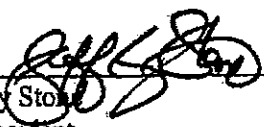
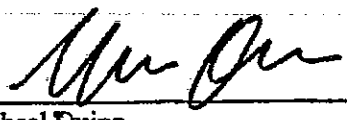


PRINCEVILLE PRINCE GOLF COURSE, LLC

By  \_\_\_\_\_  
Jeffrey Stone  
Its President

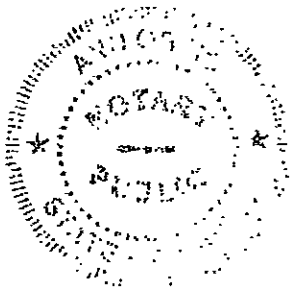
By  \_\_\_\_\_  
Michael Quinn  
Its Vice-President

"Grantee"

STATE OF HAWAII )  
 )  
CITY AND COUNTY OF HONOLULU )

SS:

On MAR 7 2005, before me personally appeared JEFFREY STONE, to me known to me to be the person(s), who, being by me duly sworn or affirmed did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable, in the capacity shown, having been duly authorized to execute such instrument in such capacity.



*Ann Ogino*

Notary Public, State of Hawaii

My commission expires: \_\_\_\_\_

Ann Ogino  
Expiration Date: July 30, 2008

STATE OF HAWAII )  
 )  
CITY AND COUNTY OF HONOLULU )

SS:

On MAR 7 2005, before me personally appeared MICHAEL QUINN, to me known to me to be the person(s), who, being by me duly sworn or affirmed did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable, in the capacity shown, having been duly authorized to execute such instrument in such capacity.



*Ann Ogino*

Notary Public, State of Hawaii

My commission expires: \_\_\_\_\_

Ann Ogino  
Expiration Date: July 30, 2008

**EXHIBIT "A"**

**-ITEM I:- TMK: (4) 5-3-006-001**

That parcel of land containing an area of 49.392 acres, -more particularly described as follows:

All of that certain parcel of land (portion of the land described in and covered by Land Patent Grant Number 4846 to W. F. Allen) situate, lying and being on the south side of Anini Beach Road, approximately 5,000 feet north of Kuhio Highway at Hanalei, Island and County of Kauai, State of Hawaii, being a portion of Parcel 2, Princeville, and thus bounded and described as per survey of Ronald J. Wagner, Registered Professional Land Surveyor, with Wagner Engineering Services, Inc., dated June 4, 1991, to-wit:

Beginning at the northwest corner of this parcel of land on the south side of Anini Beach Road, the coordinates of which referred to Government Survey Triangulation Station "POOKU" being 6824.74 feet north and 1809.08 feet east and running by azimuths measured clockwise from true South:

1. 236° 10' 25.45 feet along the South side of Anini Beach Road to a 1/2" pipe;
2. Thence along the South side of Anini Beach Road on a curve to the right having a radius of 280.00 feet, the chord azimuth and distance being:  
244° 34' 81.81 feet to a 1/2" pipe;
3. 252° 58' 194.94 feet along the South side of Anini Beach Road to a 1/2" pipe;
4. 250° 26' 107.84 feet along the South side of Anini Beach Road to a 1/2" pipe;
5. Thence along the South side of Anini Beach Road on a curve to the right with a radius of 580.00 feet, the chord azimuth and distance being:  
257° 14' 137.35 feet to a 1/2" pipe;
6. 264° 02' 1.30 feet along the South side of Anini Beach Road to a 1/2" pipe;

7. Thence along the South side of Anini Beach Road on a curve to the left with a radius of 770.00 feet, the chord azimuth and distance being:
- 259° 00' 135.11 feet to a 1/2" pipe;
8. 253° 58' 18.60 feet along the South side of Anini Beach Road to a 1/2" pipe;
9. Thence along the South side of Anini Beach Road on a curve to the right with a radius of 980.00 feet, the chord azimuth and distance being:
- 256° 37' 90.62 feet to a 1/2" pipe;
10. 259° 16' 133.49 feet along the South side of Anini Beach Road to a "+" cut on a rock;
11. Thence along the South side of Anini Beach Road on a curve to the left with a radius of 496.20 feet, the chord azimuth and distance being:
- 249° 55' 161.23 feet to a 1/2" pipe;
12. 350° 34' 20.00 feet along Lot 3 to a 1" pipe;
13. 349° 16' 30" 189.05 feet along remainders of Parcel 2, Princeville and Grant 4846 to W. F. Allen to a 3/4" pipe;
14. 38° 21' 366.69 feet along remainders of Parcel 2, Princeville and Grant 4846 to W. F. Allen to a 3/4" pipe;
15. 333° 54' 170.17 feet along remainders of Parcel 2, Princeville and Grant 4846 to W. F. Allen to a 3/4" pipe;
16. 42° 21' 156.55 feet along remainders of Parcel 2, Princeville and Grant 4846 to W. F. Allen to a 3/4" pipe;
17. 21° 15' 30" 181.86 feet along remainders of Parcel 2, Princeville and Grant 4846 to W. F. Allen to a 3/4" pipe;
18. 41° 14' 30" 183.58 feet along remainders of Parcel

32. 184° 14' 499.35 feet along the State of Hawaii, Anini Reserve to a 3/4" pipe; Anini Reserve and Lot 6 to the point of beginning and containing an area of 49.392 acres, more or less.

BEING THE PREMISES ACQUIRED BY DEED

GRANTOR : AMFAC PROPERTY INVESTMENT CORP., a Hawaii corporation  
GRANTEE : PRINCEVILLE CORPORATION, a Colorado corporation  
DATED : January 18, 1991  
RECORDED : Document No. 91-007170

-ITEM II:- TMK: (4) 5-3-006-003

That certain parcel of land containing an area of 0.72 acre, more particularly described as follows:

All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Land Patent Grant Number 4846 to W. F. Allen) situate, lying and being at Hanalei, Island and County of Kauai, State of Hawaii, bearing Tax Key designation (4) 5-3-006-003, and containing an area of 0.72 acre, more or less.

BEING THE PREMISES ACQUIRED BY DEED

GRANTOR : AMFAC PROPERTY INVESTMENT CORP., a Hawaii corporation  
GRANTEE : PRINCEVILLE CORPORATION, a Colorado corporation  
DATED : January 18, 1991  
RECORDED : Document No. 91-007170

-ITEM III:-

-PARCEL FIRST:- TMK: (4) 5-3-006-por. 014

All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Royal Patent Grant Number 4846 to W. F. Allen; Land Patent Number 8183, Land Commission Award Number 11215, Apana 3 to Keliiahonui; Land Patent Number 8173, Land Commission Award Number 8559-B, Apana 39 to William C. Lunalilo and Royal Patent Number 3881, Land Commission Award Number 11255, Apana 1 to Ezera and all of

Royal Patent Number 5040, Land Commission Award Number 8266, Apanas 1 and 3 to Ikuu; Royal Patent Number 4897, Land Commission Award Number 11245, Apanas 1, 2 and 3 to Mose; Royal Patent Number 4898, Land Commission Award Number 11250, Apanas 2 and 3 to Kahakamoku; Royal Patent Number \_\_\_\_\_, Land Commission Award Number 11244, Apanas 1 and 2 to Kulihea; Royal Patent Number 5044, Land Commission Award Number 11246, Apana 2 to Puhī and Royal Patent Number 7156, Land Commission Award Number 11249, Apana 2 to Kaunakahi) situate, lying and being on the northerly side of Kuhio Highway and at the westerly end of Kauai Belt Road Emergency Relief Project ER7(1) at Hanalei, Kalihikai and Kalihiwai, Halelea, Island and County of Kauai, State of Hawaii, bearing Tax Key designation (4) 5-3-006-014, and containing a gross area of 1,045.8230 acres, more or less, and a net area of \_\_\_\_\_ acres, more or less, after excluding those certain portions of TMK (4) 5-3-006-014 which are now portions of Lots 31, 32, 33, 34, 38 and whole of Lots 40 to 44, inclusive, of File Plan No. 2384.

Together with a non-exclusive perpetual access easement, if any, ("Easement A-1") and a non-exclusive perpetual utility easement ("Easement U-1"), on, over, under and across those certain easements, more particularly described therein, and subject to the terms and provisions, including the failure to comply with any covenants, conditions and reservations, contained therein.

-PARCEL SECOND:- TMK: (4) 5-3-006-013

All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Land Patent Number 8183, Land Commission Award Number 11215, Apana 3 to A. Keliiahonui) situate, lying and being at Kalihikai and Kalihiwai, Halelea, Island and County, State of Hawaii, bearing Tax key designation (4) 5-3-006-013, and containing an area of 1.00 acre, more or less.

-PARCEL THIRD:- TMK: (4) 5-3-006-021

All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Land Patent Number 8183, Land Commission Award Number 11215, Apana 3 to A. Keliiahonui) situate, lying and being at Kalihikai and Kalihiwai, Halelea, Island and County, State of Hawaii, bearing Tax Key designation (4) 5-3-006-021, and containing an area of 12,717 square feet, more or less.

Said above described parcels of land having been acquired by PRINCEVILLE DEVELOPMENT CORPORATION, a Colorado corporation, by the following Deeds of CONSOLIDATED OIL & GAS, INC., a Colorado corporation:

1. DEED dated June 26, 1980, effective January 1, 1980, recorded in Liber 14841 at Page 1; and
2. DEED dated April 15, 1988, effective November 1, 1984, recorded in Liber 21857 at Page 758.

-ITEM IV:- TMK(S): (4) 5-3-006-POR. 014 AND 023

All of those certain parcels of land situate at Hanalei, Halelea, Island and County of Kauai, State of Hawaii, described as follows:

LOTS	AREA
40	17.906 acres,
41	301 square feet,
42	2,090 square feet, and
43	1,521 square feet, more or less,

of "THE GREENS ON QUEEN EMMA'S BLUFFS", as shown on File Plan No. 2384, filed in the Bureau of Conveyances of the State of Hawaii.  
-AS TO LOTS 40 AND 41:-

Together with an easement over, through, under and across Easement 25, for access and utilities purposes, as granted by PRINCEVILLE CORPORATION, a Colorado corporation, by GRANT OF EASEMENT dated October 28, 2004, recorded as Document No. 2005-022837, being more particularly described therein; and subject to the terms and provisions, including the failure to comply with any covenants, conditions and reservations, contained therein.

Subject, however, to all encumbrances of record.

Said above described parcels of land having been acquired by PRINCEVILLE DEVELOPMENT CORPORATION, a Colorado corporation, by the following Deeds of CONSOLIDATED OIL & GAS, INC., a Colorado corporation:

1. DEED dated June 26, 1980, effective January 1, 1980, recorded in Liber 14841 at Page 1; and
2. DEED dated April 15, 1988, effective November 1, 1984, recorded in Liber 21857 at Page 758.

**Princeville Prince**  
Balance Sheet - Accrual  
December 31, 2009

	Current Period	Prior Period	Incr / (Decr)	Prior Year End	Incr / (Decr)
<b>Assets</b>					
<b>Current Assets</b>					
Cash	\$ 446,960.33	\$ 347,679.13	\$ 99,281.20	\$ 342,440.09	\$ 104,520.24
Accounts Receivable	228,933.22	272,005.59	(43,072.37)	165,743.76	63,189.46
Intercompany / Prepaids	280,865.41	282,236.64	(1,371.23)	76,458.85	204,406.56
Inventory	<u>184,827.41</u>	<u>193,177.67</u>	<u>(8,350.26)</u>	<u>280,866.90</u>	<u>(96,039.49)</u>
Total Current Assets	\$ 1,141,586.37	\$ 1,095,099.03	\$ 46,487.34	\$ 865,509.60	\$ 276,076.77
<b>Fixed Assets</b>					
Land	\$ 5,880,246.80	\$ 5,880,246.80	\$ 0.00	\$ 5,880,246.80	\$ 0.00
Buildings	1,761,464.00	1,761,464.00	0.00	1,761,464.00	0.00
FF&E - Equipment	588,680.91	588,680.91	0.00	554,357.73	34,323.18
FF&E - Office Furnitr & Eqpmnt	6,707.13	6,707.13	0.00	6,707.13	0.00
FF&E - Other	196,269.79	196,269.79	0.00	194,851.05	1,418.74
Other Improvements	17,269.00	17,269.00	0.00	17,269.00	0.00
Automobiles & Trucks	12,040.13	12,040.13	0.00	12,040.13	0.00
Accum Depr - Buildings	(278,898.52)	(269,932.17)	(8,966.35)	(171,302.32)	(107,596.20)
Accum Depr - Equipment	(500,465.93)	(490,351.81)	(10,114.12)	(382,528.79)	(117,937.14)
Accum Depr - Furn & Fixt	(2,778.05)	(2,658.05)	(120.00)	(1,338.05)	(1,440.00)
Accum Depr - Autos & Trucks	(12,040.13)	(11,794.56)	(245.57)	(9,097.03)	(2,943.10)
Accum Depr - Leashid Imprvmnts	(647.70)	(633.70)	(14.00)	(479.70)	(168.00)
Accum Depr. - Other	<u>(83,987.09)</u>	<u>(82,706.89)</u>	<u>(1,280.20)</u>	<u>(68,624.69)</u>	<u>(15,362.40)</u>
Total Fixed Assets	\$ 7,583,860.34	\$ 7,604,600.56	\$ (20,740.24)	\$ 7,793,565.26	\$ (209,704.92)
<b>Other Assets</b>					
Deposits	\$ 1,468.07	\$ 1,468.07	\$ 0.00	\$ 2,492.57	\$ (1,024.50)
Total Other Assets	\$ 1,468.07	\$ 1,468.07	\$ 0.00	\$ 2,492.57	\$ (1,024.50)
<b>Total Assets</b>	<b>\$ 8,726,914.78</b>	<b>\$ 8,701,167.68</b>	<b>\$ 25,747.10</b>	<b>\$ 8,661,567.43</b>	<b>\$ 65,347.35</b>

Unaudited: For Internal Use Only



**Princeville Prince**  
Balance Sheet - Accrual  
December 31, 2009

	Current Period	Prior Period	Incr / (Decr)	Prior Year End	Incr / (Decr)
<b>Liabilities and Equity</b>					
<b>Liabilities</b>					
Current Liabilities:					
Accounts Payable	\$ 315,174.86	\$ 191,622.55	\$ 123,552.31	\$ 161,267.93	\$ 153,906.93
Accrued - Salaries & Wages	90,769.14	178,978.31	(88,209.17)	150,480.82	(59,711.68)
Accrued - Vacation	109,732.97	106,790.16	2,942.81	104,543.10	5,189.87
Accrued Payroll Taxes	2,031.74	7,651.37	(5,619.63)	6,682.80	(4,651.06)
Accrued - Expenses	18,381.25	182,973.38	(164,592.13)	110,446.29	(92,065.04)
Accrued - State Sales Tax	18,293.74	17,162.29	1,131.45	18,680.75	(387.01)
Gift Certificates - Golf	32,257.43	35,383.48	(3,126.05)	52,527.80	(20,270.37)
Deposits - Event	215.33	215.33	0.00	215.33	0.00
Deferred Annual Dues	0.00	<u>4,139.57</u>	<u>4,139.57</u>	<u>0.00</u>	<u>0.00</u>
Total Current Liabilities	\$ 586,856.46	\$ 716,637.30	\$ (129,780.84)	\$ 604,844.82	\$ (17,988.36)
Long Term Liabilities:					
Total Long Term Liabilities	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Total Liabilities	\$ 586,856.46	\$ 716,637.30	\$ (129,780.84)	\$ 604,844.82	\$ (17,988.36)
<b>Equity</b>					
Capital PVA	\$ 4,695,740.36	\$ 4,694,478.10	\$ 1,262.26	\$ 7,304,755.69	\$ (2,609,015.33)
Capital Contributions	5,781,421.86	5,628,455.25	152,966.61	3,956,062.28	1,825,359.58
RETAINED EARNINGS	(892,182.54)	(892,182.54)	0.00	(1,376,050.48)	483,867.94
Net Income	<u>(1,444,921.36)</u>	<u>(1,446,220.43)</u>	<u>1,299.07</u>	<u>(1,828,044.88)</u>	<u>383,123.52</u>
Total Equity	\$ 8,140,058.32	\$ 7,984,530.38	\$ 155,527.94	\$ 8,056,722.61	\$ 83,335.71
<b>Total Liabilities &amp; Equity</b>	<b>\$ 8,726,914.78</b>	<b>\$ 8,701,167.68</b>	<b>\$ 25,747.10</b>	<b>\$ 8,661,567.43</b>	<b>\$ 65,347.35</b>

Unaudited: For Internal Use Only

**Princeville Prince Golf Course**  
Income Statement Summary  
For the Period Ended December 31, 2009

	Current Period		Year to Date		Annual Budget	Annual Budget Remaining
	Actual	Budget	\$ Variance	Prior Year		
<b>Rounds:</b>						
Rounds	2,105	1,817	288	1,892	22,377	(3,465)
Total Rounds	2,105	1,817	288	1,892	22,377	(3,465)
<b>Revenue</b>						
<b>Golf Revenue:</b>						
Membership Revenue	\$ 0	\$ 0	\$ 0	\$ 2,100.00	\$ 6,420.00	\$ (280.00)
Green Fees	152,737.98	154,247.38	(1,510.00)	175,522.98	1,862,428.82	20,343.02
Cart Fees	50,862.50	45,493.00	5,429.50	43,771.62	559,415.00	(89,726.33)
Merchandise Revenue	87,084.25	106,312.00	(19,217.75)	95,481.47	1,309,032.00	160,824.41
Other Golf Revenue	67,855.55	19,981.00	47,864.55	7,387.62	245,141.00	(218,942.62)
Total Golf Revenue	\$ 358,549.68	\$ 325,983.38	\$ 32,566.30	\$ 325,283.69	\$ 3,977,017.82	\$ (125,781.62)
Food & Beverage Revenue	\$ 82,330.02	\$ 89,010.00	\$ (6,679.98)	\$ 84,122.52	\$ 1,168,942.00	\$ 1,169,942.00
Alpha Security Revenue	0	18,237.73	(18,237.73)	0	218,852.76	218,852.76
Landscape Maintenance	3,278.44	6,250.00	(2,973.56)	0	75,000.00	75,000.00
Contract Services Revenue	12,592.84	0	12,592.84	0	115,636.12	115,636.12
Other Revenue	0	10,010.38	(10,010.38)	9,358.04	160,124.56	160,124.56
Total Revenue	\$ 456,748.08	\$ 459,481.49	\$ (2,742.41)	\$ 418,764.25	\$ 5,600,937.14	\$ 5,600,937.14
<b>Cost of Sales:</b>						
Merchandise	\$ 51,636.91	\$ 56,900.90	\$ 5,263.99	\$ 56,878.00	\$ 699,742.90	\$ 699,742.90
Food & Beverage	18,522.93	31,249.00	12,726.07	31,045.08	368,453.00	368,453.00
Total Cost of Sales	\$ 70,159.84	\$ 88,149.90	\$ 17,989.06	\$ 86,923.08	\$ 1,068,195.90	\$ 1,068,195.90
<b>Gross Margin</b>	\$ 386,588.24	\$ 371,341.59	\$ (14,762.35)	\$ 331,841.17	\$ 4,532,741.24	\$ 4,532,741.24
<b>Operating Expenses:</b>						
Marketing Expenses	\$ 633.61	\$ 13,280.00	\$ 12,646.39	\$ 21,845.58	\$ 149,654.48	\$ 9,005.52
Golf Expenses	55,522.23	75,963.00	21,440.77	98,103.47	936,385.66	68,628.14
Course Maintenance Expenses	17,752.13	128,894.00	111,241.87	83,322.94	1,371,046.24	1,675,344.00
Equipment Maintenance Expenses	44,428.58	29,027.00	(15,401.58)	32,560.01	404,421.93	(28,528.83)
Food & Beverage Expenses	36,113.08	87,887.00	51,773.92	64,286.59	580,060.71	855,892.00
Occupancy Expenses	48,361.11	105,170.13	56,789.02	63,902.02	779,630.81	1,097,632.56
General & Administrative Expenses	114,048.44	94,383.67	(19,665.77)	77,814.97	1,058,192.29	1,143,626.00
Management Fee Expenses	8,000.00	8,000.00	0	8,000.00	96,000.00	96,000.00
Alpha Security Expenses	7,067.94	17,531.84	10,563.90	0	54,123.26	159,062.56
Landscape Maintenance Expenses	30,172.24	38,693.89	8,521.65	0	358,827.38	354,568.76
Total Operating Expenses	\$ 382,120.36	\$ 681,120.63	\$ 299,000.27	\$ 449,935.68	\$ 6,527,856.81	\$ 1,408,791.84
<b>Net Operating Income (Loss)</b>	\$ (5,631.12)	\$ (209,779.04)	\$ 204,247.92	\$ (118,094.41)	\$ (2,395,115.27)	\$ (1,185,189.68)
<b>Non-Operating Expenses:</b>						
Depreciation / Amortization	\$ 20,740.24	\$ 16,056.00	\$ (4,684.24)	\$ 15,413.21	\$ 191,006.00	\$ (54,440.84)
Interest Expense	0	0	0	0	0	0
Other Non-Operating Expenses	(27,570.43)	0	27,570.43	(9,217.16)	(8,201.44)	8,201.44
Total Non-Operating Expenses	\$ (6,830.19)	\$ 16,056.00	\$ 22,886.19	\$ 6,196.05	\$ 191,006.00	\$ (46,239.40)
<b>Net Income (Loss)</b>	\$ 1,289.07	\$ (226,836.04)	\$ 227,134.11	\$ (124,290.46)	\$ (2,586,121.27)	\$ (1,138,941.28)

Unaudited: For Internal Use Only

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Petition of ) DOCKET NO. A83-557  
)  
PRINCEVILLE DEVELOPMENT )  
CORPORATION )  
)  
To reclassify approximately 390 acres of )  
land currently in the Agricultural District )  
into the Urban District at Hanalei, Kauai, )  
Hawaii'i, TMK: 5-3-06: 17 and portion of 14 )  
\_\_\_\_\_ )

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was duly served upon the following by depositing the same in the U.S. Postal Service by certified mail (return receipt requested), postage prepaid, on March 9, 2011:

JESSE SOUKI, Director  
Office of Planning  
P.O. Box 2359  
Honolulu, Hawaii'i 96804

BRYAN C. YEE, ESQ.  
Deputy Attorney General  
425 Queen Street  
Honolulu, Hawaii'i 96813

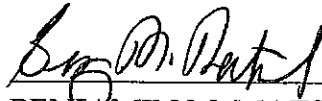
MICHAEL DAHILIG, Director  
Planning Department, County of Kauai  
4444 Rice Street  
Lihue, Kauai, Hawaii'i 96766

Kauai County Attorney  
Office of the County Attorney  
4444 Rice Street  
Suite 220  
Lihue, Kauai, Hawai'i 96766

Concerned Citizens of Anini  
c/o Teresa Tico, Esq.  
P.O. Box 220  
Hanalei, Kauai, Hawai'i 96714

Dated: Honolulu, Hawai'i March 9, 2011.

OF COUNSEL:  
MATSUBARA - KOTAKE  
A Law Corporation

  
\_\_\_\_\_  
BENJAMIN M. MATSUBARA  
CURTIS T. TABATA  
WYETH M. MATSUBARA  
Attorneys for Petitioner  
Princeville Prince Golf Course, LLC

## **APPENDIX A**

### **Acoustic Terminology**

## Acoustic Terminology

### Sound Pressure Level

Sound, or noise, is the term given to variations in air pressure that are capable of being detected by the human ear. Small fluctuations in atmospheric pressure (sound pressure) constitute the physical property measured with a sound pressure level meter. Because the human ear can detect variations in atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Noise is defined as “unwanted” sound.

Technically, sound pressure level (SPL) is defined as:

$$\text{SPL} = 20 \log (P/P_{\text{ref}}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and  $P_{\text{ref}}$  is the reference pressure, 20  $\mu\text{Pa}$ , which is approximately the lowest sound pressure that can be detected by the human ear. For example:

$$\begin{aligned} \text{If } P &= 20 \mu\text{Pa, then SPL} = 0 \text{ dB} \\ \text{If } P &= 200 \mu\text{Pa, then SPL} = 20 \text{ dB} \\ \text{If } P &= 2000 \mu\text{Pa, then SPL} = 40 \text{ dB} \end{aligned}$$

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound sources, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined sound level of 53 dB, not 100 dB. Two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 6 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

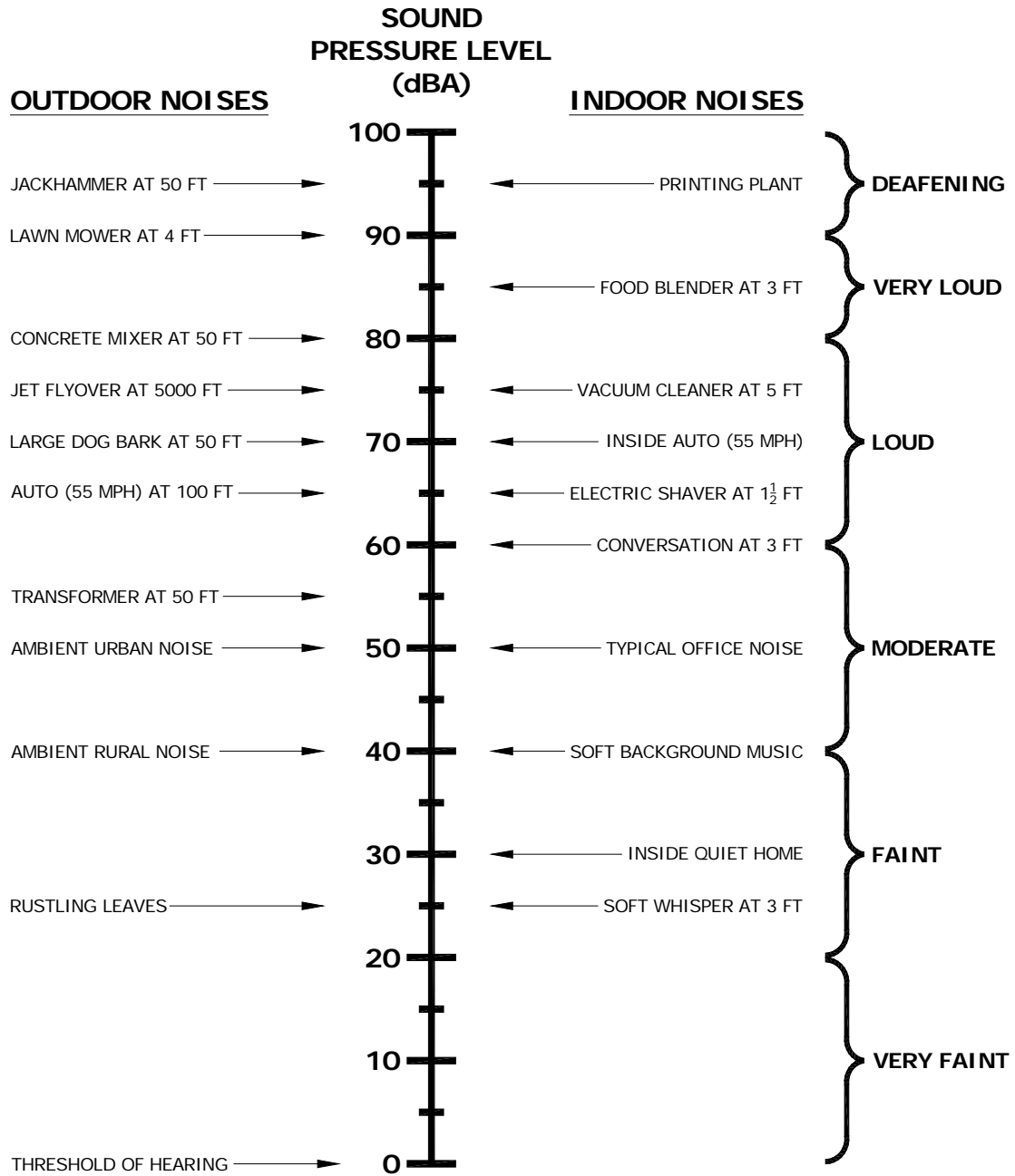
### A-Weighted Sound Level

Studies have shown conclusively that at equal sound pressure levels, people are generally more sensitive to certain higher frequency sounds (such as made by speech, horns, and whistles) than most lower frequency sounds (such as made by motors and engines)<sup>1</sup> at the same level. To address this preferential response to frequency, the A-weighted scale was developed. The A-weighted scale adjusts the sound level in each frequency band in much the same manner that the

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<sup>1</sup> D.W. Robinson and R.S. Dadson, “A Re-Determination of the Equal-Loudness Relations for Pure Tones,” *British Journal of Applied Physics*, vol. 7, pp. 166 - 181, 1956. (Adopted by the International Standards Organization as Recommendation R-226.

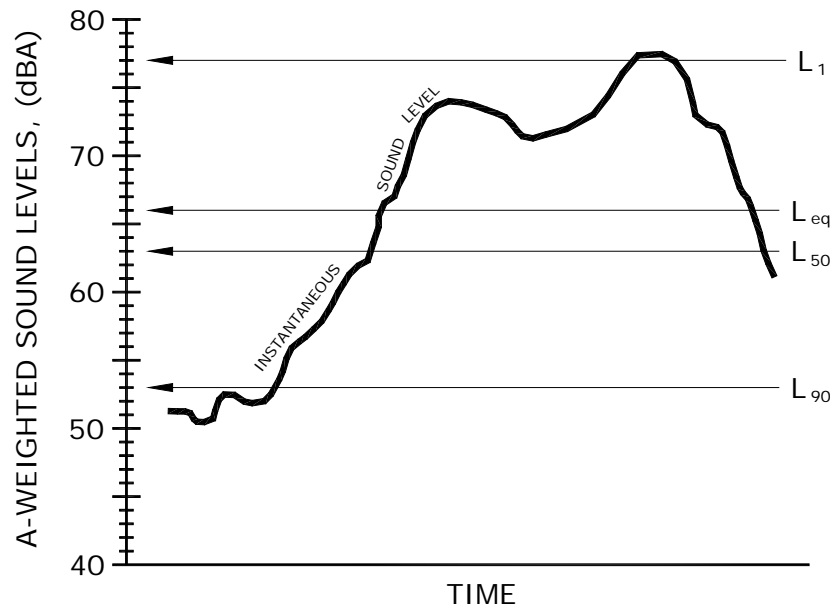
human auditory system does. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound and has some correlation with the sensitivity of the human ear to that sound. Different sounds with the same A-weighted sound level are perceived as being equally loud. The A-weighted noise level is commonly used today in environmental noise analysis and in noise regulations. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.



**Figure A-1. Common Outdoor/Indoor Sound Levels**

### Equivalent Sound Level

The Equivalent Sound Level ( $L_{eq}$ ) is a type of average which represents the steady level that, integrated over a time period, would produce the same energy as the actual signal. The actual *instantaneous* noise levels typically fluctuate above and below the measured  $L_{eq}$  during the measurement period. The A-weighted  $L_{eq}$  is a common index for measuring environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.



**Figure A-2. Example Graph of Equivalent and Statistical Sound Levels**

### Statistical Sound Level

The sound levels of long-term noise producing activities such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels has been developed. It is known as the Exceedence Level,  $L_n$ . The  $L_n$  represents the sound level that is exceeded for  $n\%$  of the measurement time period. For example,  $L_{10} = 60$  dBA indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. Commonly used Exceedence Levels include  $L_{01}$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ , which are widely used to assess community and environmental noise. A graphical description of the equivalent sound level is shown in Figure A-2.

### Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level,  $L_{dn}$ , is the Equivalent Sound Level,  $L_{eq}$ , measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 p.m. and 7 a.m. to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The  $L_{dn}$  is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations.



## **APPENDIX B**

### **Photographs at Project Site**



**Location L1**  
Approximately 500 feet makai of Kuhio Highway, ear the Prince Golf Clubhouse.



**Location L2**  
Near the northern boundary of the project site, located on bluff overlooking Anini Road.

## **APPENDIX C**

### **Supplementary Airport Noise Analysis**

## **1.0 DESCRIPTION**

The proposed Princeville Agricultural Subdivision project is located in the vicinity of the Princeville Airport. While the airport serves infrequent private jets and helicopter tours, aircraft takeoff and landings are a source of noise that may be bothersome to the proposed residences. Therefore, a supplementary noise analysis was conducted to determine the impact of airport noise on the project site.

## **2.0 NOISE STANDARDS**

Various local and federal agencies have established guidelines and standards for assessing environmental noise impacts due to aircraft noise exposure.

### **2.1 Federal Aviation Administration (FAA)**

Federal Aviation Regulation, Part 150, Airport Noise Compatibility Planning [Reference 1], is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. The 14 CFR Part 150 (Table A) addresses the thresholds for evaluating the probable effect of aircraft noise exposure on human activities characteristic of specific land uses. Table C-1 summarizes these federal guidelines for land use compatibility. The guidelines for land use compatibility due to aircraft operations are expressed in terms of yearly day-night average sound levels, or  $L_{dn}$ .

### **2.2 Hawaii Department of Transportation (HDOT), Airports Division**

The State of Hawaii, Department of Transportation, Airports Division has adopted noise restrictions similar to the FAA's, but more strict [Reference 2]. Similar to the FAA, HDOT expresses land use compatibility guidelines based on yearly day-night average sound levels,  $L_{dn}$ , due to aircraft operations. In most cases, the HDOT states maximum noise limits that are 5 dB lower than the FAA. For example, the HDOT states that residences outside of the 60  $L_{dn}$  noise contour are compatible. Residences between 60 and 70  $L_{dn}$  contours are only compatible if noise mitigation treatments are implemented. The compatibility of other land uses, such as manufacturing, public, and recreation, are shown in Table C-2.

## **3.0 EXISTING ACOUSTICAL ENVIRONMENT**

Two types of noise measurements were conducted to assess aircraft noise in the vicinity of the project site. The first noise measurement type consisted of continuous long-term ambient noise level measurements at two locations (Location L3 and L4). The second type of noise measurement was short-term. The noise measurements are scheduled to be conducted for two weeks at the end of February/beginning of March, 2011.

### **3.1 Noise Measurement Procedure**

#### Long-Term Noise Measurement Procedure

Continuous, 15-minute, statistical sound levels were recorded for approximately 24 hours. The measurement data was collected using a Larson-Davis Laboratories, Model 831, Type-1 Sound Level Meter together with a PCB, Model 377B20 Type-1 Microphone. Calibration was checked before and after the

measurements with a Larson-Davis Model CAL200 calibrator. Both the sound level meter and the calibrator have been certified by the manufacturer within the recommended calibration period. The microphone was mounted on a tripod, approximately 5 feet above grade. A windscreen covered the microphone during the entire measurement period. The sound level meter was secured in a weather resistant case.

#### Short-Term Noise Measurement Procedure

Short term measurements were conducted at several locations in the vicinity of Princeville Airport. The noise measurement data was also collected using a Larson-Davis Laboratories, Model 831, Type-1 Sound Level Meter together with a PCB, Model 377B20 Type-1 Microphone. An approximate 1/5-second equivalent sound level,  $L_{eq}$ , was measured during each aircraft event.

### **3.2 Noise Measurement Locations**

#### Long-Term Noise Measurement Location

Location L3: Description forthcoming.

Location L4: Description forthcoming.

#### Short-Term Noise Measurement Locations

Location S2: Description forthcoming.

### **3.3 Noise Measurement Results**

The results from the noise measurements will be graphically presented once the data collection period is complete.

## **4.0 POTENTIAL NOISE IMPACTS AND NOISE MITIGATION**

### **4.1 Airport Noise**

An analysis of noise from Princeville Airport will be provided once the data collection period is complete.

## **5.0 POTENTIAL NOISE IMPACT ON THE PROJECT AND NOISE MITIGATION**

### **5.1 Mitigation of Airport Noise**

If an airport noise impact is determined, mitigation measures will be provided.

## REFERENCES

1. *FAA Regulations on Airport Noise Compatibility Planning Programs*, Code of Federal Regulations, Title 14, Chapter 1, Subchapter 1, Part 150; Issued by 49 FR 49269, December 18, 1984; corrected by 50 FR 5063, February 6, 1985; amended by 53 FR 8723, March 16, 1988; corrected by 53 FR 9726, March 24, 1988.
2. *Honolulu International Airport Master Plan Update and Noise Compatibility Program*, State of Hawaii Department of Transportation, Airports Division, Vol. 2, December 1989.

**Table C-1: FAR Part 150 Recommendations for Land Use Compatibility in Yearly Day-Night Average Sound Levels**

TYPE OF LAND USE	Yearly Day-Night Average Sound Level (L <sub>dn</sub> )					
	< 65	65-70	70-75	75-80	80-85	> 85
<b>RESIDENTIAL:</b>						
Residential (except mobile homes & transient lodgings) .....	Y	N(1)	N(1)	N	N	N
Mobile home parks.....	Y	N	N	N	N	N
Transient lodgings.....	Y	N(1)	N(1)	N(1)	N	N
<b>PUBLIC USE:</b>						
Schools.....	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes.....	Y	25	30	N	N	N
Churches, auditoriums, and concert halls.....	Y	25	30	N	N	N
Government services.....	Y	Y	25	30	N	N
Transportation.....	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking.....	Y	Y	Y(2)	Y(3)	Y(4)	N
<b>COMMERCIAL USE:</b>						
Offices, business and professional.....	Y	Y	25	30	N	N
Wholesale/Retail:(bldg. Mater., hardware, & farm equip.).....	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade – general.....	Y	Y	25	30	N	N
Utilities.....	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication.....	Y	Y	25	30	N	N
<b>MANUFACTURING AND PRODUCTION:</b>						
Manufacturing, general.....	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical.....	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry.....	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding.....	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction.....	Y	Y	Y	Y	Y	Y
<b>RECREATIONAL USE:</b>						
Outdoor sports arenas and spectator sports.....	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters.....	Y	N	N	N	N	N
Nature exhibits and zoos.....	Y	Y	N	N	N	N
Amusements, parks, resorts and camps.....	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation.....	Y	Y	25	30	N	N

Note: Numbers in parentheses refer to the following notes.

- (1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- (2) Measures to achieve NLR 25 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (3) Measures to achieve NLR 30 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (4) Measures to achieve NLR 35 must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (5) Land use compatible provided special sound reinforcement systems are installed.
- (6) Residential buildings require a NLR of 25.
- (7) Residential buildings require a NLR of 30.
- (8) Residential buildings are not permitted.

**Abbreviations:**

Y(Yes) = Land Use and related structures compatible w/o restrictions.

N(No) = Land Use and related structures are not compatible and should be prohibited.

NLR = Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35 = Land use and related structures general compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structures.

**Regulatory Note.**

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

**Source:** FAR Part 150, Appendix A, Table 1. “Land Use Compatibility with Yearly Day-Night Average Sound Levels.”

**Table C-2: State Department of Transportation Airports Division Recommendations for Local Land Use Compatibility in Yearly Day-Night Average Sound Levels ( $L_{dn}$ )**

TYPE OF LAND USE	Yearly Day-Night Average Sound Level ( $L_{dn}$ )					
	< 60	60-65	65-70	70-75	75-80	80-85
<b>RESIDENTIAL:</b>						
Low density residential, resorts, & hotels (w/ outdoor fac).....	Y(a)	N(b)	N	N	N	N
Low density apartment w/ moderate outdoor use.....	Y	N(b)	N	N	N	N
High density apartment with limited outdoor use .....	Y	N(b)	N(b)	N	N	N
Transient lodgings (w/limited outdoor use) .....	Y	N(b)	N(b)	N	N	N
<b>PUBLIC USE:</b>						
Schools, day care centers, libraries, and churches.....	Y	N(c)	N(c)	N(c)	N	N
Hospitals, nursing homes, clinics, and health facilities .....	Y	Y(d)	Y(d)	Y(d)	N	N
Indoor auditoriums, and concert halls .....	Y(c)	Y(c)	N	N	N	N
Government services and offices serving the public .....	Y	Y	Y(d)	Y(d)	N	N
Transportation and parking .....	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
<b>COMMERCIAL USE:</b>						
Offices - government, business and professional .....	Y	Y	Y(d)	Y(d)	N	N
Wholesale/Retail: bldg. Mater., hardware, & heavy equip.....	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
Airport businesses - car rental, ticketing, lei stands, etc.....	Y	Y	Y(d)	Y(d)	N	N
Retail trade, restaurants, shp. Centers, financial inst., etc .....	Y	Y	Y(d)	Y(d)	N	N
Power plants, sweage treatment plants, & base yards .....	Y	Y	Y(d)	Y(d)	Y(d)	N
Studios w/o outdoor sets, broadcasting & Production fac.....	Y(c)	Y(c)	N	N	N	N
<b>MANUFACTURING AND PRODUCTION:</b>						
Manufacturing, general .....	Y	Y	Y(d)	Y(d)	Y(d)	N
Photographic and optical.....	Y	Y	Y(d)	Y(d)	N	N
Agriculture (except livestock) and forestry .....	Y	Y(e)	Y(e)	Y(e)	Y(e)	Y(e)
Livestock farming and breeding.....	Y	Y(e)	Y(e)	N	N	N
Mining and fishing, resource production and extraction.....	Y	Y	Y	Y	Y	Y
<b>RECREATIONAL USE:</b>						
Outdoor sports arenas and spectator sports .....	Y	Y(f)	Y(f)	N	N	N
Outdoor music shells, amphitheaters.....	Y(f)	N	N	N	N	N
Nature exhibits and zoos, neighborhood parks.....	Y	Y	Y	N	N	N
Amusements, beach parks, active playgrounds, etc .....	Y	Y	Y	Y	N	N
Public golf courses, riding stables, cemeteries, gardens, etc .....	Y	Y	N	N	N	N
Professional/resort sports facil., media event facil., etc .....	Y(f)	N	N	N	N	N
Extensive natural wildlife and recreation areas.....	Y(f)	N	N	N	N	N

Note: Letters in parentheses refer to the following notes.

- (a) A noise level of 60  $L_{dn}$  does not eliminate all risks of adverse noise impacts from aircraft noise. However, the 60  $L_{dn}$  planning level has been selected by the State Airports Division as an appropriate compromise between the minimal risk of level of 55  $L_{dn}$  and the significant risk level of 65  $L_{dn}$ .
- (b) Where the community determines that these uses should be allowed, Noise Level Reduction (NLR) measures to achieve interior levels of 45  $L_{dn}$  or less should be incorporated into building codes and be considered in individual approvals. Normal local construction employing natural ventilation can be expected to provide an average NLR of approximately 9 dB. Total closure plus air conditioning may be required to provide additional outdoor-to-indoor NLR, but will not eliminate outdoor noise problems.
- (c) Because the  $L_{dn}$  noise descriptor system represents a 24-hour average of individual aircraft noise events, each of which can be unique in respect to amplitude, duration, and tonal content, the NLR requirements should be evaluated for the specific land use, interior acoustical requirements, and properties of the aircraft noise events. NLR requirements should not be based solely upon the exterior  $L_{dn}$  exposure level.
- (d) Measures to achieve required NLR must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (e) Residential buildings require NLR. Residential buildings should not be located where exterior noise is greater than 65  $L_{dn}$ .
- (f) Impact of amplitude, duration, frequency, and tonal content of aircraft noise events should be evaluated.

**Abbreviations:**

Y(Yes) = Land Use and related structures compatible without restrictions.

N(No) = Land Use and related structures are not compatible and should be prohibited.

**Source:** Airports Division, Department of Transportation, State of Hawaii



**APPENDIX J. TRAFFIC IMPACT REPORT PRINCEVILLE SUBDIVISION**

Traffic Impact Report

**Princeville Subdivision**



Prepared For  
Group 70 International,  
Inc.

Prepared By  
Wilson Okamoto  
Corporation

November 2008

**TRAFFIC IMPACT REPORT  
FOR THE PROPOSED  
PRINCEVILLE SUBDIVISION**

*Prepared for:*

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925 Bethel Street, Fifth Floor  
Honolulu, HI 96813

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1907 S. Beretania Street, Suite 400  
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November 2008

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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 Princeville Subdivision located adjacent to Kuhio Highway in Princeville on the island of Kauai. The proposed project entails the subdivision of an existing 942-acre parcel into 21 lots.

### B. Scope of Study

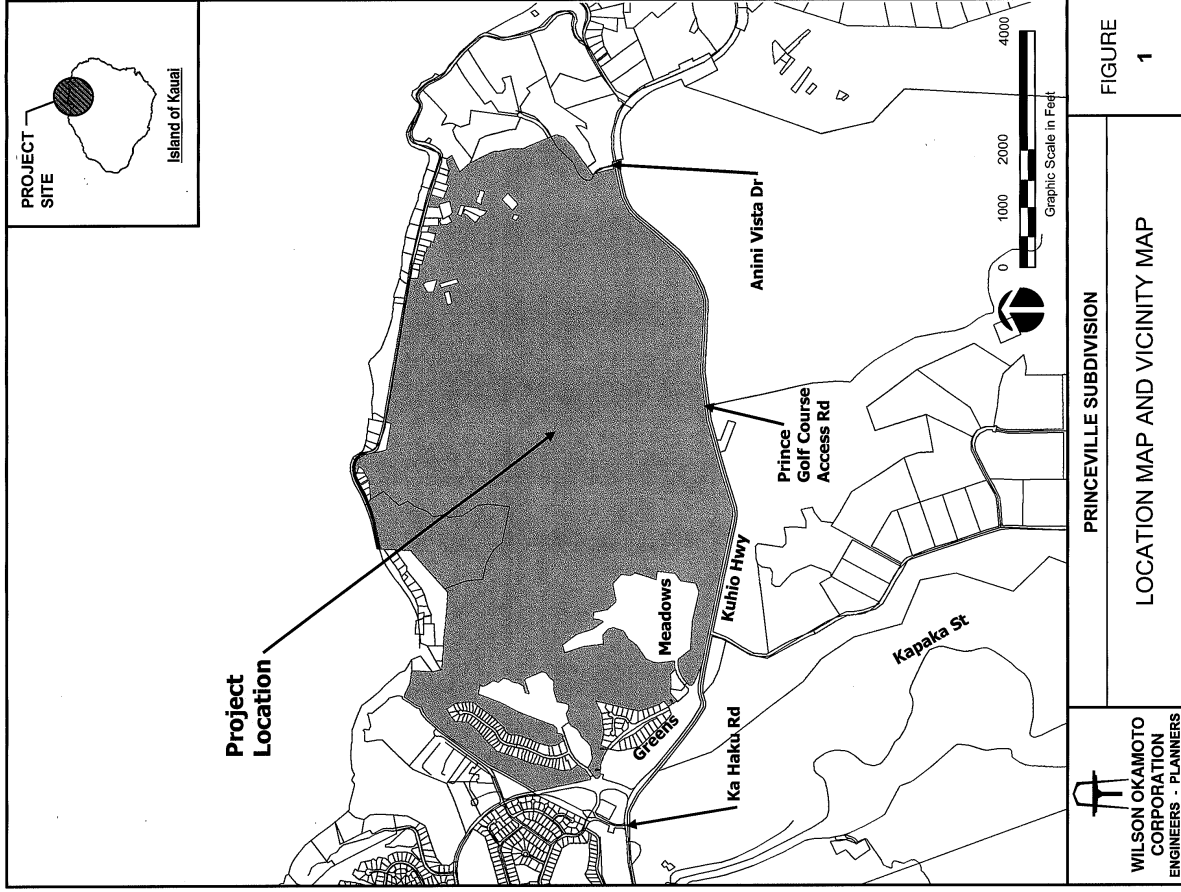
This report presents the findings and conclusions of the traffic study, the scope of which includes:

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. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

## II. PROJECT DESCRIPTION

### A. Location

The project site is located adjacent to Kuhio Highway in Princeville on the island of Kauai between Anini Vista Drive and Ka Haku Road (see Figure 1). The project site is further identified as Tax Map Keys: (4) 5-3-06: 1 and 14. Access to the project site will be provided via Anini Vista Drive and the access road for the existing Prince Golf Course.



*Traffic Impact Report for the Proposed Princeville Subdivision*

**B. Project Characteristics**

The project site is located on an existing 942-acre parcel adjacent to Kuhio Highway currently utilized by the Princeville Ranch. The proposed subdivision will result in a total 21 lots which include the following:

- 17 agricultural lots which are expected to include 75 new residential dwelling units (~451 acres)
- 2 golf course lots containing portions of the existing Prince Golf Course (~350 acres)
- An SMA lot that is intended to remain undeveloped (~126 acres)
- Roadway lot (~15 acres)

Access to these lots will be provided via Anini Vista Drive and the existing Prince Golf Course access road. Although the time frame for the full build out of the lots is not known at this time, for the purpose of this report, all of the lots are assumed to be developed and occupied within 10 years (by the Year 2018). Figure 2 shows the proposed project site plan.

**III. EXISTING TRAFFIC CONDITIONS**

**A. General**

The project site is located adjacent to Kuhio Highway between Anini Vista Drive and Ka Haku Road. Kuhio Highway serves as the main access road along the northern and eastern coasts of Kauai from its origin in Haena along the north shore of the island to its termination at Kaunualii Highway and Rice Street in Lihue.

**B. Area Roadway System**

In the vicinity of the project site, Kuhio Highway is a predominantly two-lane, two-way State of Hawaii roadway oriented in the east-west direction. At the southeast corner of the project site, Kuhio Highway intersects Anini Vista Drive. At this unsignalized T-intersection, the eastbound approach of the highway has one lane that serves left-turn and through traffic movements while the westbound approach has one lane that serves through and right-turn traffic movements. Anini Vista Drive is a two-lane, two-way roadway generally oriented in the north-south direction. At the intersection with Kuhio Highway, the Anini Vista Drive approach has one lane that serves left-turn and right-turn traffic movements.

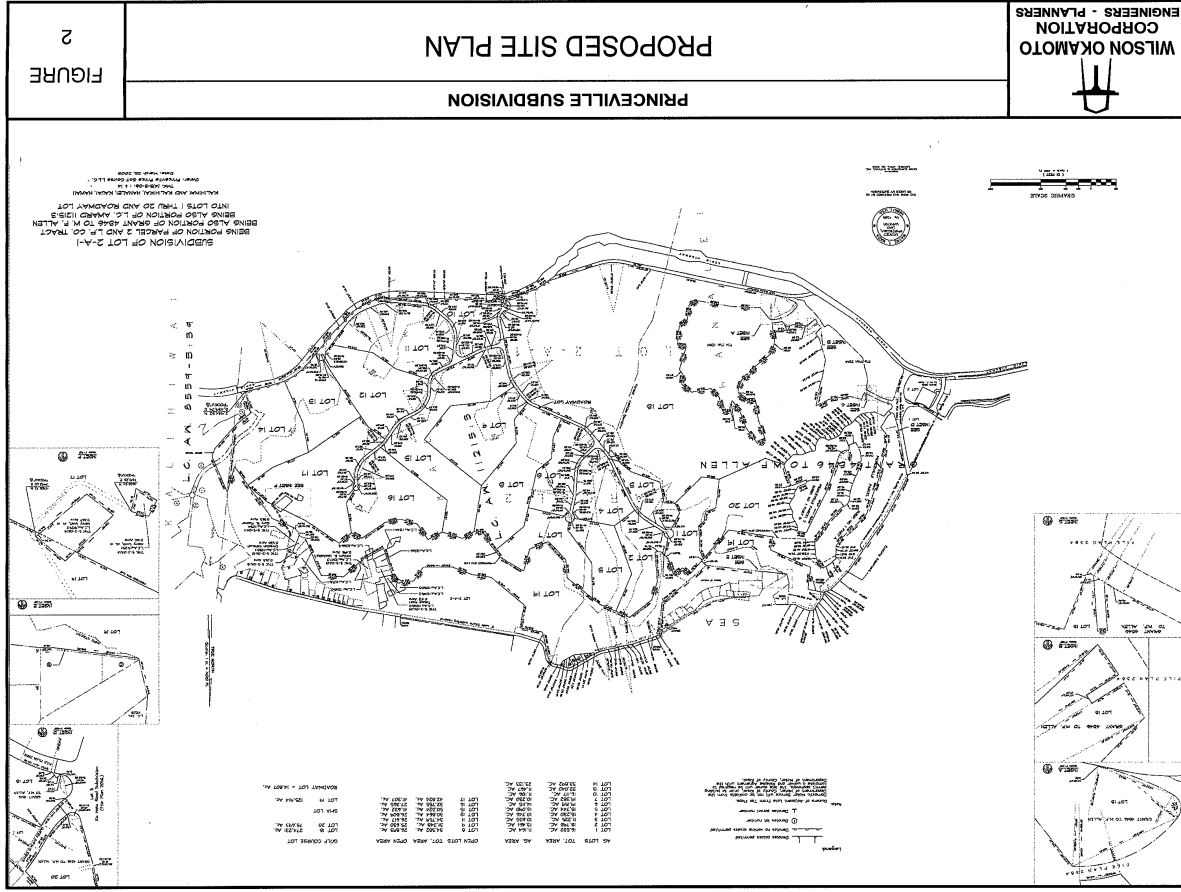


FIGURE 2

PROPOSED SITE PLAN

PRINCEVILLE SUBDIVISION

WILSON OKAMOTO CORPORATION - PLANNERS



West of the intersection with Anini Vista Drive, Kuhio Highway intersects the existing access roads for the Prince Golf Course and Princeville Ranch. At this unsignalized intersection, the eastbound approach of the highway has a shared through and right-turn lane and an exclusive left-turn lane while the westbound approach has one through lane and exclusive turning lanes. The northbound approach is comprised of the access road for the Princeville Ranch while the southbound approach is comprised of the access road for the Prince Golf Course. Both approaches have one lane at this intersection that serve all traffic movements. In addition, there is an additional westbound departure lane along Kuhio Highway to allow right-turning vehicles from the golf course to turn freely onto the highway.

Further west, Kuhio Highway intersects Kapaka Street. At this unsignalized intersection, both approaches of the highway have one lane that serves all traffic movements. Kapaka Street is a two-lane, two-way roadway generally oriented in the north-south direction. At the intersection with the highway, the Kapaka Street approach has one lane that serves all traffic movements. The southbound approach is comprised of an access road for an adjacent parking area. At the intersection with the highway, this access road has one lane that serves all traffic movements.

Near the southwest corner of the project site, Kuhio Highway intersects Ka Haku Road. At this unsignalized T-intersection, the eastbound approach of the highway has one through lane and an exclusive left-turn lane while the westbound approach has one through lane and an exclusive right-turn lane. Ka Haku Road is a two-lane, two-way roadway that provides access to the residential, commercial, and resort uses along its alignment. At the intersection with the highway, the Ka Haku Road approach has one lane that serves left-turn and right-turn traffic movements.

**C. Traffic Volumes and Conditions**

**I. General**

**a. Field Investigation**

Field investigations were conducted on September 23-24, 2008 and consisted of manual turning movement count surveys along Kuhio Highway in the project vicinity. The manual turning movement count

surveys were conducted between the morning peak hours of 6:00 AM and 9:00 AM, and the afternoon peak hours of 3:00 PM and 6:00 PM at the following intersections:

- Kuhio Highway and Anini Vista Drive
- Kuhio Highway, Prince Golf Course Access Road, and Princeville Ranch Access Road
- Kuhio Highway and Kapaka Street
- Kuhio Highway and Ka Haku Road

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.

"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 or near capacity.

A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity. The LOS definitions are included in Appendix B.

**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 7:30 AM and 8:30 AM in the vicinity of the proposed project. In the afternoon, the PM peak hour of traffic generally occurs between the hours of 4:15 PM and 5:15 PM. Although the peak hours of traffic generally occurs around the same time periods at each of the study intersections, the absolute commuter peak hour time periods for each intersection may differ slightly as shown in Table 1.

Table 1: Peak Hours of Traffic

Intersection	AM Peak	PM Peak
Kuhio Hwy/ Anini Vista Dr	7:45 AM-8:45 AM	4:15 PM-5:15 PM
Kuhio Hwy/Prince GC Access Rd/ Princeville Ranch Access Rd	7:45 AM-8:45 AM	4:15 PM-5:15 PM
Kuhio Hwy/ Kapaka St	7:30 AM-8:30 AM	4:15 PM-5:15 PM
Kuhio Hwy/ Ka Haku Rd	7:30 AM-8:30 AM	4:15 PM-5:15 PM

The analysis is based on these absolute commuter peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

**b. Kuhio Highway and Anini Vista Drive**

At the intersection with Anini Vista Drive, Kuhio Highway carries 319 vehicles eastbound and 537 vehicles westbound during the AM peak hour of traffic. During the PM peak hour, the overall traffic volume is higher with 661 vehicles traveling eastbound and 447 vehicles traveling westbound. The critical traffic movement on the Kuhio Highway approaches is the eastbound left-turn and through traffic movement which operates at LOS "A" during both peak periods.

The Anini Vista Drive approach of this intersection carries a low volume of vehicles during both peak periods. Only 3 vehicles and 10 vehicles were observed heading southbound on this approach during the AM and PM peak periods, respectively. The Anini Vista Drive approach operates at LOS "B" during both peak periods.

**c. Kuhio Highway, Prince Golf Course Access Road, and Princeville Ranch Access Road**

At the intersection with the access roads for the Prince Golf Course and Princeville Ranch, Kuhio Highway carries 345 vehicles eastbound and 502 vehicles westbound during the AM peak hour of traffic. During the PM peak hour, the overall traffic volume is higher with 603 vehicles traveling eastbound and 424 vehicles traveling westbound. The critical traffic movements on the Kuhio Highway approaches are the eastbound and westbound left-turn traffic movements which operates at LOS "A" during both peak periods.

The northbound approach of the intersection is comprised of the access road for the Princeville Ranch. This approach carries a low volume of vehicles during both peak periods. Only 5 vehicles and 8 vehicles were observed heading northbound on this approach during the AM and PM peak periods, respectively. The Princeville Ranch access road approach operates at LOS "A" and LOS "B" during the AM and PM peak periods, respectively.

The southbound approach of the intersection is comprised of the access road for the Prince Golf Course. This approach carries 21 vehicles and 67 vehicles southbound during the AM and PM peak periods, respectively, and operates at LOS "B" during both peak periods.

**d. Kuhio Highway and Kapaka Street**

At the intersection with Kapaka Street, Kuhio Highway carries 356 vehicles eastbound and 452 vehicles westbound during the AM