 50-80-14-6407, a subsurface cultural layer(s) was documented. Radiocarbon analysis of recovered charcoal samples yielded a calibrated date range of *ca.* A.D. 1400-1660. The site has the potential to yield additional significant information and it is recommended that limited further data collection occur.

No burials were encountered during the testing. No dry Jaucus sand deposits were encountered during the testing. Burial finds in Waikīkī have almost exclusively been associated with dry Jaucus sand deposits. Based on the wet land type of environment that characterized the project area prior to the 1920's filling and the absence of dry Jaucus sands in any of the 10 trenches, burial finds are unlikely in the project area. If however burials are inadvertently encountered all work should stop and the State Historic Preservation Division / Department of Land and Natural Resources should be notified, in accordance with HRS 6E.

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LIST OF FIGURES

I. INTRODUCTION

Cultural Surveys Hawai'i has conducted an archaeological inventory survey with subsurface testing for Wilson Okamoto & Associates, Inc. The project area is a 71,000 sq. ft. parcel (TMK 2-6-16: 2, 4, 6, 7, 8, 12-19, 62, 64, 70, 75, 76, and 77) in Waikīkī *Ahupua'a*, Kona District, O'ahu Island, Hawai'i (Figures 1 & 2). The land owner is A & B Properties, Inc.

A. Project Background

Prior to the inventory survey the parcel had been cleared, which included demolition of existing structures and removal of most existing landscaping.

Previous archaeological research in Waikīkī has documented intact Native Hawaiian pre-contact and early contact historic cultural deposits lying undisturbed beneath modern fill layers. Prior to land-reclamation projects in the early 20th century, the project area is identified as a wetland lagoonal environment. It is located *mauka* of an extensive network of fishponds that once covered the present Fort DeRussy grounds (Hammatt and Chiogioji 1998:25-26). An historic map—a portion of U.S. Army Engineers map, based on military surveys from 1909 to 1913—identifies an associated pond within the project area.

Based on these factors the State Historic Preservation Division, Department of Land and Natural Resources (SHPD/DLNR) required an inventory survey, the results of which will be reviewed by SHPD/DLNR.

B. Project Area Description and Environment

The project area encompasses 71,000 sq. ft. of land in the contemporary environs of Waikīkī. The project area is situated in the block bounded by Kalaimoku Street, Olohana Street, Kuhio Avenue, and Ala Wai Boulevard. The project area is roughly rectangular shaped with two houselot exclusions along Kalaimoku Street, each containing a standing structure.

In the late Pleistocene/early Holocene, the Waikīkī area was characterized by an expansive delta drainage system which flowed from the Ko'olau Mountains to the sea (Ferrall 1976:plate II). Ferrall identifies an ancient stream—the *ancient* Manoa Stream channel—as draining through an adjoining channel which flowed through the east and southeast sides of the project area. He postulates that this major channel flow was filled and cut-off by the Sugarloaf eruptions during the interglacial advance to the present sea-level, at which time the Manoa Stream was rerouted to the east, joining the Palolo Stream and draining through a channel further to the southeast. Following this event, the modern reef formed a barrier off-shore creating a lagoon behind it. When the ocean reached the present sea-level, the area filled with both marine and terrigenous sediment deposits, and the area became a lagoonal marshy wetland.

The plain of Waikīkī is flat and, generally, less than 4.5 m (15 ft) above sea level (Davis 1989:5). Soils in the area are described solely as fill lands (FL)(Foote *et al.* 1972:Map 63). Rainfall averages less than 30 in. per year (Armstrong 1983:62). Northeasterly tradewinds prevail throughout the year, although their frequency varies from more than 90% during the summer months to 50% in January; the average annual wind velocity is approximately 10 miles

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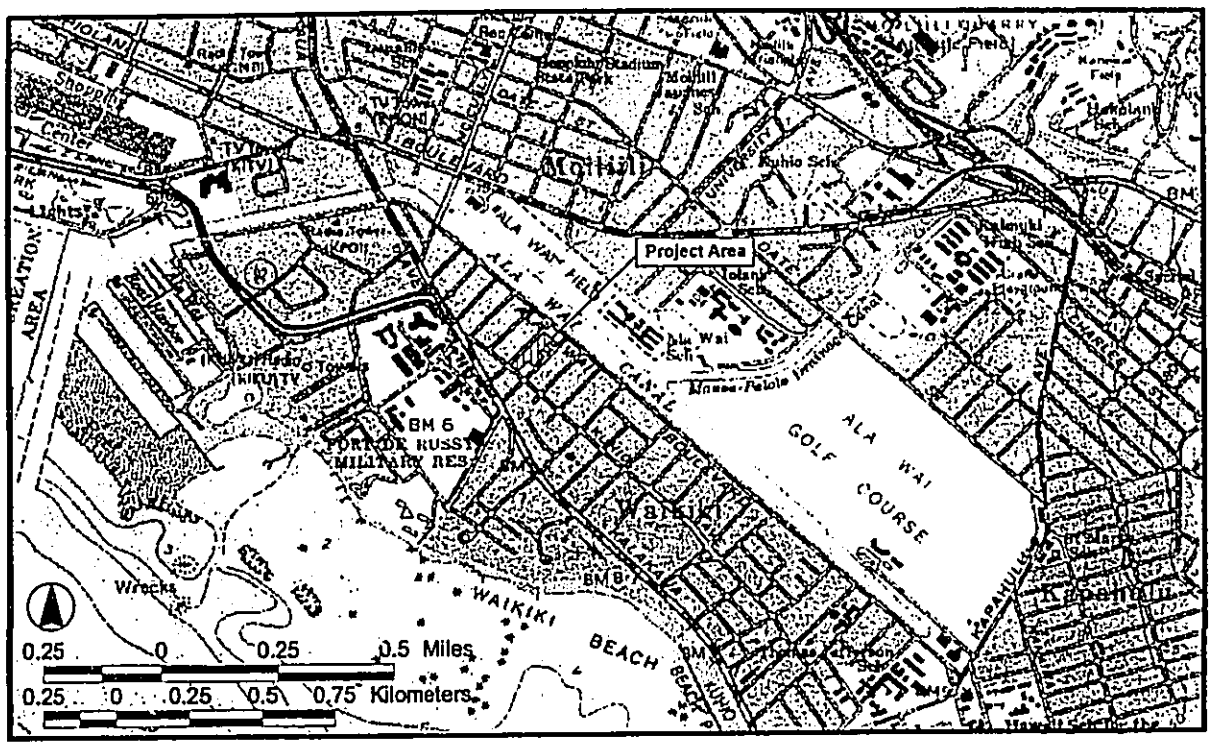

Figure 1 Portion of USGS 7.5 Minute Series Topographic Map, Honolulu Quad, showing project area

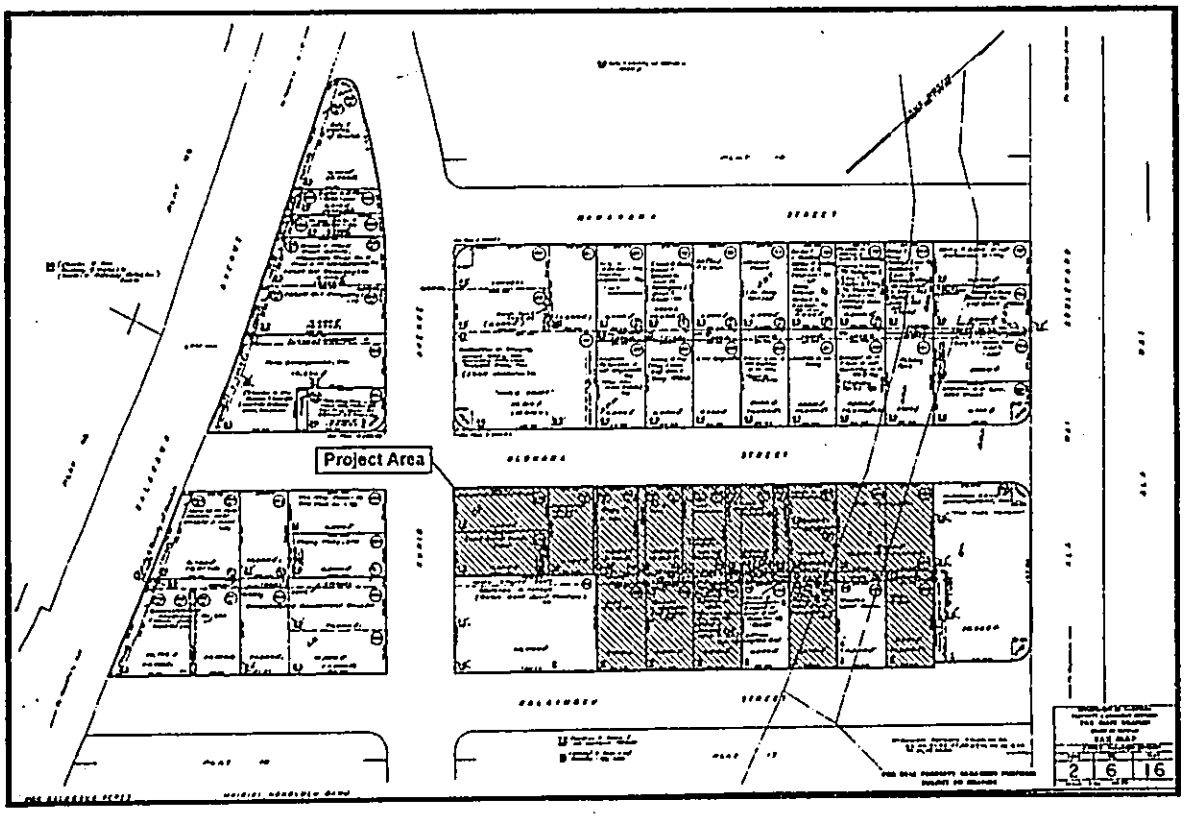

Figure 2 Tax map (2-6-16) showing project area

per hour (Okamoto 1998:2-1). Currently, vegetation in the project area includes: banyan, palm, brassaia, coconut, plumeria, date palm, monkeypod, opiuma trees and a variety of grasses.

C. Scope of Work

The following archaeological inventory survey scope of work was designed to meet and comply with State and County requirements:

1. Conduct a complete ground survey of the entire project area for the purpose of site inventory. All identified sites would be located, described, and mapped with evaluation of function, interrelationships, and significance. Documentation will include photographs and scale drawings of selected sites and complexes. All sites will be assigned State site numbers.

2. Conduct a limited subsurface testing within the project area with a backhoe to determine if subsurface deposits are located in the project area, and, if so, evaluate their significance. If appropriate samples from these excavations are found, they will be analyzed for chronological information.

3. Research the historic and archaeological background of the project area, including search of historic maps, written records, and Land Commission Award documents. This research will focus on the specific project area with general background on the *ahupua'a* and district, and will emphasize settlement patterns.

4. Prepare a survey report which will include the following:

   a. A topographic map, if available, of the survey area showing all archaeological sites and site areas;
   b. Description of all archaeological sites with selected photographs, scale drawings, and discussions of function;
   c. Historical and archaeological background sections summarizing prehistoric and historic land use as they relate to the archaeological features;
   d. A summary of site categories and their significance in an archaeological and historic context;
   e. Recommendations based on all information generated which will specify what steps should be taken to mitigate impact of development on archaeological resources - such as data recovery (excavation) and preservation of specific areas. These recommendations will be developed in consultation with the client and the State agencies.

This scope of work also includes full coordination with the State Historic Preservation Division (SHPD), and the City and County of Honolulu relating to archaeological matters. This coordination takes place after consent of the owner or representatives.

D. Methodology

Field inspection and subsurface testing of the project area was accomplished in July 2002. Two archaeologists, Douglas F. Borthwick and Anthony Bush of CSH, conducted the fieldwork.

Sub-surface testing consisted of the excavation of 10 backhoe trenches. The trenches were excavated below the water table to the lower natural sand deposits (the gray coarse marine sand stratum) and/or the lower coral stratum. A 70 cm-wide bucket was used on the backhoe, and one bucket width trenches were dug. Trench depth varied between 1.5 and 2.5 m, unless the lower coral stratum was encountered at a higher depth. Trenches were placed to test specific questions identified in the background research, as well as to provide adequate coverage of all portions of the project parcel.

Two archaeologists were on site to conduct sub-surface investigations. Documentation included scale section profiles, sediment descriptions, and photographs of exposed trench sections. Sediment descriptions included:Munsell color designations, texture and sediment size, compactness, structure, inclusions and cultural material present, and lower boundary attributes. Sediment samples were collected, inventoried, and catalogued. Charcoal for radiocarbon analysis was collected from water-screened bulk 2-gallon samples and sent to Beta Analytic Inc.

Background research included a review of previous archaeological studies on file at the State Historic Preservation Division of the Department of Land and Natural Resources; a review of geology and cultural history documents at Hamilton Library of the University of Hawai'i, the Hawai'i State Archives, the Mission Houses Museum Library, the Hawai'i Public Library, and the Archives of the Bishop Museum; study of historic photographs at the Hawai'i State Archives and the Archives of the Bishop Museum; and a study of historic maps at the Survey Office/Department of Accounting and General Services; and research on mid-1800's Land Commission Award documents (Waihona Aina).

The research provided the environmental, cultural, historic, and archaeological background for the project area. The sources studied were used to formulate a predictive model of the expected type and location of sub-surface pre- and post-contact historic properties in the project area.

E. Consultation with SHPD/DLNR Architecture Branch

While the current project area has been completely cleared of all structures, two residential structures are present on two parcels (2-6-16:03, 05) at 442 and 432 Kalaimoku Street, within the same block as the current project area. In "Waikiki Special District Design Guidelines" prepared by the City and County of Honolulu Department of Land Utilization (currently the Department of Planning and Permitting), these structures are included on a list of properties near to or more than 50 years old that "have been identified by the State Department of Land and Natural Resources as having scenic, cultural, historic or architectural significance."

On July 29, 2002 Cultural Surveys Hawai'i consulted with Carol Ogata, architecture branch chief of the State Historic Preservation Division (SHPD)/ Department of Land and Natural Resources concerning the two residential structures. Ms. Ogata noted that, because of their age, the buildings may be eligible for nomination to state and national registers of historic places. The present project and the two structures are all located within the Waikīkī Special District. Impacts of the present project upon the two structures would be subject to review by the architecture branch of the SHPD.

II. WAIKĪKĪ AND THE PROJECT AREA: CULTURAL AND HISTORICAL DOCUMENTATION

This section begins with a review of the available documentary evidence for the general character of the area presently identified as Waikīkī as it had evolved in the years before western contact in the later 18th century. This is followed by a review of development of Waikīkī lands adjacent to and including the present project area during the 19th century and into the early 20th century which is recorded in increasingly detailed documentation – including photographs, maps and government records. Finally, records of subsequent decades of the 20th century are reviewed, including abundant documentation of Waikīkī which allows a more precise focus on the changes within the project area itself up to the 1950's.

A. Pre-contact to Early 1800's

Waikīkī, by the time of the arrival of Europeans in the Hawaiian Islands during the late eighteenth century, had long been a center of population and political power on O'ahu. According to Martha Beckwith (1940), by the end of the fourteenth century Waikīkī had become "the ruling seat of the chiefs of Oahu." The preeminence of Waikīkī continued into the eighteenth century and is betokened by Kamehameha's decision to reside there upon wresting control of O'ahu by defeating the island's chief, Kalanikūpule. The 19th-century Hawaiian historian John Papa 'Ī'ī, himself a member of the *ali'i*, described the king's Waikīkī residence:

> Kamehameha's houses were at Punaliilii, makai of the old road, and extended as far as the west side of the sands of Apuakehau. Within it was Helumoa where Kaahumanu *ma* went to while away the time. The king built a stone house there, enclosed by a fence . . . ('Ī'ī, 1959: 17)

'Ī'ī further noted that the "place had long been a residence of chiefs. It is said that it had been Kekuapoi's home, through her husband Kahahana, since the time of Kahekili" (*Ibid.*).

Chiefly residences, however, were only one element of a complex of features – sustaining a large population – that characterized Waikīkī up to pre-contact times. Beginning in the fifteenth century, a vast system of irrigated taro fields was constructed, extending across the littoral plain from Waikīkī to lower Mānoa and Pālolo valleys. This field system – an impressive feat of engineering the design of which is traditionally attributed to the chief Kalamakua – took advantage of streams descending from Makiki, Mānoa and Pālolo valleys which also provided ample fresh water for the Hawaiians living in the *ahupua'a*. Water was also available from springs in nearby Mō'ili'ili and Punahou. Closer to the Waikīkī shoreline, coconut groves and fishponds dotted the landscape. A sizeable population developed amidst this Hawaiian-engineered abundance. Captain George Vancouver, arriving at "Whyteete" in 1792, captured something of this profusion in his journals:

> On shores, the villages appeared numerous, large, and in good repair; and the surrounding country pleasingly interspersed with deep, though not extensive valleys; which, with the plains near the sea-side, presented a high degree of cultivation and fertility.
>
> [Our] guides led us to the northward through the village, to an exceedingly well-

made causeway, about twelve feet broad, with a ditch on each side.

> This opened our view to a spacious plain, which, in the immediate vicinity of the village, had the appearance of the open common fields in England; but, on advancing, the major part appeared to be divided into fields of irregular shape and figure, which were separated from each other by low stone walls, and were in a very high state of cultivation. These several portions of land were planted with the eddo or taro root, in different stages of inundation; none being perfectly dry, and some from three to six or seven inches under water. The causeway led us near a mile from the beach, at the end of which was the water we were in quest of. It was a rivulet five or six feet wide, and about two or three feet deep, well banked up, and nearly motionless; some small rills only, finding a passage through the dams that checked the sluggish stream, by which a constant supply was afforded to the taro plantations.
>
> [We] found the plain in a high state of cultivation, mostly under immediate crops of taro; and abounding with a variety of wild fowl, chiefly of the duck kind . . . The sides of the hills, which were at some distance, seemed rocky and barren; the intermediate vallies, which were all inhabited, produced some large trees, and made a pleasing appearance. The plain, however, if we may judge from the labour bestowed on their cultivation, seemed to afford the principal proportion of the different vegetable productions on which the inhabitants depend for their subsistence. (Vancouver, 1798: I, 161-164)

Further details of the exuberant life that must have characterized the Hawaiians use of the lands that included the *ahupua'a* of Waikīkī are given by Archibald Menzies, a naturalist accompanying Vancouver's expedition:

> The verge of the shore was planted with a large grove of cocoanut palms, affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet from the ground upon a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back to the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yams, sweet potatoes and the cloth plant. These, in many cases, were divided by little banks on which grew the sugar cane and a species of *Draecena* without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to be able to supply the most distant fields at pleasure, and the soil seemed to repay the labour and industry of these people by the luxuriancy of its productions. Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews. (Menzies 1920:23-24)

However, the traditional Hawaiian focus on Waikīkī as a center of chiefly and agricultural activities on southeastern O'ahu was soon to change – disrupted by the same Euro-American contact which produced the first documentation (including the records cited above) of that

traditional life. The *ahupua`a* of Honolulu - with the only sheltered harbor on O`ahu - became the center for trade with visiting foreign vessels, drawing increasing numbers of Hawaiians away from their traditional environments. Kamehameha himself moved his residence from Waikīkī to the coast near Honolulu harbor, likely in order to maintain his control of the lucrative trade in sandalwood that had developed. By 1828, the missionary Levi Chamberlain, describing a journey into Waikīkī, would note:

> Our path led us along the borders of extensive plats of marshy ground, having raised banks on one or more sides, and which were once filled with water, and replenished abundantly with esculent fish; but now overgrown with tall rushes waving in the wind. The land all around for several miles has the appearance of having once been under cultivation. I entered into conversation with the natives respecting this present neglected state. They ascribed it to the decrease of population. (Chamberlain 1957:26)

Tragically, the depopulation of Waikīkī was not simply a result of the attractions of Honolulu (where, by the 1820's, the population was estimated at 6,000 to 7,000) but also of the European diseases that had devastating effects upon the Hawaiian populace.

B. Mid-Nineteenth Century and the *Māhele*

The depopulation of Waikīkī, however, was not total and the *ahupua`a* continued to sustain Hawaiians living traditionally into the mid-19th century. Land Commission Award records associated with the mid-19th century *Māhele* document awardees continuing to maintain fishponds and irrigated and dry-land agricultural plots though on a greatly reduced scale than had been possible previously with adequate manpower.

Toward the mid-19th century, the Organic Acts of 1845 and 1846 initiated the process of the *Māhele* – the division of Hawaiian lands – which introduced private property into Hawaiian society. In 1848 the crown, the Hawaiian government, and the *ali`i* (royalty) received their land titles. Subsequently in the *Māhele*, Land Commission Awards (LCAs) for *kuleana* parcels were given to commoners and others who could prove residency on and use of the parcels they claimed.

A 1881 Hawaiian Government survey map by S.E. Bishop – with locations of LCA parcels indicated – provides a detailed record of the physical landscape of Waikīkī before the transformations of the 20th century. When the map was copied in 1922, additional material from subsequent government surveys was added, including locations of road corridors not present in 1881. The map reveals an extensive complex of irrigated fields, streams and irrigation water courses, and ponds stretching inland from the Waikīkī shoreline to the plains of Mo`iliili. Land Commission Award records for the awards shown on the map document houselots near the shore with associated taro *lo`i* located inland and houselots adjacent to inland taro *lo`i*. The records also indicate habitation and agricultural pursuits by the native Hawaiian population continuing into the mid-19th century. (Specific documentation of the present project area on the 1881 map and in LCA records is discussed in Section IIH below.)

C. Later-Nineteenth Century

As the 19th century progressed, Waikīkī was becoming a popular site among foreigners – mostly American – who had settled on O`ahu; an 1865 article in the Pacific Commercial Advertiser

mentioned a small community that had developed along the beach. The area continued to be popular with the *ali`i* – the Hawaiian royalty – and several notables had residences there. A visitor to O`ahu in 1873 described Waikīkī as "a hamlet of plain cottages, whither the people of Honolulu go to revel in bathing clothes, mosquitoes and solitude, at odd times of the year" (Bliss, 1873).

Other developments during the second half of the 19th century – prefiguring the changes that would alter the landscape of Waikīkī during the 20th century – include the improvement of the road connecting Waikīkī to Honolulu (the route of the present Kalākaua Ave.), the building of a tram line between the two areas, and the opening of Kapiolani Park on June 11, 1877.

Traditional land-uses in Waikīkī were abandoned or modified. By the end of the 19th century most of the fish ponds that had previously proliferated had been neglected and allowed to deteriorate. The remaining taro fields were planted in rice to supply the growing numbers of immigrant laborers imported from China and Japan, and for shipment to the west coast of the United States.

As the sugar industry throughout the Hawaiian kingdom expanded in the second half of the 19th century, the need for increased numbers of field laborers prompted passage of contract labor laws. In 1852 the first Chinese contract laborers arrived in the islands. Contracts were for five years, and pay was $3 a month plus room and board. Upon completion of their contracts, a number of the immigrants remained in the islands, many becoming merchants or rice farmers.

As was happening in other locales, in the 1880's, groups of Chinese began leasing and buying — from the Hawaiians of Waikīkī — former taro lands for conversion to rice farming. The taro lands' availability throughout the islands in the late 1800's reflected the declining demand for taro as the native Hawaiian population diminished.

The Hawaiian islands were well-positioned for rice cultivation. A market for rice in California had developed as increasing numbers of Chinese laborers immigrated there since the mid-19th century. Similarly, as Chinese immigration to the islands also accelerated, a domestic market opened.

> The primary market for both husked rice and paddy raised in all parts of the Hawaiian islands was in Honolulu. The number of Chinese in the islands created a large home demand.
>
> In 1880 the home market was made more secure by an increase in the duty on rice imported into Hawai`i to 1½ cents on paddy and 2¼ cents on hulled rice. It resulted in further checking the importation of foreign rice and giving an immense impetus to the home product. (Coulter and Chun, 1937: 13)

By 1892, Waikīkī had 542 acres planted in rice, representing almost 12% of the total 4,659 acres planted in rice on O`ahu. Most of the former taro *lo`i* converted to rice fields were located *mauka* of the present Ala Wai Boulevard.

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D. 1900 to 1920

During the first decade of the 20th century, the U.S. War Department acquired more than 70 acres in the Kālia portion of Waikīkī for the establishment of a military reservation called Fort DeRussy, named in honor of Brig. Gen. R.E. DeRussy of the Army Corps of Engineers.

> On 12 November 1908, a detachment of the 1st Battalion of Engineers from Fort Mason, California, occupied the new post...
>
> Between 1909 and 1911 the engineers were primarily occupied with mapping the island of O'ahu. At DeRussy other activities also had to be attended to - especially the filling of a portion of the fish ponds which covered most of the Fort. This task fell to the Quartermaster Corps, and they accomplished it through the use of an hydraulic dredger which pumped fill from the ocean continuously for nearly a year in order to build up an area on which permanent structures could be built. Thus the Army began the transformation of Waikīkī from wetlands to solid ground. (Hibbard and Franzen, 1986:79)

All the fishponds were filled by 1928.

A fire insurance map of 1914 shows that there were five areas in Waikīkī where residential and commercial structures were concentrated in the early 20th century (Figure 3). These areas were located: 1) clustered at Saratoga Road and Lewers Road; 2) near the intersection of Ena Road and Kalākaua Avenue; 3) *makai* of Kālia Road on the east side of Ft. DeRussy; 4) clustered around the Moana Hotel on Kalākaua Avenue; and 5) in Kapahulu on the *'ewa* side of Makee Road (the present Kapahulu Avenue). The fire insurance map also reveals the relative isolation of Waikīkī, in the early 20th century, from the encroaching grid of modern Honolulu streets.

E. 1920's to 1930's

During the 1920's Waikīkī landscape would be transformed when the construction of the Ala Wai Drainage Canal – begun in 1921 and completed in 1928 – resulted in the draining and filling in of the remaining ponds and irrigated fields of Waikīkī (Figure 4). The canal was one element of a plan to urbanize Waikīkī and the surrounding districts:

> The [Honolulu city] planning commission began by submitting street layout plans for a Waikīkī reclamation district. In January 1922 a Waikīkī improvement commission resubmitted these plans to the board of supervisors, which, in turn, approved them a year later. From this grew a wider plan that eventually reached the Kapahulu, Mō'ili'ili, and McCully districts, as well as lower Makiki and Manoa...
>
> The standard plan for new neighborhoods, with allowances for local terrain, was to be that of a grid, with 80-foot-wide streets crossing 70-foot-wide avenues at right angles so as to leave blocks of house lots about 260 by 620 feet. Allowing for a 10-foot-wide sidewalk and a 10-foot right-of-way [alley] down the center of each block, there would be twenty house lots, each about 60 by 120 feet, in each block. (Johnson 1991:311)

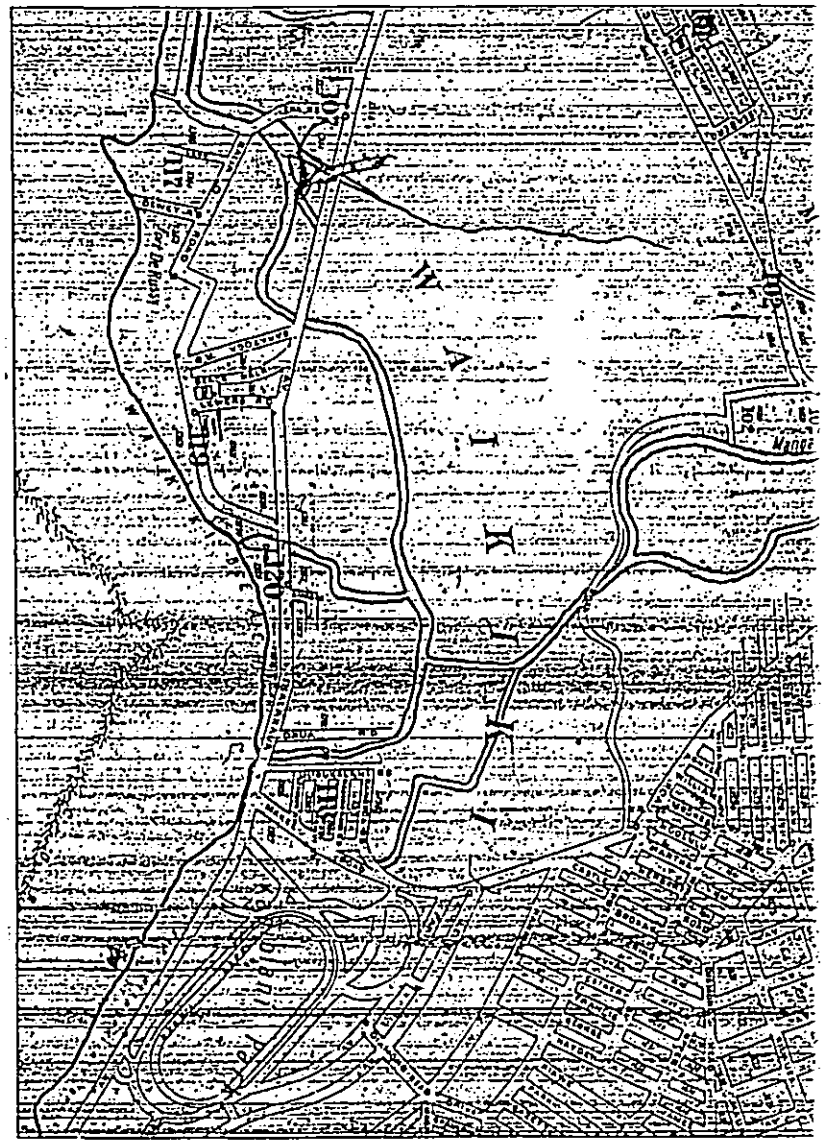

Figure 3 1914 Sanborn Fire Insurance map of Waikīkī

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Figure 4 Floating dredge line in Ala Wai Canal, ca. 1924 (Bishop Museum Archives)

During the course of the Ala Wai Canal's construction, the banana patches and ponds between the canal and the *ma uka* side of Kalākaua Avenue were filled and the present grid of streets was laid out. These newly created land tracts spurred a rush to development in the 1930's. An article in the Honolulu Star-Bulletin in 1938 extolled the area's progress:

> The expansion of apartment and private residence construction is no secret. Examination of building permits will show that more projects have been completed during the past year, and more are now underway in this area, than in any other section of the territory.
>
> These developments are being made by island residents who have recognized the fact that Waikīkī presents the unparalleled possibility for safe investment with excellent return. (Newton, 1938: 10)

The writer speculated that the "future of Waikīkī is assured."

F. 1940's

The entrance of the United States into World War II following the Japanese bombing of Pearl Harbor on December 7, 1941 put on hold plans for the development of Waikīkī as a tourist destination. Until the war's end in 1945, the tourist trade was non-existent "...since the Navy controlled travel to and from Hawai'i and did not allow pleasure trips" (Brown, 1989: 141). For the duration of the war, Waikīkī was transformed into a recreation area for military personnel.

> It was not the same Waikīkī as before the war, though; barbed wire barricades now lined its sands, and there were other changes too. Fort DeRussy became a huge recreation center, with a dance hall called Maluhia that attracted thousands of men at a time. The Moana Hotel continued to function, but many other establishments and private homes in the area were taken over by the military. (*Ibid.*)

Nearing the war's end, concerns began arising over the future of Waikīkī. An article in the *Honolulu Advertiser* of July 16, 1945 (sec. 1, pg.1) decried "honky-tonks" that had sprung up in Waikīkī during the course of the war, and asked: "Can anyone look at present-day Kalākaua Ave. – lined with makeshift curio shops, noisy 'recreation' centers, eyesores that pass under the name of lunchrooms and miscellany of 'joints' – and hope that Waikīkī can stage a comeback [as a tourist destination]?"

G. 1950's

By the mid-1950's there were more than fifty hotels and apartments from the Kālia area to the Diamond Head end of Kapi'olani Park. The Waikīkī population, by the mid-1950's, was not limited to transient tourists but included 11,000 permanent residents living in 4,000 single dwellings and apartments in stucco or frame buildings.

H. Historic Documentation of the Present Project Area

The present project area is shown on a portion of the 1881 government survey map by Bishop (Figure 5). The map indicates that, at the mid-19th century *Mahele*, the *mauka* and *makai* portions of the project area were awarded to William C. Lunalilo (later King Lunalilo [reign 1873-1874]) in Land Commission Award (LCA) 8559B Apana 29. LCA documents associated with this

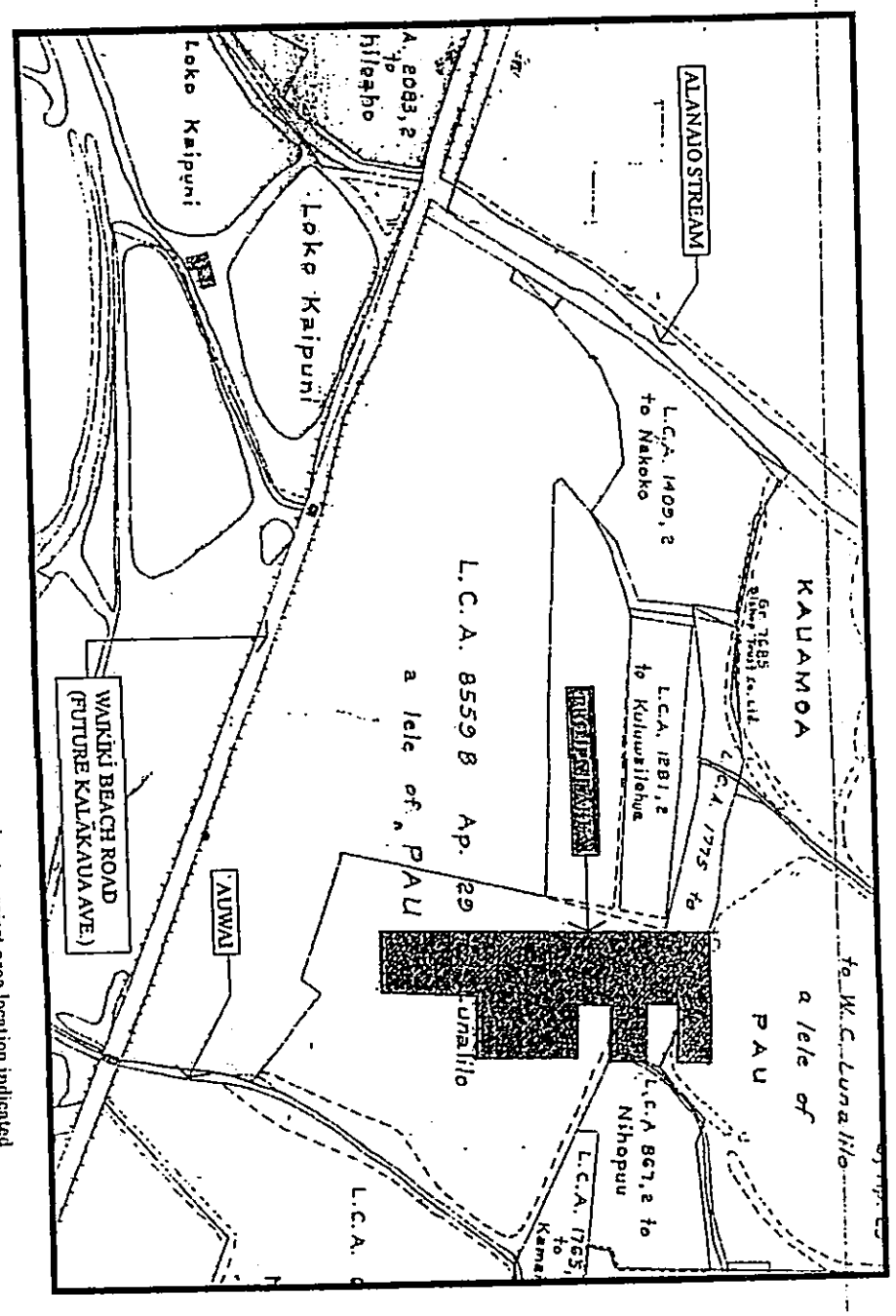

Figure 5 Portion of 1881 government survey map by S.E. Bishop with approximate project area location indicated

award do not reveal what specific activities or land usages were occurring on Apana 29 at the mid-19th century. However, documentation for the *kuleana* parcels (awarded to commoners and others who could prove residency on and use of the parcels) in and adjacent to the project area indicate specific ongoing traditional Hawaiian habitation and activity.

The map shows LCA 1775 to Paoa running across the *mauka* portion of the project area. Describing this parcel, on December 16, 1847 Paoa testified:

> ...I hereby state my claim for a section of irrigation ditch. I do not know its length – perhaps it is two fathoms more or less. The length of my interest at this place is from the time of Kaahumanu I, which was when my people acquired this place... (Native Register vol. 3, pg. 250)

Paoa also claimed – and was awarded – a separate house lot at the shore. The "irrigation ditch" parcel is further described by a witness, Kalaeone, testifying on Paoa's behalf, as "a paukū ditch of stream taro" bounded "Mauka [by] Government land; Waialae [by] Nihopuu's land; Makai [by] Kuluwailehua's land, Keino's land; Ewa [by] Nakoko's land" (Native Testimony vol. 3, pg. 509). The names of the adjacent awardees correspond to those shown on the 1881 map. Kalaeone also describes the history of Paoa's tenure on his house lot and "Paukū ditch of stream taro":

> Land to [Paoa] from his mother, Makuahine. Makuahine had received it from Naliikipi after the death of Kinau in 1839, because Makuahine is Naliikipi's sister. Makuahine had bequested it permanently to [Paoa], their son. Makuahine, [Paoa's] parent has died and [Paoa] has been living there to the present time peacefully. (*Ibid.*)

A *paukū* is a narrow strip of land smaller than a *mo'o* (Pukui and Elbert 1986: 320). The LCA documents indicate that Paoa's parcel within the present project area comprised an actively-worked taro cultivation feature that had been in his family for two generations. It is highly likely that the *paukū* had been fully developed and operational at the time of the Paoa family's acquistion earlier in the 19th century.

Further evidence of the character of project area and its surroundings can be taken from the LCA documents for the adjacent *kuleana* parcels shown on the 1881 map. Apana 2 of LCA 867 to Nihopuu on the east side of LCA 1775 is described as "taro land" the boundaries of which are:

> Kuluwailehua's land, toward the mountain
> My land, Waikīkī
> Peleuli's land, toward the sea and
> Makuahine's [*i.e.*, Paoa's mother's] land is on the Honolulu side (Native Testimony vol. 3, pg. 10)

The parcel is further described:

> This place has an enclosure and the house within is for Nihopuu. There are four patches with a section of the creek. Nihopuu had received this from Peleuli and he occupied this for the same length of time as he had the house lot. (*Ibid.*)

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Adjacent to the west of LCA 1775 is Apana 2 of LCA 1281 to Kuluwailehua which is described as comprising " 5 kalo patches and house lot" (Foreign Testimony vol. 2, pg. 458).

The records for LCA 1775, LCA 867, and LCA 1281 indicate that the project area and the surrounding lands continued to support a native Hawaiian population into the mid-19th century, providing house sites and irrigated agricultural features.

As noted in the historical documentation presented above, by the beginning of the 20th century, remnants of the former traditional Hawaiian landscape in Waikīkī had been transformed to accommodate agricultural pursuits of the growing immigrant population. An early 20th century U.S. Army Engineers map presents a graphic depiction of the developing Waikīkī lands (Figure 6). Rice fields stretch *mauka* into Mo'ili'ili. Closer *makai*, a pattern of ponds, banana plantations, and other orchards are seen to share the landscape with clusters of hotel and dwelling structures. The map suggests that a pond feature may have filled the *makai* portion of the present project area.

The possibility of a pond in the *makai* portion is further evidenced in an early 20th century aerial photograph of Waikīkī, taken before the construction of the Ala Wai Canal (Grant 1996: 63). The photograph shows what appears to be the *paukū* ditch feature of LCA 1775, defined by a line of trees atop an embankment. *Mauka* of the embankment is an irrigated field. A pond extends *makai*, with reflections of the trees on the embankment in the pond water.

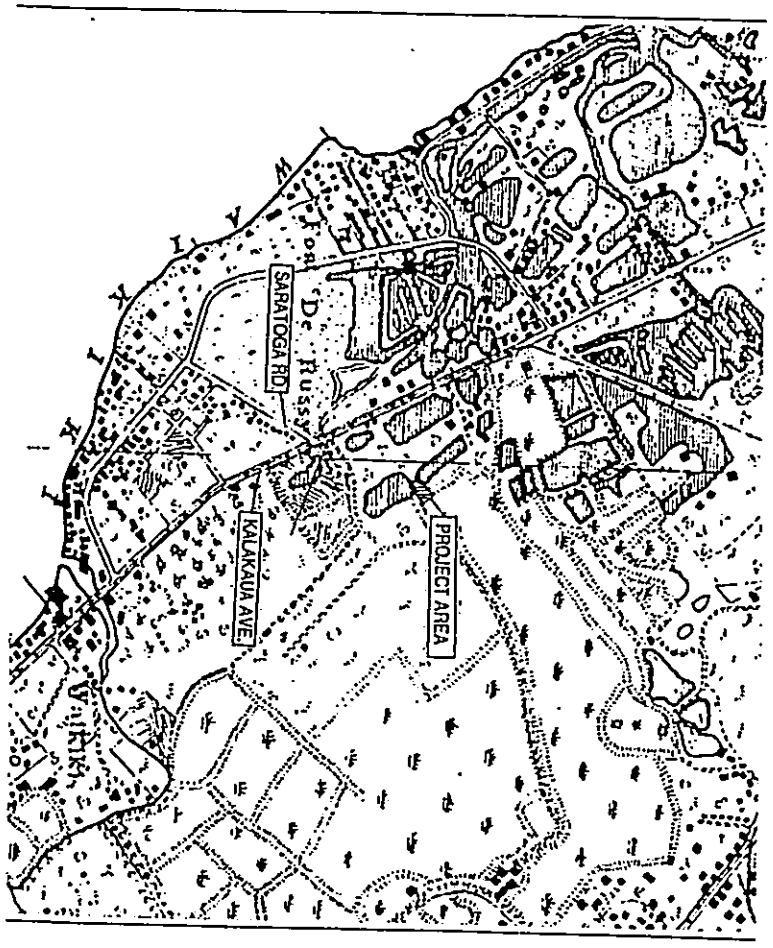
Documents generated in the early 1920's in association with the impending construction of the Ala Wai Canal further clarify earlier land usage within the present project area. A survey map for Land Court Application No. 537 (Figure 7) shows the same portion of Waikīkī – and the LCA parcels – as that on the 1881 map (see Figure 5 above).

The Land Court Application map identifies a "kuauna" feature running along, and defining, the *makai* boundary of LCA 1775 to Paoa. The entire *kuāuna* feature connects Alanaio Stream, to the north, and an *'auwai* to the south. (The *'auwai* has been recorded as State Site 50-80-14-4970 in previous archaeological research [see Section III below].) A *kuāuna* is defined as a "bank or border of a taro patch; stream bank" (Pukui and Elbert 1986: 171).

> The term is derived from the fact that the banks were made solid when built by beating with the butt ends of coconut leaf stems (*ku'au*)...(Lucas 1995: 59)

With the construction of the Ala Wai Canal and the draining and filling of Waikīkī, the present-day grid of streets and blocks was impressed on the landscape. An aerial photograph, taken shortly after the construction of the canal shows the present project area block as a completely-filled, man-made construction (Figure 8). However, a line of trees across the *mauka* side of the block is a likely remnant of the tree-lined embankment associated with LCA 1775 shown in the earlier aerial photograph. There are also house structures on the Olohana Street side of the block. As there are no other houses evident in the area on the aerial photograph, these may be among the first houses to be built following the canal's construction.

Figure 6 Portion of 1909-1913 U.S. Army Engineers map with the approximate project area location indicated



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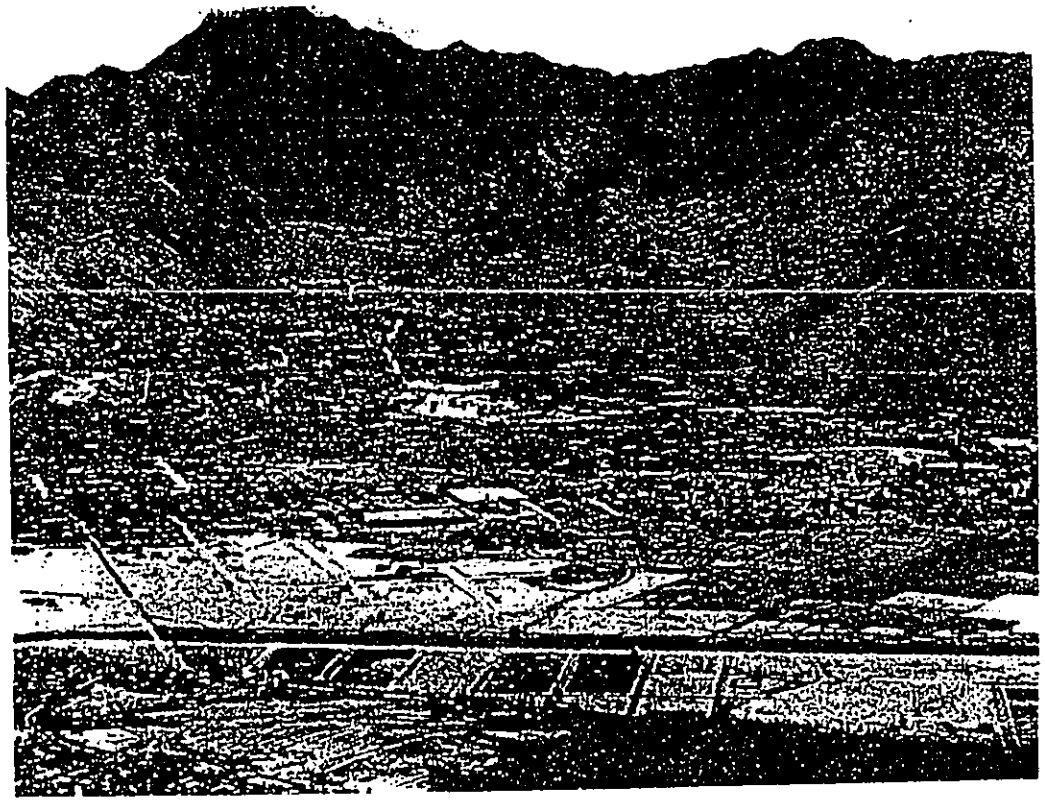

Figure 8 Newly-completed Ala Wai Canal and filled lands of Waikiki

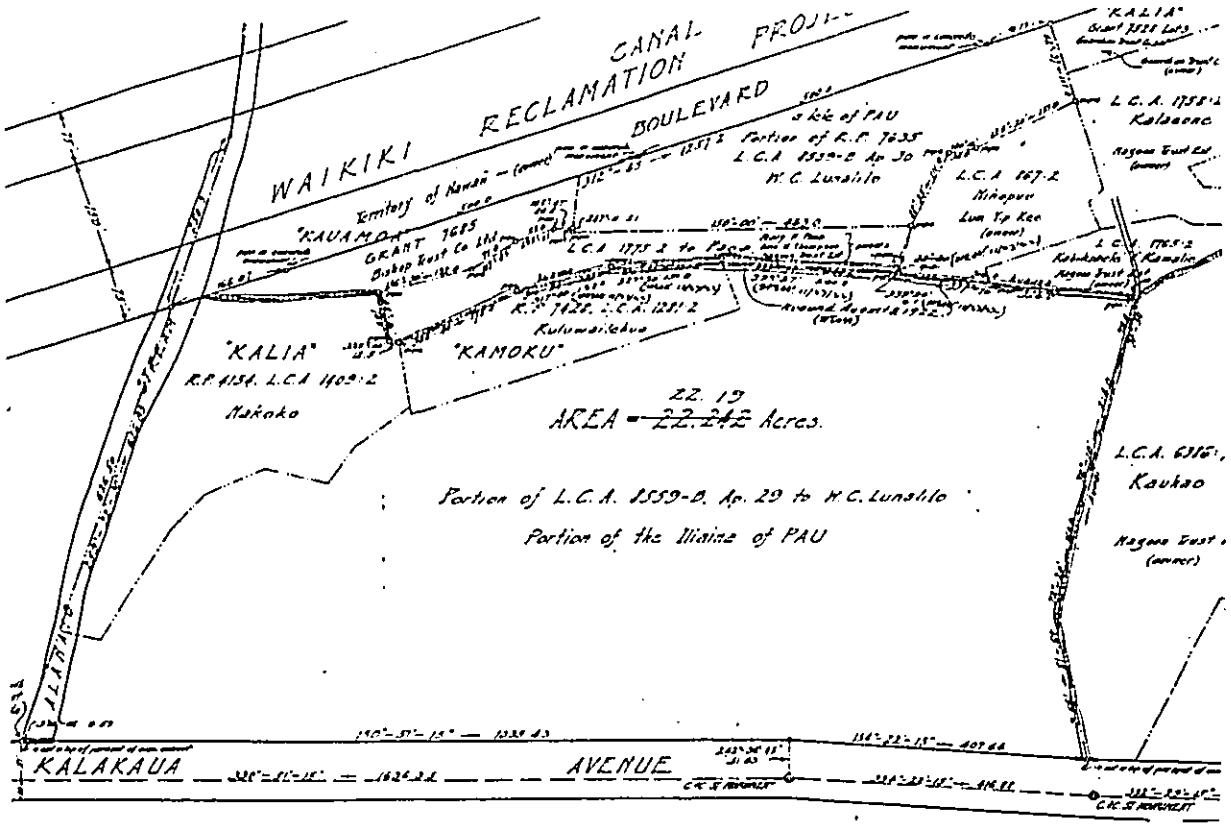

Figure 7 Survey map for Land Court Application No. 537 (Survey Office, Dept. of Accounting and General Services)

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A 1927-51 fire insurance map shows that by the mid-20th century, the project area and the entire block had been subdivided into 20 parcels containing apartments and single-family dwellings (Figure 9). During subsequent decades of the 20th century, episodes of construction and demolition have occurred within the project area, resulting in the current completely cleared area.

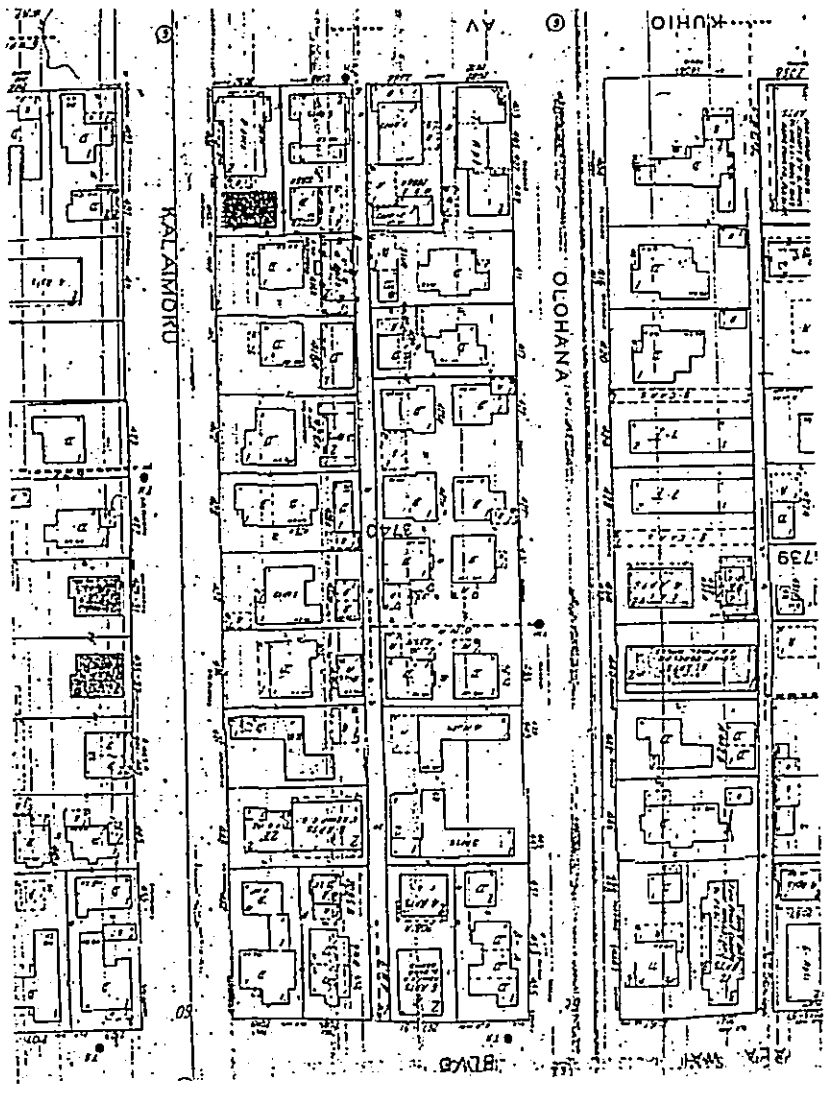
I. Summary

The project area is located in what was the wetland plain of Waikīkī. This area provided ancient Hawaiians with the environment needed for the cultivation of fishponds and subsistence crops such as taro and banana. Mid-19th century documents reveal that the project area and its surroundings included irrigated fields, irrigation components, and house sites. It is likely that these features represented ongoing habitation and usage that had long been established in the project area and surroundings.

In response to a burgeoning population of immigrants from Asia during the second half of the 19th century, the wetlands of Waikīkī were transformed to accommodate large-scale rice production. It is likely that the project area features were modified for new agricultural pursuits.

Finally, the project area and surroundings were completely transformed by the early 20th century plans for the reclamation of the wetlands of Waikīkī. The project area was filled-in with materials dredged during the construction of the Ala Wai Canal in the 1920's. Houses and apartments were subsequently constructed upon this fill land until final demolition and clearing of the project area occurred in the late 20th century.

Figure 9 1927-1951 Sanborn Fire Insurance map showing project area block



III. PREVIOUS ARCHAEOLOGICAL RESEARCH

A. Overview of Archaeological Research in Waikīkī

N.B. Emerson reported on the uncovering of human burials during the summer of 1901 on the property of James B. Castle - site of the present Elks Club - in Waikīkī during excavations for the laying of sewer pipes (Emerson 1902:18-20). Emerson noted:

> The soil was white coral sand mixed with coarse coral debris and sea-shells together with a slight admixture of red earth and perhaps an occasional trace of charcoal. The ground had been trenched to a depth of five or six feet, at about which level a large number of human bones were met with, mostly placed in separate groups apart from each other, as if each group formed the bones of a single skeleton. Many of the skulls and larger bones had been removed by the workmen before my arrival, especially the more perfect ones. (Emerson 1902:18)

Emerson's report on the find describes the remains of at least four individuals, all presumed to be Hawaiian. Associated burial goods were also exposed during excavation; these included "a number of conical beads of whale-teeth such as the Hawaiians formerly made" and "a number of round glass beads of large size". The glass beads "can be assigned with certainty to some date subsequent to the arrival of the white man" (Emerson 1902:19). Also located with the beads was "a small sized niho-palaoa, such as was generally appropriated to the use of the chiefs" which had been "carved from the tooth of the sperm-whale" and which was "evidently of great age" (Emerson 1902:19).

In the 1920's and 30's the first systematic archaeological survey of O'ahu was conducted by J. C. McAllister (1933). He recorded four *heiau*, three of which were located at the *mauka* reaches of Waikīkī *ahupua'a* in lower Mānoa Valley. The fourth *heiau* - Papa'ena'ena - was located at the foot of Diamond Head crater in the environs of the present Hawai'i School for Girls. Papa'ena'ena *heiau* is traditionally associated with Kamehameha I who was said to have visited the *heiau* before setting off to battle for Ni'ihau and Kaua'i in 1804. Five years later, according to John Papa `Ī`ī , Kamehameha placed at Papa'ena'ena the remains of an adulterer - "all prepared in the customary manner of that time" (I'i 1959:50-51). In 1963, two human skulls and other human remains were discovered in a construction trench at 2431 Prince Edward St. (Bishop Museum site Oa-A4-23, cited in Neller, 1984).

Multiple burials were encountered in 1963 during excavation for the construction of the present Outrigger Canoe Club at the Diamond Head end of Kalākaua Avenue. As reported in a newspaper article on Jan. 24, 1963:

> The Outrigger Canoe Club yesterday dedicated its new site [on land adjacent to and leased from the Elks Club], an ancient Hawaiian burial ground in Waikīkī...
>
> Robert Bowen of the Bishop Museum has been working closely with Ernest Souza, Hawaiian Dredging superintendent, on the removal of skeletons unearthed on the site, between the Colony Surf and the Elks Club...

> Most of the bodies were buried in the traditional hoolewa position, with the legs bound tightly against the chest.
>
> One of the skeletons, Bowen said, shows evidence of a successful amputation of the lower forearm, indicating that the Hawaiians knew this kind of operation before the arrival of Europeans.
>
> The ages of the skeletons ranged from children to 40-year-old men and women. The average life span of the Hawaiians at the time was about 32 years. (Honolulu Star-Bulletin; Jan. 24, 1963: 1A)

Twenty-seven burials were encountered (Yost 1971: 28). Apparently, no formal archaeological report on the burials was produced.

In 1964, sand dune burials, a traditional Hawaiian mortuary practice, were revealed as beach sand eroded fronting the Surfrider Hotel (Bishop Museum Site Files).

In 1976, during construction of the Hale Koa Hotel, adjacent to the Hilton Hawaiian Village Hotel, six burials were unearthed, five of apparent prehistoric or early historic age, and one of more recent date (Bishop Museum Site Files).

Between December 1981 and February 1982, archaeologists from the Bishop Museum led by Bertell Davis conducted a program of excavations and monitoring during construction of the new Halekūlani Hotel (Davis 1984). Six human burials were recovered along with "animal burials [and] cultural refuse from prehistoric Hawaiian firepits, and a large collection of bottles, ceramics, and other materials from trash pits and privies dating to the late 19th century" (*ibid.*:i).

In 1983, at the Lili'uokalani Gardens condominium construction site, seven traditional Hawaiian burials were recovered (Neller, 1984). This had been the site of a bungalow owned by Queen Lili'uokalani at the end of the 19th century. In addition to the burials, the site contained plentiful historic artifacts, and a pre-historic cultural layer pre-dating the burials.

In 1985, International Archaeological Research Institute, Inc. performed archaeological monitoring and data recovery at the Pacific Beach Hotel Office Annex (Beardsley and Kaschko 1997). Two traditional Hawaiian burials were discovered and removed. Intact buried traditional Hawaiian cultural deposits, including a late pre-contact habitation layer, contained pits, firepits, post molds, artifacts, and food debris. The artifacts included basalt and volcanic glass flakes and cores, a basalt adze and adze fragments, worked pearl shells, a coral file and abraders, and a pearl shell fishhook fragment. Additionally, a late nineteenth century trash pit was discovered, which contained a variety of ceramics, bottles, and other materials.

During 1985 and 1986 archaeologists from Paul H. Rosendahl, Ph. D. Inc. conducted archaeological monitoring at the site of the Mechanical Loop Project at the Hilton Hawaiian Village, Waikīkī. Much of this project area was disturbed by historic and modern construction and modification. Fifteen subsurface features were uncovered during the monitoring, all of which were determined to be historic trash pits or trenches. The dating of these features was based on dating the artifactual material they contained. All 15 features are thought to post-date 1881

based on this artifact analysis. The 3 partial burials reported by Neller (1980) were found within this project area (see above). No further burials were encountered during the PHRI field work (Hurlbert, et. al. 1992).

In 1987, a human burial was discovered and removed at the intersection of Kalākaua Ave. and Ka'iulani St. during excavations for a gas pipe fronting the Moana Hotel (Griffin, 1987).

In1988 the Moana Hotel Historical Rehabilitation Project (Simmons *et. al.* 1991) encountered human remains that amounted to at least 17 individuals. Based on stratigraphic association these burials were interred over time as the land form at the site changed. The sediment surrounding these burials yielded traditional midden and artifact assemblages. The burials and human remains were found in the Banyan Court and beneath the hotel itself.

In 1989 skeletal remains were unearthed on the grounds of the Ala Wai Golf Course during digging of an electrical line trench for a new sprinkler system. The trench had exposed a pit containing two burials (Bath and Kawachi 1989: 2). The report suggests that one of the burials may have been disturbed earlier during grading for the Territorial Fair Grounds. The osteological analysis included in the report concludes that both sets of remains "appear ancient." (Bath and Kawachi 1989: 2)

The realignment of Kālia Road at Fort DeRussy in 1993 uncovered approximately 40 human burials. A large majority of these remains were recovered in a large communal burial feature (Carlson *et. al.* 1994). The monitoring and excavations associated with this realignment uncovered a cultural enriched layer which contained post holes.

In 1993, during construction activities at the Waikīkī Aquarium, fragmentary human remains were discovered scattered in a back dirt pile, although no burial pit was identified (Dega and Kennedy, 1993).

In 1995, the remains of one individual were discovered in situ during construction activities on Paoakalani Street, fronting the Waikīkī Sunset Hotel (Jourdane, 1995).

In 1996, a traditional Hawaiian burial was discovered and left in place during test excavations on two lots at Lili'uokalani Ave. and Tusitala Street (McDermott *et al.*, 1996). Indigenous Hawaiian artifacts and historic artifacts were also found within the project area.

In 1997, during archaeological monitoring by Cultural Surveys Hawai'i, Inc. for the Waikīkī Force Main Replacement project, scattered human bones were encountered on 'Ōhua St. (Wineski and Hammatt 2000). These included the proximal end and mid-shaft of a human tibia, a patella, and the distal end and mid-shaft of a femur. These remains were within a coralline sand matrix which had been heavily disturbed by previous construction, and by the on-going construction project. No precise location for the original burial site was identified.

In April 1999 two human burials were inadvertently encountered near the intersection of Ena Road and Kalākaua Avenue during excavation activities for the first phase of the Waikīkī Anti-crime Lighting Improvements Project (Perzinski *et al.*, 1999).

From November, 1999, to May, 2000, forty-four human burials with associated cultural deposits were encountered during excavation for a waterline project on Kalākaua Avenue between the Ka'iulani and 'Ōhua Avenues (Winieski *et al.*, 2002). Except for previously disturbed partial burials in fill, the bulk of the burials were encountered within a coralline sand matrix. Additionally, a major cultural layer was found and documented.

From January, 2000, to October 2000, ten human burials were encountered during archaeological monitoring of the Kūhiō Beach Extension/Kalākaua Promenade project (Winieski *et al.* 2002). Six of these were located within a coralline sand matrix. The four others were partial and previously disturbed within fill. Additionally, a major cultural layer was found and documented, apparently part of the same major cultural layer associated with the waterline project between Ka'iulani and 'Ōhua Avenues.

On May 2nd and June 14th, 2001, two *in situ* and two previously disturbed human burials were encountered, at the site of a new Burger King (Cleghorn, 2001a) and an adjoining ABC Store (Cleghorn, 2001b). The finds were located at the intersection of 'Ōhua Street and Kalākaua Avenue (Cleghorn, 2001a and 2001b). Because of their proximity to five burials encountered during the Kalākaua 16" Water Main Installation (Winieski *et al.* 2002), they were included in the previously assigned State Site 50-80-14-5861. Three of these burials were recovered, and one was left in place. Volcanic glass fragments were found in association with one of the burials. A cultural layer was also observed which contained moderate to heavy concentrations of charcoal, and fragments of volcanic glass. Historic-era artifacts, including a bottle fragment, plastic and glass buttons, a ceramic fragment, and metal fragments, were also encountered within fill materials.

From July 1999 to October 2000, four sets of human remains were inadvertently encountered during excavation activities for the Waikīkī Anti-Crime Street Lighting Improvement project along portions of Kalākaua Avenue (Bush *et al.*, 2002). The first burial was encountered on Kalākaua Avenue, just before Duke's Lane and assigned State Site 50-80-14-5864. The burial was left in place. The second burial was encountered at the intersection of Kalākaua Avenue and Ka'iulani Avenue. Earlier, during archaeological monitoring for the water main project, two burials were encountered in the immediate area of the second burial find and assigned State site 50-80-14-5856 features A and B. Due to the close proximity to the previously encountered burials, the second burial was assigned the same State Site 50-80-14-5856, and designated feature C. Burials 3 and 4 were recovered at the intersection of Kalākaua Avenue and Kealohilani, near an area of concentrated burials assigned State Site 50-80-14-5860 during monitoring for the water main project. Consequently, burials 3 and 4 were also assigned State Site 50-80-14-5860, features U and V. In addition to human remains, pre-contact deposits, historic and modern rubbish concentrations, and pond sediments were also encountered.

B. Archaeological Research in the Vicinity of the Present Project Area

Based on the historic documentation presented in Section II above, the traditional Hawaiian landscape within the portion of Waikīkī which includes the present project area was a complex of wetland and dryland agricultural fields, irrigation channels, and ponds. Results of previous archaeological research in this portion of Waikīkī provide indicators of possible subsurface traditional Hawaiian historic properties – and subsequent modifications of those properties – within the project area itself (Figure 10).

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Three burials were exposed at the Hilton Hawaiian Village during construction of the hotel's Tapa Tower. Earl Neller of the (then named) State Historic Preservation Program was called in upon discovery of the burials. He conducted fieldwork limited to three brief inspection of the project area. Neller's (1980) report noted:

> The bones from three Hawaiian burials were partially recovered; one belonged to a young adult male, on a young adult female, and one was represented by a single bone. An old map showed that rapid shoreline accretion had occurred in the area during the 1800s, and that the beach in the construction area was not very old. It is possible the burials date back to the smallpox epidemic of 1853. It is likely that burials will continue to be found in the area. It is also possible that early Hawaiian sites exist farther inland, beneath Mō'ili'ili, adjacent to where the shoreline would have been 1000 years ago. (Neller 1980:5)

Neller also documented the presence of trash pits, including one from the 1890's which contained "a large percentage of luxury items, including porcelain tablewares [*sic*] imported from China, Japan, the United States, and Europe" (Neller 1980:5). He further notes:

> It is suspected that other important historic archaeological sites exist in the highly developed concrete jungle of Waikīkī, with discrete, dateable trash deposits related to the different ethnic and social groups that occupied Waikīkī over the last 200 years. (Neller 1980:5)

Davis' (1989, 1991) excavation and monitoring work at Fort DeRussy documented substantial subsurface archaeological deposits--prehistoric, historic, and modern. These deposits included buried fishpond sediments, *'auwai* sediments, midden and artifact enriched sediments, structural remains such as post holes and fire pits, historic trash pits, and a human burial. Davis' (1991) report documents human activity in the Fort DeRussy beach front area from the 16th century to the present.

The work at Fort DeRussy continued in 1992 when BioSystems researchers built upon Davis' work (Simmons 1995). BioSystems research documents the development and expansion of the fishpond and *'auwai* (ditch) system in this area. The *'auwai* system was entered on the State Inventory of Historic Places (SIHP) as State Site 50-80-14-4970. (The *kuauna* noted within the present project area [see Section II.J above] runs between the former Alanaio Stream and this *'auwai*.) Remains of the fishpond and *'auwai* deposits, as well as habitation deposits were documented below modern fill deposits. Radiocarbon testing yielded a date range of *ca.* 14th century for initial occupation with subsequent expansion of agricultural fields in the 17th and 18th centuries. This research, along with that of Davis (1991), clearly demonstrates that historical document research can be an effective guide to locating late prehistoric/early historic subsurface deposits, even amidst the development of Waikīkī.

On April 28, 1994 an inadvertent burial discovery was made during excavation for a water line at the intersection of Kalakaua Ave. and Kuamo'o St. (just *mauka* of Ft. DeRussy and two blocks northwest of the present project area). These remains represented a single individual (McMahon 1994).

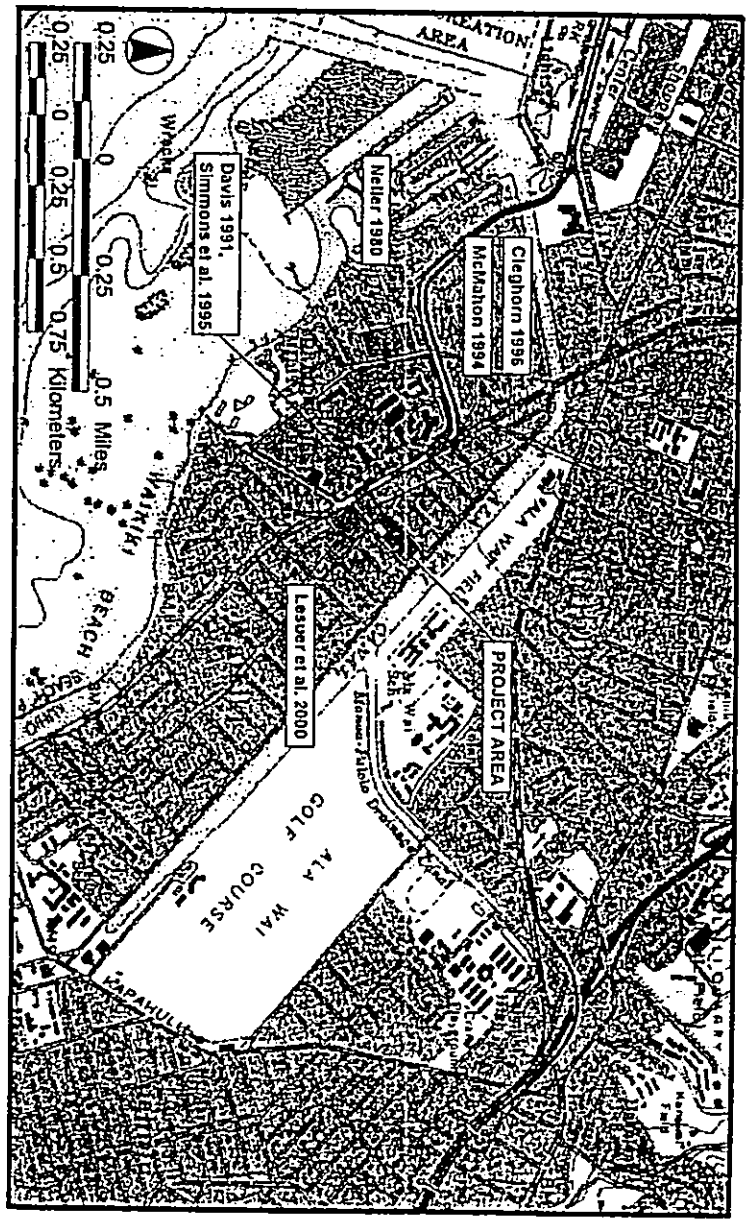

Figure 10 Previous archaeological research in the vicinity of the project area

Pacific Legacy, Inc. conducted an archaeological inventory survey of the block bounded by Kalākaua Ave., Kūhio Ave., Olohana St., and Kalaimoku St. (Cleghorn 1996). This block is located across Kūhio Ave., immediately *makai* of the present project area block. The survey included excavation of seven backhoe trenches. The subsurface testing indicated that

> ...this area was extremely wet and probably marshy. This type of environment was not conducive for traditional economic practices...The current project area appears to have been unused because it was too wet and marshy.
>
> Several peat deposits, containing the preserved remains of organic plant materials were discovered and sampled. These deposits have the potential to add to our knowledge of the paleoenvironment of the area. (Cleghorn 1996:15)

The report concluded that no further archaeological investigations of the parcel were warranted since "no potentially significant traditional sites or deposits were found" but cautioned of the "possibility, however remote in this instance, that human burials may be encountered during large scale excavations" (*Ibid.*:15).

Cultural Surveys Hawai`i conducted an archaeological inventory survey within a parcel located on the *`Ewa* (NW) end of a block bounded by Kalaimoku Street, Kalākaua Avenue, Kuhio Avenue, and Lewers Road (TMK 2-6-18:10, 36, 42, 52, 55, 62, 64, 73, & 74) (LeSuer *et al.* 2000). Attention was given to locating the upper northeastern reaches of a cultural irrigation ditch—the *`Auwai O Pau* (designated State site 50-80-14-4970 in 1989)—and identifying possible adjacent *lo`i* (irrigated ponds). Consideration was also given to the possibility of locating an associated pond, which was identified within the project area on a portion of a 1909-1913 U.S. Army Engineers map. Sub-surface testing located the *`Auwai O Pau*, and areas of possible fishpond and agricultural cultivation praxis. No habitation areas or human burials were identified during excavation. The prehistoric to early 20th century wetland ground surface, running throughout the project parcel, was designated State site 50-80-14-5796. No further archaeological research was recommended for this project area.

C. Summary

Archaeological investigations have documented the presence of traditional Hawaiian cultural deposits, historic trash deposits, and, most notably, human burials throughout the breadth of Waikīkī. Subsurface investigations in the vicinity of the project area have revealed evidences of the former wetland environment – including irrigated fields and associated water courses, and fishponds – indicated on the historic maps and records for this portion of Waikīkī presented above in Section II of this report.

IV. PREDICTIVE MODEL

This predictive model is based on previous archaeological findings and traditional Hawaiian historical sources, which provided evidence for prehistoric land-use and settlement pattern for the Waikīkī *Ahupua`a* region. This information is supplemented by the historic documentation specific to the project area and its environs presented in Section II above. The predictive model establishes how the archaeological record might reflect the cultural praxis documented for this area, based on the above research.

The prehistoric Hawaiian settlement pattern was based on the system of *ahupua`a* land division. Prior to the *Māhele* of 1848 O'ahu was divided into six *moku* or *kalana* (districts): Ko'olaupoko, Ko'olauloa, Waialua, Wai'anae, `Ewa, and Kona; these are said to be the same divisions established by the *ali`i* Ma`ilikukahi around 1500 A.D. Contained within these six districts were 86 (known) prehistoric *ahupua`a* land divisions. The *ahupua`a*, as described by Kirch (1985:2, Chapter 11), is represented ideally by a pie-shaped slice of an island or region, usually running from the mountains to the sea. Each *ahupua`a*, ideally, contained adequate amounts of all the natural resources a Hawaiian island could provide.

The current project area lies within the *ahupua`a* of Waikīkī in the *moku* (district) of Kona. Waikīkī *Ahupua* deviates somewhat from the usual pie-shape land division in that its sides, the northwest to southeast breath, are wider. It does, however, fit all the other traditional criteria for an ideal *ahupua`a*, as described above, both environmentally and in the archaeological record. Within the Waikīkī *Ahupua`a*, the *mauka to makai* region, relative to the current project area, extends from the Ko'olau Mountain range to the lower valleys of Manoa and Palolo, to the dry lowland of Mō`ili`ili and extending on through the inland wetlands (before late historic modifications), and the coastal zone to the sea.

The project area is located in what was the wetland plain of Waikīkī. This area provided ancient Hawaiians with the environment needed for the cultivation of fishponds and subsistence crops such as taro and banana. The features expected from these cultural activities include berms, *lo`i* (pond fields), stream beds, pond banks, and *`auwai* levee remnants. Following the initial years of European contact, Westerners engaged in new large-scale agricultural ventures. Immigrant workers from Asia were brought to Hawai`i to labor in these new agricultural ventures, and subsequently engaged in their own farming enterprises, most notably rice and aquaculture. The wetlands of Waikīkī provided an ideal environment for the cultivation of rice, and the area yielded much of its traditional taro cultivation land to rice production. The same area, in the early 20th century, was altered more intensely by land-reclamation plans, the resulting dredge and fill projects obliterated what remained of traditional Hawaiian cultivation processes, in the wetlands of Waikīkī.

Plans for reclamation of the wetlands of Waikīkī were generated in the early decades of the 20th century. The most extensive reclamation project took place in the 1920's, with the off-shore and inland dredging for the creation of the Ala Wai Canal. The wetland plains of Waikīkī were filled-in with materials dredged from the sea-floor and the area of the present Ala Wai Canal. Drainage from the Ko'olau Mountains was diverted through the new Ala Wai Canal, leaving the rich agricultural land buried below layers of imported dredged sediments and coral fill.

Historic documentation indicates that the project area and its immediate environs included, up to the mid-nineteenth century, traditional Hawaiian irrigated taro fields, water course features, ponds, and associated house sites. Historic maps indicate that, by the late nineteenth and early twentieth centuries, this portion of Waikīkī included rice fields, banana fields, and other orchards.

Documents specific to the project area identify a "paukū of stream taro" extending across the *mauka* portion of the project area (in Māhele records for Land Commission Award 775, Apana 2 to Paoa) with a *kuauna* defining the *makai* boundary of the paukū (on a 1922 survey map for Land Court Application 537). Early 20th century maps and photographs – produced before the construction of the Ala Wai Canal – show a pond feature covering the *makai* portion of the project area.

Historic photographs show that the present surface of the urban blocks in this portion of Waikīkī is landfill created during the construction of the Ala Wai Canal. By the early 1950's, as shown on a fire insurance map of the period, the project area comprised 20 parcels containing single-story and two-story dwellings and apartment buildings. Episodes of demolition and construction upon these parcels took place during the second half of the twentieth century.

It is anticipated that subsurface remnants of: the original Native Hawaiian agricultural wetland environment – including a "paukū of stream taro", a *kuauna*, and a pond – will be encountered during the inventory survey. It is further anticipated that evidence of fill episodes from land-reclamation programs – including the Ala Wai Canal project and, perhaps, off-shore dredging projects – will also be encountered. Evidence of late historic construction, demolition, and landscaping activities are expected to overlay the dredged strata.

V. RESULTS FROM SUB-SURFACE TESTING

A. Summary of Trenches

Ten backhoe trenches were excavated during the inventory survey of the project area (Figure 11). A total length of 57.1 m. was excavated, with the trenches generally 5 m. long and 70 cm. wide. Based on the predictive model trench excavations were placed not only to broadly sample the project area, but to attempt to locate and sample a *paukū* and a *kuauna*. The *paukū* of stream taro was identified and located on a 1922 survey map for Land Court Application No.537. The *kuauna* ran between the former Alanaio Stream and an *'auwai*. The *kuauna* also defined the *makai* boundary of Land Commission Award 1775, Apana 2 to Paoa, a parcel identified in Māhele records as a "Paukū ditch of stream taro." The *kuauna* or "bank of an irrigated taro patch" (Lucas 1995:59) was the subject of a Land Court Application (Ld. Ct. App# 537).

The sediments and subsurface site (State Site # 50-80-14-6407) found during the inventory survey were consistent with expectations of the predicative model.

B. Stratigraphic Overview

Evident in the exposed stratigraphy were four major stratigraphic components: the uppermost, Stratum I (a - c), comprises the 'dry' fill materials that post-date the 1930's; the second stratum designation, II (a - c), comprises the 'land reclamation' fill sediments of the pumped dredged material from the 1920's Ala Wai Canal construction project; the third stratum designation, III (a - c), corresponds to the pre-contact/post-contact land surface modified by Native Hawaiians and utilized into the early 20th century; the fourth and lowest stratum designated, IV (a & b), comprises the natural gleyed gray coarse sands and coral rubble layers. The coral rubble layering is a soupy mix of angular coral rubble and coarse sands that continue below the depth the backhoe could excavate. Trenches (1-5 & 8) had coral hard pan as the base of excavations, just below the water table.

Stratum I fills vary in texture and color and were separated into three subsets designated Ia, Ib, and Ic. The Ia material developed in the project area from the late 1930's to the recent demolition and removal of all structures within the parcel. Landscaping fills, and possibly some of the more recent construction fills, were brought in to the project area for particular building events, accounting for part of the diversity in these upper sediments. It is also evident that previously on-site materials disturbed during historic construction or demolition events were re-worked and used to refill the disturbed areas.

These 'dry' fills include sediments with a matrix of fine to coarse sand or loam that vary in Munsell color from very pale brown to very dark brown but that are primarily crush coral fill material (Figure 12). Inclusions recorded include roots and rootlets. Historic infrastructure debris includes asphalt fragments, concrete fragments, metal pipes, PVC pipe, and plastic fragments. Architectural rubbish such as glass, tile, brick fragments were infrequently mixed within the refill materials.

The land-reclamation sediments, Stratum II (a - c), are related to fills from the Ala Wai Canal dredging and lie beneath the more recent fills described above. The land-reclamation materials were dredged from the area of the present route of the Ala Wai Canal. A path moving north and east from the beach at Ala Moana (where the mouth of the canal is located) to just before Kapahulu Avenue was excavated and dredged to a depth of at least twenty feet and a width of two hundred and fifty feet, to construct the Ala Wai Canal. The filling in of the surrounding area was achieved through a combination of hydraulic pumping and truck dumping of materials (see Figure 4). Occasionally, time lapses occurred between the different episodes of filling a particular property, which in part explains the variation in the sediment.

The Stratum II fill sediments predominantly consist of very fine to medium-coarse sands, loamy sands, sandy clay loams, and silty clays. Fine clay microstratigraphy lenses are present in some of the predominantly sand strata (Figure 13). Some of these sediments contain gravelly to stony coral inclusions from dredging activity. The lower of these land-reclamation fill layers, Stratum IIc, consists of pumped dredged gleyed clay.

Munsell colors for these dredged land-reclamation fills vary from yellowish brown to various shades of browns and grays and bluish grays. In general, the top layer, Stratum II a, consists primarily of light brown to gray sand. The mid-layer, Stratum II b, is yellowish to brown sands, loams, and clays; and the lowest layer, Stratum II c, is a variation of bluish gray to dark gray silty clay. This gleyed gray clay is generally found at or near the water table, sometimes extending below, and contains a bluish hue in certain areas (also near the water table).

The most interesting aspect of these dredged fill sediments is that they often feature microstratigraphy—fine layered bands from 1 mm to 3 cm thick. Generally, the microstratigraphy occurs in very fine sand sediment in bands of 1 mm to 1 cm thick, in fine sand from 1 mm to 3 mm thick, and in silty clay from 1 to 2 mm thick (*i.e.* Stratum II a and II b)(Figure 12). These microstratigraphic lenses of silty clay and fine sands are the result hydraulic dredging episodes during the land-reclamation projects. Figure 4 shows the pipe lines used in this dredging procedure.

Below the land-reclamation strata is the native Hawaiian and historically modified ground surface—the prehistoric to early 20th century wetlands which follows the contours of the former land surface, prior to the dredged fills. The sediments that comprise this stratum (III a - c) vary between moist sandy loamy clays, sandy clay loams, and clay loams. The compositions are generally consistent, and include organic materials, roots and rootlets, and charcoal flecking.

The original land surface was culturally modified by Native Hawaiians, as early as the 1300's (Beckwith 1940), into an irrigation system for agricultural and fishpond activities (see historical section). The topography exposed, revealed remnants of the Native Hawaiian agricultural soils, especially in the *kuauna/paukū* observed in Trenches 6, 7, and 9. The overall topography of this original prehistoric/historic ground surface appears to have been relatively level, except for the mounded up embankment (*i.e.* Site -6407, Feature A)(Figures 14-17).

Beneath the original agricultural ground surface is a gleyed calcareous coarse sand. This gray sand represents the natural sand deposits occurring during the formation of Waikīkī. Gleying is due to its location at or below the water table. This submerged gray sand has a

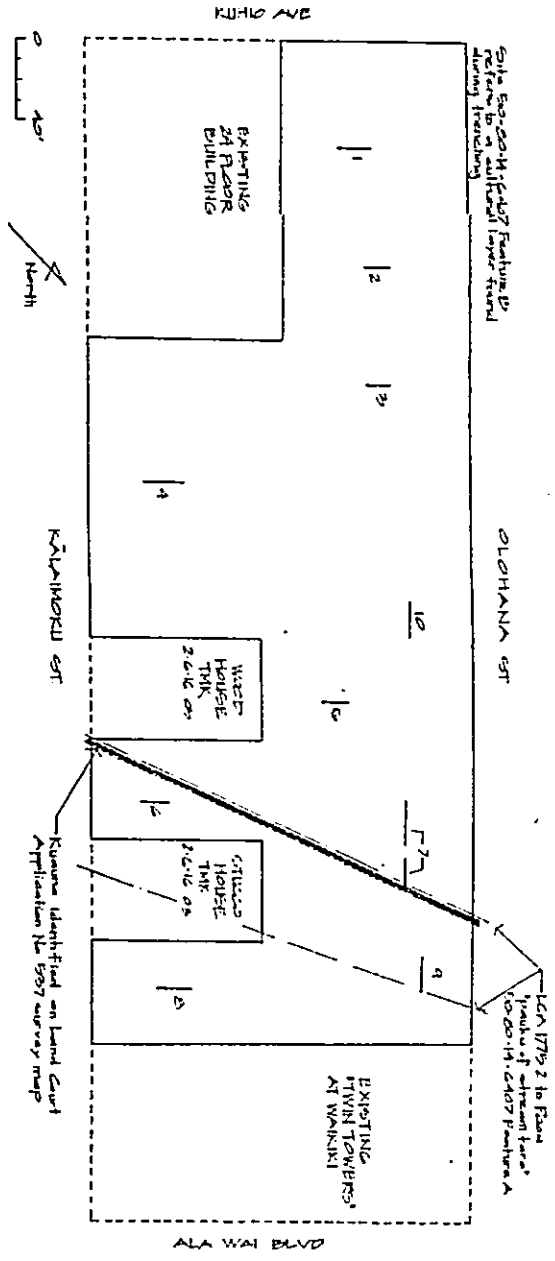

Figure 11 Project Area Map showing location of trenches and State Site # 50-80-14-6407

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Figure 12 Trench 2, photo of west profile, showing Stratum I dry fill material

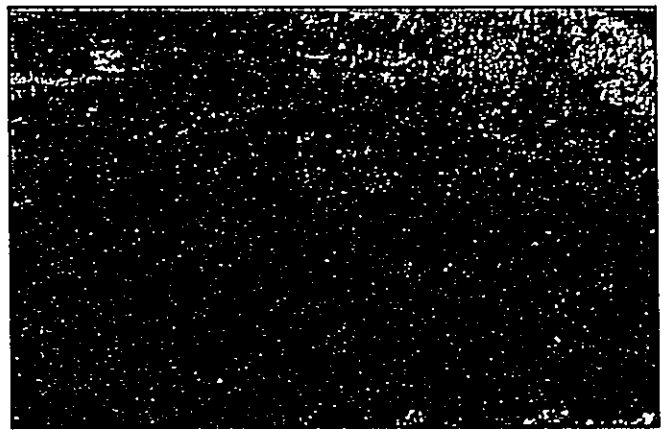

Figure 13 Trench 1, photo of east profile, showing Stratum II Ala Wai dredged and pumped material and the characteristic microstratigraphy

Figure 14 Trench 6, photo of east face, showing Site -6407 Feature A at bottom of trench overlain by fill

Figure 15 Trench 6, east face, Site -6407 Feature A at base

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Figure 16 Trench 7, photo of south profile, showing sand and clay fills over Site -6407 Feature A cultural layer

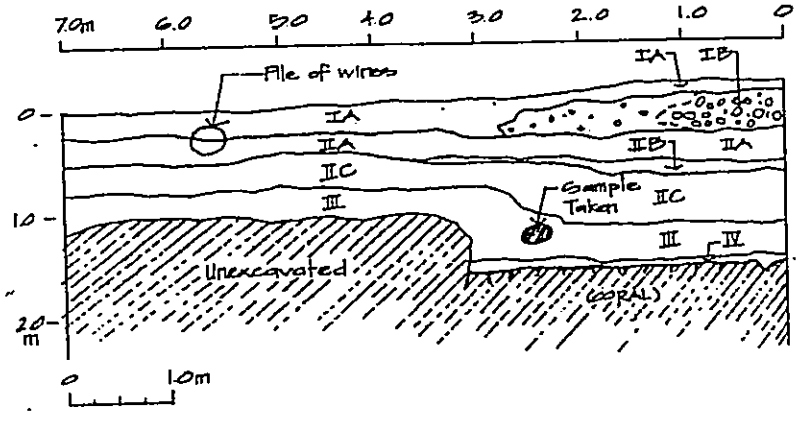
Figure 17 Trench 7, photo of southeast face, showing Site -6407 Feature A cultural layer at base of excavation

consistent composition with no inclusions other than basalt cobbles in particular areas. Coral shelf hardpan lies at the base of excavation in most of the trenches. Trenches 6, 7, and 9, however, had soupy coral rubble to below depths the backhoe could reach.

C. Trench Descriptions

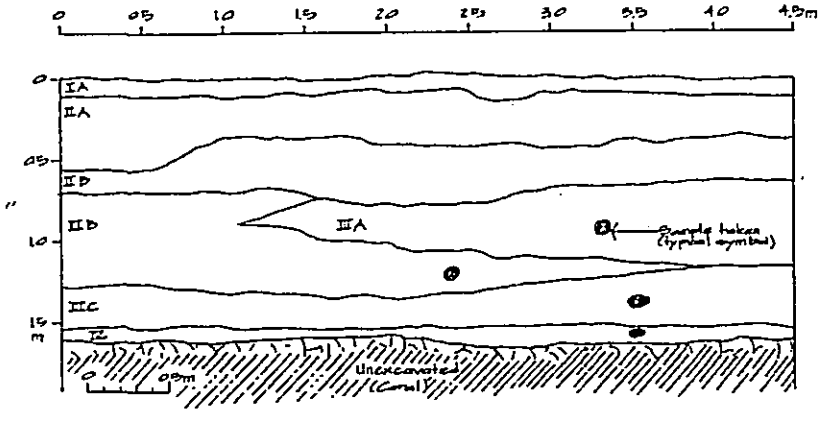
Following are descriptions of each of the ten backhoe trenches excavated. Included are trench length, depth, orientation, strata encountered, and any other pertinent information gathered during excavation:

TRENCH 1: Southwest Wall: length 7 m,depth 178 cmbs,width 70 cm,oriented 120/262° MN (Northwest/Southeast)



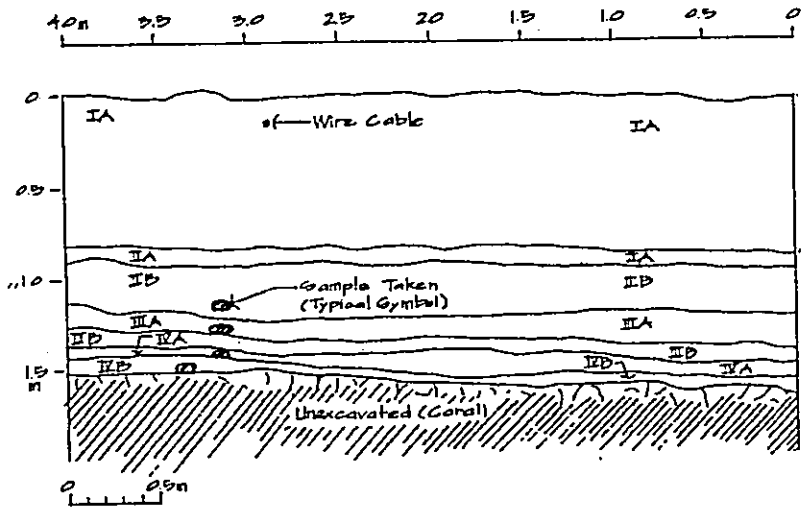
Strata	CMBS	Description
I a	0 - 10/30	10 YR 4/3 dark brown, Loamy Sand, gravelly, slightly compact, structureless, inclusions: some roots & rootlets, historic architectural rubbish (metal and wire); abrupt wavy lower boundary
I b	10 - 30	10 YR 6/3 pale brown, Coarse Sand, slightly compact, structureless, inclusions: roots & rootlets, crush coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth lower boundary
II a	25/30 - 75/80	10 YR 5/2 - 6/1 gray brown to gray, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; abrupt smooth lower boundary
II b	80 - 90/95	10 YR 6/3 brown, Sandy Clay Microstratigraphy, compact, structureless; moist, sticky, and plastic; no inclusions, very abrupt wavy lower boundary
II c	65/70 - 97/135	N 4/0, N 3/0 dark gray, very dark gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III	97 - 165/170	7.5 YR 3/1 dark reddish gray to 7.5 Y 2/5 reddish black, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: very fine roots and rootlets, high organic content, land snails; irregular lower boundary
IV	167 - 175	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, irregular lower boundary with coral hard pan

TRENCH 2: Northeast Wall: length 5.1 m, depth 165 cmbs, width 70 cm, oriented 120° MN (Northwest/Southeast)



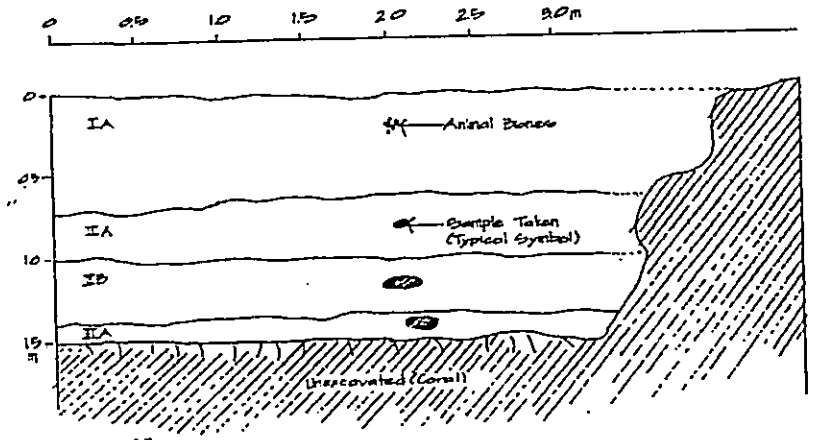
Strata	CMBS	Description
I a	0 - 10/12	7.5 YR 6/0 gray, Gravel, no inclusions, abrupt-smooth lower boundary, Construction Fill Material
II a	10/12 - 35/55	7.5 YR 5/3 - 6/1 brown to gray, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; abrupt, wavy lower boundary
II b	35/55 - 70/75	N 4/0, N 6/0 dark gray to gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III a	70/75 - 90/115	10 YR 3/1 to 10 YR 2/2 very dark gray to very dark brown, Sandy Loamy Clay, slightly compact, structureless, moist, sticky and plastic, inclusions: very fine rootlets, shell; irregular to discontinuous lower boundary
III b	75/115 - 127/135	7.5 Y 2/5 black, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: very fine rootlets, land snails, high organic content; clear smooth lower boundary
III c	127/135 - 153/165	7.5 YR 3/2 dark gray, Sandy Clay, slightly compact, structureless, moist, sticky and plastic, inclusions: very fine rootlets, land snails; abrupt smooth lower boundary
IV	153/155 - 160/165	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, abrupt, irregular lower boundary with coral hard pan

TRENCH 3: Southwest Wall: length 4 m, depth 165 cmbs, width 70 cm, oriented 120° MN (Northwest/Southeast)



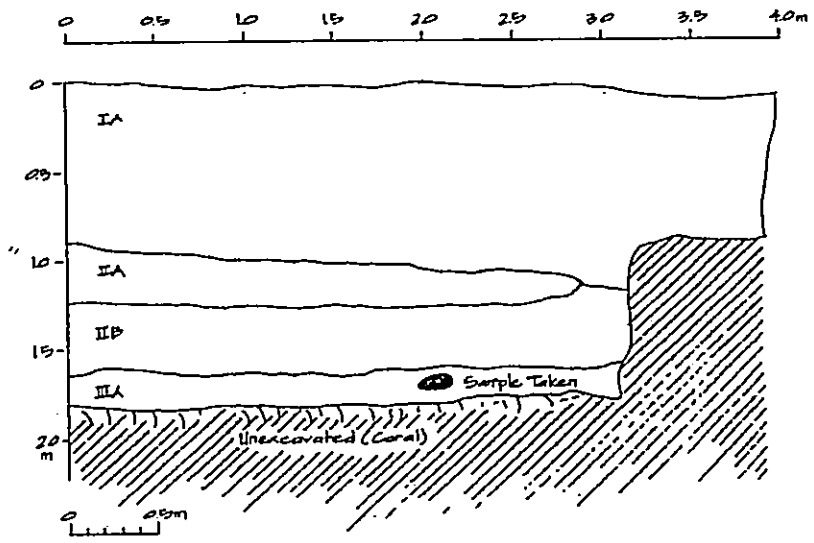
Strata	CMBS	Description
I a	0 - 85	10 YR 6/3 pale brown, Coarse Sand, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth lower boundary
II a	85 - 95	10 YR 5/2 - 4/3 gray brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; abrupt smooth lower boundary
II b	95 - 120/125	N 4/0, N 3/0 dark gray, very dark gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III a	120/125 - 130/135	7.5 YR 3/2 dark brown, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: very fine rootlets, land snails; clear smooth lower boundary
III b	130/135 - 140	7.5 Y 3/1 very dark gray, Sandy Clay, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell; irregular to discontinuous lower boundary
IV a	140 - 150/155	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, irregular lower boundary
IV b	150/155 - 165	10 YR 3/2 very dark gray, sandy clay loam, slightly compact, structureless, no inclusions.

TRENCH 4: Northeast Wall: length 6 m, depth 150 cmbs, width 70 cm,oriented 120° MN (Northwest/Southeast)



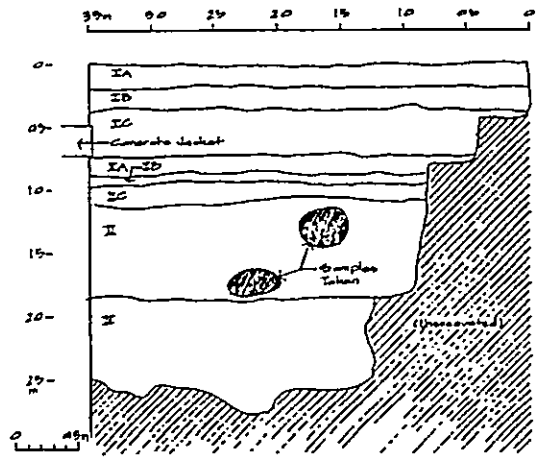
Strata	CMBS	Description
I a	0 - 68/72	10 YR 6/3 pale brown, Sand, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; few pig bones; abrupt-smooth lower boundary
II a	68/72 - 100	10 YR 5/3 brown, Silty Clay Microstratigraphy, compact, structureless; moist, sticky, and plastic; no inclusions, very abrupt wavy lower boundary
II b	100 - 135/140	10 G 4/1 dark greenish gray, very, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III a	135/140 - 150	7.5 YR 3/1 very dark gray to 7.5 YR 3/2 dark brown, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell; irregular to discontinuous lower boundary

TRENCH 5: Southwest Wall: length 4.5 m, depth 185 cmbs, width 70 cm, oriented 120° MN (Northwest/Southeast)



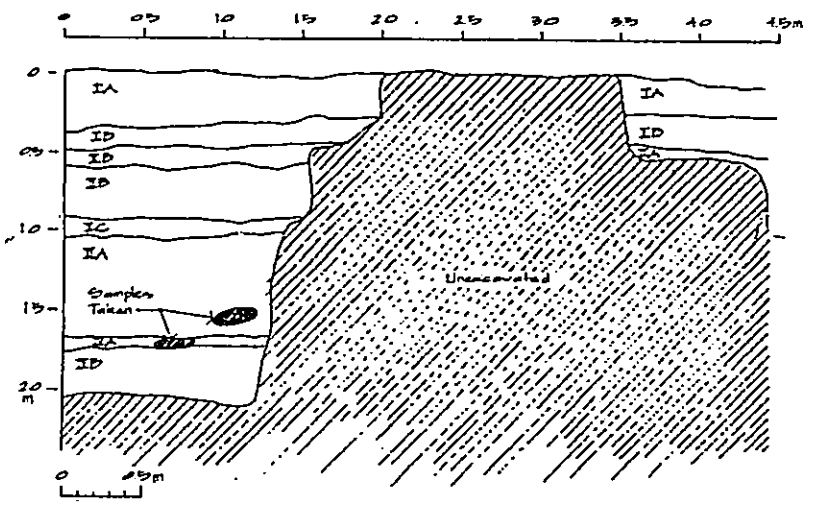
Strata	CMBS	Description
I a	0 - 85/112	10 YR 6/3 pale brown, Sand, slightly compact, structureless, inclusions: roots & rootlets, crush coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth lower boundary
II a	85/112 - 123	10 YR 5/2 - 6/3 gray brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth lower boundary
II b	123 - 161/164	N 5/0 gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III	161/164 - 185	7.5 YR 3/1 very dark gray, Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, land snails; irregular to discontinuous lower boundary

TRENCH 6: Northeast Wall: length 4.5 m, depth 260 cmbs, width 70cm, oriented 120° MN (Northwest/Southeast)

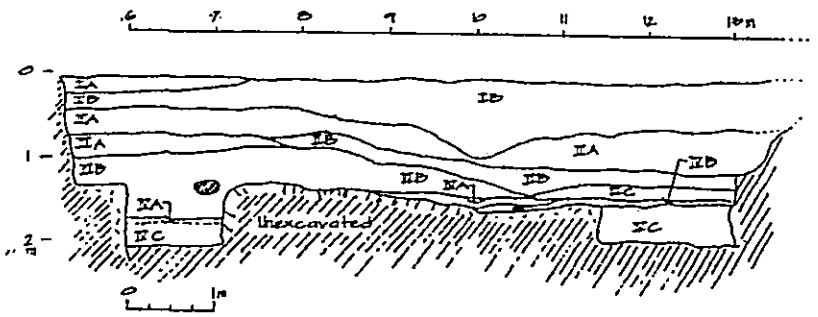


Strata	CMBS	Description
I a	0 - 25	10 YR 4/3 dark brown, Loamy Sand, gravelly, slightly compact, structureless, inclusions: some roots & rootlets, crush coral gravels, metal; abrupt wavy lower boundary
I b	25 - 38	10 YR 7/3 very pale brown, Coarse Sand and crush coral gravel and cobble, loose, structureless; clear-smooth lower boundary
I c	38 - 75	10 YR 6/3 pale brown, Coarse Sand, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth lower boundary
II a	75 - 90	10 YR 5/2 - 6/1 gray brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth and discontinuous lower boundary
II b	90 - 95/98	10 YR 5/2 - 5/3 grayish brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth and discontinuous lower boundary
II c	95/98 - 109/115	5 B 5/1 bluish gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III	109/115 - 185	7.5 YR 3/1 very dark gray to 7.5 Y 2/5 black, Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell, charcoal; abrupt smooth lower boundary
IV	185 - 255/260+	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, no coral hard pan

TRENCH 7: Southeast Wall (Mauka Section): total length (with unexcavated bulk between *mauka* and *makai* sections: 13 m, mauka section length 2 m, depth 215 cmbs, width 70 cm, oriented 35° MN (Northeast/Southwest)

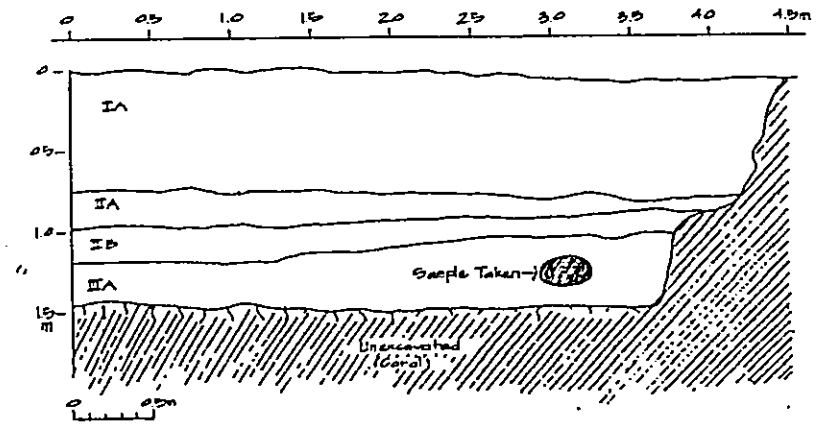


TRENCH 7: Southeast Wall (Makai Section): total length (with unexcavated bulk between *mauka* and *makai* sections): 13 m, makai section length 8 m, depth 215 cmbs, width 70 cm, oriented 35° MN (Northeast/Southwest)



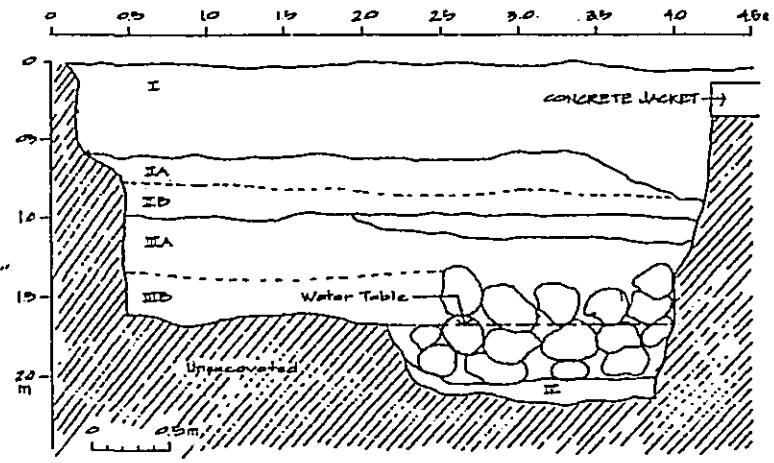
Strata	CMBS	Description
I a	0 - 35/40	10 YR 6/3 pale brown, Coarse Sand and crush coral with gravels to cobble, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth lower boundary
I b	35/40 - 50	10 YR 7/2 light gray, crush coral pebble to cobbles, slightly compact, structureless, inclusions: roots & rootlets, shell, random large coral cobbles 5-10 cm; abrupt-smooth & discontinuous lower boundary
II a	50 - 60	10 YR 5/2 - 4/3 gray brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth and discontinuous lower boundary
II b	60 - 93/95	5 B 5/1 bluish gray, Silty Clay Microstratigraphy, compact, structureless: moist, sticky, and plastic; no inclusions, very abrupt wavy & discontinuous lower boundary
II c	93/95 - 107	N 4/0, N 3/0 dark gray, very dark gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III a	107 - 170	10 YR 3/1 very dark gray to10 YR 2/2 very dark brown, Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, land snails; clear wavy lower boundary
III b	107 - 175	7.5 YR 2.5/1 black, Clay, slightly compact, structureless, moist, sticky, plastic, inclusions, few very fine rootlets, charcoal flecking; abrupt wavy lower boundary
IV a	170 - 175	N 5/0 gray Coarse Sand, loose, structureless, marine shell inclusions, abrupt smooth lower boundary
IV b	175 - 207	N 5/0 gray, well sorted medium to coarse Sand, loose, structureless, no inclusions, abrupt smooth lower boundary
IV c	190 - 215	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, no lower boundary

TRENCH 8: Northeast Wall: length 5 m, depth 150 cmbs, width 70 cm,oriented 120° MN (Northwest/Southeast)



Strata	CMBS	Description
I a	0 - 75	10 YR 6/3 pale brown, Coarse Sand, slightly compact, structureless, inclusions: roots & rootlets, shell & coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth & discontinuous lower boundary
II a	75 - 90/95	10 YR 5/2 - 5/3 gray brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth and discontinuous lower boundary
II b	90/95 - 115/120	5 B 5/1 bluish gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III	115/120 - 150	7.5 YR 3/1 very dark gray to 7.5 Y 2/5 black, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell; abrupt irregular lower boundary with coral hard pan

TRENCH 9: Southeast Wall: length 5 m, depth 210 cmbs, width 70 cm, oriented 35° MN (Northeast/Southwest)

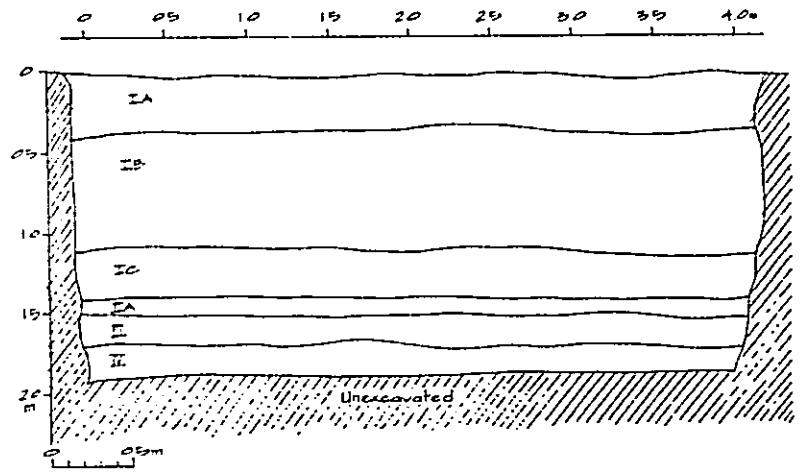


Strata	CMBS	Description
I	0 - 60/84	10 YR 6/3 pale brown, Coarse Sand, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; abrupt-wavy lower boundary
II a	60/84 - 85	10 YR 5/2 - 5/3 gray brown to brown, Fine Sand & Clay Microstratigraphy, slightly compact, structureless, inclusions: very few roots & rootlets; clear smooth lower boundary
II b	85 -100	10 YR 5/3 brown, Silty Clay Microstratigraphy, compact, structureless; moist, sticky, and plastic; no inclusions, very abrupt wavy & discontinuous lower boundary
II c	100 - 108	5 BG 5/1 bluish gray, Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III a	108 - 128/132	7.5 YR 3/1 very dark gray to 7.5 Y 2/5 black, Sandy Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell; irregular to discontinuous lower boundary
III b	128/132 - 159/163	10 YR 2/2 very dark brown, Sandy Loamy Clay, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell, charcoal; irregular to discontinuous lower boundary

Coral Boulders between Stratum III b and IV (See Profile)

IV	200 - 210+	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, no lower boundary

TRENCH 10: Southeast Wall: length 4 m, depth 190 cmbs, width 70 cm, oriented 35° MN (Northeast/Southwest)



Strata	CMBS	Description
Ia	0 - 29/40	10 YR 6/3 pale brown, Coarse Sand and crush coral fill, slightly compact, structureless, inclusions: roots & rootlets, coral gravels, random large coral cobbles 5-10 cm; abrupt-smooth & discontinuous lower boundary
Ib	29/40 - 110	10 YR 7/3 very pale brown, Coarse Sand and coral pebble fill, loose, structureless, inclusions: gravel pebbles, crushed shell; clear-smooth lower boundary
Ic	110 - 139	10 YR 8/4 very pale brown, Coarse Sand fill, loose, structureless, inclusions: coral gravels, abrupt-smooth lower boundary
IIa	139 - 151	5 B 5/1 bluish gray, Silty Clay Microstratigraphy, slightly compact, structureless; moist, sticky and plastic, inclusions: very fine rootlets; very abrupt smooth lower boundary
III	151 - 169/172	7.5 YR 2.5/2 very dark brown to 7.5 YR 2.5/1 black, Clay Loam, slightly compact, structureless, moist, sticky and plastic, inclusions: a few very fine rootlets, shell; irregular to discontinuous lower boundary
IV	169/172 - 190+	N 5/0 gray, Coarse Sand and coral gravels and cobbles, loose, structureless, no inclusions, no lower boundary

VI. SUMMARY

Cultural Surveys Hawai'i conducted an archaeological inventory survey of a 71,000-sq. ft. project area in Waikīkī *Ahupua`a* (TMK 2-6-16:02, 04, 06-08, 12-19). Extensive archival and historical research was followed by the excavation of 10 backhoe trenches.

The present-day Waikīkī and Moiliili portions of the *ahupua`a* of Waikīkī in the centuries before the arrival of Europeans was an intensively utilized locale with abundant natural and cultivated resources. The area featured an expansive system of irrigated taro fields, supporting a large population that included the highest ranking *ali`i*. In the nineteenth century, after a period of depopulation and desuetude, Waikīkī was reanimated. The new Waikīkī community included Hawaiian *ali`i*, some foreigners, and farmers continuing to work the irrigated field system. Farming continued until the deposition of dredge sediments from the Ala Wai Canal, completed in the late 1920's, filled the remaining ponds and irrigated fields.

Archaeological reports have documented human burials—both pre-contact Hawaiian and historic—throughout the breadth of Waikīkī. Especially relevant to the present project area are several burials encountered within the grounds of Ft. DeRussy and adjacent hotels and Kalakaua Avenue. A burial encountered at the intersection of Kuamo'o Street and Kuhio Avenue, just two blocks *`Ewa* of the project area, was also recorded during a water-line excavation.

Numerous studies have recorded the presence within Waikīkī of sub-surface cultural deposits of both pre-contact Hawaiian and historic provenance. These deposits had remained intact despite the years of construction activity that have altered the surface of the entire area. The authors of these studies emphasize that the potential for discovering similar intact deposits elsewhere in Waikīkī cannot be discounted.

The results of the current sub-surface investigations were consistent with the expectations formulated in the predictive model, which was based on archival and historical research. The current land surface of the project parcel consists of landscape, construction, and/or coral and sand fill sediments (*i.e.* Stratum I) which overlay clay sediments. Coral, sand, and silty clay fill layers correspond to the land-reclamation of the Ala Wai Canal project of the 1920's. The fill episodes both altered and in part preserved the earlier ground surface features as they were at the time of the Ala Wai Canal construction The Ala Wai Canal fill sediments (*i.e.* Stratum II) overlay the original prehistoric to early 20th century ground surface.

Historic maps and photographs included in this report document the cultural landscape of the project area. They depict the former prehistoric/historic landscape consisting of agricultural features related to ponds, *lo`i* and *`auwai*. The *pauku`i/kuauna* recorded as state Site 50-80-14-6407, Feature A, was located in Trenches 6, 7, and 9. The embankment remnant was designated Stratum III a & b, in the profiles for these trenches (see Trench Descriptions 6, 7 & 9). The *makai* edge of the embankment (Site -6407, Feature A) is visible in the trench 7 profile where Stratum IIIB pinches out and is replaced by Stratum IIB fill material (see Trench Description 9) Features like Site -6407 and major *`auwai* like 'Auwai O Pau (State Site 50-80-14-4940 Davis 1989) were constructed in prehistoric times (documented as early as the 1400's) by Native

Hawaiians to manage the natural resources of the area, creating a cultural landscape of *lo'i*, fishponds and habitation areas. In historic times, new features were constructed and prehistoric ones continued to be used and modified.

There is a pond depicted in the project area on the 1909-1913 U.S. Army Engineers map (Figure 6), which may correlates to the shallow profiles documented in trenches 1-5 and 10. The embankment described in historic documents and depicted in historic maps (Land Court Application 537; see Figure 7 above) and given State Site # 50-80-14-6407 was created, at least in part, using the techniques described by Handy and Handy (1972:92):

> The new piece of land selected for making a terrace was flooded for several days....The dimensions, shape, and required degree of terracing were determined by the contour of the land. As described by Kamakau...the men with their *ō'o* (digging sticks) lined up inside the limits of the banks of the projected terrace. Throwing up the earth along the line of the proposed embankment, they dug down until they struck firm subsoil. Sometimes little stakes (*la'ola'o la'au*) were put down to hold the bank. After the soil had thus been piled on the banks to the required level, the sides of the embankment facing the water were stamped down with the feet, and edges and lines were straightened. Sugar-cane leaves were then beaten into the surface of these inner faces of the banks with logs (*la'au*) or the butts of coconut leaves (*ku'au*). Coconut leaves were then laid on the surface and pounded in with large flat stones. On this, moist earth was laid and pounded until the surface was smooth; finally the bank was covered with fine soil, on top of which were put trash and leaves to prevent the new bank from drying and cracking in the sun. This completed the making of the earth bank...Some earth banks were reinforced inside by veneering with stones.

These processes correlate with and explain the high organic content of the *paukū/kuauna* and other agricultural soils (*i.e.* Stratum III material) documented in the project area. It is posited that the larger embankment (Site 50-80-14-6407, Feature A) was also utilized for habitation and access. It also served as a planting venue for a variety of crops. The site (-6407, Feature A) was substantial enough for a row of trees to have grown on it. It is one of the last remaining features visible at the end of the land reclamation project of the Ala Wai Canal. The dry fill layer of white crushed coral mixed with brown loamy sand covering the majority of the present project is seen as Stratum I in Figure 12 (Trench 2, west face profile). There is a house on the newly laid out Olohana Street side of the project area, with a row of trees adjacent to the house that mark the location of the *paukū/kuauna*. The excavations (Trenches 6, 7, and 9) that documented Site -6407A indicate that it was raised approximately 1 m. above the surrounding terrain and thus has shallower or thinner fill sediment layers (*i.e.* Stratum I and II) on it than observed in the other trenches.

Three samples, each approximately two gallons, were collected from the very dark grey to black clay loam sediments of Site -6407A (two from Trench 6 and one from Trench 7). Two samples were water-screened through 1/8"- and window-screens. Charcoal, coral, marine shell, organic debris (*i.e.* leaves, twigs, rootlets) were noted. No artifacts were observed though a few angular, pebble-sized basalt fragments (not flakes) were present. Two charcoal samples were sent to Beta Analytic Inc. for analysis.

Though no historic-era artifacts were observed in the sampled portions of Site -6407, historic documents (*i.e.* Land Commission Award data, Land Court Application 537-550, maps, and photographs) clearly indicate historic-era usage, probably to the time of the Ala Wai Canal construction in 1921.

Based on subsurface observations, the former precontact to historic cultural landscape surface (Site - 6407) has been divided into two features. Site -6407 Feature A refers to the sediments (Stratum III A and B) that comprised LCA 1775 to Paoa and the associated *paukū/kuauna*, and earlier pre-contact agricultural usage. The Land Commission Award and *kuauna* were the subject of a 1922 Land Court Application (#550) in conjunction with the Ala Wai Canal Land reclamation activity. Site -6407, Feature A was distinguishable as a culturally enriched, very dark grey to black, clay loam that was up to 90 cm thick in trenches 6 and 7. Based on the historic data, -6407, Feature A should have contained evidence of an *'auwai, kuauna*, and a "*paukū* ditch of stream taro" (LCAw 1775 to Pauoa.) No distinct structural elements (*e.g.* rock embankment, stone- lined ditch or *'auwai*) were observed in association with Site -6407, Feature A. However, in the trenches (i.e. 6, 7, and 9) where Site -6407, Feature A was observed, the base of excavation was unconsolidated coral rubble to depths below the reach of the backhoe (*ca.* 2.5m) In the remaining trenches, the base of excavation was consolidated coral hard pan. This suggests a natural break in the coral/limestone shelf that, through time, was culturally modified as part of the mosaic of fields, ponds, *'auwai* that dominated the cultural landscape in this portion of Waikīkī.

Site -6407, Feature B refers to the other culturally enriched stratum in the project, designated Stratum III A-C. Stratum III in trenches 1-5, 8 and 10 was not as thick, did not contain as much organic content (especially charcoal flecking), were lighter in color, and generally contained more land snails than Feature A. Based on historic documents (Land Commission Award data and maps), *makai* of Site -6407, Feature A, the project area contained a shallow pond (Figure 6). *Mauka* of Feature A, Land Commission Award data indicated *lo'i* cultivation in which trench 8 was placed. Trench 8 did contain a very dark grey to black sandy clay loam layer designated Stratum IIIA which is interpreted as culturally enriched agricultural soil as anticipated. It is these types of sediments, the very dark browns to very dark grey, sandy clay loams to clay loams with high organic content that Site 50-80-14-6407 Feature B denotes.

The subsurface survey did not find the dry Jaucus sands in which Waikīkī burials have been documented as being primarily associated with. Thus it seems burial finds are unlikely in the project area.

C. Charcoal Sampling Results Analysis

The provenience of C14 Sample Beta - 169338 was Trench 6, Stratum III, *ca.* 180 cmbs. The sample, 10.7 gm., was gleaned from a two-gallon bulk soil sample that was water-screened at the CSH lab. The charcoal chunks were removed by hand. The resulting 2-Sigma calibrated results, *ca.* A.D. 1430 - 1660, and the radiocarbon intercept of 1480 provide a clearly pre-contact date related to Native Hawaiian occupation of this portion of Waikīkī. Based on provenience the charcoal is from culturally enriched agricultural soils near the base of a large berm or "*bund*" (Site -6407A).

The second sample, Beta-196337, was also from Trench 6, obtained at *ca.* 125-145cmbs (Beta 169338 was obtained at 180cmbs). The sample 1.8 gm was gleaned from a two-gallon bucket soil sample that was water-screened. The charcoal fragments were removed by hand. The 2-Sigma calibrated results, *ca.* A.D. 1320 - 1480, and the radiocarbon intercept of 1426 again provide a clearly pre-contact date related to Native Hawaiian occupation of this portion of Waikīkī. The dates appear to represent the same event, related to the development of this presumed agricultural feature.

Though the samples were not from a discrete feature (*e.g.* firepit, wall structure, *etc.*), they still have a relatively narrow time range without multiple radiocarbon intercepts. Additionally, though the samples were from the lower portion of Stratum III, in Site -6407 Feature A (Trench 6) it does not necessarily provide a date of initial cultural formation of the feature. It appears more probable, based on sample provenience and stratigraphic documentation of Site -6407 Feature A in Trenches 6, 7, and 9, that the samples represent continued use of and expansion of an existing agricultural related feature.

The resulting calibrated age of samples Beta -169338 and Beta-169337 suggests that the Waikīkī wet land agricultural complex and associated construction and use activities (*e.g.* walls, *`auwai*, berms, fields, limited habitation, *etc.*) was at least partially developed and presumably expanding by the fifteenth century. Research at Fort DeRussy has "...*`auwai* and fishpond features...dated to the fifteenth century," though "...expansion of fishpond and *`auwai* complex" was posited to be during the "...seventeenth - eighteenth century" (Simmons *et al.* 1995). The present data may be indicative of a more expansive and intensive Waikīkī plains agricultural complex by the fifteenth century than previously documented. The data does clearly indicate that active traditional Hawaiian use of the parcel from *ca.* A.D. 1400 - 1660 until at least the 1850's when *kuleana* claimant Paoa (LCA # 1775) was using Site 50-80-14-6407 Feature A as a "paukū ditch of stream taro." (N.T. Vol. 3, pg. 509, LCA # 1775). This indicates that Site -6407 Feat. A is a multi-component deposit with pre- and post-contact components.

VII. CULTURAL IMPACT

Because this urban project area has been totally developed in the past with modern residences for eighty years, and following consultation with the State Historic Preservation Division, it was felt that the degree of effort indicated in Office of Environmental Quality Control (State Department of Health) "Guidelines for Assessing Cultural Impacts" was simply not appropriate. While no formal Cultural Impact Assessment has been undertaken, it seemed appropriate to briefly summarize cultural impacts as they may be discerned from the historic record as uncovered in the course of the present research.

A. Archaeological Sites

There are no surface sites within the project area. The present study has identified and documented a single site (50-80-14-6407) a buried cultural deposit primarily agricultural in nature. This buried cultural deposit is regarded as having low interpretive and educational potential and is unlikely to be unique given the extensive agricultural modification of Waikīkī in traditional Hawaiian times.

B. Burial Sites

Coastal Waikīkī is well-known for having been the site of many traditional and early historic Hawaiian burials. The vast majority of these burial finds have been well seaward of Kūhīo Avenue. The only reported burials of which we are aware from *mauka* of Kūhīo Avenue and west of Paoakalani Street are one from the Ala Wai Golf Course (Bath and Kawachi 1989) and one from Lili`uokalani Street (McDermott *et al.* 1996). In both of these cases, however, the burials were in Jaucas Sand deposits which is almost always the case in Waikīkī. No burials are known within or near the present project area and no Jaucas sand deposits are known within or near the present project area. While it is difficult to categorically rule out the possibility of burials the potential seems low.

C. Fishing

The project area is not adjacent to any bodies of water.

D. Gathering

The project area has been heavily urbanized for eighty years and the only plants present are remnants of landscaping and exotic weeds. No gathering practices are believed to exist within the project area.

D. Hunting

No wild pigs or other animals traditionally hunted by Hawaiians are believed to be present and no hunting is believed to be allowed in Waikīkī.

E. Sacred Sites

Waikīkī was well-known for its many important *heiau* (including Helumoa, Kapua, Kūpalaha, Papa`ena`ena). None of these is understood as having been in or near the present project area.

F. Trails and Access

It is understood that a major trail ran through Waikīkī but this is understood as having

been close to the coast as shown in illustrations of John Papa ʻIʻīs descriptions (ʻIʻī 1959:93). It is understood that the wetland nature of the inland portions of Waikīkī prior to the excavation of the Ala Wai Canal largely focused east/west pedestrian traffic to the coast and a *mauka* alignment approximating King Street. Public access and transit in the vicinity of the project area is readily facilitated but the existing Ala Wai Boulevard, Kūhīo Avenue, ʻOlohana and Kālaimoku Streets.

G. *Wahi Pana* (storied places)

No storied places (*wahi pana*) are known within the present project area other than the qualities adhering to Waikīkī in general. No adverse impact to the integrity of Waikīkī in general is foreseen.

H. Conclusions

This good-faith attempt to evaluate the potential cultural impacts of the proposed project area on the basis of historical and archaeological data concludes that there will be no further adverse impacts. The entire project area was extensively filled in the past and has been completely urbanized for eight decades. No traditional cultural practices have been identified within the project area and none are believed to be on-going that are in any way site specific.

VIII. SIGNIFICANCE

One new site has been designated as a result of the archaeological inventory survey of the current project area. The following significance evaluation is based on the criteria of the Hawai'i State and National Registers of Historic places (HRS 6E-10 and 6E-5.5), which defines five broad criteria for defining a cultural site as significant:

A. Site reflects major trends or events in the prehistory or history of the state or nation.
B. Site is associated with the lives of persons significant in our past.
C. Site is an excellent example of a site type.
D Site has yielded or is likely to yield information important to prehistory or history.
E. Site has traditional cultural significance to an ethnic group.

State Site #50-80-14-6407

Site 50-80-14-6407 consists of the precontact to early 20th century land surface that underlays the dredged fill materials from the Ala Wai Canal land-reclamation project, which took place between during the 1920's.

Site 50-80-14-6407 has been divided into two associated features. Feature A denotes a large embankment-like feature in part described as a "*pauku* ditch of stream taro." (N.T. Vols. pg 50 and LCA 1775 to Paoa) and a '*kuauna*' (*taro* patch bank) in Land Court Application 537. Feature A cuts across the mauka portion of the project area. Feature B denotes the other culturally enriched agricultural soils (*i.e.* Str. III) in the project area.

Site 50-80-14-6407 is assessed under criteria A and D. Criterion A refers to major trends or events in history. The development of the Waikīkī wetland agricultural complex would appear to fit 'major trends' and Site -6407 and similar site/features were and integral component of the development and use from precontact until the 1920's. In the case of Site -6407A, a precontact date of *ca.* A.D. 1400 - 1660 indicates a use span of *ca.* 500 years.

Criterion D refers to significant information from Site -6407. The location, type, stratigraphic position, material type, and radiocarbon date gleened from Site -6407 has provided new and important information about the cultural landscape in this portion of Waikīkī. The additional site also has the potential to yield additional significant information on land use and human-induced landform transformation through time.

IX. RECOMMENDATIONS

Based on the results of the archaeological inventory survey, with the identification and documentation of state site 50-80-14-6407, a buried cultural layer, limited data recovery appears warranted. Site 50-80-14-6407 has been divided into two features: A and B. Feature A denotes a large, culturally enriched embankment that, based on present evidence, functioned primarily as an agricultural feature. Radiocarbon analysis of sample beta 169338, gleaned from a two-gallon bulk soil sample near the base of Feature A, resulted in a calibrated age range of AD 1400-1660. The relatively narrow calendric range with a single radiocarbon calibration curve intercept suggests that additional "quality" radiocarbon dates are present in site 50-80-14-6407. Based on these and paleoenvironmental research issues, a program of limited data recovery is recommended.

Data recovery could occur during the initial subsurface construction phase of the project. Linear backhoe trenches could be expanded horizontally to allow hand excavation, column sampling and possibly discrete feature sampling. Radiocarbon analysis, after charcoal speciation, of a number of samples would provide for a more complete chronological record, not only for site 50-80-14-6407, but for agricultural expansion in Waikīkī during the pre-contact era. Paleoenvironmental sampling, focused on pollen profiles, would provide a more comprehensive view of human-induced changes.

The data recovery excavations at Fort DeRussy provided a model of chronology (Simmons *et al.* 1995: 81) for this portion of Waikīkī, but with a caveat that "in order to find the terrigenous sediment that will contain more charcoal for dating landform change and development we need to look further inland" (*Ibid.*: 80). Site 50-80-14-6407 may provide significant additional and new data on the development and use of the cultural landscape of Waikīkī prior to the early 1900's land reclamation projects.

No dry Jaucus Sand deposits were observed in the project area. Previous research in Waikīkī has indicated that nearly all burial finds have been in Jaucus Sand deposits. Based on the absence of the dry Jaucus Sand and the wetland environment of the sediments documented during the subsurface survey, it would appear unlikely that burials are present in the project area. However, in the event of an inadvertent discovery of human remains, all work should stop and the State Historic Preservation Division / Department of Land and Natural Resources should be notified in accordance with HRS 6E.

X. REFERENCES

Allen, J.
1989 *"Geoarchaeological Analysis, Fort DeRussy, Waikīkī, O'ahu". In B. D. Davis Subsurface Archaeological Reconnaissance Survey and Historical Research At Fort DeRussy, Waikīkī, Island of O'ahu, Hawai'i.* Manuscript on file at the State Historic Preservation Office, Honolulu.

Bath, Joyce and Carol Kawachi
1989 *"Ala Wai Golf Course Burial: Site 80-14-4097 ME#89-0252 Mānoa, Honolulu District, O'ahu TMK 2-7-36:15"*, DLNR, Honolulu.

Beardsley, Felicia, and Michael Kaschko
1997 *"Archaeological Monitoring and Data Recovery Pacific Beach Hotel Office Annex, Waikīkī, O'ahu."* International Archaeological Research Institute, Inc., Honolulu.

Beckwith, Martha
1940 *Hawaiian Mythology*. New Haven: Yale University Press.

Carlson, L., S. Collins, and P. Cleghorn
1994 *"Report of human remains found during the realignment of Kālia Road, Fort DeRussy, Waikīkī, O'ahu."* BioSystems Analysis, Kailua.

Chamberlain, Levi
1957 "Tour Around O'ahu: 1828." in *Sixty-fifth Annual Report of the Hawaiian Historical Society for the Year 1956*, pp. 2541. Hawaiian Historical Society, Honolulu.

Cleghorn, Paul
1996 *"The Results of an Archaeological Inventory Survey at the Proposed Kalākaua Plaza, Waikīkī, O'ahu, Hawai'i (TMK 2-6-16:23, 25-26, 28, 61, and 69)."* Pacific Legacy, Inc., Kailua.

Dagher, Cathleen
1993 *Inadvertent Discovery of Human Remains at the Waikīkī Aquarium Renovation Project, Waikīkī, Kona, O'ahu, TMK: 3-1-31:006*, 50-80-14-4729, SHPD.

Davis, Bertell
1984 *"The Halekūlani Hotel Site: Archaeological and Historical Investigations in Waikīkī, O'ahu, Hawai'i."* B.P. Bishop Museum, Honolulu.

1989 *"Subsurface archaeological reconnaissance survey and historical research at Fort DeRussy, Waikīkī, O'ahu, Hawai'i"*. Report prepared by International Archaeological Research Institute, Inc., for U. S. Army Engineer Division, Pacific Ocean, Fort Shafter, Honolulu.

Davis, Bertell
1991 DRAFT *"Archaeological monitoring of environmental baseline survey and excavations in Hawaiian Land Commission Award 1515 (Apana 2) at Fort DeRussy, Waikīkī, O'ahu"*. State Historic Preservation Office manuscript.

Dega, Michael, and Joseph Kennedy
1993 *"Archaeological Report Concerning the Inadvertent Discovery of Remains at the Waikīkī Aquarium (TMK: 3-1-31:06) Waikīkī Ahupua'a Kona District, Island of Oahu."* Archaeological Consultants of Hawaii, Inc., Haleiwa.

Emerson, N.B.
1902 "A Preliminary Report on a Find of Human Bones Exhumed in the Sands of Waikiki." in *Tenth Annual Report of the Hawaiian Historical Society for the Year 1901*, pp.18-20. Hawaiian Historical Society, Honolulu.

Foote, Donald E., E.L. Hill, S. Nakamura and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii*, U.S. Dept. of Agriculture, U.S. Government Printing Office, Washington, D.C.

Grant, Glen
1996 *Waikīkī Yesteryear*. Honolulu: Mutual Publishing.

Griffin, Agnes
1987 *"Kalakaua Avenue Gas Pipe Excavation Burial Recovery, Waikīkī, C. Honolulu, O'ahu (TMK: 2-6-01:12)."* State Medical Officer's office memorandum to Department of Land and Natural Resources, Honolulu.

Hammatt, Hallett H. and Rodney Chiogioji
2000 *Archaeological Monitoring Plan for Street Lighting Improvements along a Portion of Kalākaua Avenue from the Natatorium to Poni Moi Road, Waikīkī, Island of O'ahu (TMK 3-1-031, 032 & 43)*, Cultural Surveys Hawaii, Kailua, HI.

Hammatt, Hallett H. and Rodney Chiogioji
1999 *Archaeological Monitoring Plan for the Excavation of a 16-inch Water Main on an approximately 915-meter (3,000-ft.) long portion of Kalakaua Ave., between Ka'iulani Ave. and Monsarrat Ave. associated with the Kuhio Beach Extension/Kalakaua Promenade Project, Waikīkī Ahupua'a, Kona District, Island of O'ahu (TMK:2-6-1, 2-6-22, 2-6-23, 2-6-26, 2-6-27, 1-1-43)*, Cultural Surveys Hawaii, Kailua, HI.

Handy, E.S. Craighill and Elizabeth Handy
1972 *Native Planters in Old Hawai'i*. Honolulu: Bishop Museum Press.

Hibbard, Don and David Franzen
1986 *The View from Diamond Head: Royal Residence to Urban Resort*. Honolulu: Editions Limited.

Hurlbert, Robert *et. al.*
1992 *"Archaeological Monitoring of Mechanical Loop Excavations Hilton Hawaiian Village, Land of Waikīkī, Honolulu (Kona) District, Island of O'ahu"*. State Historic Preservation Office, Honolulu, HI.

'I,'i John Papa
1959 *Fragments of Hawaiian History as Recorded by John Papa 'I'i*. Honolulu: Bishop Museum Press, Honolulu, HI.

Johnson, Donald D.
1991 *The City and County of Honolulu: A Governmental Chronicle*. Honolulu: University of Hawai'i Press.

Jourdane, E.
1995 *"Inadvertent discovery of Human Skeletal Remains At Waikīkī, Sunset Hotel, Waikīkī, Kona, O'ahu"*. Manuscript on file at the State Historic Preservation Office, Honolulu.

Kamakau, Samuel Manaiakalani
1964 *Ka Po'e Kahiko: The People of Old*. Honolulu: Bishop Museum Press.

Kamakau, Samuel Manaiakalani
1992 *Ruling Chiefs of Hawaii*. Honolulu: The Kamehameha Schools Press.

Kekahuna, Henry E.P.
1958 *"Place names of O'ahu."* Manuscript in Archives of Hawaii.

Kirch, Patrick V.
1985 *Feathered Gods and Fishhooks*, University of Hawaii Press, Honolulu, HI.

LeSuer, C. Celeste, Matt Mc.Dermott, Rodney Chiogioji and Hallett H. Hammatt
2000 *An Archaeological Inventory Survey of King Kalākaua Plaza Phase II, Waikīkī, Waikīkī Ahupua'a, Kona District, Island of O'ahu, Hawaii (TMK 2-6-18: 10, 36, 42, 52, 55, 62, 63, 64, 73 & 74)*. Cultural Surveys Hawai'i, Inc.

Lucas, Paul F. Nahoa
1995 *A Dictionary of Hawaiian Legal Land-Terms*. Honolulu: University of Hawai'i Press.

MacDonald, G. and A. Abbott
1974 *Volcanoes in the Sea: The Geology of Hawai'i.* University Press of Hawai'i: Honolulu.

McAllister, J.G.
1933 *"Archaeology of O'ahu."* B.P. Bishop Museum Bulletin, No.104.

McDermott, Matthew, Rodney Chiogioji, and Hallett Hammatt
1996 *"An Archaeological Inventory Survey of Two Lots (TMK 2-6-24:65-68 and 80-83 and TMK 2-6-24:34-40 and 42-45) in Waikīkī Ahupua'a, O'ahu, Hawai'i."* Cultural Surveys Hawaii, Inc., Kailua.

McMahon, Nancy
1994 *"Inadvertent Burial Discovery on April 28, 1994, Waikīkī, Kona, O'ahu–Intersection of Kalākaua and Kuamo'o Streets."* State Historic Preservation Office, Honolulu.

Menzies, Archibald
1920 *Hawai'i Nei 128 Years Ago.* Honolulu.

Neller, Earl
1980 *"The Kālia Burial Site #50-OA-2870: Rescue Archaeology in Waikīkī, Hawai'i".* State Historic Preservation Program, Honolulu.

Neller, Earl
1984 *"An Informal Narrative Report on the Recovery of Human Skeletons From a Construction Site in Waikīkī on Paoakalani Street, Honolulu, Hawai'i".* State Historic Preservation Office, Honolulu.

Perzinski, David, Matt McDermott Rodney Chiogioji and Hallett H. Hammatt
1999 *Archaeological Monitoring Report for Anti-Crime Street Lighting Improvements Along Portions of Ala Wai Boulevard, Kalākaua Avenue, Ala Moana Boulevard and 'Ena Road, Waikīkīki, O'ahu,* Cultural Surveys Hawaii, Kailua, HI

Pukui, Mary Kawena and Samuel H. Elbert
1986 *Hawaiian Dictionary.* Honolulu: University of Hawaii Press.

Simmons, J. A., S. Antonio-Miller, D. Trembly, and L. Somer
1991 *"Archaeological monitoring and data recovery at the Moana Hotel Historical Rehabilitation Project, O'ahu, Waikīkī".* Applied Research Group, Bishop Museum, Honolulu.

Simmons, J. A., P. Cleghorn, R. Jackson, T. Jackson
1995 DRAFT *"Archaeological Data Recovery Excavations at Fort DeRussy, Waikīkī, O'ahu, Hawai'i."* Manuscript on file at the State Historic Preservation Office, Honolulu.

Thrum, Thomas
1907 "Heiaus and Heiau Sites Throughout the Hawaiian Islands" in *Thrum's Hawaiian Annual for 1907.* Honolulu.

Thrum, Thomas
1913 "In and Around Honolulu" in *Hawaiian Almanac and Annual for 1914,* pp.49-74. Honolulu.

Vancouver, George
1798 *A Voyage of Discovery to the North Pacific Ocean, and Round the World...Performed in the years 1790-1795.* London: Robinsons and Edwards.

Winieski, John, Mary Perzinski, David Shideler, and Hallett H. Hammatt
2001b *Archaeological Monitoring Report for the Installation of a 16-Inch Water Main on an Approximately 915 Meter (3,000 Ft) Long Portion of Kalākaua Avenue Between Ka'iulani and Monsarrat Avenues Associated with the Kūhiō Beach Extension/Kalākaua Promenade Project, Waikīkī Ahupua'a, Kona District, Island of O'ahu (TMK 2-6-1-, 2-6-22, 2-6-23, 2-6-26, 2-6-27, 3-1-43),* Cultural Surveys Hawaii, Kailua, HI.

Winieski, John P. and Hallett H. Hammatt
2000 *Archaeological Monitoring Report for the Public Baths Waste Water Pumping Station Force Main Replacement, Waikīkī, Honolulu, O'ahu, Hawai'i (TMK 2-6-25, 26, & 27, and 3-1-31, 43).* Cultural Surveys Hawai'i, Kailua, HI.

Yost, Harold
1971 *"The Outrigger Canoe Club of Honolulu, Hawaii."* Outrigger Canoe Club, Inc., Honolulu.

APPENDIX A: C14 CALIBRATION RESULTS

Dr. Hallett H. Hammatt

Report Date: 8/2/02

Cultural Surveys Hawaii

Material Received: 7/29/02

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 169338 SAMPLE : WAIK1002 ANALYSIS : Radiometric-Timeguide delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1410 to 1660 (Cal BP 540 to 290)	400 +/- 80 BP	-26.3 o/oo	380 +/- 80 BP

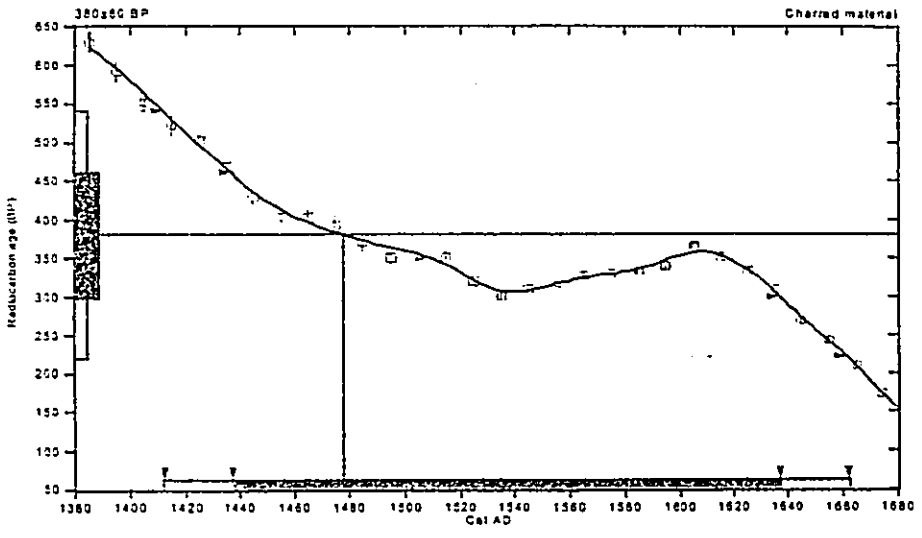
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.3:lab. mult=1)

Laboratory number:	Beta-169338
Conventional radiocarbon age:	380±80 BP
2 Sigma calibrated result: (95% probability)	Cal AD 1410 to 1660 (Cal BP 540 to 290)

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal AD 1480 (Cal BP 470)
1 Sigma calibrated result: (68% probability)	Cal AD 1440 to 1640 (Cal BP 510 to 310)



References:

Database used
INTCAL98
Calibration Database
Editorial Comment
Stuiver, M., van der Plicht, H., 1998. Radiocarbon 40(3), pxii-xiii
INTCAL98 Radiocarbon Age Calibration
Stuiver, M., et. al., 1998. Radiocarbon 40(3), p1041-1083
Mathematics
A Simplified Approach to Calibrating C14 Dates
Talma, A.S., Vogel, J.C., 1993. Radiocarbon 35(2), p317-322

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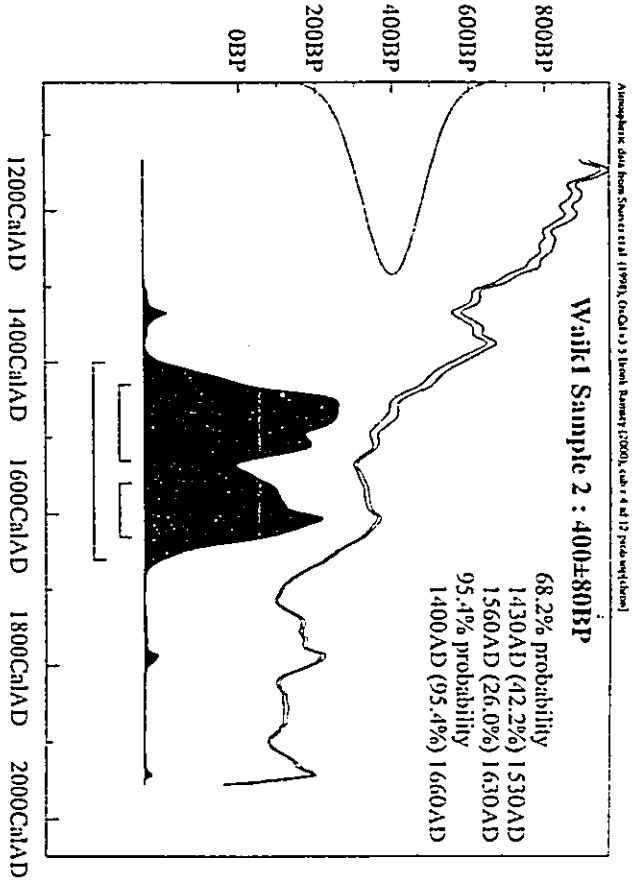
Radiocarbon determination



Dr. Hallett H. Hammatt

Report Date: 9/3/02

Cultural Surveys Hawaii

Material Received: 7/29/02

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 169337 SAMPLE : WAIK1001 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1400 to 1460 (Cal BP 550 to 490)	500 +/- 40 BP	-25.6 o/oo	490 +/- 40 BP

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.6:lab. mult=1)

Laboratory number: Beta-169337

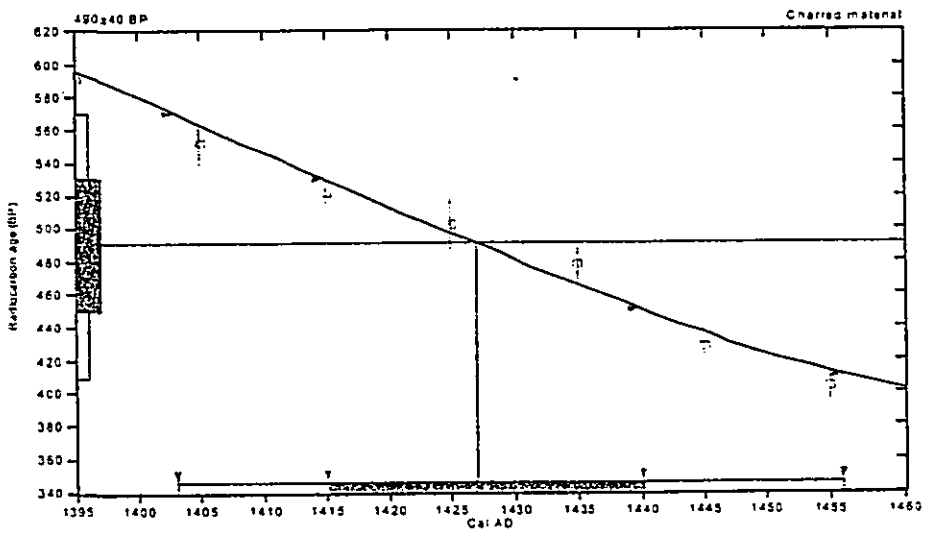
Conventional radiocarbon age: 490±40 BP

2 Sigma calibrated result: (95% probability) Cal AD 1400 to 1460 (Cal BP 550 to 490)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1430 (Cal BP 520)

1 Sigma calibrated result: (68% probability) Cal AD 1420 to 1440 (Cal BP 540 to 510)



References:

Database used
INTCAL98
Calibration Database
Editorial Comment
Stuiver, M., van der Plicht, H., 1998. Radiocarbon 40(3). pxii-xiii
INTCAL98 Radiocarbon Age Calibration
Stuiver, M., et. al., 1998. Radiocarbon 40(3). p1041-1083
Mathematics
A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993. Radiocarbon 35(2). p317-322

Beta Analytic Radiocarbon Dating Laboratory

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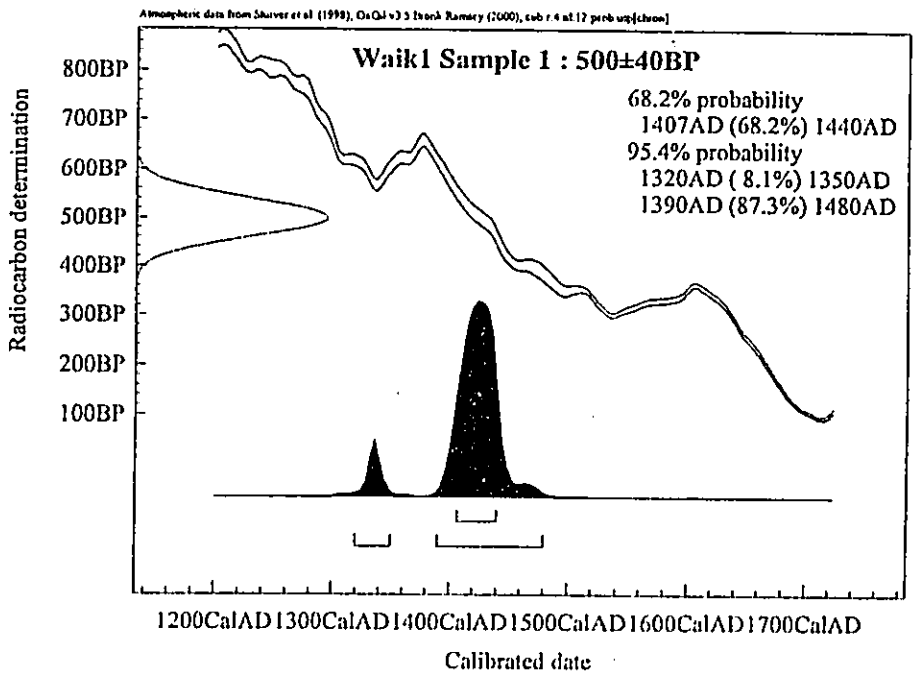
Waik1 Sample 1 : 500±40BP
68.2% probability
1407AD (68.2%) 1440AD
95.4% probability
1320AD (8.1%) 1350AD
1390AD (87.3%) 1480AD
Radiocarbon determination
800BP
700BP
600BP
500BP
400BP
300BP
200BP
100BP
1200CalAD 1300CalAD 1400CalAD 1500CalAD 1600CalAD 1700CalAD
Calibrated date

Appendix E

Traffic Impact Assessment

Wilson Okamoto & Associates, Inc.

August 2002

TRAFFIC IMPACT REPORT

FOR THE PROPOSED

WAIKIKI CONDOMINIUM

Prepared for:
A&B Properties, Inc.
822 Bishop St
Honolulu, HI 96813

Prepared by:

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, Hawaii 96826

August 2002

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I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from the proposed Waikiki Condominium project, which will include a high-rise residential condominium and a low-rise commercial development. The proposed project site will be located within a single block in Waikiki bounded by Ala Wai Boulevard, Kalaimoku Street, Kuhio Avenue, and Olohana Street.

B. Scope of Study

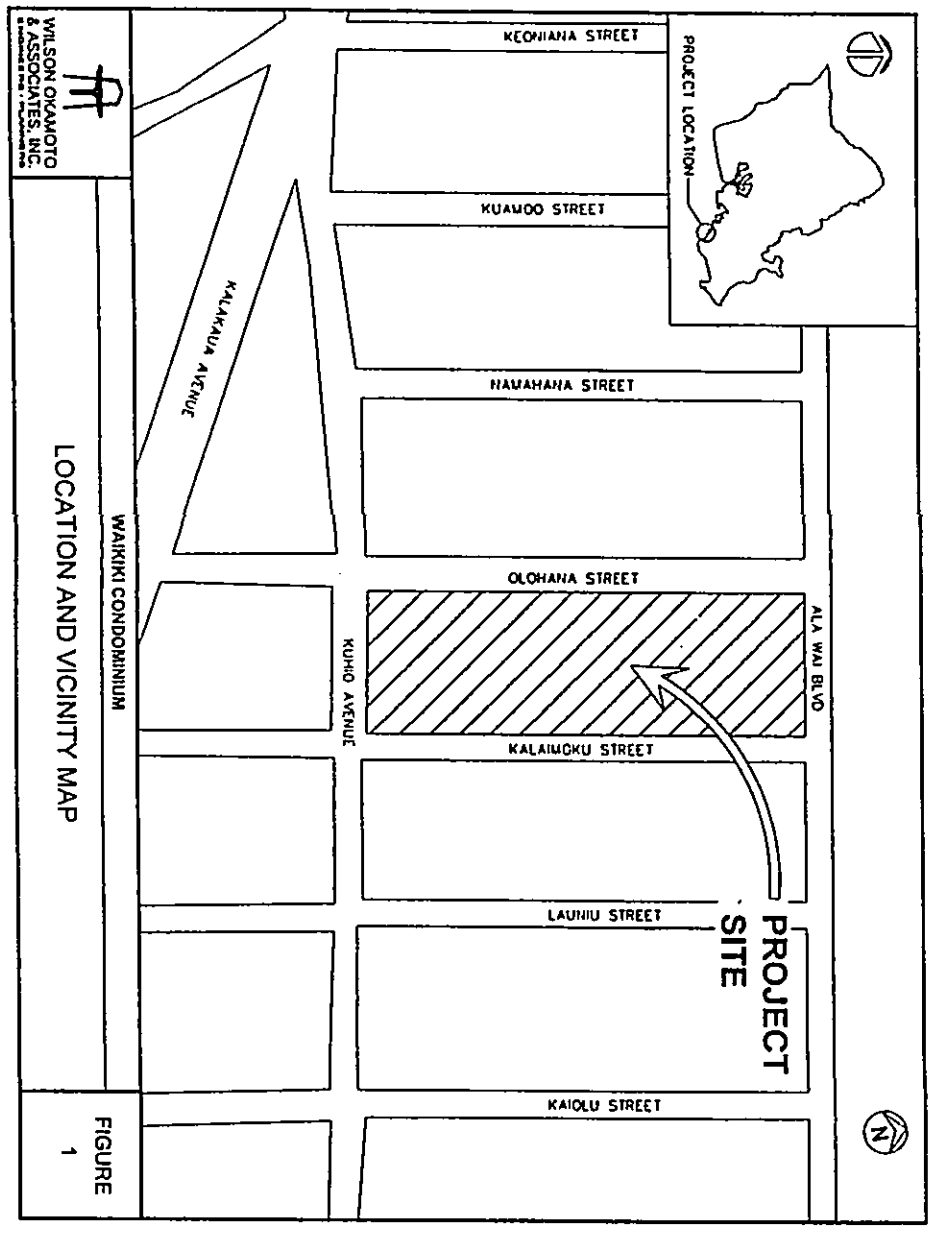
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposition of proposed project-generated traffic over future traffic conditions.
6. Identification and analysis of traffic impacts resulting from the proposed project.
7. Formulation of recommendations for improvements, if appropriate, to mitigate traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

The project site is located in Waikiki on the island of Oahu (see Figure 1). It occupies most of the block bounded by Ala Wai Boulevard on the north, Kalaimoku Street on the east, Kuhio Avenue on the south, and Olohana Street on the west. The 71,000 square-foot project site is further identified as a consolidation of Tax Map Keys (TMK) 2-6-16:2, 4 to 8, 12 to 19, 62, 64, 70, 73, and 75. Access to the proposed project will be via driveways off of Olohana Street and Kalaimoku Street.



B. Project Characteristics

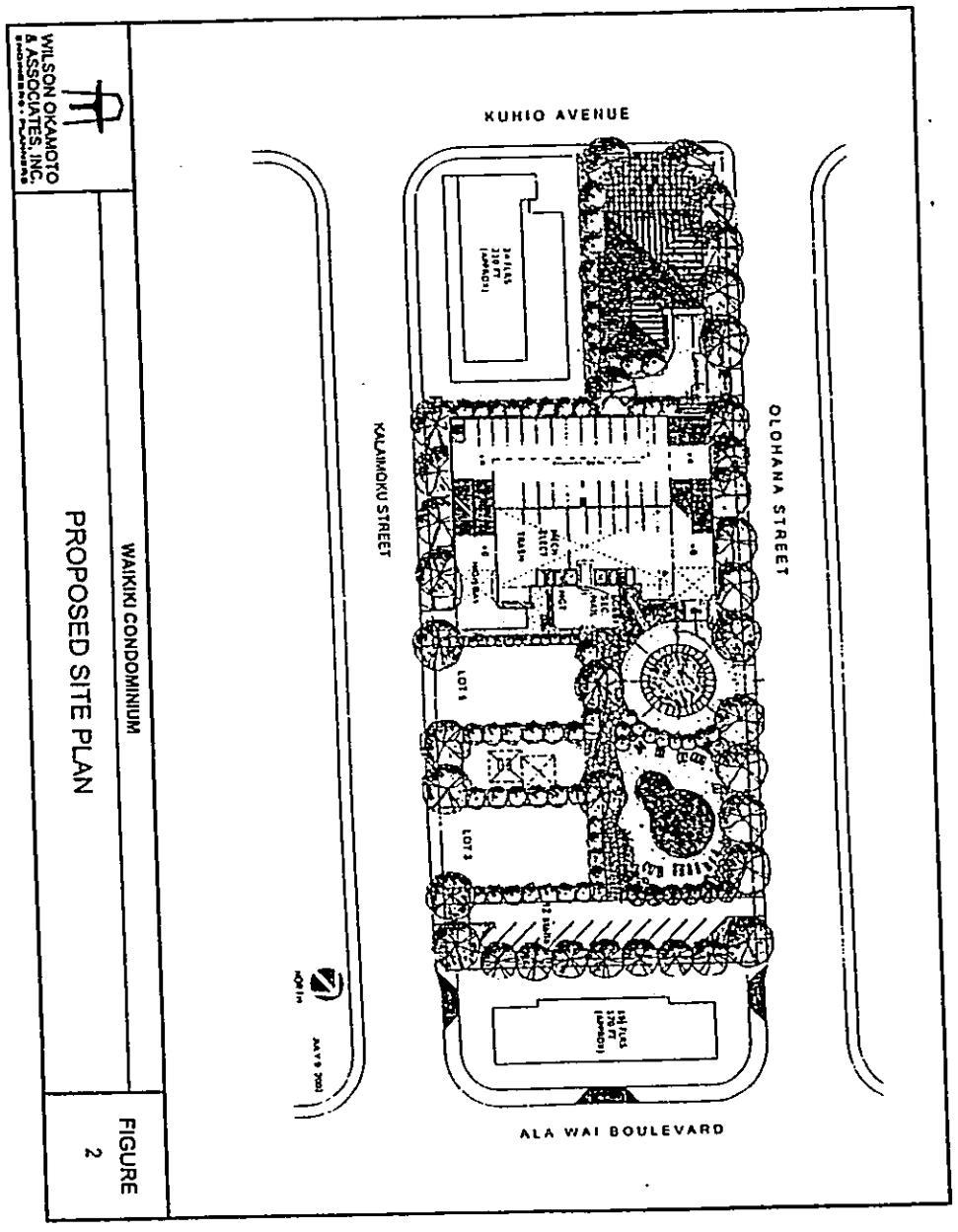
The proposed Waikiki Condominium will include up to 130 condominium units in a high-rise tower, up to 10,000 square feet of commercial area in a separate two-story building, residential amenities, open space, and landscaping. A 5-level parking garage beneath the condominium tower will accommodate up to 307 parking stalls, of which 26 will be dedicated for the commercial use and 245 will be for residential use. The proposed Waikiki Condominium is expected to be completed and occupied by the Year 2005. Figure 2 shows the proposed project site plan.

Five vehicular access/egress points will serve the project. The main entry serving the condominium tower will be from Olohana Street, approximately mid-block between Ala Wai Boulevard and Kuhio Avenue. The driveway will provide one-way access into the residential portion of the parking structure and access to passenger loading area fronting the lobby. The main entry serving the commercial building is also on Olohana Street, toward Kuhio Avenue. This driveway will provide one-way access into the commercial portion of the parking structure and access/egress for the accessible stall and off-street loading bay. A back-in turnaround space will allow vehicles using the accessible stall and loading bay to avoid backing out onto Olohana Street. The main egress from the parking structure for both the residential and commercial parking stalls will be a one-way driveway on Kalaimoku Street, approximately mid-block between Ala Wai Boulevard and Kuhio Avenue. The at-grade visitor parking lot for the condominium tower would have an access-only driveway from Olohana Street and an egress-only driveway on Kalaimoku Street.

III. EXISTING TRAFFIC CONDITIONS

A. General

Ala Wai Boulevard borders the north edge of the block occupied by the project site. Ala Wai Boulevard serves as the westbound component of a one-way couplet system with eastbound Kalakaua Avenue, which lies one block further south of the project site. The couplet system serves as the primary vehicular access route through most of Waikiki. Ala Wai Boulevard runs along the northern edge of



Waikiki between Kapahulu Avenue to the east and terminates as a dead-end road at Ala Moana Boulevard. While traffic in Waikiki is stimulated by both the visitor industry and the overall growth of Oahu, the traffic volumes on Ala Wai Boulevard have experienced minimal growth in recent years.

Between the one-way couplet of Ala Wai Boulevard and Kalakaua Avenue, Kuhio Avenue provides an alternate two-way access for east and westbound traffic through the core of Waikiki. Extending as a fork from Kalakaua Avenue to the west, Kuhio Avenue runs along the southern edge of the block occupied by the project site and continues eastward, terminating at its intersection with Kapahulu Avenue. Left-turn storage lanes on Kuhio Avenue are provided at the major intersections. Like Ala Wai Boulevard, the traffic volumes on Kuhio Avenue have experienced minimal growth in recent years.

Throughout most of Waikiki, one-way couplet systems serve northbound and southbound traffic between Ala Wai Boulevard and Kalauakaua Avenue. Olohana Street, which borders the west edge of the block occupied by the project site, serves as the southbound component of a one-way couplet system with northbound Kalaimoku Street, which borders the east edge of the block occupied by the project site. While traffic in the area is stimulated by both the visitor industry and the overall growth of Oahu, the traffic volumes on Olohana Street and Kalaimoku Street have experienced minimal growth in recent years.

B. Area Roadway System

In the vicinity of the project site, Ala Wai Boulevard is a four-lane, one way westbound City and County of Honolulu roadway with a posted speed limit of 35 miles per hour (mph) with parking restrictions on the north side of the roadway during peak traffic periods. At the northwest corner of the block occupied by the project site, Ala Wai Boulevard intersects with Olohana Street, a two-lane, one-way southbound City and County of Honolulu roadway with a posted speed limit of 25 mph. At this unsignalized intersection, the only vehicular approach to the intersection is westbound from Ala Wai Boulevard, which serves through and left-turn movements. At the northeast corner of the block occupied by the project site, Ala Wai Boulevard intersects with Kalaimoku Street, a predominantly two-lane,

one-way northbound City and County of Honolulu roadway with a posted speed limit of 25 mph. The intersection of Ala Wai Boulevard and Kalaimoku Street is controlled by a two-phase traffic signal system. The northbound approach of Kalaimoku Street serves left-turn movements, while the westbound approach of Ala Wai Boulevard serves through movements.

Approximately 600 feet south of the intersection with Ala Wai Boulevard, at the southeast corner of the block occupied by the project site, Kalaimoku Street intersects with Kuhio Avenue, a two-lane, two-way City and County of Honolulu roadway with a posted speed limit of 25 mph. Vehicular movements at the intersection of Kuhio Avenue and Kalaimoku Street are controlled by a traffic signal system. The eastbound approach on Kuhio Avenue serves through and right-turn movements and the westbound approach serves through and left-turn movements. The northbound approach on Kalaimoku Street serves through, left-, and right-turn movements.

Approximately 250 feet west of the intersection with Kalaimoku Street, at the southwest corner of the block occupied by the project site, Kuhio Avenue intersects with Olohana Street. Vehicular movements at the intersection of Kuhio Avenue and Olohana Street are controlled by a traffic signal system. The eastbound and westbound approaches on Kuhio Avenue serve through and left-turn, and through and right-turn movements, respectively. The southbound approach on Olohana Street serves through, left-, and right-turn movements.

C. Traffic Volumes and Conditions

1. General

a. Field Investigation

A field investigation was conducted on May 9, 2002 and consisted of manual turning movement count surveys between the morning peak hours of 7:00 AM and 9:00 AM, and the afternoon peak hours of 4:00 PM and 6:00 PM at the following intersections:

- Ala Wai Blvd and Kalaimoku St
- Ala Wai Blvd and Olohana St
- Kuhio Ave and Kalaimoku St
- Kuhio Ave and Olohana St

Appendix A includes the existing traffic count data.

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2000, and the "Highway Capacity Software", developed by the Federal Highway Administration. The analysis is based on the concept of Level of Service (LOS).

LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions. The LOS definitions are included in Appendix B.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at capacity. A v/c ratio of greater than 1.00 indicates that the projected traffic demand exceeds the road's carrying capacity.

2. **Existing Peak Hour Traffic**

a. General

Figures 3 and 4 show the existing AM and PM peak hour traffic volumes and operating traffic conditions. The AM peak hour of traffic generally occurs between 7:00 AM and 8:00 AM in the vicinity of the proposed project. In the afternoon, the PM peak hour of traffic generally occurs between the hours of 4:00 PM and 5:00 PM. The analysis is based on these peak hour time periods to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

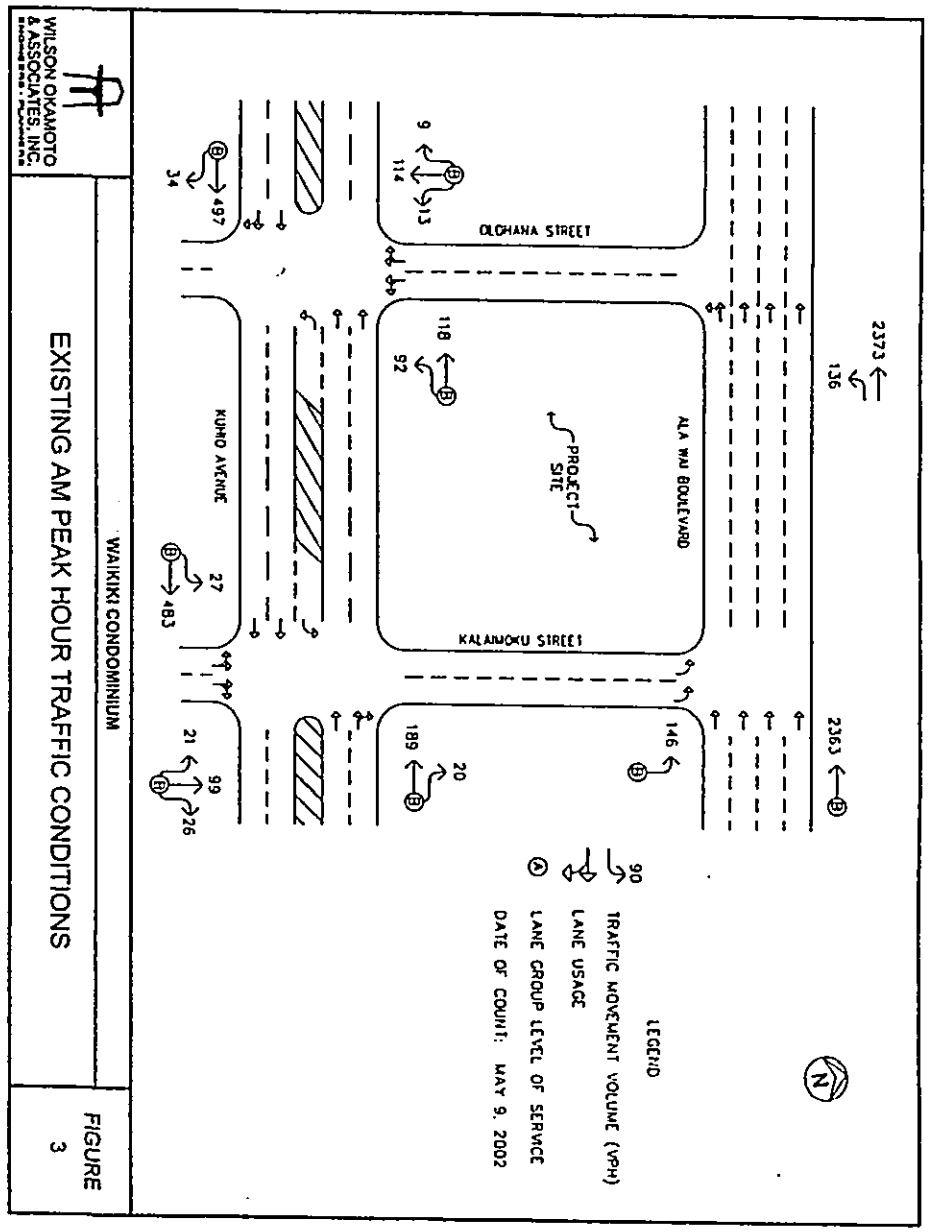
b. Ala Wai Boulevard and Kalaimoku Street

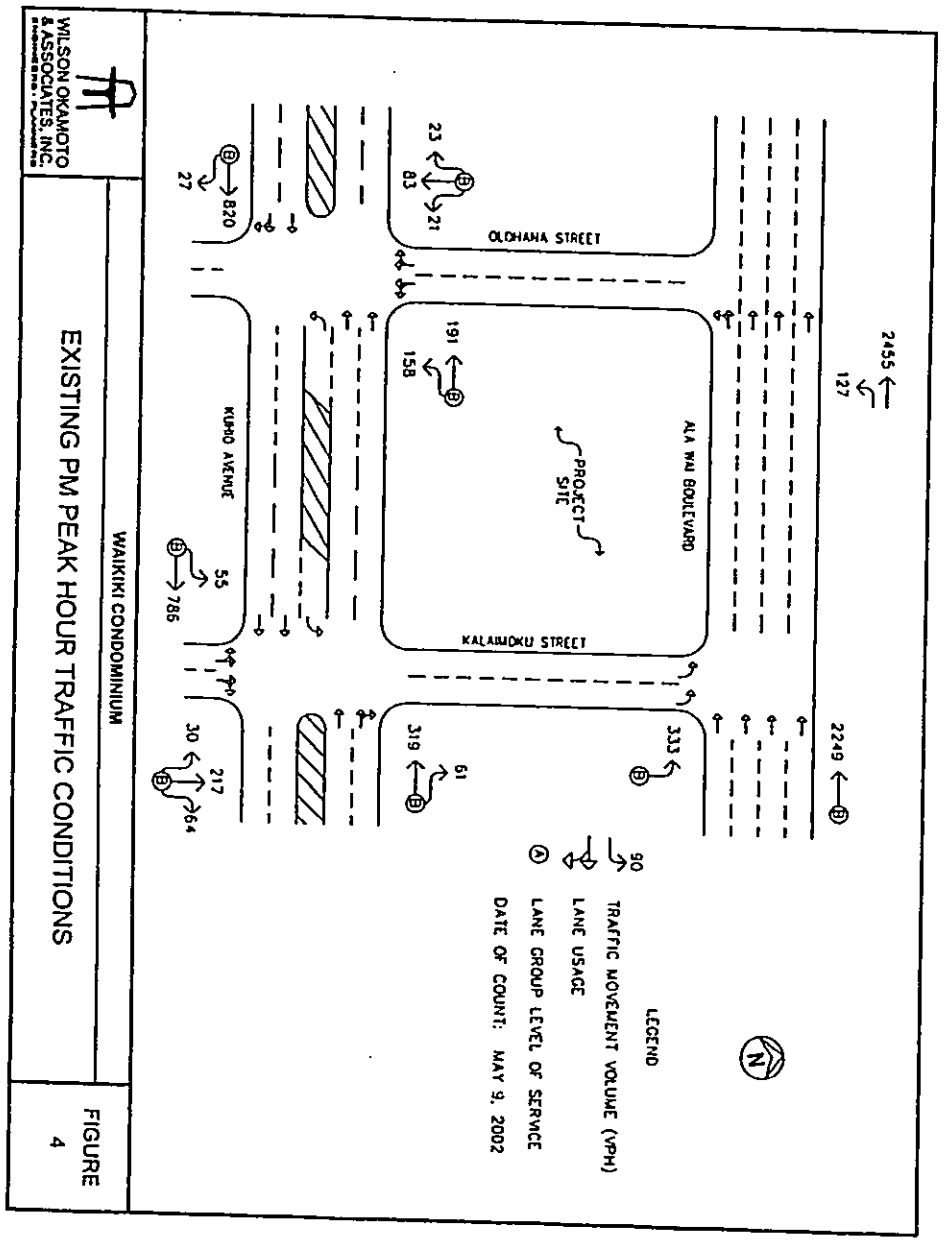
At the intersection of Ala Wai Boulevard and Kalaimoku Street, Ala Wai Boulevard carries 2,363 vehicles and 2,249 vehicles westbound during the AM and PM peak hours of traffic, respectively. The Ala Wai Boulevard approach operates at LOS "B" conditions during the AM and PM peak hours.

Kalaimoku Street carries 146 vehicles and 333 vehicles northbound during the AM and PM peak hours of traffic, respectively. The Kalaimoku Street approach also operates at acceptable LOS "B" conditions during the AM and PM peak hours of traffic.

c. Kuhio Avenue and Kalaimoku Street

At the intersection of Kuhio Avenue and Kalaimoku Street, Kuhio Avenue carries 510 vehicles eastbound and 209 vehicles westbound during the AM peak period. During the PM peak period, the traffic volumes are slightly higher with 841 vehicles traveling eastbound and 380 vehicles traveling westbound. Both approaches operate well at LOS "B" conditions during both peak hours of traffic.





Kalaimoku Street carries 146 vehicles and 311 vehicles northbound during the AM and PM peak periods, respectively. The approach operates well at LOS "B" conditions during both the AM and PM peak hours of traffic.

d. Kuhio Avenue and Olohana Street

At the intersection of Kuhio Avenue and Olohana Street, Kuhio Avenue carries 531 vehicles eastbound and 210 vehicles westbound during the AM peak period. During the PM peak period, the total traffic volumes are higher with 847 vehicles traveling eastbound and 349 vehicles traveling westbound. Both approaches operate fairly well at LOS "B" conditions during both peak hours of traffic.

Olohana Street carries 136 vehicles and 127 vehicles southbound during the AM and PM peak periods, respectively. This movement also operates well at LOS "B" conditions during the AM and PM peak hours of traffic.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques and procedures developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 6th Edition," 1997. The ITE trip rates are developed empirically by correlating the trip generation data with various land use characteristics, such as the number of dwelling units and square footage of development. Table 1 summarizes the project site trip generation characteristics applied to the AM and PM peak hours of traffic to measure the impact resulting from the proposed Waikiki Condominium project.

Table 1: Peak Hour Trip Generation

HIGH-RISE RESIDENTIAL CONDOMINIUM/TOWNHOUSE Independent Variable: 130 Dwelling Units		
	PROJECTED TRIP ENDS	
AM PEAK	ENTER	8
	EXIT	36
	TOTAL	44
PM PEAK	ENTER	31
	EXIT	19
	TOTAL	50
SHOPPING CENTER Independent Variable: 10,000 Sq. Feet Gross Leasable Area		
	PROJECTED TRIP ENDS	
AM PEAK	ENTER	25
	EXIT	16
	TOTAL	41
PM PEAK	ENTER	66
	EXIT	71
	TOTAL	137
COMBINED TRIPS: HIGH-RISE RESIDENTIAL CONDOMINIUM/TOWNHOUSE AND SHOPPING CENTER		
	PROJECTED TRIP ENDS	
AM PEAK	ENTER	33
	EXIT	52
	TOTAL	85
PM PEAK	ENTER	97
	EXIT	90
	TOTAL	187

2. Trip Distribution

The directional distribution and traffic assignment of site-generated trips were based on present traffic patterns in the Waikiki area. The 85 and 187 trips generated by the proposed project in the morning and afternoon peak hours, respectively, were assumed to represent a net increase in traffic on the area street system. Access to the proposed project would be via driveways off of Kalaimoku Street and Olohana Street. The directional distribution of all site-generated vehicular trips was based on the directional distribution of

existing traffic along Olohana Street (southbound) and Kalaimoku Street (northbound).

B. Through Traffic Forecasting Methodology

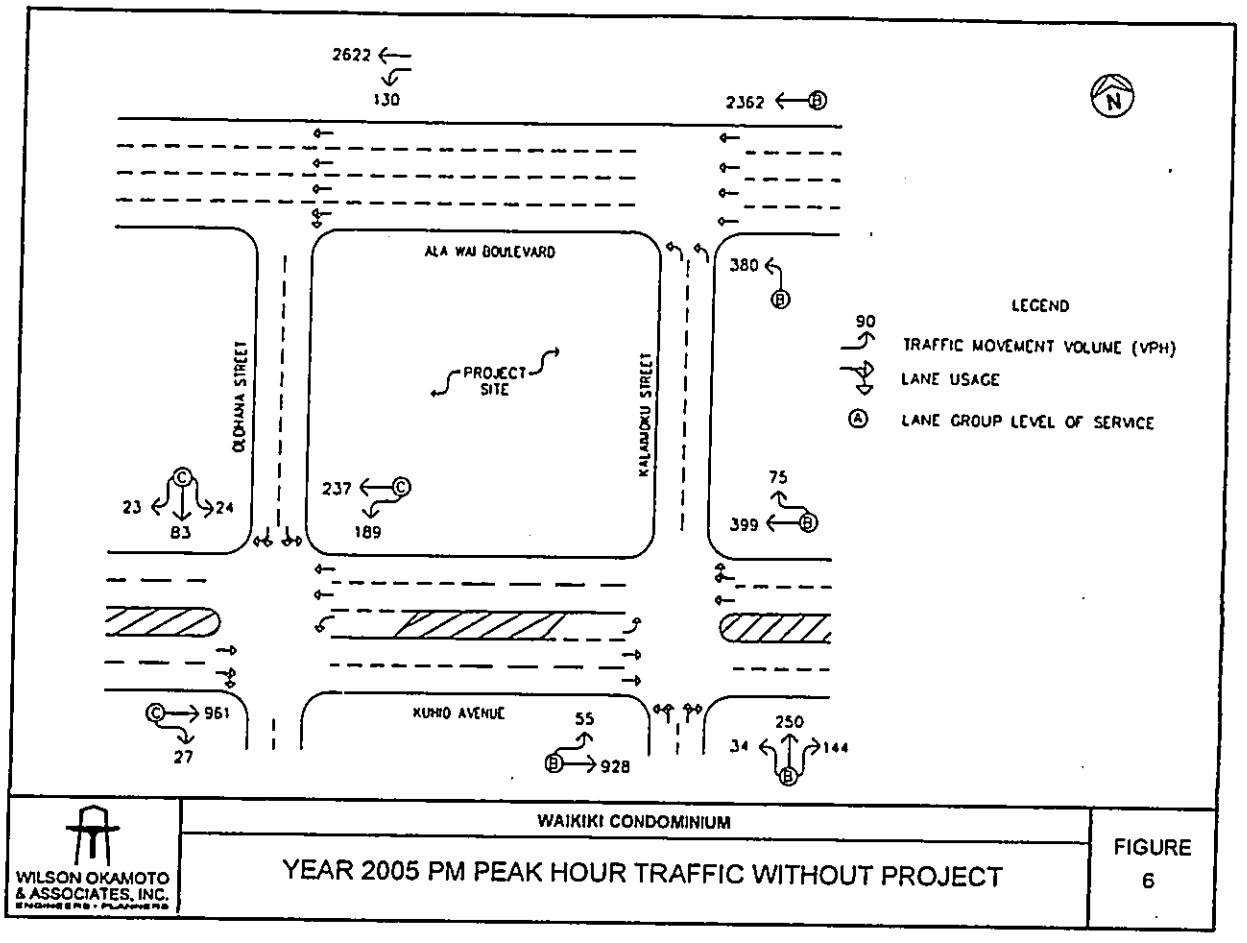
The travel forecast is based upon historical traffic count data obtained from the State DOT, Highways Division at a survey station located along McCully Street and the Ala Wai Canal Bridge. The historical data were analyzed by linear regression techniques to obtain an annual traffic growth rate of approximately 1.6% on Ala Wai Boulevard, using 2002 as the Base Year. A factor of 1.049 was applied to the existing traffic movements on Ala Wai Boulevard and Kuhio Avenue to achieve the projected Year 2005 traffic demands.

C. Other Considerations

One block southeast of the proposed Waikiki Condominium, the 2100 Kalakaua retail/commercial project (formerly known as King Kalakaua Plaza, Phase II), which is currently under construction, will provide 261,125 square feet of retail/commercial space in five levels and is anticipated to be completed by the Year 2002. As described in the "Traffic Impact Report of the King Kalakaua Plaza, Phase II," the proposed project is expected to generate 200 and 482 trips during the AM and PM peak hours of traffic, respectively. As determined in the analysis for that study, generated trips were assigned to the street network in the study area, and would influence the traffic operations of the study intersections in the vicinity of the proposed Waikiki Condominium project.

D. Total Traffic Volumes Without Project

Figures 5 and 6 show the projected AM peak hour and PM peak hour traffic volumes and operating conditions within the project vicinity without the development of the proposed A&B Waikiki Condominium project. Comparisons of the existing and projected (without project) levels of service are included in Table 2.



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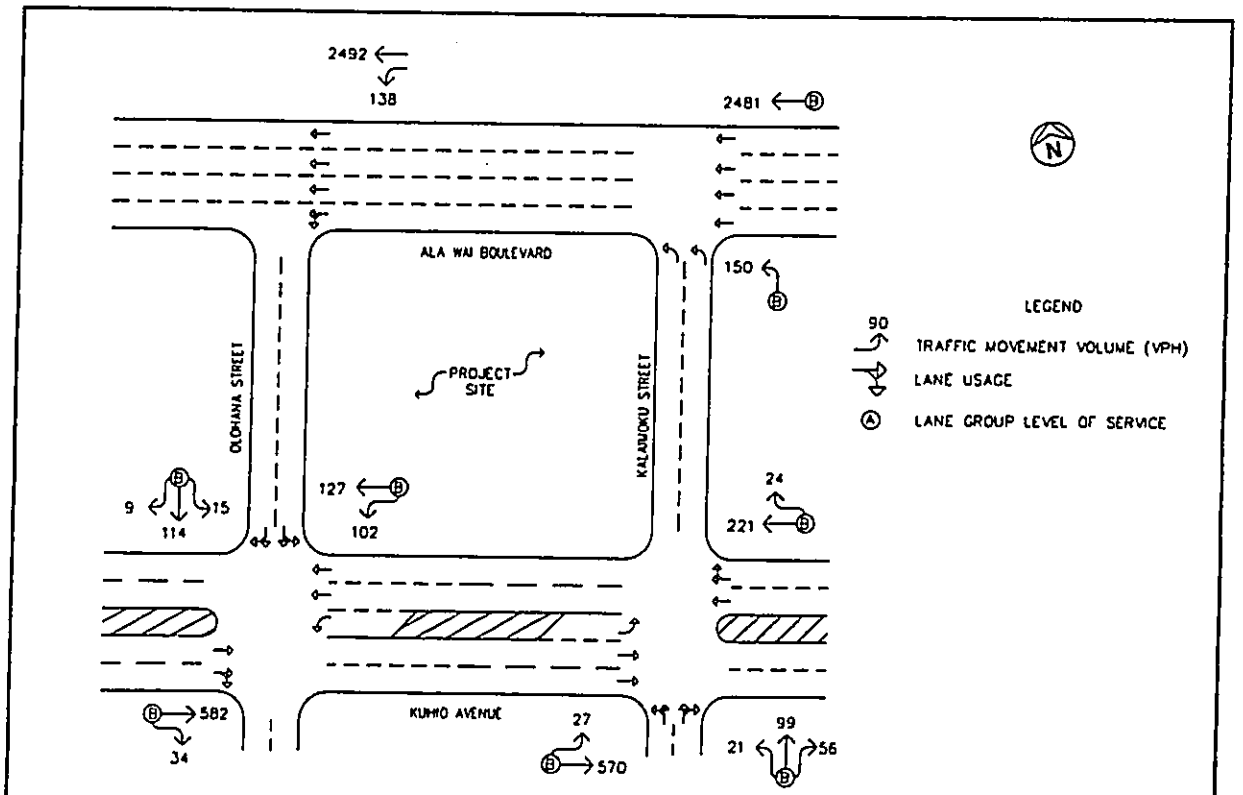
ENGINEERS • PLANNERS

WAIKIKI CONDOMINIUM

YEAR 2005 PM PEAK HOUR TRAFFIC WITHOUT PROJECT

FIGURE 6



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ENGINEERS • PLANNERS

WAIKIKI CONDOMINIUM

YEAR 2005 AM PEAK HOUR TRAFFIC WITHOUT PROJECT

FIGURE 5

Table 2: Comparison of Existing and Projected (Without Project) Overall Intersection LOS Traffic Operating Conditions

Intersection	Approach/ Movement	AM		PM	
		Existing	Year 2005 w/out Project	Existing	Year 2005 w/out Project
Ala Wai Boulevard and Kalaimoku Street	Northbound	B	B	B	B
	Westbound	B	B	B	B
Kuhio Avenue and Kalaimoku Street	Northbound	B	B	B	B
	Eastbound	B	B	B	B
	Westbound	B	B	B	B
Kuhio Avenue and Olohana Street	Southbound	B	B	B	C
	Eastbound	B	B	B	C
	Westbound	B	B	B	C

Traffic operations under Year 2005 without project conditions are expected to remain similar to existing along the surrounding streets in the project vicinity. All approaches of the Ala Wai Boulevard and Kalaimoku Street and Kuhio Avenue and Kalaimoku Street intersection continue to operate at LOS "B" conditions during the AM and PM peak hours of traffic. Similarly, at the intersection of Kuhio Avenue and Olohana Street, all approaches during the AM peak hour also continue to operate at LOS "B" conditions, however, during the PM peak hour, all approaches operate at a slightly lower but still acceptable levels of service.

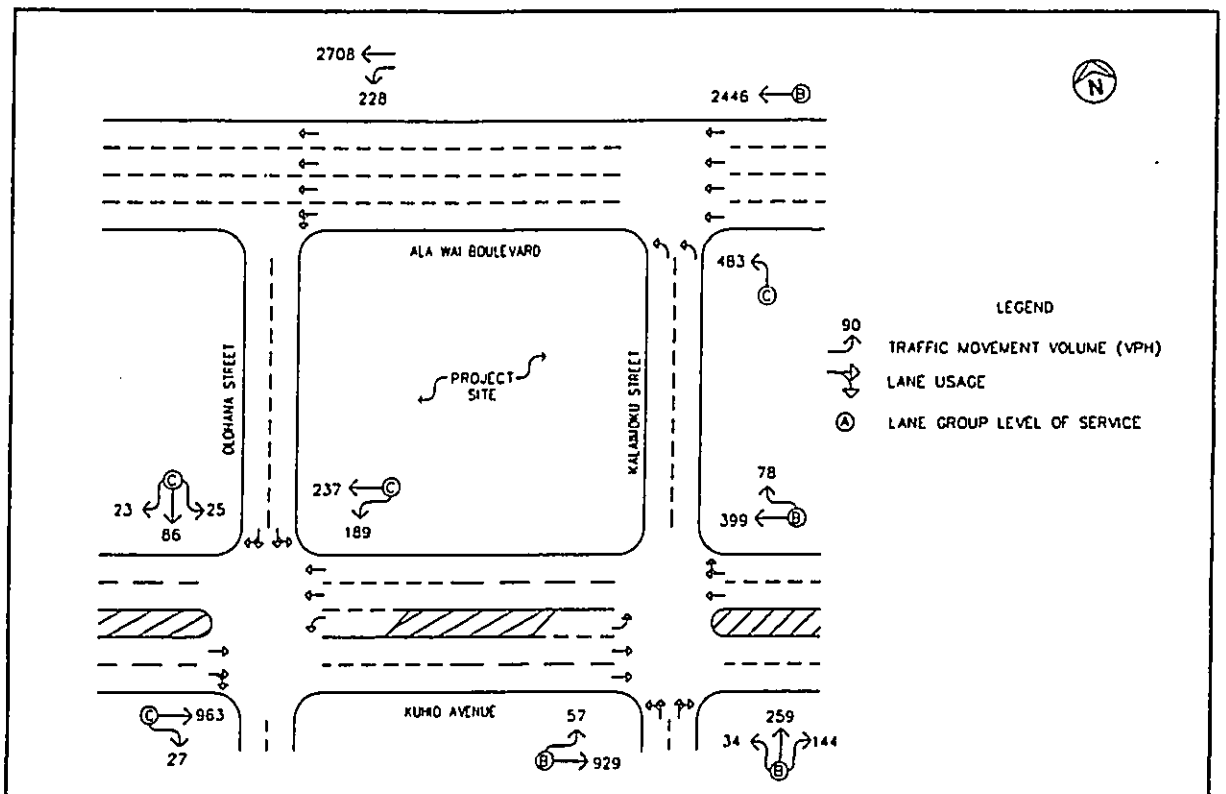
E. Total Traffic Volumes With Project

Figures 7 and 8 show the cumulative AM and PM peak hour traffic conditions resulting from the projected external traffic and the development of the proposed Waikiki Condominium project. The cumulative volumes consist of site-generated traffic superimposed over Year 2005 projected traffic demands. The traffic impacts resulting from the proposed project are addressed in the following section.

V. TRAFFIC IMPACT ANALYSIS

The Year 2005 cumulative AM and PM peak hour traffic conditions with the proposed new Waikiki Condominium are summarized in Table 3. The existing and projected Year 2005 operating conditions without the proposed project are provided for comparison purposes.

Within the project vicinity, traffic operations under Year 2005 with project conditions are expected to remain similar to Year 2005 without project conditions. All approaches at the Kuhio Avenue and Kalaimoku Street intersection continue to operate well at LOS "B" conditions, while all approaches at the intersection of Kuhio Avenue and Olohana Street continue to operate at acceptable LOS "C" conditions. At the intersection of Ala Wai Boulevard and Kalaimoku Street, the through movement of the westbound approach on Ala Wai Boulevard continue to operate well at LOS "B," however, the left-turn movement on the northbound approach operates at a slightly lower but acceptable level of service, LOS "C."



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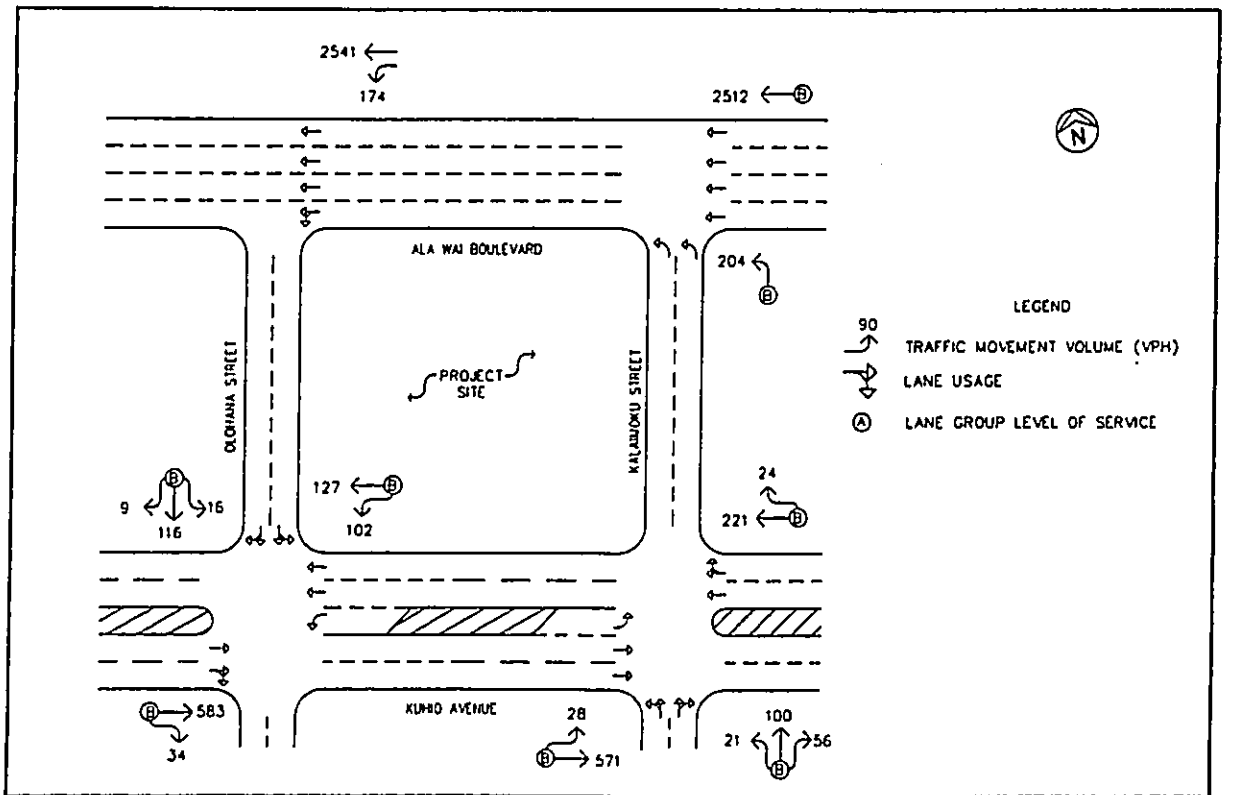
WAIKIKI CONDOMINIUM

YEAR 2005 PM PEAK HOUR TRAFFIC WITH PROJECT

FIGURE 8



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WAIKIKI CONDOMINIUM

YEAR 2005 AM PEAK HOUR TRAFFIC WITH PROJECT

FIGURE 7

Table 3: Comparison of Existing and Projected (With and Without Project) Overall Intersection LOS Traffic Operating Conditions

Intersection	Approach/ Movement	AM			PM		
		Existing	Year 2005 w/out Project	Year 2005 w/ Project	Existing	Year 2005 w/out Project	Year 2005 w/ Project
Ala Wai Boulevard and Kalaimoku	Northbound	B	B	B	B	B	C
	Westbound	B	B	B	B	B	B
Kuhio Avenue and Kalaimoku Street	Northbound	B	B	B	B	B	B
	Westbound	B	B	B	B	B	B
	Eastbound	B	B	B	B	B	B
Kuhio Avenue and Olohana Street	Southbound	B	B	B	B	C	C
	Westbound	B	B	B	B	C	C
	Eastbound	B	B	B	B	C	C

VI. RECOMMENDATIONS

Based on the analysis of traffic impacts attributable to the proposed Waikiki Condominium project, , the following recommendations will be incorporated in the project design:

1. Maintain sufficient sight distances for motorists to safely enter the exit the project access driveways.
2. Provide adequate on-site loading and of-loading service areas and prohibit off-site loading operations.
3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project property. Avoid vehicle-reversing maneuvers onto City streets.

4. Provide sufficient driveway width and storage to accommodate safe vehicle ingress and egress.
5. Provide sufficient turning radii for drop-off stops.

VII. CONCLUSION

By implementing the above recommendations, the proposed Waikiki Condominium project will not have a significant impact on traffic operations in the vicinity of the project site. Notably, the assumptions used in this traffic study were conservative regarding growth in external traffic unrelated to the proposed project. (Moreover, pedestrian activity or walk-ins from areas within Waikiki are anticipated to represent a larger portion of the project trip generation than assumed in this projection.) Much of the vehicular trip generation activity projected for the project during the peak hours is also anticipated to occur during off-peak hours due to the hours of operation of the proposed commercial development. Even with the conservative projected peak generation volumes superimposed over projected AM and PM peak periods, the project is not expected to significantly impact traffic operations within the vicinity.

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826

Counter: D1-0528
Counted By: IQ
Weather: Clear
Other:

File Name : alaoloa
Site Code : 00000001
Start Date : 05/09/2002
Page No : 1

Groups Printed- Unshifted

	Olohana Southbound					Ala Wai Blvd Westbound					Olohana Northbound					Ala Wai Blvd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	504	24	0	528	0	0	0	0	0	0	0	0	0	0	528
07:15 AM	0	0	0	0	0	0	570	37	0	607	0	0	0	0	0	0	0	0	0	0	607
07:30 AM	0	0	0	0	0	0	670	37	0	707	0	0	0	0	0	0	0	0	0	0	707
07:45 AM	0	0	0	0	0	0	609	40	0	649	0	0	0	0	0	0	0	0	0	0	649
Total	0	0	0	0	0	0	2353	138	0	2491	0	0	0	0	0	0	0	0	0	0	2491
08:00 AM	0	0	0	0	0	0	501	31	0	532	0	0	0	0	0	0	0	0	0	0	532
08:15 AM	0	0	0	0	0	0	447	36	0	483	0	0	0	0	0	0	0	0	0	0	483
08:30 AM	0	0	0	0	0	0	423	26	0	449	0	0	0	0	0	0	0	0	0	0	449
08:45 AM	0	0	0	0	0	0	451	38	0	489	0	0	0	0	0	0	0	0	0	0	489
Total	0	0	0	0	0	0	1822	131	0	1953	0	0	0	0	0	0	0	0	0	0	1953
Grand Total	0	0	0	0	0	0	4175	269	0	4444	0	0	0	0	0	0	0	0	0	0	4444
Apprch %	0.0	0.0	0.0	0.0		0.0	93.9	6.1	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	93.9	6.1	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	Olohana Southbound					Ala Wai Blvd Westbound					Olohana Northbound					Ala Wai Blvd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	0	0	0	0	0	0	2350	145	0	2495	0	0	0	0	0	0	0	0	0	0	2495
Percent	0.0	0.0	0.0	0.0		0.0	94.2	5.8	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
07:30 Volume	0	0	0	0	0	0	670	37	0	707	0	0	0	0	0	0	0	0	0	0	707
Peak Factor																					0.882
High Int	6:45:00 AM					07:30 AM					6:45:00 AM					6:45:00 AM					
Volume	0	0	0	0	0	0	670	37	0	707											
Peak Factor										0.882											
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
By Approach	07:00 AM					07:15 AM					07:00 AM					07:00 AM					
Volume	0	0	0	0	0	0	2350	145	0	2495	0	0	0	0	0	0	0	0	0	0	
Percent	-	-	-	-		0.0	94.2	5.8	0.0		-	-	-	-		-	-	-	-		
High Int	-					07:30 AM					-					-					
Volume	-	-	-	-	-	0	670	37	0	707	-	-	-	-	-	-	-	-	-	-	
Peak Factor										0.882											

APPENDIX A

EXISTING TRAFFIC COUNT DATA