

Koloa-Poipu 1.5 million
Gallon Reservoir

DEPARTMENT OF WATER

County of Kauai

"Water has no Substitute -- Conserve It!"

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February 6, 1998

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Mr. Gary Gill, Director
Office of Environmental
Quality Control
235 South Beretania Street
Suite 702
Honolulu, HI 96813

OFFICE OF
QUALITY CONTROL

Dear Mr. Gill:

Subject: Final Environmental Assessment for the 1.5 Million Gallon
Storage Tank, Koloa-Poipu Water System
TMK: 2-9-01:Por. 1

The Department of Water, County of Kauai, has reviewed the comments received on the Draft Environmental Assessment during the 30-day public and agency comment period which began on November 8, 1997, and has assessed the project in terms of the significance criteria as provided in Hawaii Administrative Rules, Section 11-200-12.

The Department of Water has determined that the project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI).

Please publish this notice in the February 23, 1998 issue of "The Environmental Notice." We have enclosed a completed Environmental Notice Publication Form and four (4) copies of the final EA.

If there are any questions, please call Melvin Matsumura at 245-5410.

Sincerely,



Ernest Y.W. Lau
Manager and Chief Engineer

MM:et
Enclosures
c: GMP Associates w/enc.
Document3/08QC

1998-02-23-KA-FEA-Koloa-Poipu
1.5 million Gallon Reservoir

FEB 23 1998

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FINAL

ENVIRONMENTAL IMPACT ASSESSMENT

FOR

**1.5 MILLION-GALLON STORAGE TANK
AND CONNECTING PIPELINE**

JOB NO. 87-1

**KOLOA-POIPU WATER SYSTEM
POIPU, KAUAI, HAWAII**

**PREPARED BY
COUNTY OF KAUAI, DEPARTMENT OF WATER SUPPLY**

AND

**GMP ASSOCIATES, INC.
HONOLULU, HAWAII**

FEBRUARY, 1998

SUMMARY

ENVIRONMENTAL IMPACT ASSESSMENT

Proposed Project: 1.5 Million-Gallon Storage Tank and Connecting Pipeline
Koloa-Poipu Water System, Poipu, Kauai, Hawaii
Proposing Agency: County of Kauai, Department of Water

This project consists of constructing a new potable water storage tank and connecting pipelines adjacent to the Department's existing water storage tank of similar construction in Poipu, Kauai, Hawaii.

The construction of the existing water storage tank by the State included an Environmental Impact Statement, "Pump Controls, Pipeline and Storage Tank, Koloa-Poipu, Kauai," which was prepared for the State of Hawaii, Department of Land and Natural Resources, Division of Land and Water Development by Sam O. Hirota, Inc., in August 1978. In the above-mentioned EIS, it included a discussion on the probability of constructing another water storage tank in the future at the same project site.

Presently, the existing consumption for the Poipu area exceeds the available Poipu Water System storage facilities capacity, thus necessitating the construction of this new 1.5 million gallon storage tank.

In a letter dated June 17, 1997 from the State of Hawaii, Office of Environmental Quality Control, it was recommended that an environmental impact assessment for the second tank be prepared. It was also recommended that the existing EIS be referenced and all issues which were covered in the aforementioned-mentioned EIS be updated if significant changes have occurred. This report has addressed and updated all significant changes and concerns.

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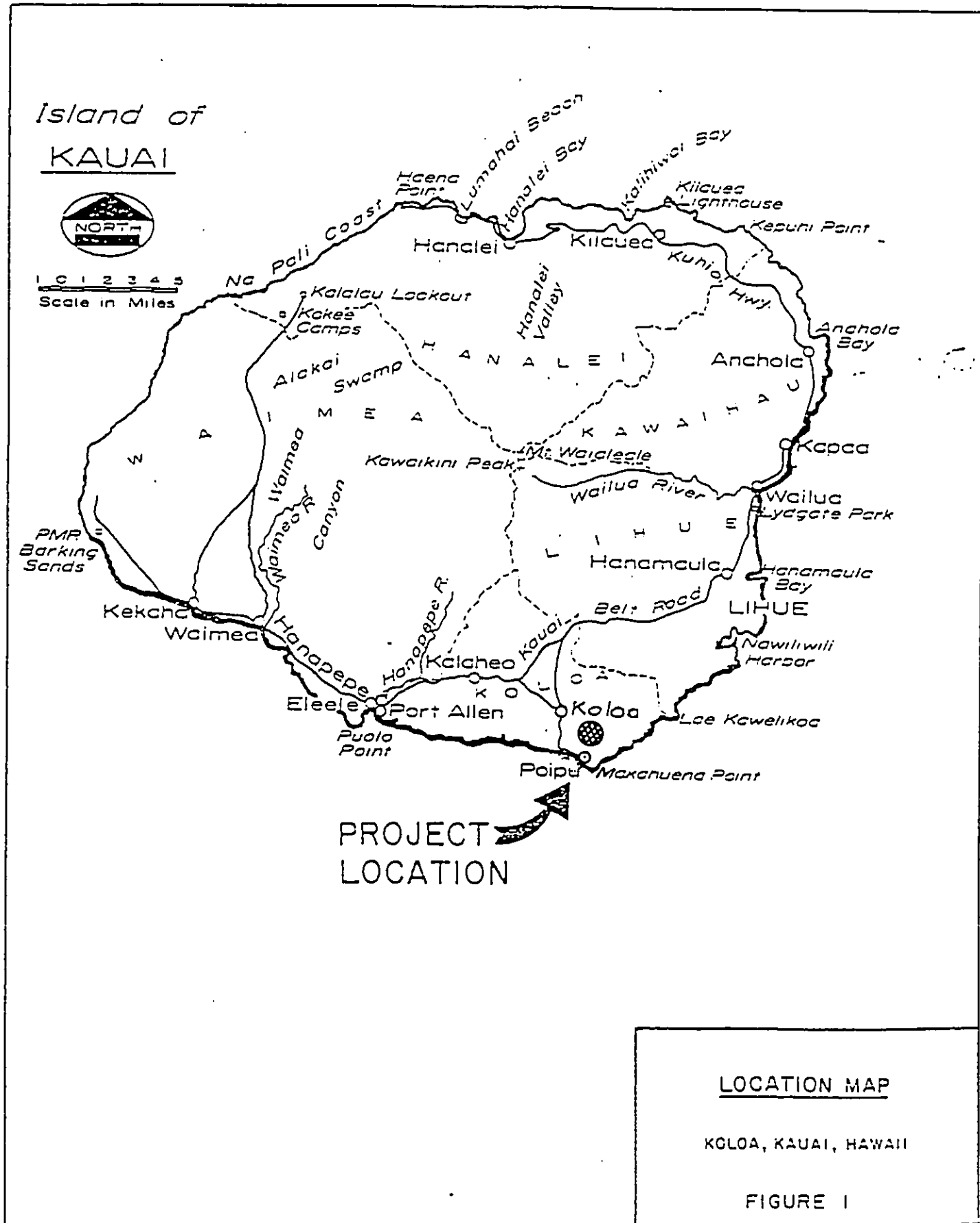
I. DESCRIPTION OF THE PROPOSED PROJECT

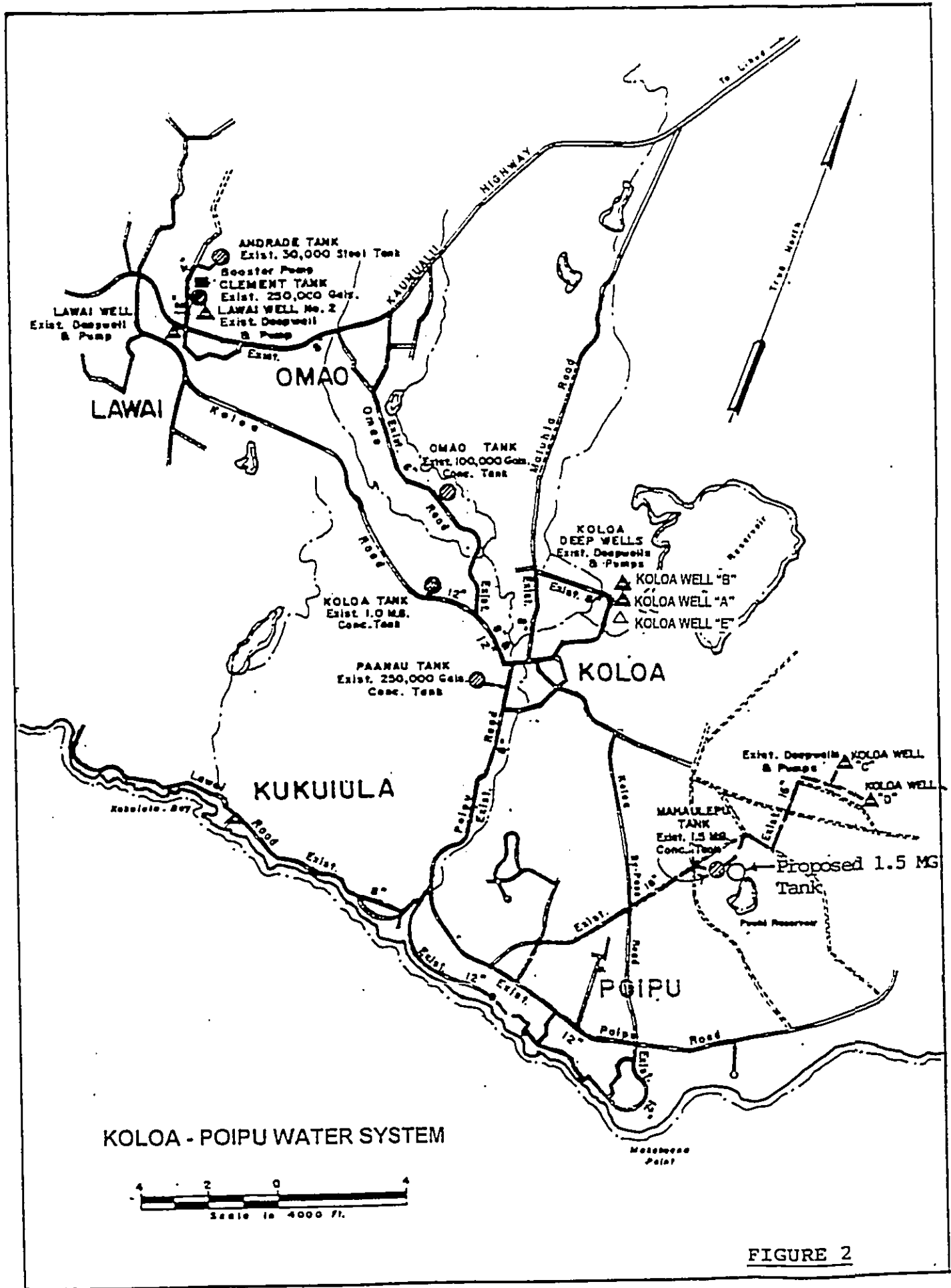
The Department of Water, County of Kauai, has identified a need to construct an additional water storage facility for its Koloa-Poipu Water System.

The proposed project consists of a 1.5 million-gallon potable water reservoir of reinforced concrete construction to alleviate the deficit capacities in the Poipu Water System storage facilities created by current water demands in the area and to upgrade water service to residents of the Koloa-Poipu area (Figures 1 & 2). The reservoir will be approximately 120 feet in diameter by 23 feet in height. Related work includes site preparation and grading, drainage ditches, erosion control, tank water level controls and telemetry, construction of a 15-foot wide asphalt cement pavement perimeter road around the reservoir, installation of chainlink security fencing, installation of approximately 65 linear feet of 16-inch diameter ductile iron influent line connecting the reservoir to the existing water system adjacent to the site and installation of effluent and washout lines. The washout line, drainline and ditches will discharge into the existing onsite drainage system.

Some excavation into the side of the hill will be required to prepare the site for the reservoir. Clearing and grubbing will be required to form the base for the proposed reservoir. Cuts at the reservoir site, which will be about 15-foot high, will be sloped not more than 1-1/2 foot horizontal to 1 foot vertical (1-1/2:1 slope). The slopes will be landscaped to ensure that surface runoff drains properly. Cut and fill surfaces will be replanted with ground cover to inhibit soil erosion.

Grading will be done in accordance with the plans and specifications. Department of Water personnel will be present on the project site to ensure the contractor's compliance with the plans and specifications for all grading, excavation and compaction work. If





applicable, the contractor will be required to obtain a separate grading permit for the disposal of excess excavation material and/or borrow site operation from the Department of Public Works, County of Kauai.

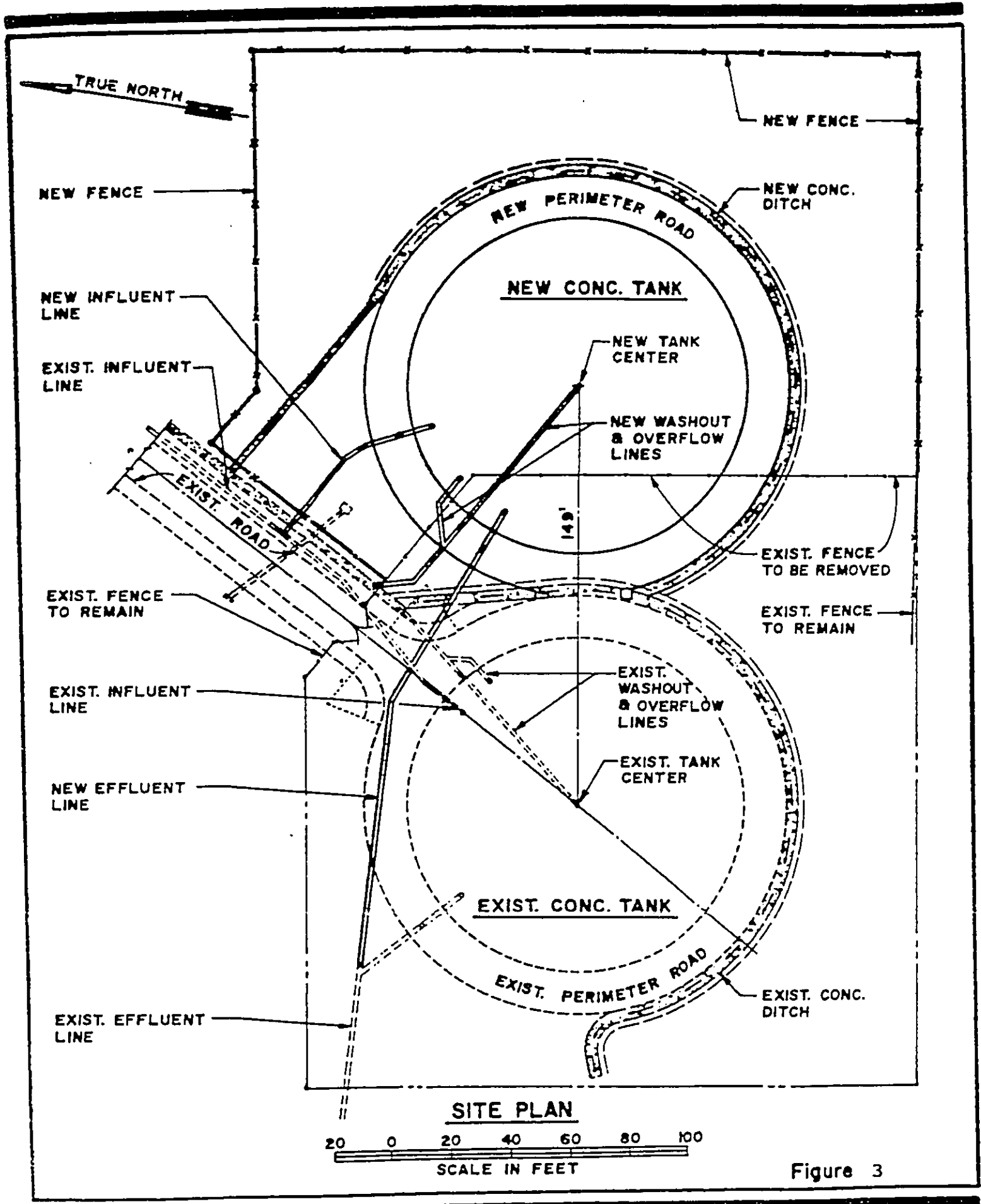
Best management practices to control storm water runoff and discharge of chlorinated water during construction will be implemented to provided stabilized construction entrance, perimeter runoff control and sediment barriers. The only known ditches in the vicinity are Grove Farm's irrigation ditches and these would not be affected by any construction-related National Pollutant Discharge Elimination System (NPDES) requirements or permits.

The total construction area affected by this project is approximately 1.8 acres (Figure 3).

The objectives of the proposed project is consistent with the Board of Water Supply's policy of providing proper water supply management and obtaining the best use of the existing groundwater resources. Further, the proposed project will provide additional dependability and flexibility to the existing water supply system. When fully implemented and integrated with the adjacent existing 1.5 million gallon reservoir, this system will provide further assurances of adequate water supply for domestic needs and fire protection and a more cost-effective operational program of water supply and distribution.

The proposed facility would occupy land presently owned by Grove Farm Co., Inc. Negotiations are underway with Grove Farm to transfer the tank site to the County of Kauai for its intended use. The project site is situated on a knoll approximately 0.6 miles southeast of Koloa Sugar Mill. The project site and adjacent lands are presently classified for agricultural and rural use.

In the past, sugar cane cultivation by McBryde Sugar Company was the dominant use of the land. However, McBryde closed its sugar operations in 1996 and Grove Farm Company has further leased portions of the lands to McBryde for coffee growing, Haupu Partners for papaya growing and Pioneer Seed Company for seed corn growing. Other uncultivated lands



currently lie fallow pending future use. The existing Koloa Sugar mill is unoccupied and Grove Farm is contemplating alternative uses for the structure by other lessees as a farm warehouse, electric power generation plant, etc.

Construction of the project is scheduled to take place starting in July, 1998. This is contingent upon obtaining approvals, access arrangements and required permits, such as, County building permit, County grading permit for excess material and/or borrow site operation, a NPDES permit for discharge of construction-related storm water and testing water, grant of easement and dedication deeds from the landowner for the pipeline, access and tank site. The construction start date is also contingent upon contractor selection and the equipment and materials acquisition.

Grading of the site and perimeter road would take about three months. Approximately five months would be required for the construction of the concrete storage tank. Pipeline, water level controls, paving, ditches and fencing installation would require about two months. Another two months may be required for punch list items, testing, startup and familiarization procedures. These time estimates are based upon construction contractor working estimates. Inclement weather conditions could prolong the construction period.

The estimated construction cost of the project is 2.4 million dollars and land acquisition for approximately 1.8 acres is estimated at \$40,000. This project is totally funded by the Department of Water. A detailed cost estimate of the project is shown in Table 1.

TABLE 1

JOB NO. 87-1
1.5 MILLION GALLON STORAGE TANK
AND CONNECTING PIPELINE
KOLOA-POIPU WATER SYSTEM
POIPU, KAUAI, HAWAII

ITEM	ESTIMATED QUANTITY	DESCRIPTION	UNIT PRICE	TOTALS
		STRUCTURES		
1	Lump Sum	Demolition of existing structures including concrete ditches, drain inlet and pavement	\$ 3,000.00	\$ 3,000.00
2	210 L.F.	Fence removal	\$ 10.00	\$ 2,100.00
3	Lump Sum	Unclassified excavation including clearing and grubbing, and embankment to finish grade as shown on the plans	\$ 136,500.00	\$ 136,500.00
4	1,240 S.Y.	6-Inch thick sand cushion	\$ 18.00	\$ 22,320.00
5	764 S.Y.	6-Inch thick aggregate base course	\$ 15.00	\$ 11,460.00
6	764 S.Y.	2-Inch thick asphalt concrete pavement, Mix III	\$ 18.00	\$ 13,752.00
7	320 C.Y.	Trench excavation including pipe cushion and backfill	\$ 300.00	\$ 96,000.00
8	60 C.Y.	Crushed rock	\$ 50.00	\$ 3,000.00
9	420 L.F.	6-Inch diameter perimeter tile drain, including fittings, and connection to existing concrete channel	\$ 35.00	\$ 14,700.00
10	1 Each	Drain inlet, including excavation, backfill, frame, grate, runds	\$ 3,000.00	\$ 3,000.00
11	80 L.F.	24-Inch diameter RCP Class III drainline	\$ 100.00	\$ 8,000.00
12	150 L.F.	16-Inch diameter ductile iron pipe Class 52	\$ 70.00	\$ 10,500.00
13	163 L.F.	18-Inch diameter ductile iron pipe Class 52	\$ 80.00	\$ 13,040.00

ITEM	ESTIMATED QUANTITY	DESCRIPTION	UNIT PRICE	TOTALS
14	5,460 Lbs.	Cast iron, cement mortar-lined fittings. Weight computed on the basis of the following being required at the unit weights shown below (Class 150): 18" Tapping Sleeve 1 @ 785# 18" 1/16 Bend, M.J. 1 @ 430# 18" 1/8 Bend, M.J. 1 @ 420# 16" 1/8 Bend, M.J. 3 @ 340# 16" 1/32 Bend, M.J. 2 @ 345# 16" Wye 1 @ 960# 16" Tapping Sleeve 1 @ 740# 18" x 16" Reducer 1 @ 415#	\$ 3.50	\$ 19,110.00
15	1 Each	18-Inch diameter butterfly valve, Class 150, with couplings, nipples, valve box and cover	\$ 7,000.00	\$ 7,000.00
16	2 Each	16-Inch diameter butterfly valve, Class 150, with couplings, nipples, valve box and cover	\$ 5,000.00	\$ 10,000.00
17	2 Each	16-Inch tapping valve, valve box and cover	\$ 7,000.00	\$ 14,000.00
18	1 Each	16-Inch diameter flap valve	\$ 3,000.00	\$ 3,000.00
19	Lump Sum	Connection to existing 18-inch diameter effluent pipeline	\$ 10,000.00	\$ 10,000.00
20	Lump Sum	Connection to existing 16-inch diameter influent pipeline	\$ 10,000.00	\$ 10,000.00
21	Lump Sum	Connection to 24-inch diameter drainline to existing concrete ditch	\$ 4,000.00	\$ 4,000.00
22	Lump Sum	Connection of 16-inch diameter washout line to existing concrete ditch	\$ 4,000.00	\$ 4,000.00
23	15 C.Y.	Unreinforced concrete reaction blocks	\$ 200.00	\$ 3,000.00
24	3 C.Y.	Reinforced concrete vertical thrust blocks	\$ 300.00	\$ 900.00
25	Lump Sum	Testing and chlorination of water mains	\$ 6,000.00	\$ 6,000.00
26	16,300 S.F.	Grassing	\$ 1.50	\$ 24,450.00

ITEM	ESTIMATED QUANTITY	DESCRIPTION	UNIT PRICE	TOTALS
27	310 L.F.	Triangular concrete ditch	\$ 50.00	\$ 15,500.00
28	75 L.F.	Rectangular concrete ditch	\$ 50.00	\$ 3,750.00
29	Lump Sum	Concrete ditch transition	\$ 700.00	\$ 700.00
30	Lump Sum	Connection of concrete ditches to existing concrete channel and restoration of existing concrete channel	\$ 5,000.00	\$ 5,000.00
31	77 L.F.	CRM wall	\$ 100.00	\$ 7,700.00
32	610 L.F.	6-Feet high chain link fence	\$ 50.00	\$ 30,500.00
33	Lump Sum	1.5 Million gallon reinforced concrete potable water storage tank, including appurtenances, tank walkway, ladders, piping, controls, railings	\$1,650,000.00	\$1,650,000.00
34	Lump Sum	Sampling and chlorinator boxes, including piping, and connection to existing concrete channel	\$ 4,000.00	\$ 4,000.00
35	Lump Sum	Electrical work	\$ 15,000.00	\$ 15,000.00
		SUB-TOTAL		\$2,184,982.00
		+10%		\$ 218,498.00
		TOTAL		\$2,403,480.00
		SAY		\$2,400,000.00

II. DESCRIPTION OF THE ENVIRONMENTAL SETTING

The project area is situated in southern Kauai, approximately 2.2 miles southeast from the plantation town of Koloa and 1.9 miles northeast from the Poipu resort area. Adjacent to the project area is the existing 1.5 million-gallon reinforced concrete reservoir which was constructed for the County of Kauai, Department of Water by the State of Hawaii, Department of Land and Natural Resources in 1978. The perimeter roadway around the existing reservoir is paved with asphalt cement concrete. Existing underground inlet and outlet pipes to the existing storage tank traverse the site and perimeter road.

The site slopes 14 percent and is in abandoned sugar cane lands. The new storage tank floor elevation will be set at 224.42 feet above mean-sea level. Rainfall at the project site averages 40 to 50 inches annually.

The Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife has stated that to their knowledge "no endangered wildlife exists at the proposed tank site, or its immediate vicinity. Those endangered water birds, the Hawaiian duck, stilt, coot, moorhen and nene that occasionally use the irrigation ditches and reservoirs in the general Poipu-Maha'ulepu area would not be negatively affected by the project. The only other endangered animal that could conceivably be in the area would be the Hawaiian bat, which likewise would not be adversely affected." Other animal species common to Kauai are shown in Table 2.

Construction of the existing tank did not uncover archaeological sites. In addition, no historical or archaeological resources are known to exist in the immediate area. McBryde Sugar Company cultivated sugar cane in the area for many years prior to closing its operations in 1996. No significant or sensitive archaeological sites habitats would be affected by the proposed project (Table 3 & Fig. 4).

The Department of Water has been granted a right-of-entry permit by Grove Farm Company to construct the new water tank. The Department is preparing the necessary documentation and maps to obtain subdivision approval from the County Planning Commission. After all documentation and approvals are obtained, the conveyance documents for the tank site and pipeline easements will be consummated.

TABLE 2

BIOLOGICAL ENVIRONMENT

The species of animals which can be expected in the area are common to Kauai:

Mammals (Reference 21)

Hawaiian Rat (*Rattus exulun hawaiiensis*)

Black Rat (*Rattus Rattus*)

House Mouse (*Musmusculus domesticus*)

Feral Cat (*Felus catus*)

Birds (Reference 22)

Black-crowned heron (*nycticorax nycticorax hoacti*)

Pacific golden plover (*Pluvialis dominica fulva*)

Wandering tattler (*Heretoscelus brevipes*)

Hawaiian short eared owl (*Asio falmmeus sandwhichensus*)

Lace-necked dove (*streptopelia chinensus*)

Barred dove (*Geopelia striata*)

Barn owl (*Tyto alba pratincola*)

Mocking Bird (*Mimum polyglottos*)

Indian mynah (*acridotheres tristis*)

White eye (mejiro) (*Fosterops japonica*)

Western meadowlark (*Sturnella neglecta*)

House finch (*Carpodacus mexicannus frontalis*)

English sparrow (*Passer domesticus*)

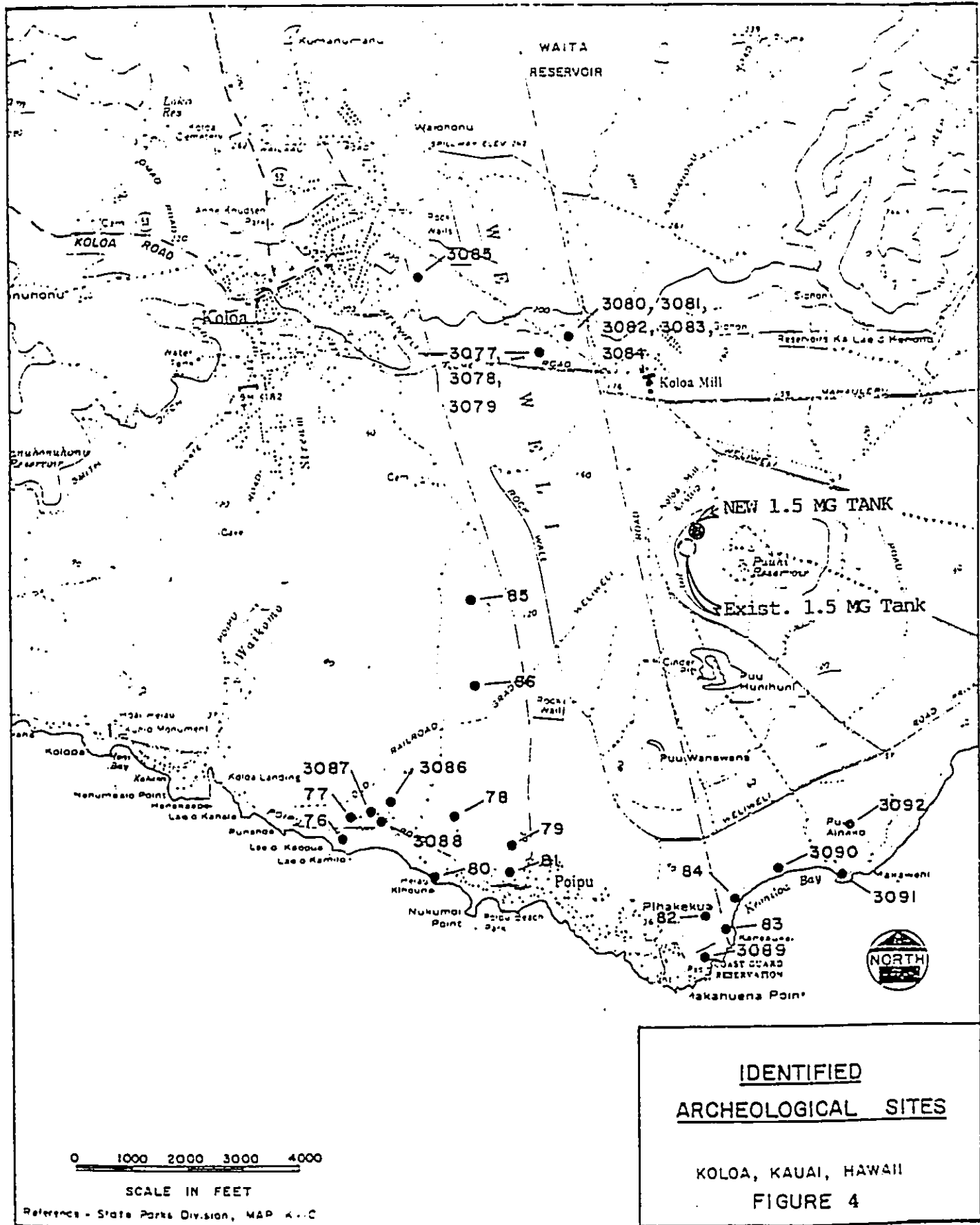
Ricebird (*Lonchura punetulata*)

Cardinal (*Richmondena cardinalis*)

TABLE 3

IDENTIFIED ARCHAEOLOGICAL SITES

SITE I.D. NO. 30-10-	DESCRIPTION	REMARKS
76	Salt Pans	Designated Marginal by HHPRB
77	Ponds	Designated Marginal by HHPRB
78	Taro Terraces & House Sites	Destroyed
79	Walled Enclosure & House Sites	Designated Reserve by HHPRB
80	Kihouna Heiau	Designated Valuable by HHPRB
81	Kaneiolouma Heiah	
82	Unidentified	
83	Weliweli Heiau	Destroyed
84	Petroglyphs	Site covered with sand
85	House Sites	Designated Reserve by HHPRB
86	House Sites	Possibly Destroyed
87	Unidentified	
3077	Ali'i Cane	Destroyed
3078	Stone Wall	Destroyed
3079	Cave "A"	Destroyed
3080	Cattle Pen	Destroyed
3081	Wall-Well	Destroyed
3082	Wall-Well	Destroyed
3083	Wall	Destroyed
3084	Cave	Destroyed
3085	House Sites	
3086	Shelters	Probably Destroyed
3087	Fish Shrine	Probably Destroyed
3088	Hula Grounds	No visible evidence of platform or structures that may have been associated with Hula Grounds
3089	Kane'au-kai Heiau	
3090	Walls	
3091	Petroglyph	
3092	Structure	
3093	Petroglyphs	
3094	Petroglyph Rock	Valuable
3095	Structures	Destroyed
3096	Unidentified	
3097	Shelter	Destroyed



**IDENTIFIED
ARCHEOLOGICAL SITES**

KOLOA, KAUAI, HAWAII
FIGURE 4

Climate

The climate of Kauai is comfortably uniform and is characterized by the northeast tradewinds generated by regions of high pressure to the north. These winds keep the average monthly temperatures near sea level within the range of 69 degree F in February to 77 degree F in August. The mean temperature decreases about 3 degrees for every 1,000 foot increase in elevation.

The consistent approach of the tradewinds from the north-east distinguishes the island into windward and leeward sides. Windward Kauai receives larger amounts of rainfall as the result of the condensation of water vapor laden air as it is forced up into the atmosphere by the mountain mass. This feature of the island's climate creates extreme differences in rainfall within short distances. Mount Waialeale, for example, has a mean annual rainfall of 466 inches; while at Mana, 18 miles away, rainfall is 21 inches per year. Koloa on the leeward side of Kauai receives 40 to 50 inches per year.

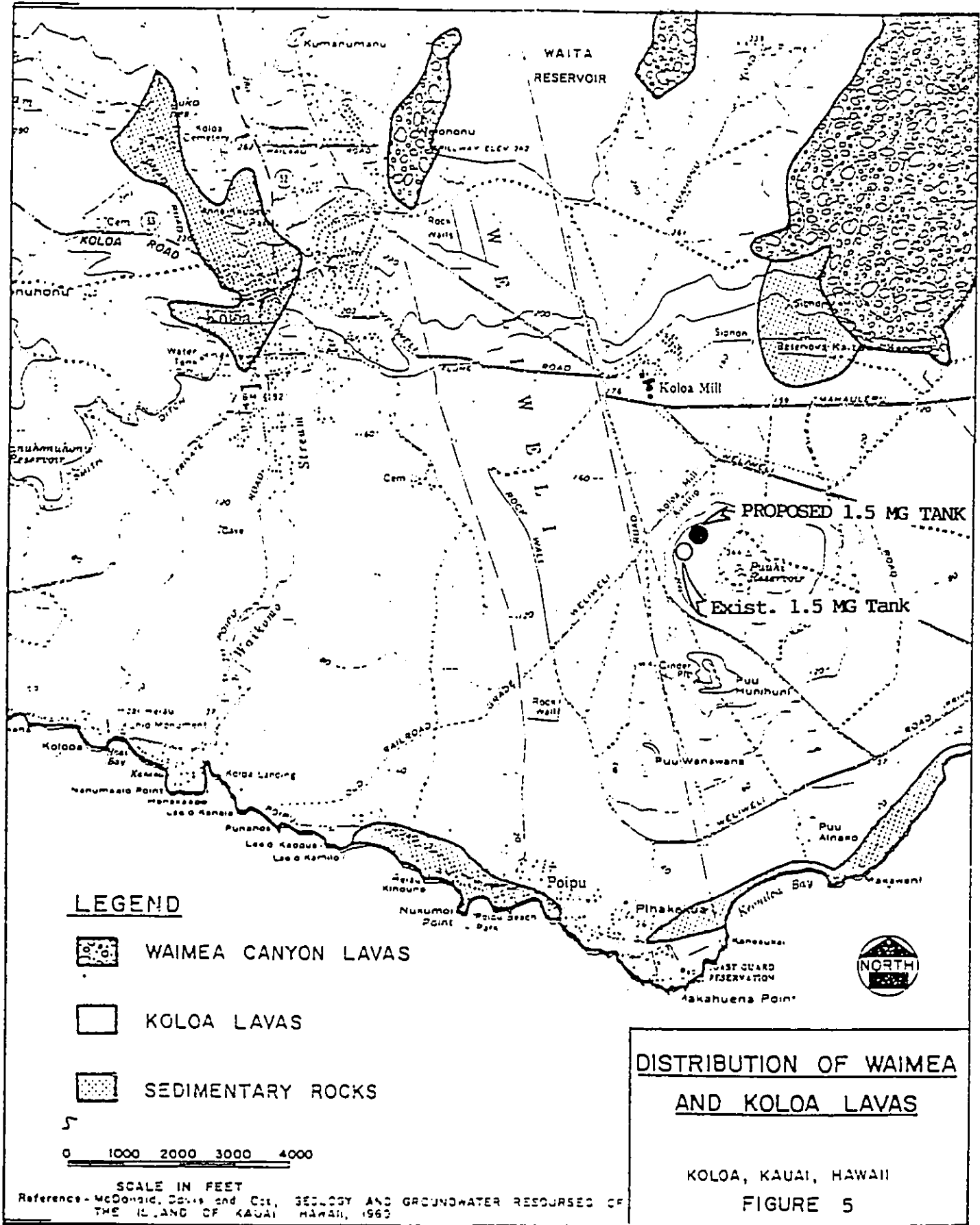
The tradewinds are recurrently interrupted by Kona storms which occur generally during the winter months of October through April. Kona storms are responsible for periods of heavy rainfall which often cause flooding. The air becomes overly humid and winds blow from the south or west.

Geology

Kauai is, geologically, the oldest of the major islands in the Hawaiian chain. The Kauai volcanic shield built itself off the ocean floor more than four million years ago. Rock formations belonging to this original shield are part of the Waimea Canyon volcanic series, a major portion of which are the thin lava flows of the Napali formation which later covered the shield mass.

Following a long period of quiescence, further volcanism occurred which produced the thick flows of the Koloa volcanic series. The distribution of the Waimea Canyon and Koloa series in the Koloa-Poipu area is shown in Figure 5.

The Koloa volcanic series, on the other hand, is poorly to moderately permeable.



Soils

The soils found in the project area are generally of the type called the Waikomo-Kalihi-Koloa association. This soil is moderately deep, well drained and fine textured, the result of erosion of igneous rock and poorly drained, very fine textured alluvial soils. The association is distributed in the following proportions: Waikomo 70%, Kalihi 20%, and Koloa 10%.

Waikomo soils have a surface layer of dark brown to very dark grayish-brown, very firm stony clay. The subsoils is reddish-brown to dark yellowish-brown, firm heavy silty clay loam. The substratum is hard basic igneous rock.

Kalihi soils have a surface layer of vary dark-gray to mottled dark-brown, firm clay. The subsoil is dark-gray, mottled, firm clay. The substratum is grayish-brown and dark-gray, firm clay.

Koloa soils have a surface layer of dark reddish-brown, firm stony clay. The subsoil is dusky-red to dark reddish-brown, firm silty clay. The substratum is hard rock.

Topography

The topography of the land is very closely associated to the type of volcanism which produced it. Land underlain by the Waimea Canyon volcanic series is steep and well drained. The average slope of the Haupu range near the site is 25 percent. The steep slope accounts for the relatively thin lava flows which accumulated on top of one another creating the high permeability characteristic of the Waimea series.

Conversely, land underlain by the Koloa volcanic series is comparatively flat, although well drained. The average slope of the land below the Haupu range and extending to the ocean is about two percent. Koloa lavas spread out slowly from their source forming thick layers and producing underground formations with low permeability. The slight slope of the land, however, makes it practical for truck farming since mechanical harvesters are most effective over flat areas.

Unusual topographic features consist of three volcanic vents which were sources of Koloa lavas: Puu Hi, Puu Hunihuni and Puu Wanawana. The crater of Puuhi, the cone on which the storage tank is to be situated, serves as a reservoir for irrigation water. Waita Reservoir, the largest man-made body of water in the State is to the northeast of Koloa Town.

Flood and Tsunami Hazards

The project which is located on the Puuhi volcanic cone at elevation 224 feet above mean sea level (MSL) is not affected by flooding and tsunami hazards. (Figure 6)

Population

Based on the most recent data from the Department of Business, Economic Development and Tourism (DBEDT), the July 1, 1980 population of Kauai (including armed forces stationed or home ported in Hawaii) was 39,400. Prior to Hurricane Iniki striking Kauai on September 11, 1992, the population on July 1, 1992 was 54,003. This represents an increase of 14,603 residents or 37.1%. After Hurricane Iniki, the population on July 1, 1996 was 56,435. This represents an increase of 2,432 residents or 0.045% (Table 4).

Economy

Prior to Hurricane Iniki, employment and income in the Koloa-Poipu area were mainly from sugar and tourism. As primary sources of employment, these two industries supported several other occupations.

In the 70's and 80's, McBryde Sugar Company had increased its total cane acreage by leasing 13,000 acres of sugar land from Grove Farm Company to become Hawaii's eighth largest sugar plantation. However, unstable sugar markets and periods of draught had an adverse effect on sugar production and income. Furthermore, economic recession, competition from other kinds of sweeteners and resistance to high prices further reduced sugar prices.

Prior to Hurricane Iniki, tourism continued to grow steadily (Tables 5 & 6). Several resort developments such as, Kiahuna Plantations, Poipu Kai Development, Embassy Resort, Sheraton Kauai Beach Resort, Poipu Beach Resort

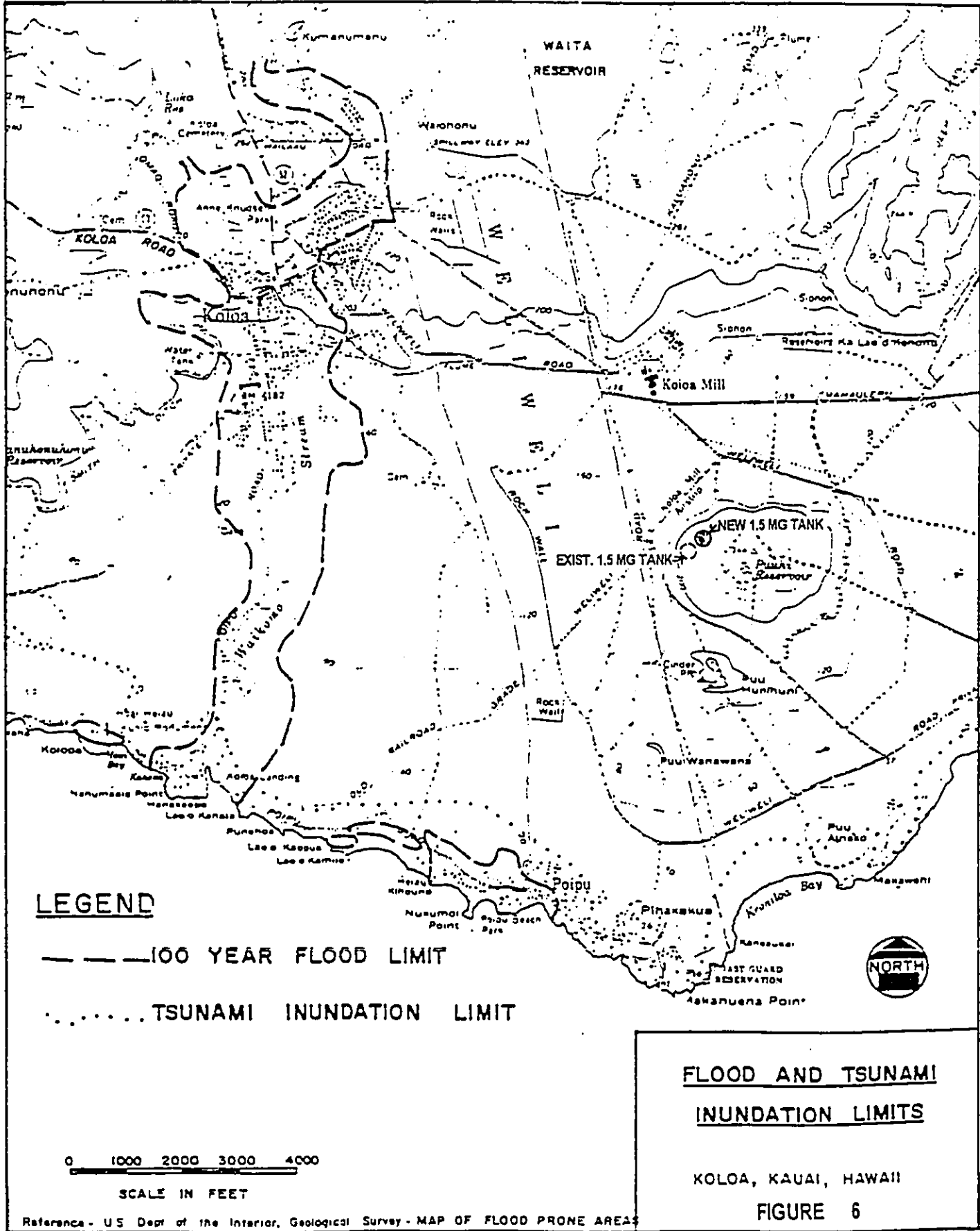


TABLE 4

RESIDENT POPULATION, BY COUNTIES: 1980 TO 1996

[Based on place of usual residence. Includes armed forces stationed or homeported in Hawaii and residents temporarily absent; excludes visitors present.]

Date	State total	City and County of Honolulu	Hawaii County	Kauai County	Maui County 1/
1980: April 1	964,691	762,565	92,053	39,082	70,991
July 1	968,500	764,600	92,900	39,400	71,600
1981: July 1	978,200	767,600	96,100	40,500	74,000
1982: July 1	993,800	775,100	98,800	41,800	77,100
1983: July 1	1,012,700	789,100	100,800	42,800	80,100
1984: July 1	1,027,900	797,800	103,500	43,600	83,000
1985: July 1	1,039,700	804,300	105,900	44,400	85,100
1986: July 1	1,051,800	810,400	108,400	45,600	87,400
1987: July 1	1,067,900	818,400	111,700	47,200	90,500
1988: July 1	1,079,800	824,100	113,400	48,500	93,800
1989: July 1	1,094,600	831,300	116,600	49,800	96,800
1990: April 1	1,108,229	836,231	120,317	51,177	100,504
July 1	1,112,646	837,994	121,459	51,622	101,571
1991: July 1	1,129,648	845,469	125,048	53,151	104,980
1992: July 1	1,147,803	856,382	129,914	54,003	107,504
1993: July 1	1,159,964	861,653	132,889	54,864	110,358
1994: July 1	1,172,645	869,230	135,092	55,627	112,696
1995: July 1	1,179,198	870,761	137,291	55,983	115,163
1996: July 1	1,183,723	871,766	138,422	56,435	117,100

1/ Including Kalawao County (Kalaupapa Settlement). Kalawao had 144 inhabitants in 1980, 150 in 1990, and 87 in 1996.

Source: Federal-State Cooperative Program for Population Estimates.

Visitor Stats
Hawai'i

TABLE 5

VISITOR ARRIVALS AND AVERAGE DAILY CENSUS BY ISLAND

Annual Visitor Arrivals to Hawai'i by Island 1990 Through 1995						
TOTAL	1995P*	1994	1993	1992	1991	1990
Statewide	6,529,130	6,430,300	6,124,230	6,513,820	6,973,890	6,971,130
Oahu	4,233,310	4,693,220	4,504,900	4,224,270	5,043,550	5,350,940
Maui County	2,306,780	2,354,580	2,250,940	2,342,340	2,322,060	2,389,970
....Maui	2,249,080	2,302,590	2,209,980	2,285,410	2,272,240	2,345,060
....Molokai	85,850	79,450	94,570	116,440	96,620	103,630
....Lanai	93,120	80,200	72,170	80,020	60,810	45,930
Kauai	914,950	873,870	571,760	877,060	1,257,620	1,286,360
Big Island	1,093,730	1,079,630	1,120,040	1,142,340	1,163,630	1,170,830
....Kona	917,610	933,700	978,440	404,680	388,530	1,030,900
....Hilo	359,650	342,690	350,240	972,720	1,020,390	391,470
WESTBOUND	1995	1994	1993	1992	1991	1990
Statewide	3,933,110	3,997,820	3,764,520	3,980,120	4,584,460	4,719,730
Oahu	2,328,130	2,393,120	2,379,510	2,534,440	2,899,170	3,171,630
Maui County	1,855,730	1,900,330	1,790,480	1,859,680	1,925,460	1,995,160
....Maui	1,801,130	1,852,710	1,746,200	1,812,200	1,881,930	1,954,770
....Molokai	76,480	72,580	83,310	102,570	87,750	95,130
....Lanai	87,230	73,950	64,100	71,300	53,540	41,760
Kauai	789,640	729,800	444,690	714,880	1,025,290	1,118,930
Big Island	850,820	866,300	875,690	909,490	975,610	982,900
....Kona	744,640	764,530	771,250	313,340	299,470	977,930
....Hilo	275,660	275,960	279,630	793,890	664,170	332,070
EASTBOUND	1995P*	1994	1993	1992	1991	1990
Statewide	2,656,020	2,432,480	2,359,710	2,533,760	2,289,430	2,251,450
Oahu	2,505,170	2,300,100	2,125,390	2,349,830	2,149,380	2,179,310
Maui County	451,040	454,250	470,460	482,660	396,600	394,810
....Maui	446,950	449,980	463,780	473,210	390,410	390,290
....Molokai	9,380	6,870	11,250	13,870	8,970	8,500
....Lanai	5,910	6,250	8,070	8,720	7,270	4,170
Kauai	125,310	144,070	127,070	162,180	182,330	167,430
Big Island	232,930	213,330	244,350	232,850	213,020	187,930
....Kona	172,960	169,170	207,190	91,340	90,060	152,970
....Hilo	84,020	66,730	70,610	179,830	156,220	59,400

P= Preliminary

* Note: 1995 data (except westbound arrivals) are preliminary.

* Note: 1995 totals may not sum due to rounding.

Average Daily Census by Island 1993 and 1994						
	1993			1994		
	Total	Westbound	Eastbound	Total	Westbound	Eastbound
Statewide	148,750	108,090	40,660	159,200	115,220	43,980
Oahu	79,070	46,560	32,510	93,400	46,820	36,520
Big Island	19,110	16,800	2,310	19,310	17,030	2,230
Kauai	8,290	7,400	890	12,420	12,350	1,070
Maui County	42,290	37,330	4,950	43,070	39,020	4,050
....Maui	39,900	35,080	4,820	40,740	36,770	3,970
....Molokai	1,390	1,310	80	1,170	1,130	40
....Lanai	900	640	50	1,150	1,120	40

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TABLE 6

VISITOR ARRIVALS, WESTBOUND AND OTHER, BY AREAS VISITED: 1995 AND 1996

[Covers visitors staying overnight or longer anywhere in the State, and any overnight or non-overnight interisland trips reported by these visitors]

Areas visited 1/	1995			1996		
	Total 2/	West-bound	East-bound 2/	Total 2/	West-bound 2/	East-bound 2/
State total 3/	6,589,130	3,933,110	2,656,020	6,823,130	3,991,640	2,831,490
Oahu	4,833,310	2,328,140	2,505,170	4,981,820	2,350,110	2,631,710
Kauai	914,950	789,640	125,310	969,140	825,110	144,030
Maui County 3/	2,306,780	1,855,740	451,040	2,327,220	1,824,700	502,520
Maui	2,248,080	1,801,130	446,950	2,265,460	1,766,840	498,620
Molokai	85,850	76,470	9,380	77,790	72,770	5,020
Lanai	93,120	87,210	5,910	95,450	91,060	4,390
Hawaii County 3/	1,083,730	850,800	232,930	1,227,840	880,180	347,660
Hilo side	359,690	275,670	84,020	388,280	276,420	111,860
Kona side	917,610	744,650	172,960	1,031,550	769,710	261,840
One island only	4,632,610	2,583,790	2,048,820	4,728,200	2,641,290	2,086,910
Oahu only	3,174,450	1,237,400	1,937,050	3,197,240	1,263,050	1,934,190

1/ Westbound data based largely on intended visits, as reported upon arrival in State. Beginning in 1994, eastbound data reflect actual visits.

2/ Preliminary.

3/ Because many visitors planned to visit more than one area, detail sums to more than the totals and subtotals shown here.

Source: Hawaii Visitors & Convention Bureau, *Market Research Flash*, March 5, 1997.

and others were completed. Annual visitors to Kauai prior to Hurricane Iniki in 1991 was 1,267,620. The total civilian labor force in 1991 was 28,600 with an unemployment rate of 4.1% (Tables 7 & 8).

On September 11, 1992, Hurricane Iniki devastated the island's economy by destroying many businesses, commercial complexes, hotels, condominiums, apartments, schools, agricultural crops, homes, parks, etc.

Economic recovery has been slow. McBryde Sugar Company's economic demise continued until it closed its sugar operations in 1996 and renewed a portion of the 13,000 acres of leased sugar land from Grove Farm Company for coffee growing. Grove Farm has further leased its lands to Haupu Partners for papaya growing and to Pioneer Seed Company for seed corn growing. The remaining acreage lies fallow until other uses are identified. The existing Koloa sugar mill is unoccupied and Grove Farm is contemplating alternative uses for the structure by other lessees as a farm warehouse, electric power generation plant, etc.

Major hotels such as, the Stouffer Waiohai Beach Resort in Poipu and Coco Palms Resort in Wailua are presently closed for business. The Sheraton Kauai Beach Resort has reopened for business. Other businesses, condominiums, residences, etc. are in various stages of incompleteness. Construction and project developments are at a near standstill.

In 1993, the annual visitor arrival on Kauai dropped to 571,760. This was a decrease of 695,860 visitors or -55% from the 1991 total. In 1996, the visitor totals increased by 397,380 to 969,140 or 70% from the 1993 total. However, the visitor count was nearly 300,000 less than the 1991 total (Tables 5 & 6). The civilian labor force in 1992 increased by 850 to 29,450 from the 1991 total, but the unemployment rate increased nearly 250% to 10.3% during the same period. From 1993 to 1996, the labor force increased by 650 to 29,000 while the unemployment rate fluctuated from 12.8%, 14.3%, 11.4% and 12.1% in 1996 (Tables 7 & 8).

TABLE 7
 EMPLOYMENT STATUS OF THE CIVILIAN LABOR FORCE,
 FOR COUNTIES AND ISLANDS: ANNUAL AVERAGES, 1986 TO 1996

[Island data may not add exactly to State totals in preceding table]

Year	Oahu	Hawaii County	Kauai County	Maui County			
				County total	Lanai	Maui	Molokai
CIVILIAN LABOR FORCE							
1986	368,700	51,300	23,400	48,600	1,050	45,050	2,500
1987	383,400	54,050	24,900	51,600	1,000	48,050	2,600
1988	384,100	54,900	26,000	52,750	1,050	49,200	2,450
1989	384,500	56,900	27,600	55,000	1,450	51,300	2,250
1990	402,300	57,500	25,750	56,500	1,400	52,400	2,700
1991	419,250	63,800	28,600	61,500	1,550	57,300	2,650
1992	423,350	65,350	29,450	65,900	1,600	61,250	3,050
1993	426,400	65,300	28,350	66,000	1,550	61,600	2,850
1994	420,350	65,350	28,650	65,800	1,500	61,400	2,900
1995	418,850	64,200	28,400	65,900	1,600	61,300	2,950
1996	427,350	66,850	29,000	67,700	1,650	62,950	3,100
CIVILIAN EMPLOYMENT							
1986	352,500	47,500	22,000	46,050	900	42,950	2,150
1987	369,850	50,950	23,850	49,350	850	46,250	2,250
1988	373,500	52,200	25,050	51,000	950	47,800	2,250
1989	375,950	54,700	26,800	53,550	1,300	50,200	2,050
1990	393,300	55,200	24,700	53,800	1,300	50,300	2,200
1991	411,250	60,900	27,400	58,200	1,450	54,350	2,400
1992	410,700	60,050	26,400	60,250	1,500	56,200	2,550
1993	413,250	60,400	24,700	62,500	1,400	58,500	2,600
1994	400,850	58,300	24,550	61,300	1,350	57,350	2,600
1995	399,400	57,650	25,150	61,050	1,550	56,900	2,650
1996	404,750	60,200	25,500	62,750	1,550	58,600	2,600

Continued on next page.

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TABLE 8

**EMPLOYMENT STATUS OF THE CIVILIAN LABOR FORCE, FOR
COUNTIES AND ISLANDS: ANNUAL AVERAGES, 1986 TO 1996 - Con.**

Year	Oahu	Hawaii County	Kauai County	Maui County			
				County total	Lanai	Maui	Molokai
UNEMPLOYED							
1986	16,200	3,850	1,400	2,650	100	2,100	350
1987	13,550	3,100	1,100	2,250	150	1,800	300
1988	10,600	2,700	950	1,750	100	1,450	200
1989	8,550	2,200	800	1,450	100	1,100	200
1990	8,950	2,300	1,050	2,700	100	2,100	500
1991	8,600	2,900	1,200	3,300	100	2,950	250
1992	12,650	5,250	3,050	5,650	150	5,050	500
1993	13,150	4,850	3,600	3,450	150	3,100	250
1994	19,500	7,100	4,100	4,600	100	4,050	300
1995	19,250	6,550	3,250	4,800	100	4,400	350
1996	22,600	6,650	3,500	4,950	100	4,350	500
PERCENT UNEMPLOYED							
1986	4.4	7.5	5.9	5.3	11.5	4.7	13.4
1987	3.5	5.8	4.3	4.4	14.9	3.7	12.2
1988	2.8	4.9	3.7	3.3	7.5	2.9	8.8
1989	2.2	3.9	2.8	2.6	8.3	2.2	9.8
1990	2.2	4.0	4.1	4.8	5.9	4.1	18.1
1991	2.0	4.5	4.1	5.4	6.7	5.1	10.1
1992	3.0	8.1	10.3	8.6	7.8	8.3	16.0
1993	3.1	7.5	12.8	5.3	8.9	5.0	8.4
1994	4.6	10.8	14.3	6.8	7.1	6.6	10.8
1995	4.6	10.2	11.4	7.3	5.4	7.2	11.4
1996	5.3	9.9	12.1	7.3	5.8	6.9	15.9

Source: Hawaii State Department of Labor and Industrial Relations, *Labor Force Data Book* (annual), and Internet site <http://www.hawaii.gov/workforce/laus.htm>.

Utilities - Existing Water Supply

The existing Koloa-Poipu water system (Figure 2) consists of five well sources, four storage tanks and water mains ranging in size from 4 to 16 inches in diameter. The Koloa-Poipu system can be supplemented with water from the Lawai-Omao system to the west; however, the connection between the two systems is normally closed.

Two service areas are supplied by the existing system. The high service area, generally encompassing Koloa, is fed by three wells (Koloa Wells A, B and E) from which water is pumped into the Koloa 1.0 million gallon tank on Koloa Road. The 200,000 gallon Omao Tank on Omao Road was destroyed by Hurricane Iniki and is not in use. In addition, these wells also supply the Panau 0.25 million gallon tank on Panau Road which serves the low service areas of Poipu and Kukuiula. This low service area is also supplied by two wells on the Haupu range (Koloa Wells C & D) which pumps into the 1.5 million gallon tank on the Puuhi volcanic cones (site for proposed 1.5 million gallon tank).

In emergencies, water from the high service area may be transferred to the low service area. The proposed water tank will increase the storage capacity and decrease the dependence on the high level system.

Utilities - Public Sewage, Solid Waste and Roadway Services

The County of Kauai does not have a municipal sewer system in Poipu; however, a small sewer system owned and operated by Sheraton Kauai Beach Resort services a few resort developments in the area. Other developments and residents are dependent on individual underground waste disposal systems (cesspool and septic tank systems).

Presently, the County does not have solid waste disposal sites in Koloa or in the immediate area. All domestic solid waste is hauled to a transfer station in Hanapepe and eventually hauled to the County's Kekaha land fill site.

There are two existing roadways linking Koloa to the Poipu coast; the old two-lane Poipu Road and the new Koloa by-pass road which links Weliweli Road

on the east end of Koloa town to the Poipu coast at the Poipu Road/Pee Road intersection.

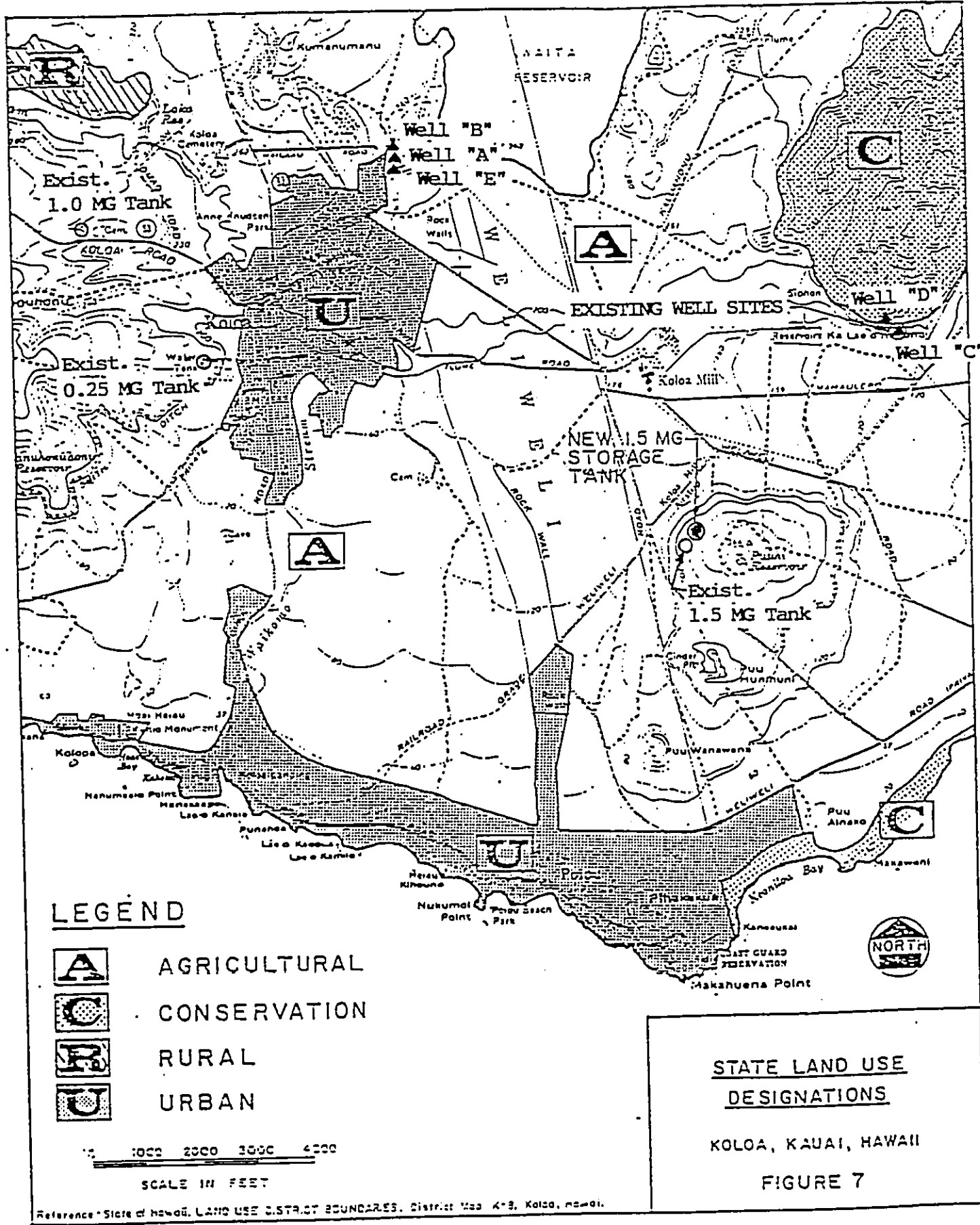
III. RELATIONSHIP OF THE PROPOSED PROJECT TO LAND USE PLANS, POLICIES AND CONTROLS

The project site would occupy land designated agriculture (Figure 7). The State of Hawaii, State Land Use Commission's, "Rules of Practice and Procedure and District Regulations," allow construction of water storage tanks within agricultural districts (Section 205-4.5, HRS, "Permissible Uses within the Agricultural Districts).

In an in-house nonpublished document by the State of Hawaii, Department of Land and Natural Resources (DLNR), titled "Kauai Preliminary Recommendations of the Recreation Resource System Plan and Trails and Access System Plan" (September 22, 1976), the proposed Maha'ulepu State Park included the proposed reservoir site as part of the protected area in terms of visual impact. In DLNR's "State Recreation Functional Plan and State Comprehensive Outdoor Recreation Plan" (December, 1985), the visual impact of the reservoir site is not specifically addressed, nor is the reservoir site included in any of its proposed park or recreational facility.

IV. PROBABLE EFFECT OF THE PROPOSED PROJECT ON THE ENVIRONMENT

The proposed project would generate temporary short-term impacts associated with construction. These impacts would affect air quality (dust), noise levels and soil regimes in the construction area. Temporary disruptions to local traffic associated with construction operations, would be minimal. Runoff from the site and related soil erosion during construction and interruptions to normal maintenance and harvesting operations of the farming lessees will be minimized.



Long-term impacts generated by the proposed project include alteration of the physical environment, development and support of regional economy, small reduction of agricultural zoned land and visual effects of the natural terrain. However, the Department of Water is highly sensitive to environmental effects caused by its water facilities, and its policy is to environmentally paint all of its above ground facilities and provide the necessary landscaping to blend the facility into the surrounding landscape. The view of the ridgeline will not be broken by the new and existing water tanks.

Positive affects of the completed project include the following:

- a. Water service to meet domestic and fire protection needs for Poipu will be upgraded.
- b. Reductions in fire insurance rates for individual homeowners and entities as a result of an upgraded system may be possible.
- c. The project will aid in providing for orderly, controlled growth and to provide economic recovery from the effects of Hurricane Iniki.
- d. The project will be constructed adjacent to an existing water storage tank and will not adversely affect the environment.

Negative effects of the completed project include the following:

- a. The project will involve some alterations of the physical landscape by cutting and filling the slopes of the eastern end of the existing tank site to accommodate the new tank.
- b. The storage tanks may be visible from the new Koloa by-pass road during times of crop harvesting, however, the Department of Water policy is to environmentally paint the above-ground facilities and provide landscaping, if necessary, to blend into the surrounding environment. The tanks will not be visible from the coastal roadways because of the thick haole koa brush and the mass of the Puuhi volcanic cone that interrupts the line of sight (Figure 8).



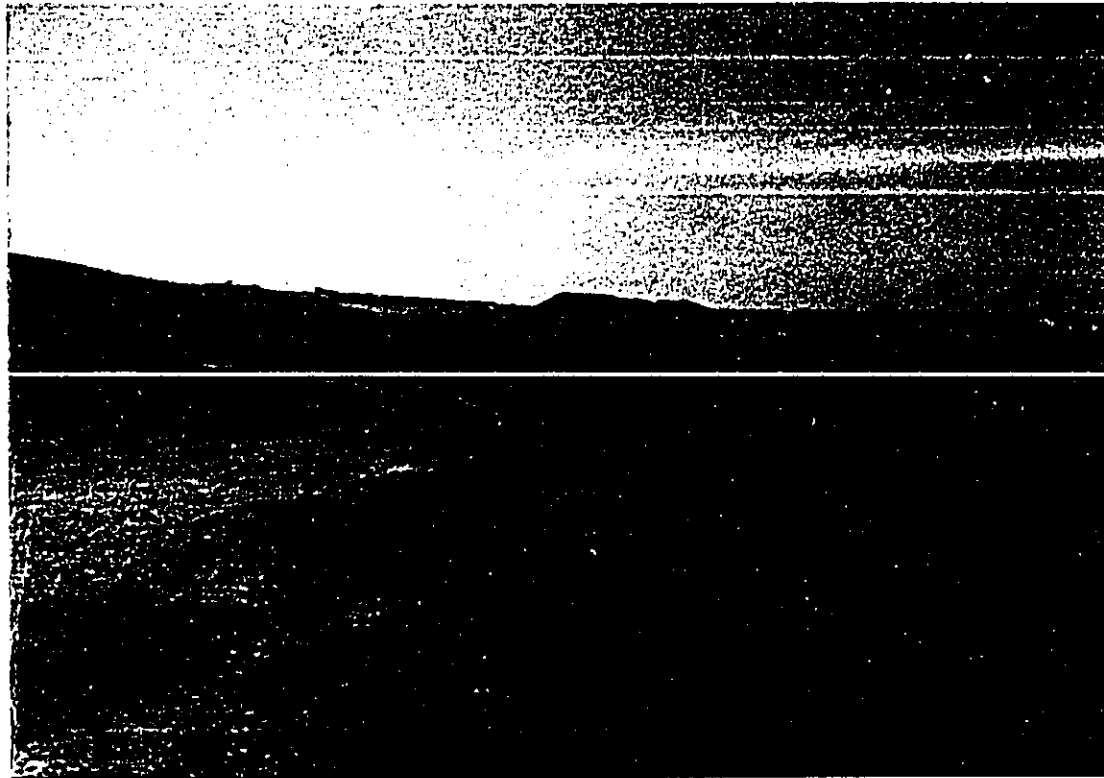
1) VIEW LOOKING SOUTHEAST TOWARDS EXISTING 1.5 MG TANK SITE FROM WELIWELI



2) VIEW LOOKING SOUTHEAST TOWARDS EXISTING 1.5 MG TANK SITE



ITE FROM WELIWELI ROAD



ITE

EXISTING TANK PROPOSED TANK
↓ ↓

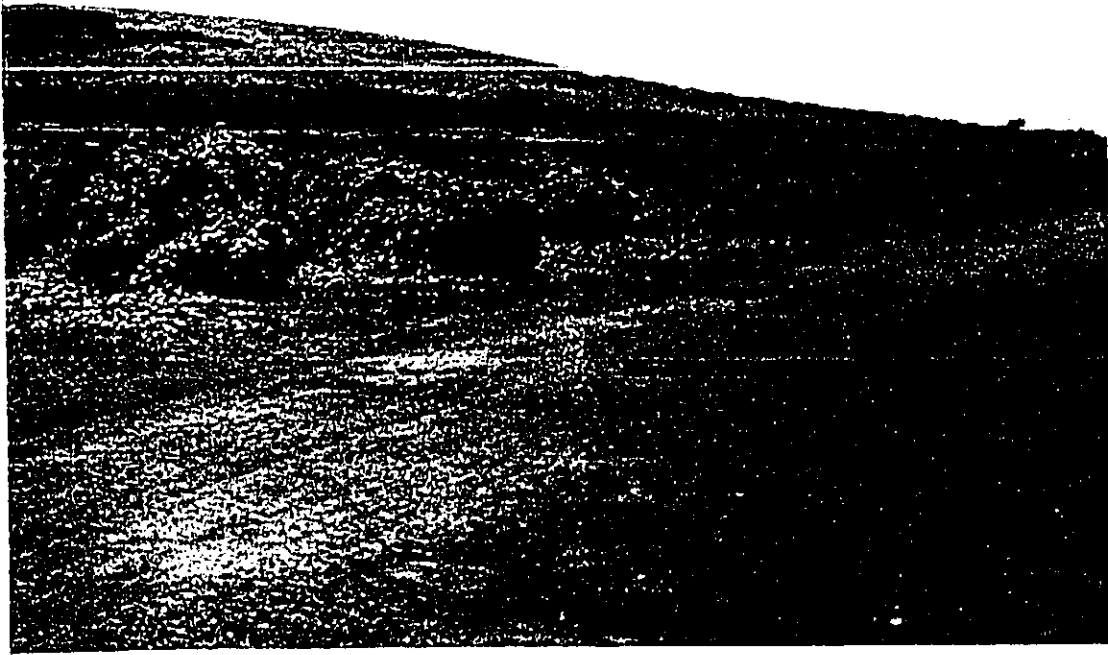


3) VIEW LOOKING EAST TOWARDS EXISTING 1.5 MG TANK SITE



4) VIEW LOOKING NORTH FROM POIPU ROAD/KOLOA BY-PASS ROAD JUNCTION

PROPOSED
TANK



RD JUNCTION

- c. An irreversible commitment of monies, land, materials and energy resources in the construction of the proposed action will be required.

V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Unavoidable adverse environmental effects associated with the implementation of the project will be in the form of short-term effects related to construction activities.

Construction activities would create temporary and short-term inconveniences; such as, dust, noise and minor traffic disruptions. Land alterations would disturb existing soil regimes and remove existing ground cover, causing a potential for accelerated soil erosion of graded and exposed areas until soil stabilization work is completed. The conformance with Best Management Practices to control storm water runoff will satisfy the NPDES permit for construction-related activities.

VI. ALTERNATIVES TO THE PROPOSED PROJECT

NO ACTION

The "no action" alternative would result in no additional storage and will not make up existing shortages in the Poipu Water System, and it will not aid in the economic recovery of the area and the island of Kauai from the effects of Hurricane Iniki. This no action alternative is not a viable option for Kauai.

Alternative Site

The proposed project site is the most appropriate location because it is located within the Department's existing 1.5 million gallon tank site. Except for connections to the existing water tank pipelines, upgrades to the existing waterlines and new transmission mains are not required.

VII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE
OF MAN'S ENVIRONMENT AND THE MAINTENANCE
AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

A higher capacity and dependable water supply system provides for controlled growth in the Koloa-Poipu area. This water supply system is compatible with Kauai County's General Plan.

VIII. MITIGATION MEASURES PROPOSED
TO MINIMIZE IMPACT

<u>Impact</u>	<u>Mitigation Measure</u>
a. Interruption of agricultural activities.	Coordination and scheduling of construction activities between the contractor and plantation staff.
b. Dust.	Sprinkling of water on the construction site and the use of dust screens, if necessary.
c. Noise.	County and State noise regulations will be enforced.
d. Grading, grubbing, stock-piling, soil erosion due to construction.	Enforcement of State and County grading ordinances.
e. Disposal of waste material.	State Department of Health regulations.
f. Visual impact of structures.	Exterior painting of storage tank in environmental colors. Landscaping.

IX. IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENT OF RESOURCES

Labor, capital, energy and raw materials would be committed to the project. The natural topography of the hillside may be somewhat altered with the addition of the second tank; however, it will not break the natural view of the ridgeline behind the tanks. There will be no loss

of cultural resources. The storage tank site would be committed to water system use from vacant agriculture land.

X. DETERMINATION

This environmental assessment shows the proposed project will have no significant adverse impacts on the environment and, therefore, an environmental impact statement is not warranted. In accordance with the provisions of Chapter 343, Hawaii Revised Statutes, a Finding of No Significant Impact (FONSI) is determined to be in order.

XI. FINDINGS AND REASONS SUPPORTING DETERMINATION

A. SIGNIFICANT CRITERIA

According to the Office of Environmental Quality Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

- 1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.

The proposed project will not involve an irrevocable commitment to the loss or destruction of any natural or cultural resources. The project will not impact scenic views of the ocean or any ridge lines in the area. The visual character of the area will not change from the current land uses. The proposed project will be constructed adjacent to the Department's existing storage tank of equal size and dimensions. Development of drainage systems will follow established design standards to ensure safe conveyance and discharge of storm runoff into existing irrigation ditches.

As discussed in earlier findings, no significant archaeological or historical sites are known to exist on the project area. The surrounding lands have been under sugar cultivation for many years, and presently are under diversified agricultural uses. Also, the proposed project bears no significant adverse impacts on existing flora or fauna.

- 2) Curtails the range or beneficial uses of the environment.

Although the subject property is suitable for agricultural uses, the proposed project will be constructed adjacent to the Department's existing 1.5 million gallon storage tank which is situated on the side of a knoll and is not conducive to the agricultural uses.

- 3) Conflicts 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 is consistent with the Environmental Policies established on Chapter 344, HRS.

- 4) Substantially affects the economic or social welfare of the community or state.

The positive effects of the project will include the following:

- a. Water service to meet domestic and fire protection needs for Poipu will be upgraded.
- b. Reductions in fire insurance rates for individual homeowners and entities as a result of an upgraded system may be possible.
- c. The project will aid in providing for orderly, controlled growth and to provide economic recovery from the effects of Hurricane Iniki.
- d. The project will be constructed adjacent to an existing water storage tank of similar size and will not adversely affect the environment.

- 5) Substantially affects public health.

The proposed project would generate temporary short-term impacts associated with construction. These impacts would affect air quality (dust), noise levels and soil regimes in the construction area. Temporary disruptions to local traffic associated with construction operations would be minimal. Runoff from the site and related soil erosion during construction will be controlled by best management practices and interruptions to normal maintenance and harvesting operations will be minimized.

- 6) Involves substantial secondary impacts, such as, population changes or effects on public facilities.

Presently, the existing consumption for the Poipu area exceeds the Poipu Water System storage facilities capacity; thus necessitating the construction of the new 1.5 million gallon storage tank.

The installation of the proposed water supply improves the climate for development, but will not in itself result in a sudden movement towards further urbanization. Several requirements must be satisfied for residential or resort development to proceed successfully: Land must be available, public service facilities must be able to handle greater

numbers of people and the public must be in favor of such projects.

- 7) Involves a substantial degradation of environmental quality.

The project will involve some alterations of the physical landscape by cutting and filling the slopes of the eastern end of the Department's existing tank site to accommodate the new tank. However, no significant degradation of environmental quality will result from the project.

- 8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions.

The objectives of the proposed project are consistent with the Board of Water Supply's policy of providing proper water supply management and obtaining the best use of the existing groundwater resources. When fully implemented and integrated with the adjacent existing 1.5 million gallon reservoir, this system will provide further assurances of adequate water supply for domestic needs and fire protection and a more cost-effective operational program of water supply and distribution. The project does not significantly contribute to cumulative impacts to the environment, and is not a commitment to larger actions.

- 9) Substantially affects a rare, threatened or endangered species or its habitat.

No endangered plant or animal species are located on the project area.

- 10) Detrimentally affects air or water quality or ambient noise levels.

There will be no detrimental effects to air or water quality or ambient noise levels after the project is completed.

- 11) Affects 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, freshwater or coastal waters.

The project will not be affected by the above criteria. The project is located within the Department's existing 1.5 million gallon tank site at elevation 224 feet above mean sea level, and as such, will not impact upon estuaries, freshwater or coastal waters.

- 12) Substantially affects scenic vistas and view planes identified in County or State plans or studies.

The storage tanks may be visible from the Koloa by-pass road during times of crop harvesting; however, the Department's policy is to environmentally coat the above-ground facilities and provide landscaping, if necessary, to blend into the surrounding environment. The tanks will not be visible from coastal roadways because of the thick haole koa brush and the mass of the Puuhi volcanic cone that interrupts the line of sight. The project will not impact scenic vistas or view plains identified in County or State plans or studies.

- 13) Requires substantial energy consumption.

Energy consumption is expected to be minimal, and limited to the normal energy consumption of filling the water tanks from nearby deepwell pumping stations.

XII. PERMITS AND APPROVALS

<u>Federal</u>	<u>Approved</u>	<u>Pending</u>
None		
<u>State of Hawaii</u>		
National Pollutant Discharge Elimination System (NPDES)		X
<u>County of Kauai</u>		
Class IV Zoning Permit, Z-IV-79-1	X	
Special Permit, SP-79-1	X	
Variance Permit, V-79-2	X	
Use Permit, U-1-79	X	
Subdivision Application		X
Building Permit		X
Stockpiling Permit		X
<u>Agency/Organization</u>		<u>Comments Received</u> <u>Draft EA</u>
<u>Other Parties</u>		
Garden Island Newspaper		
Grove Farm Company, Inc.		
Koloa Community Association		
McBryde Sugar Company		
Poipu Beach Resort Association		



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3178
HONOLULU HAWAII 96801

December 1, 1997

Mr. Ernest Lau, Manager and Chief Engineer
Department of Water, County of Kauai
P.O. Box 1706
Lihue, Hawaii 96766

Dear Mr. Lau:

Subject: DRAFT ENVIRONMENTAL ASSESSMENT

Project: 1.5 million gallon storage tank and
connecting pipeline for the Koloa-Poipu
Water System (Job No. 87-1)

Location: Poipu, Kauai, Hawaii

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Safe Drinking Water

1. The subject project is part of the Koloa-Poipu water system (Public Water System No. 408) of the County of Kauai. Thus, the project does not require approval by the Safe Drinking Water Branch. The project should follow all rules and regulations of the Department of Water Supply, County of Kauai, and must comply with the applicable requirements of Hawaii Administrative Rules, Chapter 11-20, "Rules Relating to Potable Water Systems," Section 11-20-10, pertaining to new and modified public water systems.

2. On page 1, paragraph J of the subject document, it is stated that the cut slope will be no greater than 1-1/2 inches horizontal to 1 foot vertical. Is this acceptable under Kauai County grading ordinance? That is a severely steep slope.

UNRECORDED COPY
DATE: 12/1/97
11:00 AM

97-242/epo

Mr. Ernest Lau
December 1, 1997
Page 2

Should you have any questions regarding these comments, please contact Mr. Mark Yonamine of the Safe Drinking Water Branch at 586-4258.

Sincerely,

BRUCE S. ANDERSON, Ph.D.
Deputy Director for Environmental Health

c: SDHB

DEPARTMENT OF WATER
County of Kauai

MAILED
JAN 26 1998

"Water has no Substitute - Conserve It!"

January 26, 1998

Mr. Bruce S. Anderson, Ph. D.
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

Dear Mr. Anderson:

Subject: Draft Environmental Assessment - Proposed 1.5 Million Gallon
Storage Tank, Koloa-Poipu Water System,
TMK: 2-9-01:Por. 1

Thank you for your letter of December 1, 1997 regarding the Draft
Environmental Assessment for the subject project. The Department of
Water will comply with the following:

1. Hawaii Administrative Rules, Chapter 11-20, "Rules Relating to
Potable Water Systems," Section 11-20-30, pertaining to new and
modified public water systems.

A. The proposed storage tank has been designed in accordance with
the Department of Water's Standards. During the construction
phase, the construction plans will be submitted to the
Department of Health for building permit review and approval.

2. In reference to comment no. 2 regarding the cut slope, identified
as 1-1/2 inches horizontal to 1 foot vertical, the proper slope
inclination is 1-1/2 foot horizontal to 1 foot vertical. The
typographical error will be corrected.

The grading design work was designed in accordance with the
Geotechnical Engineering Report for the proposed 1.5 million gallon
storage tank. The Department's adjacent 1.5 million gallon tank
site was designed and constructed by the State of Hawaii,
Department of Land and Natural Resources, Division of Water and
Land Development, in 1981 with similar cut slopes.

We trust our response adequately addresses your concerns regarding the
proposed project.

Sincerely,



Ernest Y. W. Lau
Manager and Chief Engineer

MM:ct

C: GMP Associates

11/11/97/11/11/11

Phone No. (808) 245-5400 - Administration FAX No. (808) 245-5418 - Engineering/Field/Shop FAX No. (808) 245-5413



HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

KAHAI DISTRICT
2045 KINA STREET, SUITE 204
LIHUE, KAUAI, HAWAII 96766

RECEIVED
JAN 23 1998 10:05

BY FAX SERVICE

January 20, 1998

Ernest Lau
Manager and Chief Engineer
Board of Water Supply
4398 Pua Loke St.
Lihue, HI 96766

Subject: Poipu 1.5 Million Gallon Water Tank Project

Dear Mr. Lau:

This is to comment on the subject water tank project and its potential for effects on endangered wildlife in the area.

To my knowledge, no endangered wildlife exists at the proposed tank site, or it's immediate vicinity. Those endangered water birds, the Hawaiian duck, silt, coot, moorhen and nene that occasionally use the irrigation ditches and reservoirs in the general Poipu-Maha'ulepu area would not be negatively affected by the project. The only other endangered animal that could conceivably be in the area would be the Hawaiian Bat, which likewise would not be adversely affected.

Please contact me if you should desire additional information.

Sincerely,

Thomas C Teller
District Wildlife Manager



DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

STATE OF HAWAII
27 OCT 1997 2:40

DEPARTMENT OF LAND AND NATURAL RESOURCES

October 28, 1997

Mr. Ernest Lau, Manager and Chief Engineer
Department of Water
County of Kauai
P O Box 1706
Lihue, Kauai, Hawaii 96766

LOG NO. 20389 ✓
DOC NO. 9710NM112

Dear Mr. Crowell:

-SUBJECT: Chapter 6E-42, Historic Preservation Review --EIS for 1.5 Million Gallon
Storage Tank and Connecting Pipeline (Job No. 87-1)
(County of Kauai)
TMK: 2-9-01: par. 1
Koloa, Kauai

A review of our records indicates the absence of historic sites on this property. This area has been under cultivation for years and the area disturbed because of the existing water tank. It is highly unlikely that significant historic sites exist in this developed area. Thus, we believe that your application will have "no effect" on significant historic sites

If you have any questions, please call Nancy McMahon at 742-7033.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

NM:ds

DEPARTMENT OF WATER

County of Kauai

"Water has no Substitute -- Conserve it"

RECEIVED
JAN 28 1998

January 26, 1998

Mr. Don Hibbard, Administrator
State of Hawaii
Department of Land & Natural Resources
State Historic Preservation Division
33 South King Street, 6th Floor
Honolulu, HI 96813

Dear Mr. Hibbard:

Subject: Draft Environmental Assessment - Proposed 1.5 Million Gallon Storage Tank, Koloa-Poipu Water System, TMK: 2-9-01:Por. 1

Thank you for your letter of October 28, 1997 regarding the Draft Environmental Assessment for the subject project. We appreciate your review and comments on the proposed project.

Sincerely,

Ernest Y.W. Lau
Manager and Chief Engineer

MM:et
C: GMP Associates
01/26/98

BENJAMIN J. CAVEYANO



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

175 SOUTH BERTANAMA STREET
SUITE 201
HONOLULU, HAWAII 96813
TELEPHONE (808) 587-4188
FACSIMILE (808) 588-4188


December 5, 1997

97-343

GARY GILL
DIRECTOR

Mr. Lau
Page 2

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Gary Gill
Director

c: GMP Associates

Mr. Ernest Lau
Department of Water
County of Kauai
4198 Pua Loke Street
Lihue, Hawaii 96766

Dear Mr. Lau:

Subject: Draft Environmental Assessment for the Koloa-Poipu 1.5 Million Gallon Reservoir, Koloa, Kauai

Thank you for the opportunity to review the subject document. We have the following comments.

1. Please consult with affected agencies, individuals and citizen groups and document your contacts in the environmental assessment.
2. Please superimpose a drawing of the proposed reservoir on photo number 3 (view looking east) and indicate whether the ridge line of the hill will be broken by the proposed structure.
3. Please list all permits and approvals required for the project.
4. Please discuss the findings and reasons for supporting the FONSI determination based on the significant criteria listed in §11-200-12 of the EIS rules. Please see the enclosed example.
5. What is the basis for the conclusion in the assessment that "no endangered species of flora or fauna such as, the Hawaiian bat and Hene goose will be affected by the project"?

DEPARTMENT OF WATER

County of Kauai

"Water has no Substitute - Conserve It!"

February 6, 1998

Mr. Gary Gill, Director
Office of Environmental
Quality Control
235 South Beretania Street
Suite 702
Honolulu, HI 96813

Dear Mr. Gill:

Subject: Draft Environmental Assessment - Proposed 1.5 Million
Gallon Storage Tank, Koloa-Poipu Water System
TMK: 2-9-01:Por. 1

Thank you for your letter of December 5, 1997 regarding the Draft
Environmental Assessment for the subject project. The Department
of Water will comply with the following:

1. Please consult with affected agencies, individuals and citizen
groups and document your contacts in the environmental
assessment.
2. The contacted groups are listed in Section XIII. Draft
E.A. Comments and Responses of the Final E.A.
Please superimpose a drawing of the proposed reservoir on
photo number 3 (view looking east) and indicate whether the
ridge line of the hill will be broken by the proposed
structure.
The proposed tank has been superimposed on photo number
3. We have indicated in applicable sections of the
report that existing and new tanks do not break the view
of the ridge line of the hill.
3. Please list all permits and approvals required for the
project.
Permits and approvals are listed in Section XII. of the
Final E.A.
4. Please discuss the findings and reasons for supporting the
FOHSI determination based on the significant criteria listed
in §11-200-12 of the EIS Rules.

Mr. Gary Gill, Director
Subject: Draft Environmental Assessment - Proposed 1.5 Million
Gallon Storage Tank, Koloa-Poipu Water System
TMK: 2-9-01:Por. 1

Page 2
February 6, 1998

Discussions and findings are presented in Section XI. of the Final
E.A.


5. What is the basis for the conclusion in the assessment that
"no endangered species of flora or fauna, such as the Hawaiian
bat and nene goose will be affected by the project"?

The conclusion is based on the Department's consultation
with the Hawaii Department of Land and Natural Resources,
Division of Forestry and Wildlife and their statement of
January 20, 1998. The statement is shown in Section
XIII. of the Final E.A.

We trust our response adequately addresses your concerns regarding
the proposed project.

If there are any questions, please call Melvin Matsumura at
245-5410.

Sincerely,



Ernest Y.M. Lau
Manager and Chief Engineer

MM:et
C: GMP Associates
Project: 10021



STATE OF HAWAII
 OFFICE OF HAWAIIAN AFFAIRS
 711 KAPOLANI BOULEVARD SUITE 300
 HONOLULU HAWAII 96813-5210
 PHONE (808) 584-1888

FAX (808) 584-1885
 November 28, 1997

Mr. Ernest Y.W. Lau
 Manager and Chief Engineer
 Department of Water
 County of Kauai
 P.O. Box 1706
 Lihue, HI 96766

Subject: Draft Environmental Assessment (DEA) for 1.5 million gallon storage tank and connecting pipeline, Koloa, Poipu, Island of Kauai.

Dear Mr. Lau:


Thank you for the opportunity to review the Draft Environmental Assessment (DEA) for 1.5 million gallon storage tank and connecting pipeline, Koloa, Poipu, Island of Kauai. The County of Kauai's Department of Water proposes to construct a new potable water tank adjacent to an existing one to meet growing local water demands.

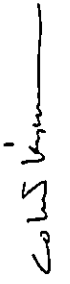
The Office of Hawaiian Affairs has no objections at this time to the proposed water tank. Based on information contained in the DEA, the new tank apparently bears no adverse impacts on adjacent lands nor upon existing flora or fauna and no known archaeological remains exist in the area. Furthermore, the tank will not significantly affect nearby scenic resources.

Letter to Mr. Lau
 November 28, 1997
 Page 2

Please contact Colin Kippen (594-1938), Officer of the Land and Natural Resources Division, or Luis A. Manrique (594-1758), should you have any questions on this matter.

Sincerely yours,


 Randall Ogata
 Administrator


 Colin Kippen
 Officer, Land and Natural Resources Division

cc Trustee Clayton Hee, Board Chair
 Trustee Abraham Aiona, Board Vice-Chair
 Trustee Rowena Akana, Land & Sovereignty Chair
 Trustee Haunani Apoliona
 Trustee Frenchy DeSoto
 Trustee Moses Keale
 Trustee Colette Machado
 Trustee Hannah Springer
 CAC, Island of Kauai

DEPARTMENT OF WATER
County of Kauai

RECEIVED
JAN 28 1998

"Water has no Substitute - Conserve It"

January 27, 1998

Mr. Randall Ogata, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813-5429

Dear Mr. Ogata:

Subject: Draft Environmental Assessment - Proposed 1.5 Million
Gallon Storage Tank, Koloa-Poipu Water System,
TMK: 2-9-01:Por. 1

Thank you for your letter of November 28, 1997 regarding the Draft
Environmental Assessment for the subject project. We appreciate
your review and comments on the proposed project.

Sincerely,



Ernest Y.W. Lau
Manager and Chief Engineer

MM:et
c: Trustee Frenchy DeSoto, Board Chair
Trustee Abraham Aiona, Board Vice-Chair
Trustee Rowena Akana, Land & Sovereignty Chair
Trustee Clayton Hee
Trustee Haunani Apoliona
Trustee Moses Keale
Trustee Colette Machado
Trustee Hannah Springer
CAC, Island of Kauai
GMP Associates

5/1/98/2/004

DEPARTMENT OF WATER
County of Kauai

MAILED
JAN 26 1998

"Water has no Substitute - Conserve It!"

January 26, 1998

Mr. Cesar C. Portugal
County Engineer
Department of Public Works
County of Kauai
Lihue, HI 96766

Dear Mr. Portugal:

Subject: Draft Environmental Assessment - Proposed 1.5 Million Gallon
Storage Tank, Koloa-Poipu Water System,
TMK: 2-9-01:Por. 1

Thank you for your letter of November 12, 1997 regarding the Draft
Environmental Assessment for the subject project. The Department of
Water will comply with the following:

- A. Grading
1. The Department concurs with the recommendations. An inspector will be present on the project site to assure the contractor's compliance with the plans and specifications for all grading, excavation and compaction work. The conformance with Best Management Practices to control storm water runoff will satisfy the NPDES permit for construction-related activities.
 2. If applicable, the contractor will be required to obtain a separate grading permit for the disposal of the excess wasted excavation material and/or borrow site from the Department of Public Works, and pay for all charges and fees therefor.
- B. Perimeter road around the reservoir
1. The Department concurs with the recommendations.
- C. Washout line, drainline and ditches
1. The Department concurs with the recommendations.

We trust our response adequately addresses your concerns regarding the proposed project.

Sincerely,



Ernest Y.W. Lau
Manager and Chief Engineer

MM:et
C: GMP Associates
4101/1111
4101/1111 Pua Laka Street, Lihue, Hawaii or P.O. Box 1164, Lihue, HI 96766-1164
Phone No. (808) 245-5400 - Administration FAX No. (808) 246-4428 - Engineering/Field/Shop FAX No. (808) 245-5011

MAILED
JAN 28 1998

DEPARTMENT OF WATER
County of Kauai

"Water has no Substitute -- Conserve It!"

DAVID K. SPROAT
Fire Chief



23:47

COUNTY OF KAUAI
FIRE DEPARTMENT
MOI KEHA BUILDING
444 KEE STREET, SUITE 200
LIHUE, KAUAI, HAWAII

MIKAYANNE W. KUSAKA
Mayor

January 26, 1998

Chief David K. Sproat
Fire Department
County of Kauai
Lihue, HI 96766

Dear Chief Sproat:

Subject: Draft Environmental Assessment - Proposed 1.5 Million Gallon Storage Tank, Koloa-Poipu Water System, TMK: 2-9-01:Por. 1

Thank you for your letter of October 27, 1997 regarding the Draft Environmental Assessment for the subject project. Your support of this project is greatly appreciated.

Sincerely,

Ernest Y.W. Lau
Manager and Chief Engineer

MM:et
C: GMP Associates
Mike Kano, Captain
Fire Prevention Bureau

October 27, 1997

Mr. Ernest Y.W. Lau
Manager/Chief Engineer
Department of Water
4398 Pua Loke Street
Lihue, Hawaii 96766

Dear Ernest:

Subject: Fire Department Comments
Proposed 1.5 MG Storage Tank
Koloa-Poipu Water System
TMK#: 2-9-01: Por. 1

The Fire Department has no objections to this proposed project as represented. We applaud this undertaking to install a supplemental 1.5 MG tank for increasing the storage capacity with the direct result of providing a greater degree of fire protection. The possibility of obtaining a reduction in the district's fire insurance rating would be a great benefit as well.

Sincerely,

David K. Sproat
Fire Chief

Ernest Y.W. Lau
Manager and Chief Engineer

"Know When To Go: React Fast To Fire!"

AN EQUAL OPPORTUNITY EMPLOYER

Phone No. (808) 245-5400 - Administration FAX No. (808) 245-8433 - Engineering/Fiscal/Shop FAX No. (808) 245-3813

XIII. DRAFT E.A. COMMENTS AND RESPONSES

The following agencies and organizations were contacted during the preparation of the Draft Environmental Assessment and/or received a copy for review and comment for the proposed project.

The parties that responded are indicated below and a copy of their correspondence with a response from the Department of Water is attached to this section. Comments from these agencies, organizations and individuals have been incorporated into this Final Environmental Assessment, where necessary.

<u>Agency/Organization</u>	<u>Comments Received Draft EA</u>
<u>State of Hawaii</u>	
Department of Business, Economic Development & Tourism	X
Department of Health	X
Department of Land & Natural Resources Division of Forestry & Wildlife Historic Preservation Division	X X
Koloa Public Library	
Office of Environmental Quality Control	X
Office of Hawaiian Affairs	X
<u>County of Kauai</u>	
Department of Planning	
Department of Public Works	X
Fire Department	X
Police Department	