CHARMAINE TAVARES
Mayor

JEFFREY K. ENG
Director

ERIC H. YAMASHIGE, P.E., L.S.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

September 26, 2008

Ms. Katherine Puana Kealoha, Director
Office of Environmental Quality Control
State Department of Health
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Kealoha,

SUBJECT: **DRAFT ENVIRONMENTAL ASSESSMENT FOR IAO TANK SITE WELL DEVELOPMENT TMK (2)3-5-01:021, WAILUKU, MAUI, HAWAII**

The Department of Water Supply, County of Maui, has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish the notice of availability of the DEA for this project in the in the next available OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form, one copy of the document in pdf format, two copies of the draft EA, and the project summary in electronic format.

If you have any questions, please call Wendy Taomoto of our Engineering Division at 270-7835.

Sincerely,

Jeffrey K. Eng
Director

enclosures

"By Water All Things Find Life"

DRAFT
ENVIRONMENTAL ASSESSMENT

IAO TANK SITE WELL DEVELOPMENT

Prepared for:

County of Maui
Department of Water Supply

September 2008

Fukunaga & Associates, Inc.
Consulting Engineers
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814
(808) 944-1821

Project Summary

Project:	Iao Tank Site Well Development
Proposing Agency:	County of Maui, Department of Water Supply
Purpose:	Develop Iao Tank Site Well as a production well, which will involve installation of a pump (up to 1400gpm), pump controls, discharge piping and appurtenances, control building, chlorination facilities, radio telemetry and electrical work, and site improvements.
Anticipated Determination:	Finding of No Significant Impact (FONSI)
Tax Map Key:	3-5-01:021
Property Owner:	County of Maui
State Land Use:	Agricultural
County Zoning Ordinance:	Agricultural
Pre-assessment Consultation:	County of Maui, Department of Water Supply State Commission on Water Resource Management Department of Business, Economics, Development and Toursism County of Maui, Department of Environmental Management State Department of Health State Department of Land and Natural Resources State Department of Parks and Recreation County of Maui, Department of Planning County of Maui, Department of Public Works Kehalani Mauka, LLC Office of Hawaiian Affairs

TABLE OF CONTENTS

FIGURES

TABLE

ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
CZO	Comprehensive Zoning Ordinance
CWRM	Commission on Water Resource Management
DHHL	Department of Hawaiian Home Lands
DOH	Department of Health
DWS	Department of Water Supply
DWSRF	Drinking Water State Revolving Fund
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
HSRFP	Hawaii State Revolving Fund Program
LCA	Land Commission Awards
MG	million gallon
mgd	Million Gallons per Day
msl	Mean Sea Level
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
TMK	Tax Map Key
USDA SCS	U.S. Department of Agriculture Soil Conservation Service
WTP	Water Treatment Plant

I. INTRODUCTION

A. PURPOSE OF THE PROJECT

Wailuku and Kahului are the population center of the island of Maui. Upon the completion of Wailuku Shaft 33 about 60 years ago, a large amount of groundwater pumped from the Iao Aquifer has been a major water source in the area.

In 1990, the sustainable yield of the Iao Aquifer was set at 20 million-gallons-per-day (mgd) by the State Commission on Water Resource Management (CWRM). The Iao Aquifer was designated as a State groundwater management area on July 21, 2003, when water withdrawals exceeded 18 mgd, or 90-percent of the sustainable yield of the aquifer. This requires the Maui Department of Water Supply (DWS) to manage the aquifer in accordance with limits set by CWRM. (*Reference 1*)

The health of a potable water aquifer is not only dependent on the sustainable yield but is also dependent upon minimizing the rise in salinity due to localized over-pumping. This would be caused by high withdrawals at only a few wells or well fields within the aquifer that would draw the underlying saline sea water up into the fresh water lens. The rise in salinity due to significant localized groundwater withdrawal has been seen at potable water wells within the Iao Aquifer. In order to keep the aquifer in optimal condition, new water wells need to be developed so that quality and quantity of groundwater production will be more stabilized over a wider area of the Iao Aquifer.

The proposed well, named Iao Tank Site Well (State Well No.5230-03), is located at the County of Maui Reservoir lot, 0.3 mile from Wailuku Shaft 33. In September 2005, the Iao Tank Site Well was drilled to a total depth of 606 feet, and a 4-day constant rate test was performed. All chemical parameters tested were within the water quality standards set by the State Department of Health (DOH) Safe Drinking Water Branch.

The purpose of the proposed outfitting of the Iao Tank Site Well with a pump and controls is to distribute pumping over a wider area of the aquifer. Overall withdrawals from the aquifer will not be increased. Instead, pumping at other wells within the aquifer can be reduced when the Iao Tank Site well goes into service. This mitigative action is required to maintain the health of the Iao Aquifer.

This project may be funded by bond funds.

B. PROJECT LOCATION

The Iao Tank Site Well (State Well No.5230-03), with coordinates of latitude 20°52’58” North and longitude 156°30’48” West, is located approximately 2.5 miles southwest of Wailuku within the Maui Department of Water Supply’s 3.0 million

gallon (MG) Iao Tank site near the intersection of Alu Road and Iao Valley Road. The Tax Map Key (TMK) for the project site is (2) 3-5-01: 021, and this parcel is owned by Maui County. The area of this lot is approximately 1.326 acres. Kehalani Mauka Subdivision is being constructed to the east of the project site. The department is in the process of acquiring Lot T-1 (1.502 acres) of the Kehalani Mauka (Large-Lot Subdivision No.3-B), which is a portion of TMK: (2)3-5-01:067, to expand the Iao Tank Site. Figures 1 and 2 show the project location.

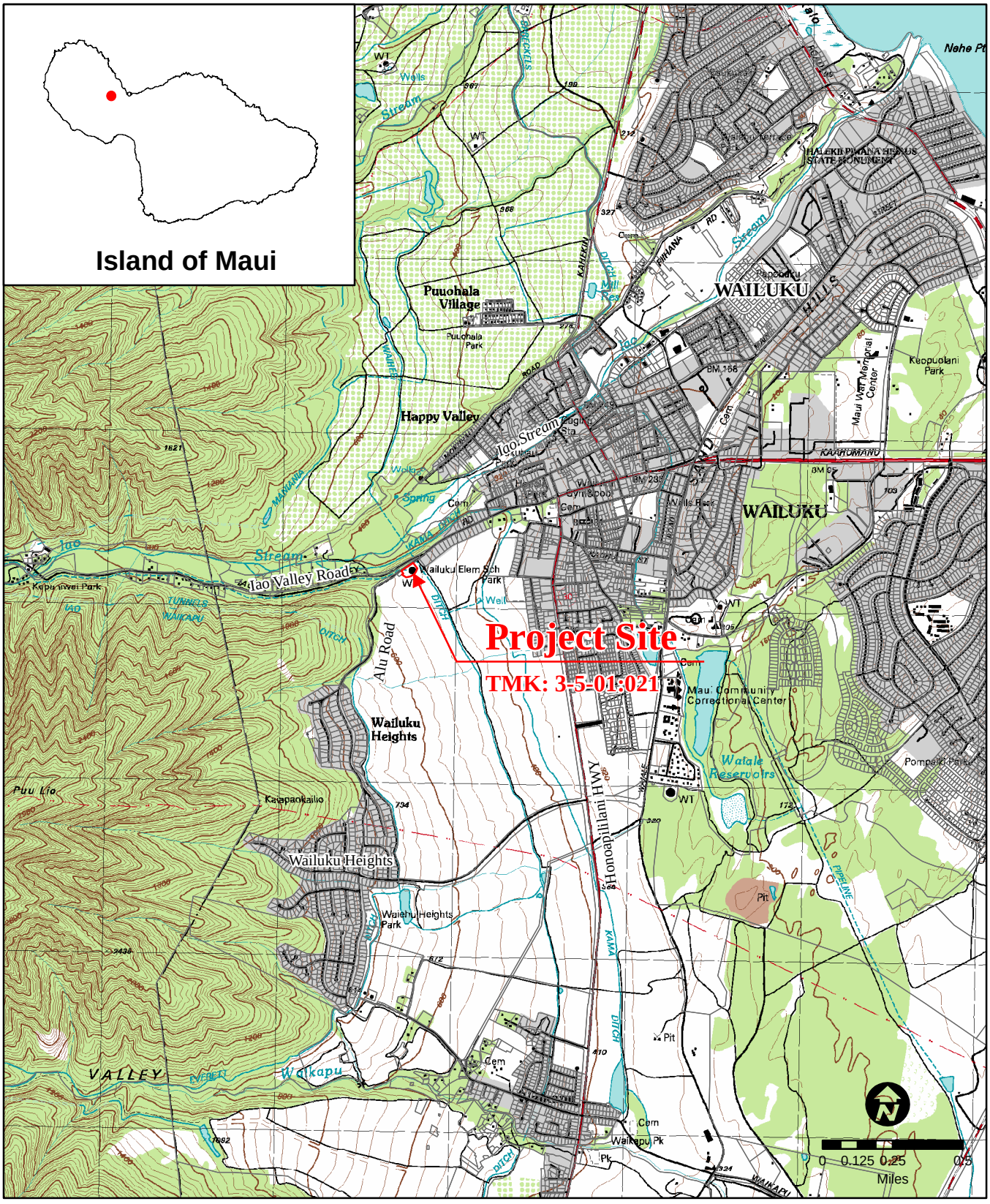
C. IAO AQUIFER

CWRM has developed an aquifer classification system, which divides each island into Sectors and each Sector into Systems. The Aquifer Sectors "reflect broad hydro-geological similarities," and Aquifer Systems "are more specifically defined by hydraulic continuity among aquifers in the System." The Iao Aquifer System is in the Wailuku Aquifer Sector, which also includes the Waikapu, Waihee, and Kahakuloa Aquifer Systems. The Wailuku Aquifer Sector has a total sustainable yield of 38 mgd. Figure 3 shows aquifer sectors and systems with the sustainable yields.

The Iao Aquifer is located on the eastern side of the West Maui Mountain. The sustainable yield of the Iao Aquifer System is set at 20 million gallons per day (mgd). Within 24.7 square miles, the sources of water for the Iao Aquifer System include the leakage from the dike-confined caldera complex of the West Maui volcano and direct recharge. The wells in this aquifer all tap the basal lens. Leakage to the sea from the Iao Aquifer System is constrained by a thick alluvium layer, unlike the other Systems in this Aquifer Sector.

CWRM designated the Iao Aquifer System as a groundwater management area on July 21, 2003. As a result, all existing and new well owners must apply for water use permits. As of June 2008, CWRM had permitted a total of 17.709 mgd in water use applications for existing uses. The rest of 2.291 mgd is available for new water use permits. (*Reference 1*)

The groundwater is mostly pumped from five major wells or well fields in the Iao Aquifer. Those are Mokuhau, Waiehu Heights, Waihee, Kepaniwai, and Wailuku Shaft 33. Pumping from each well field generates a conic depression that overlaps one or more of the other well fields. The Iao Aquifer has been experiencing an overall water level decline that has resulted in a corresponding rise of the freshwater-saltwater (brackish) transition zone. (*Reference 2*)

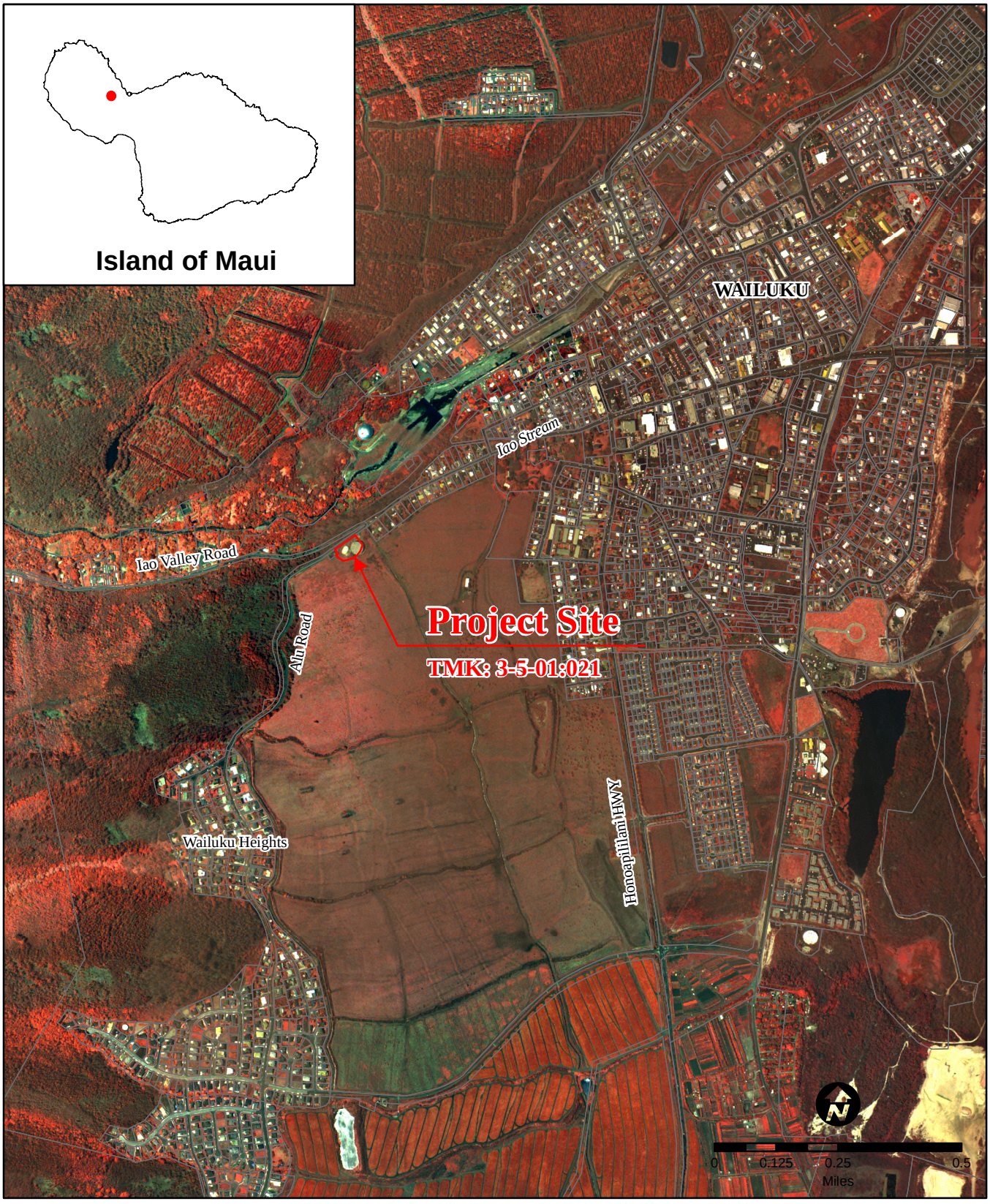


IAO TANK SITE WELL

PROJECT LOCATION

COUNTY OF MAUI
Department of Water Supply

Figure 1

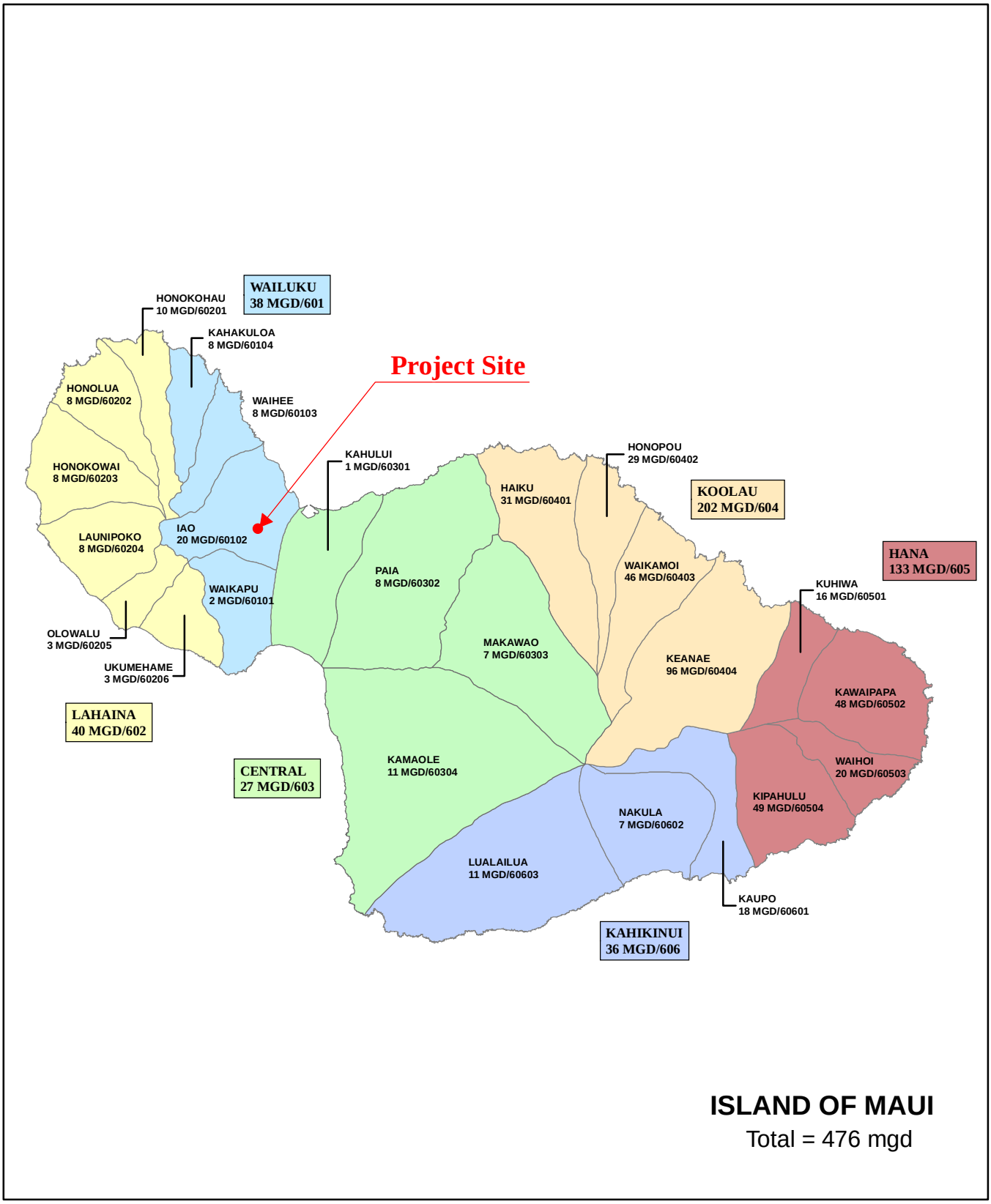


IAO TANK SITE WELL

PROJECT LOCATION

COUNTY OF MAUI
Department of Water Supply

Figure 2



LEGEND:

IAO TANK SITE WELL

SUSTAINABLE YIELD / AQUIFER CODE

COUNTY OF MAUI
Department of Water Supply

Figure 3

D. EXISTING WATER SYSTEMS & IAO TANK

The Iao Aquifer provides groundwater to the Central Maui Water System. The Central Maui Water System is the DWS's largest water system on the island of Maui and serves water to the major population centers, extending from Wailuku, Waihee, Waikapu, Wailuku heights, Kahului, Puunene, Kihei, Maalaea, Makena, Paia-Kuau, and Spreckelsville. The Central Maui Water System is supplied primarily from Mokuhau Wells, Waihee Wells, Waiehu Heights Well, Kepaniwai Well, Iao Tunnel, and Wailuku Shaft 33.

Additionally, some surface water is treated and introduced into the Central Maui Water System. Two million gallons per day (mgd) of water is withdrawn from the Iao-Waikapu Ditch. The water from the ditch is transported along the edge of a pasture land at parcel 3-5-01:001 to the Iao Water Treatment Facility.

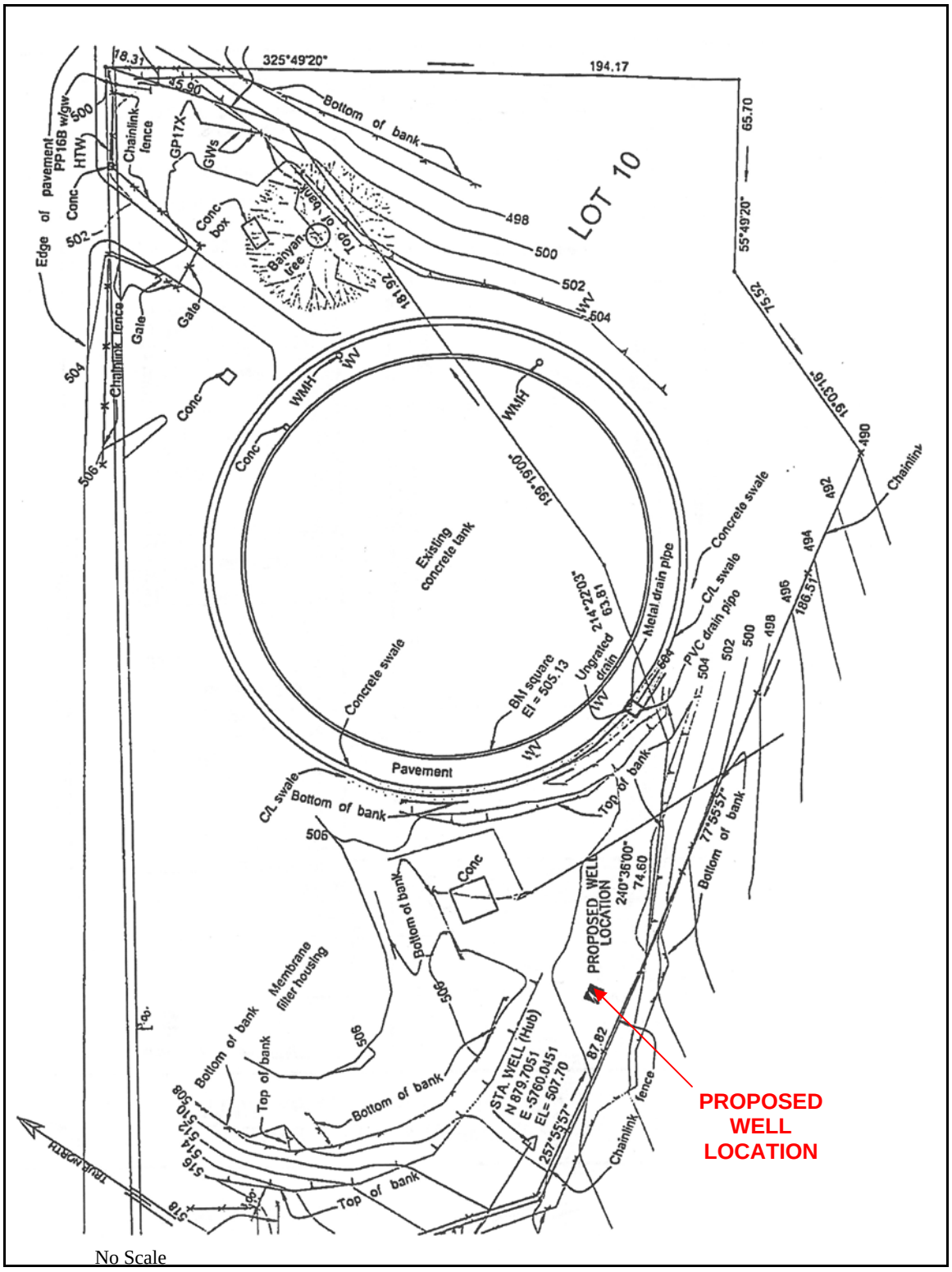
A membrane filtration water treatment system was built adjacent to the Iao Tank to treat water with micro-filtration. The 0.2 micron-opening fiber membranes strain solids, biomass, and microorganisms from the raw water coming into the facility. The filters require periodic cleaning and maintenance.

The Iao Tank, a 130-foot diameter 3.0 MG concrete reservoir constructed in 1992, is located at the eastern end within the same property of the proposed well site. Previously, a 2.1 MG tank was located on the upper western side, but it has been demolished and the area is used for the treatment facility. See Figure 4.

E. IAO TANK SITE WELL

The Iao Tank Site Well (5230-03) was drilled and tested by Wailani Drilling, Inc. in September, 2005. The well was drilled a total of 606 feet (to -101 feet msl) deep from a ground elevation of 505 feet msl. The well is cased with a 20 inch solid steel casing to a depth of 498 feet, and with a 20 inch louvered screen casing to a depth of 606 feet. The static water level in the well was measured at 13.72 feet msl on July 27, 2005.

The 4-day constant rate test was performed on August 15-19, 2005. The DWS monitored the water level, during the period surrounding the 4-day constant rate test. Water samples were collected during the constant rate test and analyzed by MWH Laboratories of Monrovia, California for parameters required by the Hawaii Department of Health for new drinking water sources. All parameters tested were either non-detectable or within maximum contaminant levels. According to the *Results of Drilling and Testing* report, "No coliforms were found from the water samples. The chloride concentration of the water samples was measured at 17mg/L, and water temperature was steady at 70°F during the 4-day constant rate test. The well is capable of yielding 1,400 gpm." (*Reference 3*) The DWS submitted a Water Use Permit



IAO TANK SITE WELL

COUNTY OF MAUI
Department of Water Supply

Iao Tank Site

Figure 4

Application (No.823) and was granted 0.498 mgd withdrawal of water on a 12-month moving average basis at Iao Tank Site Well on November 26, 2007. (*Reference 4*)

In the most recent approved permits, it was determined that 0.898 mgd could be redistributed to the Iao Tank Site Well (0.498 mgd) and the Waikapu Tank Site Well (0.400 mgd) without seriously affecting the existing distribution of water in the system. The 0.498 mgd permitted withdrawal at Iao Tank Site Well is the first step in distributing withdrawals from the aquifer. The total withdrawals from the aquifer did not change; therefore, the redistribution was done administratively per Declaration Ruling DEC-ADM97-A1. Pumping from existing wells will be further reduced, or eliminated in the case of Shaft 33, and pumping from the Iao Tank Site Well could be increased accordingly to further distribute withdrawals over the aquifer. When the nearby Shaft 33 pump is taken out of service, up to 4.8 mgd would need to be redistributed to other wells. The pumping rate from the Iao Tank Site Well is proposed to be increased with approval of a new Water Use Permit by the CWRM.

F. DEPARTMENT OF HAWAIIAN HOME LANDS

The use of water from the proposed well will not interfere with the rights of the Department of Hawaiian Home Lands (DHHL), as provided in Section 221 of the Hawaiian Homes Commission Act. There are no DHHL wells in the Iao Aquifer. The County's water system "serves homes built by the DHHL." (*Reference 1*)

G. PROPOSED PROJECT

The Maui Department of Water Supply is proposing the development of the exploratory well in the parcel 3-5-01:021 owned by the County. Developing Iao Tank Site Well will involve the following major work items:

1. Install 1400 gpm pump and controls
2. Construct pump discharge piping and connect to existing 3.0 MG tank
3. Construct control building for new pump
    - Electrical Room
    - Hypochlorite Room
4. Construct new driveway to control building

The well pump will initially operate for less than 6 hours per day (1400 gpm for 5.9 hours ≈ 0.498 mgd). Daily pump operation could be increased as water is further distributed over the aquifer, provided approval is obtained from the CWRM via the Water Use Permit application process.

II. COMPLIANCE WITH PLANNING DOCUMENTS

The proposed use of water is consistent with State and County General Plans, general policies, and land use designations.

A. MAUI COUNTY GENERAL PLAN

The Charter of the County of Maui establishes the structure and organization of the government, and defines the responsibilities of the County. The Charter requires the development of the General Plan and Community Plans.

The Maui County General Plan, first adopted in 1980 and updated in 1990, addresses development patterns, problems and needs unique to the communities; explains social, economic and environmental impacts of potential developments; and sets the desired sequence, patterns and characteristics of future developments. The General Plan also identifies objectives, priorities, policies and implementing actions with respect to various development matters, including water systems.

The proposed project is consistent with the General Plan objectives for water, and specifically moves toward achieving Objective 1 (IV. Transportation: B. Water section). "To provide an adequate supply of potable and irrigation water to meet the needs of Maui County's residents." The additional potable groundwater source to serve the community addresses the following specific policies:

a. *Support the improvement of water transmission systems to those areas which historically experience critical water supply problems provided the improvements are consistent with the water priorities and the County's Water and Use Development Plan provisions for the applicable community plan area.*

b. *Meet or exceed Federal quality standards for the potable water supply.*

c. *Develop improved systems to provide better fire protection.*

d. *Seek new sources of water by exploration in conjunction with other government agencies.*

e. *Develop sufficient water supply during drought seasons so as to keep agricultural activities viable.*

f. *Support the planning, preservation and development of water resources and systems which service Hawaiian Home Lands.*

B. WAILUKU-KAHULUI COMMUNITY PLAN

For the County of Maui, the General Plan and the Community Plan are long-term strategic planning documents, which guide government actions and decision-making. The Charter deems the Community Plan as part of the General Plan. The Wailuku-Kahului Community Plan is one of nine community plans for Maui County, and reflects anticipated conditions in the region of Wailuku-Kahului, and advances planning goals, objectives, policies and implementation consideration to guide decision-making in the region through the year 2010.

The Plan addresses the following specific objectives and policies:

a. *Coordinate water system improvement plans with growth areas to ensure adequate supply and a program to replace deteriorating portions of the distribution system. Future growth should be phased to be in concert with the service capacity of the water system.*

b. *Improve the quality of domestic water.*

c. *Promote water conservation and education programs.*

d. *Protect water resources in the region from contamination, including protecting ground water recharge areas, and wellhead protection areas within a 1.25 miles radius from the wells.*

e. *Coordinate the construction of all water and public roadway and utility improvements to minimize construction impacts and inconveniences to the public.*

f. *Coordinate expansion of and improvements to the water system to coincide with the development of residential expansion areas.*

g. *Promote conservation of potable water through the use of treated waste water effluent for irrigation.*

h. *Encourage reasonable rates for water and public utility services.*

i. *Ensure that proliferation of telecommunication towers does not negatively impact the natural beauty of Maui County and the comfort and health of its residents.*

In the Wailuku-Kahului Community Plan, the County raised the concern that an increasing demand of water will be a major problem in the region.

> *Waters of the County are held for the benefit of its residents. Growth of Maui's population has increased demands on water in the region threatening the sustainability of the region's water. An allocation plan must be adopted to protect and preserve these resources… In the view of the Citizens Advisory Committee, the development and delivery of additional sources of potable water was and is a critical factor in the long-range planning and development of the region... The prioritization and allocation of water resources is a major interregional issue that needs to be addressed in a comprehensive manner. (Reference 5)*

The Wailuku-Kahului Community Plan identifies the development of water sources as a primary concern. Groundwater is the most viable alternative to the limited surface water sources.

C. MAUI COUNTY WATER USE AND DEVELOPMENT PLAN

The Maui County Water Use and Development Plan was updated in 1992 as part of the continuing planning process pursuant to the State Water Code, HRS Chapter 174C. Considerable effort was made to detail the present consumption patterns and characteristics in the various water districts served by the Department of Water Supply, County of Maui.

This Water Use and Development Plan mentioned that all DWS systems require urgent and immediate action and are expected to see an increase in demand in the future. The Plan states, "greater attention and resources must be given to water quality and reliability of service to meet the extreme conditions of maximum day demand..." and defines as follows:

1. *Volume to support domestic and agricultural activities*
2. *Water Quality for public health safety*
3. *Reliability for drought protection and quality of service*

The Iao Aquifer, the major resource for the Central Maui Water System, is reaching its limit in sustainable yield of 20 mgd. The Plan states that actual consumption and projected water consumption in 2010 of the Central Maui Water System will increase from 16.86 mgd in 1991 to an estimated 30 mgd in 2010. (*Reference 6*)

There are also changes in the chloride levels in the pumping wells. Including losses, the corresponding withdrawal rate from the Iao Aquifer is estimated at approximately 17.6 mgd.

III. DESCRIPTION OF THE ENVIRONMENT

A. LAND CLASSIFICATION AND ZONING

1. State Land Use

The State Land Use Commission classifies all State lands as Urban, Rural, Agricultural, or Conservation with the intent to accommodate growth and development and to manage the natural resources of the area. The State Land Use classification of the project site is Agricultural. See Figure 5 for the State Land Use zone designation.

2. County Zoning

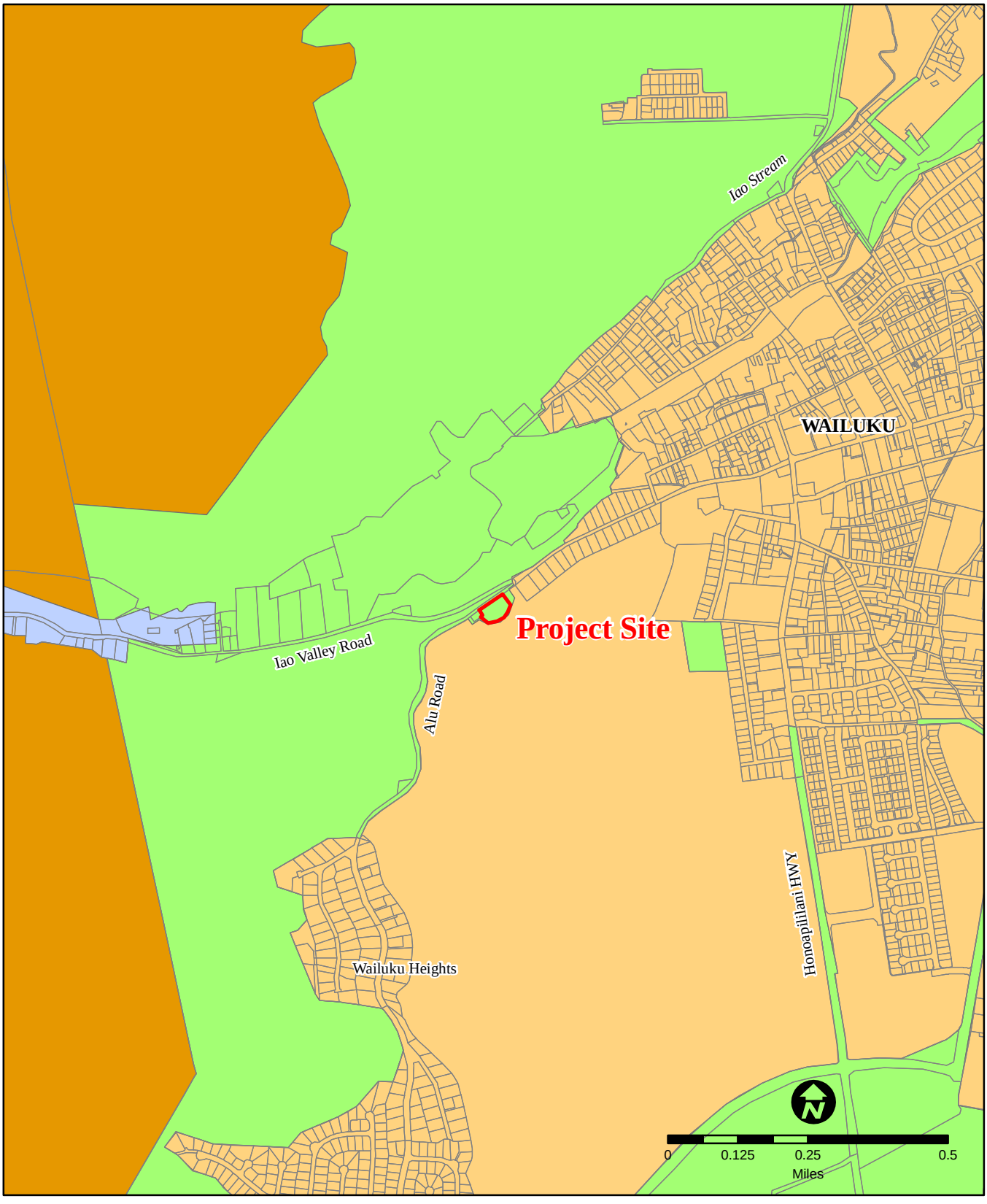
The Comprehensive Zoning Ordinance (CZO) for the County of Maui regulates more detailed land use zoning for the State designated land classifications. The CZO of the project site is Agricultural. The Comprehensive Zoning Ordinance map for the project area is shown in Figure 6.

3. Wailuku-Kahului Community Plan

The County of Maui establishes the structure and organization of the government, and defines the responsibilities of the County. The County of Maui is legally mandated to prepare and adopt a Maui General Plan by State law and the County Charter. The General Plan provides guidance on land use regulations, the location and character of new development and facilities, and planning for County and State facilities and services.

The Maui General Plan addresses development patterns and needs unique to the communities; explains social economic and environmental impacts of potential developments; and sets the desired sequence, patterns and characteristics of future developments. The Maui General Plan also identifies objectives, priorities, policies and implementation actions with respect to various development matters.

The Maui General Plan includes the Land Use Map that depicts policy for long-range land uses with the following map designations: Urban Center, Resort, Residential Community, Agriculture, Open, Park, Transportation, Military. The project site is located in the Agricultural district. (*Reference 7*)



LEGEND:

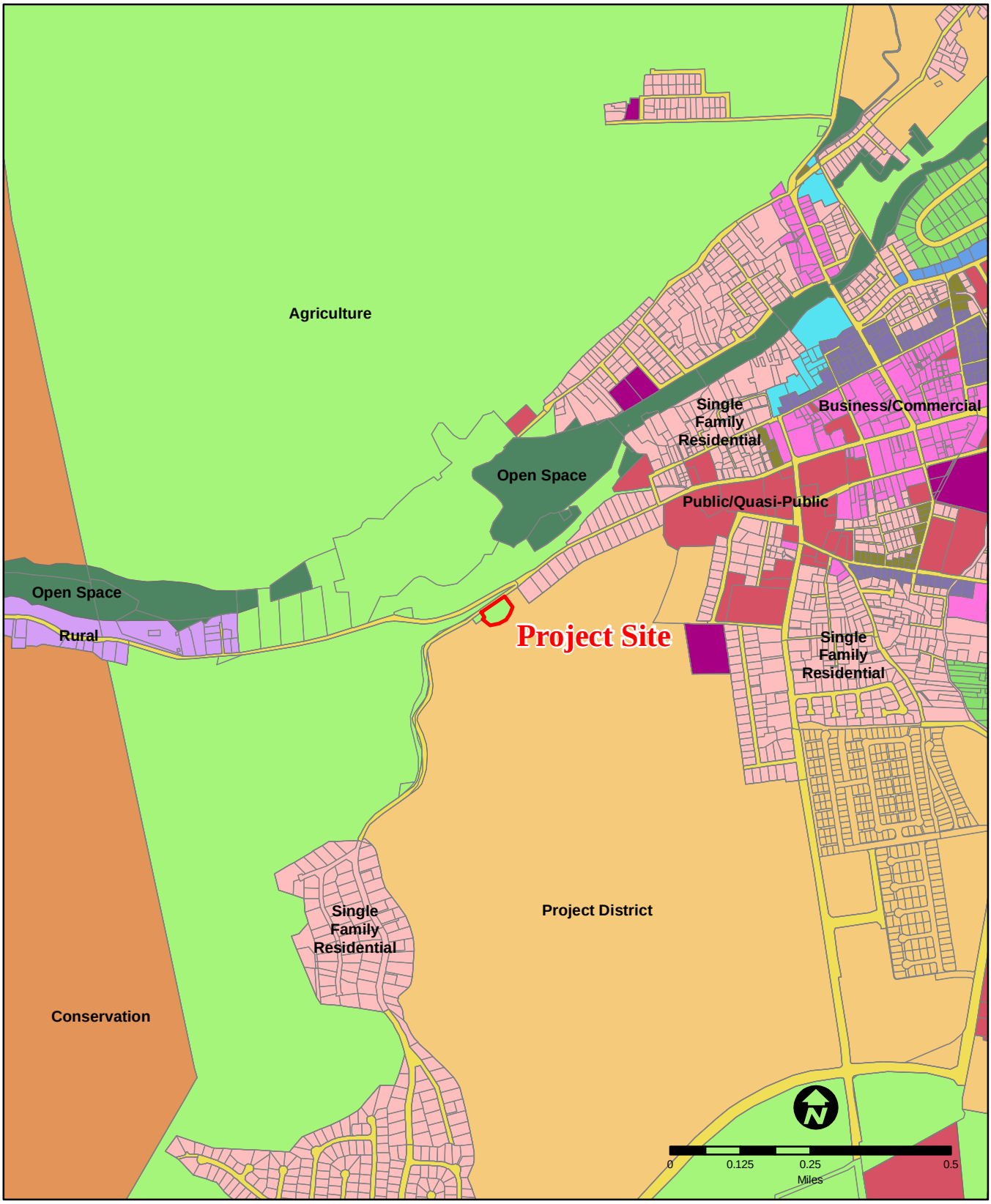
Conservation
Agricultural
Urban
Rural

IAO TANK SITE WELL

State Land Use

COUNTY OF MAUI
Department of Water Supply

Figure 5


Agriculture
Single Family Residential
Business/Commercial
Open Space
Public/Quasi-Public
Open Space
Rural
Project Site
Single Family Residential
Project District
Single Family Residential
Conservation
N
0
0.125
0.25
0.5
Miles

B. PHYSICAL FEATURES

1. General

The island of Maui is formed by the East and West Maui Volcanos. The Iao Aquifer lies on the West Maui Volcano and covers approximately 24.7 square miles. The Iao Aquifer boundaries are the ridge south of Waihee River and north of Kalepa Gulch extending from the coast to the summit of West Maui Mountain, the crest of West Maui Mountain, the ridge north of Waikapu Stream, and the southern divide of Iao Stream to Kahului Bay. This area is characterized by a steep and mountainous region to the west, sloping alluvial and colluvial plains extending east from the mountain, and moderate sands and coastal plains near the ocean.

2. Climate

The climate of Iao is generally cool and subtropical with moderate rainfall throughout the year. The project area is characteristic of the mountainous valley and is relatively moist. The average rainfall is typically 30 to 40 inches per year. See Figure 7. The variations in temperature encountered in the area range between 65 and 85^{o} F on the average for the coolest and warmest month, respectively.

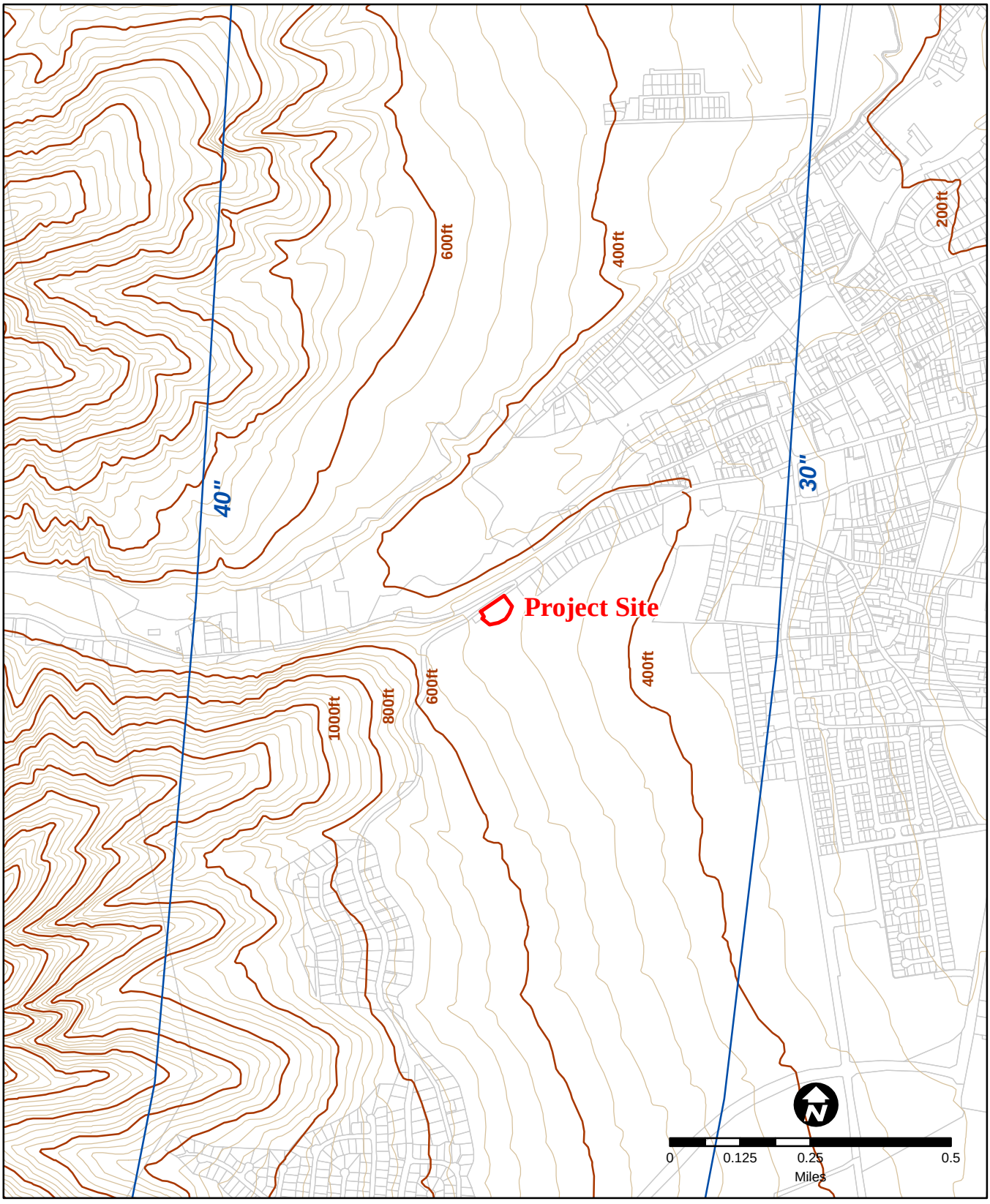
3. Topography

The mountainous areas have steep ridges and deep valleys that range in altitude from approximately 300 feet msl at the base to 5,788 feet msl at the summit of Puu Kukui. The proposed project site is located about 2.5 miles from the Iao Needle (2250 feet msl). The topography of the lands surrounding the project site forms a V-shape valley and has a mixture of moderate to steep slopes, ranging from 50 to 2000 feet high.

The proposed well site was leveled due to grading previously done by the County of Maui for water tank construction. The ground elevation of the 3.0 MG tank is 506 feet msl. The tank overflow elevation is 536.5 feet msl. The Iao-Waikapu Ditch water intake elevation is roughly 740 feet msl. The slope between the ditch and the tank site is approximately 9.4%. Figure 7 shows the elevations in the vicinity of the project site.

4. Geology

The area was formed during the Wailuku volcanic series which occurred in the Pliocene or Pleistocene era. Rock from the Wailuku volcanic series is characterized by thin-bedded aa and pahoehoe flows of primitive olivine basalt, scattered cinder cones and thin tuff beds, and numerous dikes. This rock is overlain by older alluvium from the Pleistocene and Holocene eras.



LEGEND:

Annual Rainfall (inch)

Elevation (feet)

IAO TANK SITE WELL

Topography and Rainfall

COUNTY OF MAUI
Department of Water Supply

Figure 7

5. Soils

According to the Soil Survey issued in 1972 by the U.S. Department of Agriculture Soil Conservation Service (USDA SCS), soils of the project site are classified as Wailuku Silty Clay, 3 to 5 percent slopes (WvB). The Wailuku series consists of well-drained soils on alluvial fans. These soils developed in alluvium derived from igneous rock. WvB soil consists of smooth alluvial fans. The soil is dark red-brown silty clay that is slightly to medium acid in the surface layer and slightly acid in the subsoil. The runoff is slow, and erosion hazard is slight. Figure 8 shows the detailed soil classification of the project site.

6. Hydrology

The U.S. Geological Survey published the Water-Resources Investigations Report 00-4223, *The Response of the Iao Aquifer to Ground-Water Development, Rainfall, and Land-Use Practices Between 1940 and 1998, Island of Maui, Hawaii*. This report interprets the regional hydrology of the Iao Aquifer, as shown on Figure 9. According to the report, "the fresh ground-water system in the Iao aquifer contains: (1) dike-impounded water, (2) a freshwater lens floating on saltwater, and (3) perched water." The general movement of fresh ground water in the Iao Aquifer is from the dike-impounded water body into the freshwater-lens system, the brackish water transition zone, and then to the ocean. (*Reference 2*)

Two major ditches and nine smaller ditches were built in the early 1900's in the Iao aquifer. Now, only six ditches are still in use. The ditches divert springs, tunnel water, and streams. The Spreckels Ditch and the Waihee Ditch are the two major ditches in the Iao Aquifer. These ditches capture about 40 mgd from Waihee River and about 6 mgd from diversions on the two forks of Waiehu Stream.

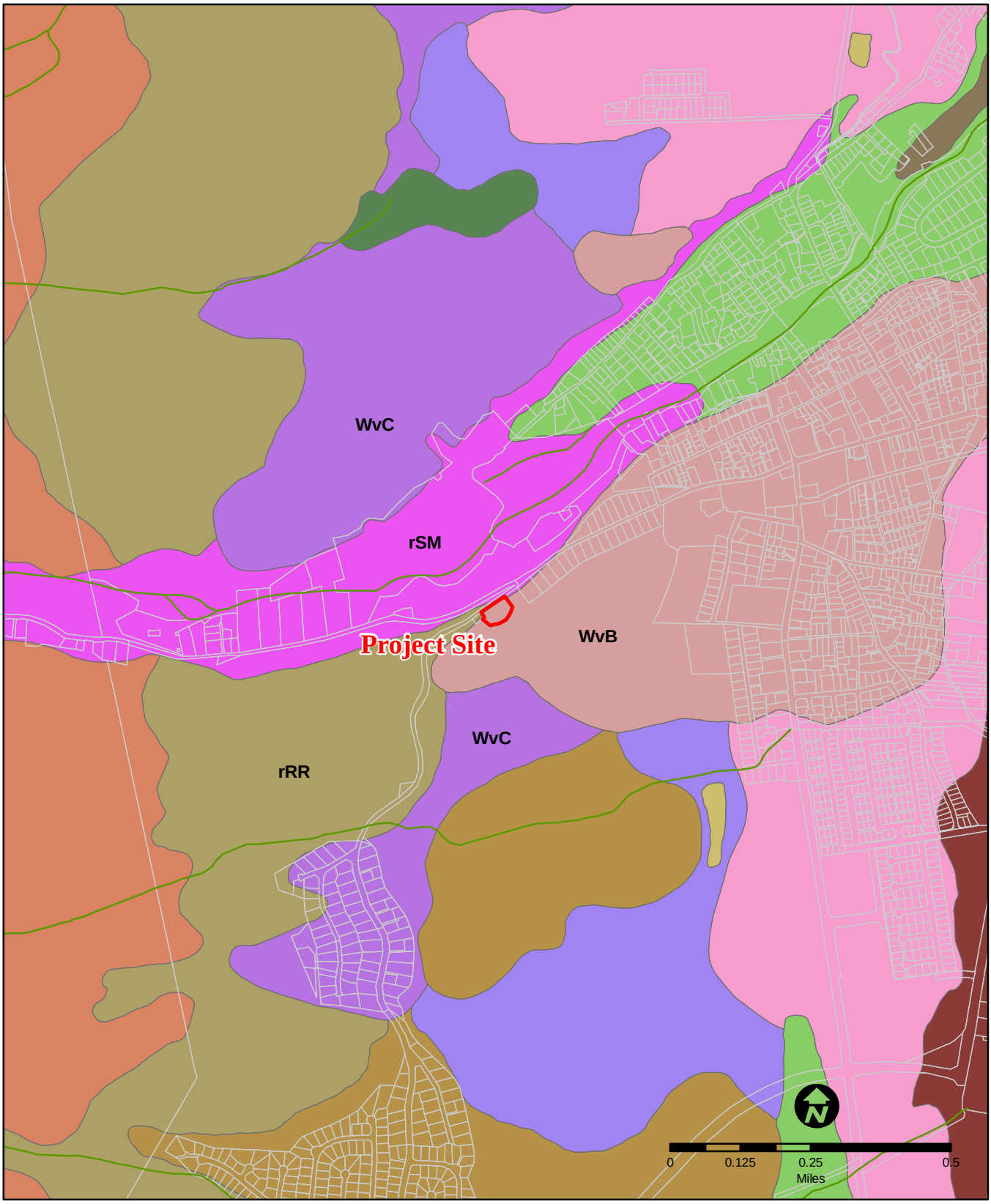
There are many wells constructed in the Iao Aquifer, as shown on Figure 10. Based on the CWRM database, the wells within the Iao Aquifer System are listed in the following table.

Table 1 – WELLS IN THE IAO AQUIFER

WELL NO	WELL NAME	OWNER USER	USE	INITIAL CHLOR	WITHDRAWAL MGD
5130-01	Waikapu 1	State DLNR-Engineering	Unused	20	
5130-02	Waikapu 2	State DLNR-Engineering	Unused	13	
5131-01	Waikapu Tank Site	Maui DWS	Muni-County		
5229-01	Waiale Prototype	A&B	Lost		
5230-01	Ka Hale A Ke Ola	Ka Hale A Ke Ola	Landscape		
5230-02	Iao Deep Monitor	State CWRM	Observation		
5230-03	Iao Tank Site	Maui DWS	Muni-County	17*	
5329-04	War Memorial Stadium	Maui Pks & Rec	Unused		
5329-05	Baldwin High Sch	Maui Pks & Rec	School		

5329-06	Baldwin High TH	Maui County	Unused	152	
5330-01	Iao Tunnel	Wailuku Sugar	Irrigation		
5330-02	Iao Tunnel	HC & S Co	Irrigation		
5330-03	Field 63	Wailuku Sugar	Observation		
5330-04	Wailuku Mill TH	Wailuku Sugar	Observation	22	
5330-05	Wailuku Shaft 33	Kehalani Mauka LLC	Muni-County		5.0
5330-06	Mokuhau TH 1	Maui DWS	Observation	280	
5330-07	Mokuhau TH 2	Maui DWS	Observation		
5330-08	Mokuhau TH 3	Maui DWS	Observation		
5330-09	Mokuhau 1	Maui DWS	Muni-County	16	2.894
5330-10	Mokuhau 2	Maui DWS	Muni-County	16	0
5330-11	Mokuhau 3	Maui DWS	Muni-County	30	1.094
5330-12	Puuohala TH-C	Wailuku Sugar	Unused		
5331-01	Iao Valley TH	Wailuku Sugar	Observation		
5332-01	Black Gorge Tun	Wailuku Sugar	Irrigation		
5332-02	Iao Tunnel	Maui DWS	Muni-County		
5332-03	Field Gorge Tunnel	Wailuku Sugar	Sealed		
5332-04	Kepaniwai TH	State DLNR-Engineering	Observation		
5332-05	Kepaniwai	Maui DWS	Muni-County	25	0.764
5333-01	Iao Needle Tunnel	Wailuku Sugar	Irrigation		
5333-02	Iao Needle Tunnel 2	Wailuku Sugar	Sealed		
5429-01	De Lara	De Lara J	Irrigation	528	
5429-02	Papohaku Park	Maui Pks & Rec	Park	60	
5430-01	Waiehu Hts 1	Maui DWS	Muni-County	52	0.222
5430-02	Waiehu Hts 2	Maui DWS	Muni-County	20	1.243
5430-03	Waiehu TH-E	Wailuku Agribusiness Co., Inc.	Observation		
5430-04	Waiehu TH-D	State DLNR-Engineering	Observation		
5430-05	Waiehu Deep Monitor	State CWRM	Observation		
5431-01	Waiehu TH-B	Wailuku Agribusiness Co, Inc.	Observation		
5431-02	Waihee 1	Maui DWS	Muni-County	15	3.204
5431-03	Waihee 2	Maui DWS	Muni-County		1.066
5431-04	Waihee 3	Maui DWS	Muni-County	189	1.683
5529-01	Waiehu TH	U S G S	Observation		
5529-02	Waiehu Golf Course	Maui Pks & Rec	Golf Course	32	
5530-01	Waiehu Tunnel	Wailuku Sugar	Observation		
5530-02	Waiehu TH	Wailuku Agribusiness Co., Inc.	Lost		
5530-03	Waiehu Golf Course 1	Maui Pks & Rec	Unused		
5530-04	Waiehu Golf Course 2	Maui Pks & Rec	Golf Course		
5531-01	Living Waters #1	Living Waters Land Foundation	Unused		
5631-01	Waihee TH A1	Wailuku Agribusiness Co., Inc.	Observation		
5631-07	Varel		Unused		
5631-08	Sarasin		Domestic		
5329-14	Maui Stadium	Maui Pks & Rec	Park	285	
5329-15	Maui Comm Col	Maui Pks & Rec	School	394	
5329-17	Wailuku Arm	U S Army	Unused		
5329-18	Waiale Obs	A&B	Observation		
5329-20	Maui Cent Park 2	Maui Pks & Rec	Park		
				TOTAL	17.17

*(Source: CWRM Well Database as of April 2008, except * from recent sampling and analysis)*



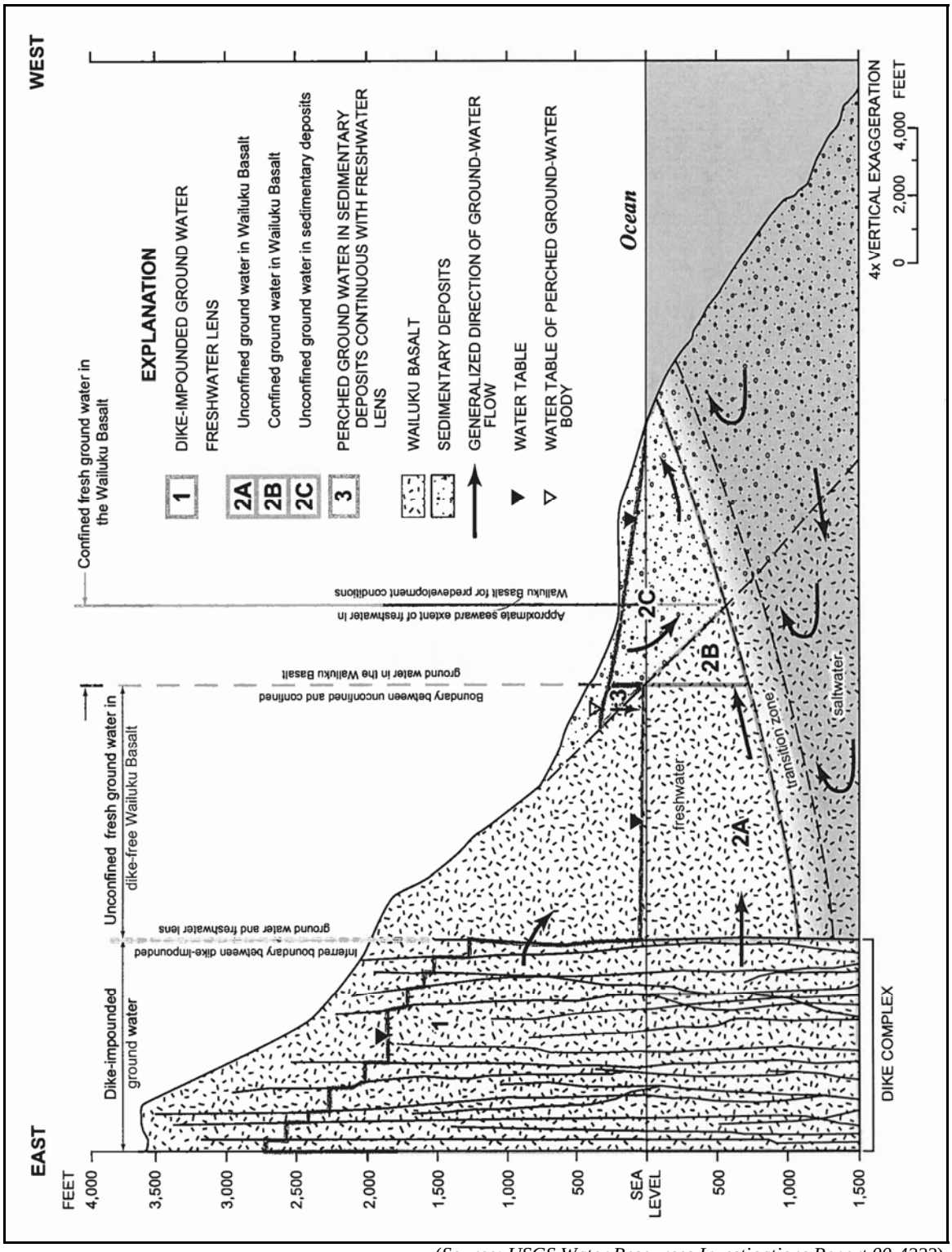
LEGEND:
WvB: Wailuku Silty Clay, 3-7% Slopes
WvC: Wailuku Silty Clay, 7-15% Slopes
rSM: Stony Alluvial Land
rRR: Rough Broken Land

IAO TANK SITE WELL

USDA SCS Soils Map

COUNTY OF MAUI
Department of Water Supply

Figure 8

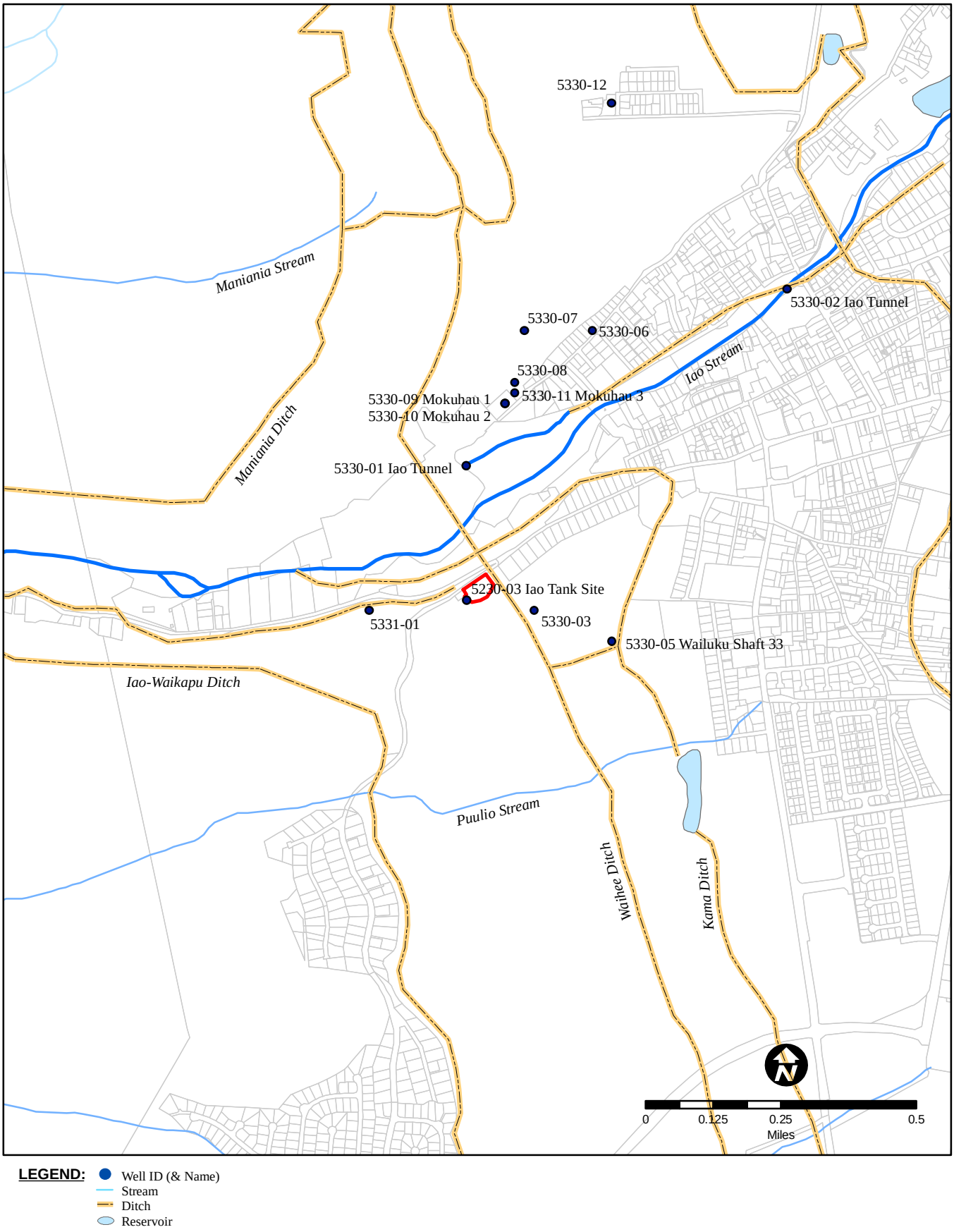


(*Source: USGS Water Resources Investigations Report 00-4223*)

IAO TANK SITE WELL **Groundwater Occurrence and Movement**

COUNTY OF MAUI
Department of Water Supply

Figure 9



LEGEND:
- Well ID (& Name)
- Stream
- Ditch
- Reservoir

IAO TANK SITE WELL

Wells, Streams, and Ditches

COUNTY OF MAUI
Department of Water Supply

Figure 10

7. Wetland

   The U.S. Department of Interior, Fish and Wildlife Service "National Wetlands Inventory Maps 1978" does not identify any wetland in the vicinity of the project site.

8. Water Quality

   "The Water Quality Standards Map" published by the State of Hawaii Department of Health, Office of Environmental Planning classifies the project site as Class II inland classification. (*Reference 8*)

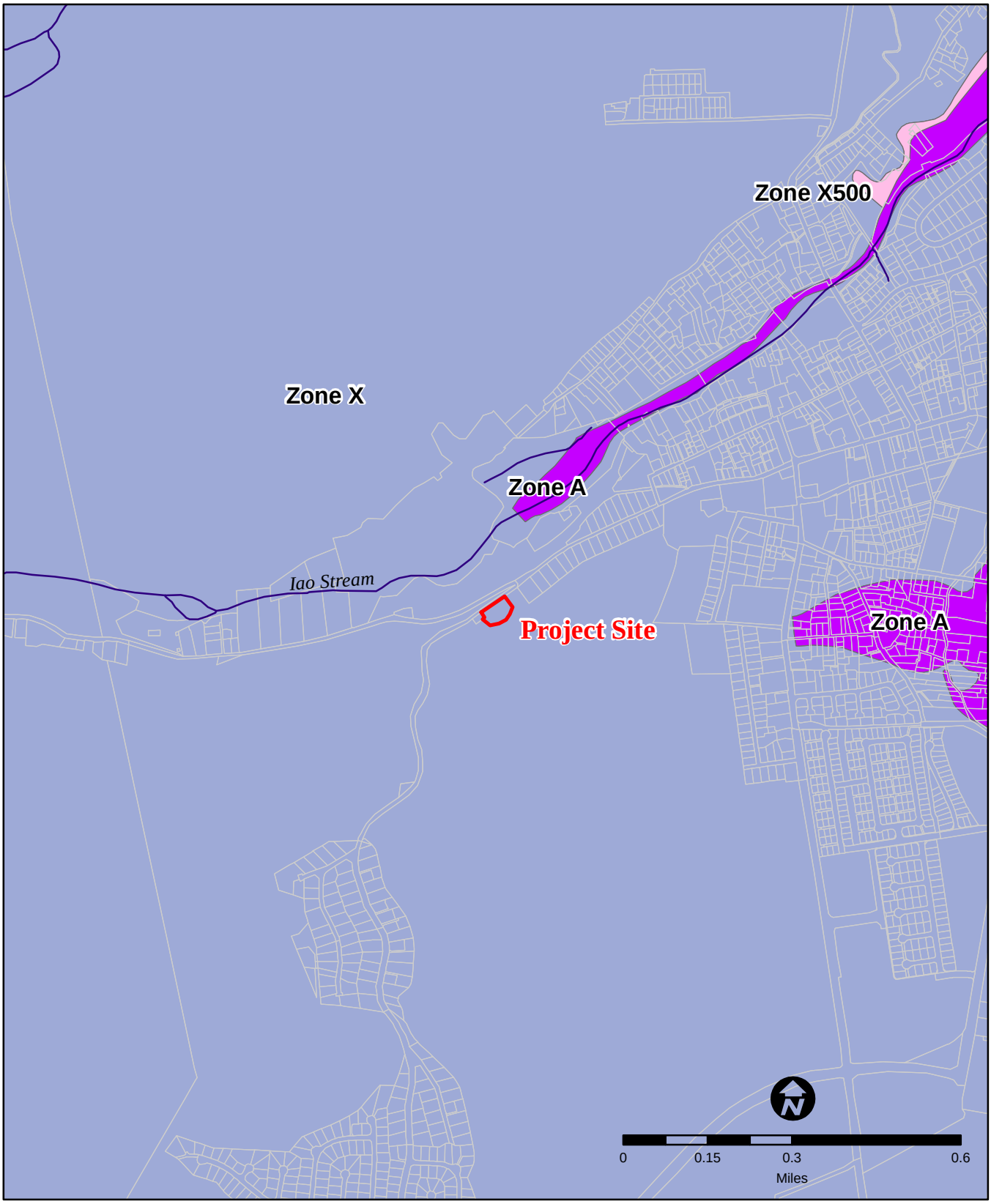
9. Flood and Tsunami

   Iao Stream runs by the project area. The Flood Insurance Rate Map (FIRM), issued by the Federal Emergency Management Agency (FEMA), indicates that the project site is determined to be Zone X, outside of the 100-year floodplain. The proposed project will have no effect on existing flood areas. Figure 11 shows the flood zones for the vicinity of the project site.

   Recent Tsunami Evacuation Maps, as published by the Civil Defense Agency, indicate that the proposed site is not currently in a Tsunami Evacuation Zone. In the event of a tsunami warning, people in all areas within the Tsunami Evacuation Zone must be evacuated and follow additional instructions issued by the Civil Defense Agency.

C. SURFACE WATER QUALITY

The Iao Tank Site Well will withdraw water from the underground freshwater aquifer. Pumping from the deep aquifer will not affect surface water quality.



LEGEND:

- Zone A: 1% Annual Chance/100 Year Floodplain
- Zone X500: 0.2% Annual Chance/500 Year Floodplain
- Zone X: determined to be outside the 1% and 0.2% annual chance floodplains

IAO TANK SITE WELL

FLOOD INSURANCE RATE MAP (FIRM)

COUNTY OF MAUI
Department of Water Supply

Figure 11

D. ARCHAEOLOGICAL AND HISTORICAL CONSIDERATIONS

The Iao Treatment Facility was constructed and connected to the 3.0 MG water tank within the same property at TMK 3-5-01:021. According to the final Environmental Assessment, "*Iao Treatment Facility and Pipeline*," the proposed project site was previously inspected by personnel from the State Historic Preservation Division before the existing water treatment facility was constructed. No historic sites and records were found within the area. (*Reference 9*) If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted.

Current tax maps show no record of Land Commission Awards (LCAs) on the project site. The presence of LCAs is one indicator of native Hawaiian activities or presence in the mid to later half of the nineteenth century. (*Reference 9*)

The Iao Tank site, operated by DWS for years, is fenced to control access for security, public health, and safety. This project will not alter the use of the site, as it will continue to serve as a water service facility. The 1.326 acre tank site has no trails, streams, caves, native plants, or other cultural resources on the site.

E. FLORA AND FAUNA

The site has been previously disturbed. The area is currently covered with various weeds and grass. There is a large monkey-pod tree on the property. The surrounding residential area is planted with fruit trees, vegetable gardens, common landscaping trees, bushes and ornamental plants. No critical or endangered flora is found at the site.

Common animals found in this area are dogs, cats, mongoose and rodents. Typical avifauna found in the area is mynas, sparrows, cardinals, doves, and finches. A few native birds are considered to be endangered in the area. The Hawaiian owl might visit the site, but would spend most of its time further upland. The Golden Plover is another potential visitor to the site. (*Reference 9*)

Since the project site was cleared of tall trees, graded, and fenced, there is no known critical, endangered, or threatened plant and animal habitat on the project site. The plants and animals in the surrounding area will not be affected by the proposed property.

IV. PROBABLE IMPACTS AND MITIGATIVE MEASURES

A. SHORT TERM IMPACTS

Short term impacts are associated with the construction activities at the project site. The impacts are not anticipated to be significant; and will be controlled and minimized by Federal, State, and County of Maui laws, regulations, best management practices, permit requirements and monitoring of construction by County inspectors.

1. Air Quality
   (Clean Air Act, Pub.L. 84-159, as amended)

   There will be a temporary increase in dust, and vehicular and equipment exhaust emissions in the vicinity of the project areas during construction. Dust resulting from construction is anticipated to be minimal. The Contractor will be required to comply with Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control." and Section 11-60.1-33, "Fugitive Dust." Dust control will be maintained by sprinkling with water when needed. Exhaust emission should not have any significant effect on the area because prevailing winds should disperse any exhaust gas concentration.

2. Erosion

   The Contractor will be required to implement erosion and sediment control measures during the construction as appropriate.

3. Surface Water Quality

   No impacts on surface water quality resulting from the construction of this project are anticipated. A National Pollutant Discharge Elimination System (NPDES) permit is not required because the contiguous area to be disturbed by construction activities is less than one acre. In addition, no discharge to navigable waters is anticipated. Through the permitting process, the Contractor will be required to propose construction Best Management Practices (BMPs) for approval.

4. Traffic

   Temporary impacts to traffic may occur during the construction of the improvements. There will be an increase in vehicles entering and exiting the site during construction.

5. Noise

   There will be an increase in noise from the construction activities. However, the work will be limited to normal working hours. The Contractor will be required to comply with the requirements of the Department of Health Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control."

B. LONG TERM IMPACTS

Long term impacts are generally those impacts related to the operation of the proposed development. Appropriate design, and competent, efficient, and effective operations and maintenance will mitigate any potential negative long term impacts associated with the implementation of the project.

1. Water Quality

   a. Surface Water

      The closest possible surface water source is the Iao Stream, which is located approximately 600 feet away. Therefore, no impacts to surface waters are anticipated.

   b. Ground Water
      (Safe Drinking Water Act, Pub.L. 93-523, as amended)

      The Iao Tank Site Well meets the DOH Safe Drinking Water standards. This has been confirmed with the pump and sample testing, and the water quality will continue to be monitored by DWS and DOH to ensure continued compliance.

      In addition, this well will help maintain the lower salinity level of groundwater and prevent conic depressions on the aquifer basal.

2. Agricultural Land
   (Farmland Protection Policy Act, Pub.L. 97-98)

   The Iao Tank Site Well is located on the existing Iao Tank Site. There is adequate area for the well development facilities, and the fenced site will not be expanded.

   The CZO requires that the proposed project is not detrimental to health, safety, peace, morals, comfort and general welfare to the public; does not cause any substantial harmful environmental consequences; and will not be inconsistent with the intent of the General Plan. The proposed project is consistent with the current

use of the area; therefore, the proposed improvement project will not adversely impact its surroundings.

3. Coastal Zone Management
   (Coastal Zone Management Act, Pub.L. 92-583, as amended)

   The proposed project is not located within the coastal zone Special Management Area.

4. Floodplain Management
   (Floodplain Management, Executive Order 11988, as amended by Executive Order 12148)

   The project site is determined to be outside of the 100-year floodplain; therefore, no impact will be anticipated.

5. Flora and Fauna
   (Endangered Species Act, Pub.L. 93-205, as amended and Fish and Wildlife Coordination Act, Pub.L. 85-624, as amended)

   There are no indications of rare or endangered flora or fauna in the project area. The specific project area has already been highly disturbed and developed. Therefore, no negative impacts to existing plants and animals are anticipated.

6. Air Quality
   (Clean Air Act, Pub.L. 84-159, as amended)

   No long term negative impacts on air quality resulting from the proposed project are anticipated.

7. Visual and Auditory Impacts

   The visual impacts of the proposed project area are not expected to be significant. The work will be done in the existing facilities or will be underground.

   Noise conditions from pump operations and maintenance will be typically quiet to moderate. This noise level is estimated to be about 40-45 Dba. However, the project area is surrounded by non-native forest and bush, and there is a difference in elevation between the site and the residential area. The noise impacts are not anticipated to be a problem.

8. Archeological and Historical Sites
   (Archaeological and Historic Preservation Act of 1974, Pub.L. 86-523, as amended and National Historic Preservation Act, Pub.L. 89-665, as amended)

   There is no historically significant structure on the proposed project site. In addition, since the project will be in an area that has been previously disturbed, no adverse effect on significant historic areas or human burials is anticipated. If necessary, construction and the required mitigation plans will be coordinated with the State Historic Preservation Division, the Maui Burial Council and the Office of Hawaiian Affairs, in accordance with the Hawaii Revised Statutes and the Hawaii Administrative Rules, to minimize any long term negative impacts on historic sites.

9. Public Health and Safety

   Public health and safety will be a priority of this project. Monitoring will be conducted to ensure protection of public health and safety. State DOH regulations will be followed; therefore, no public health or safety problems associated with the system improvements are anticipated.

V. ALTERNATIVES TO THE PROPOSED PROJECT

A. NO ACTION ALTERNATIVE

The current County DWS pumping protocol causes an increasing chloride concentration and lifts the freshwater-saltwater transition zone in the aquifer in the localized areas surrounding the existing well sites. The well needs to be developed to distribute the pumping more evenly over the Iao Aquifer. Not doing this project could lead to the long-term degradation of the water source.

B. ALTERNATIVE LOCATION

The proposed project site was selected, based on hydrologic, hydro-geologic, land ownership and availability, and engineering studies. An exploratory well was previously drilled and tested successfully, and this exploratory well will be outfitted and converted into the prototype well. An alternative location would mean abandoning the existing exploratory well and the substantial capital investment already incurred. Therefore, an alternative location has not been considered.

C. ALTERNATIVE WATER SOURCES

1. Increasing Capacity of Water Treatment Facility

One method to increase water availability is to upgrade the capacity of the water treatment facility in the vicinity of the project site. The water diverted into the facility is mainly from the Iao Tunnel intake and diversions, and this surface water requires expensive treatment to satisfy the safe drinking water standards. This alternative would involve expanding the facility and would require frequent maintenance; therefore, this alternative will be more expensive than the proposed project. In addition, the availability of water at the intake and diversions will vary depending on seasonal conditions. The water production will not be as stable as withdrawing water from the basal aquifer. The increase of withdrawals requires an agreement between the owner of the ditch system and the County of Maui.

2. Refurbish Wailuku Shaft

Restoration of the backup pump at the existing Wailuku Shaft was also considered as an alternative. However, due to the length and slope of the shaft, the wells are difficult to access. (*Reference 10*) DWS must acquire the consent of the owner of the Shaft. In addition, this method will not be able to resolve the increasing salinity levels and lifting the freshwater-saltwater transition zone. Therefore, restoring Wailuku Shaft was not considered feasible.

VI. PERMITS AND APPROVALS REQUIRED

Several permits, approvals and clearances may be required for the recommended improvements from the County of Maui and the State of Hawaii.

A. APPROVALS

- State Department of Health
- State Office of Environmental Quality Control
  Environmental Assessment for Iao Tank Site Well
- County of Maui Department of Water Supply
  Environmental Assessment for Iao Tank Site Well

B. PERMITS

- National Pollutant Discharge Elimination System Permit, State of Hawaii, Department of Health (if required by Contractor's construction method)
- Pump Installation Permit, State Commission on Water Resource Management
- Grading, Building, and Electrical Permit, County of Maui Department of Public Works

C. REVIEWS

- State Commission on Persons with Disabilities
  Plans and Specifications conformance with American Disabilities Act

VII. AGENCIES AND ORGANIZATIONS CONSULTED

The following agencies were consulted directly or indirectly during the preparation of this document.

- County of Maui, Department of Water Supply
- State Commission on Water Resource Management
- Department of Business, Economics, Development and Tourism
- County of Maui, Department of Environmental Management
- State Department of Health
- State Department of Land and Natural Resources
- State Department of Park and Recreation
- County of Maui, Department of Planning
- County of Maui, Department of Public Works
- Kehalani Mauka, LLC
- Office of Hawaiian Affairs

VIII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There are several irreversible commitments of resources including land and financial resources to construct capital improvements, and to operate and maintain the well and various controls. Land commitment for the well is minimal. Financial commitment for capital improvements and operations and maintenance are necessary.

The long-term responsibility of the Department of Water Supply to provide adequate water supplies to Central Maui supports the implementation of the proposed project; therefore, the commitment of land, labor, materials, energy, equipment and financial resources that are practically irreversible and irretrievable are warranted.

IX. FINDINGS AND DETERMINATION

A. FINDINGS

Based upon the guidelines and provisions of Significance Criteria listed in §11-200-12 Environmental Impact Statement Rules and Chapter 343, Hawaii Revised Statutes (HRS), the findings of this environmental assessment are:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource:

   Loss or destruction of a natural or cultural resource is not anticipated. The proposed site has already been disturbed during the construction of the existing 3.0 MG tank. As described in this assessment, there was no archaeological finding by the State Historic Preservation Division, and the Maui Island Burial Council. In case of any finding of archaeologically significant resources during construction, mitigation measures will be implemented under instruction from the State Historic Preservation Division.

2. Curtails the range of beneficial uses of the environment:

   The proposed project will enhance management of the groundwater resource and will protect the source for future water demands; therefore, it will enhance the beneficial use of the environment.

3. Conflict with the State's long term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and revisions thereof and amendments thereto, court decisions or executive orders:

   The proposed project is in accordance with the guidelines set forth in the State Environmental Policy Chapter 344, HRS, and the National Environmental Policy Act.

4. Substantially affects the economic or social welfare of the community or State:

   The proposed project will protect the groundwater resources and provide potable water to the expanding communities. To ensure safe drinking water sources will enhance the welfare of the community.

5. Substantially affects public health:

   The new well will provide a new safe drinking water source for the Central Maui Water System, and this is necessary to maintain the public health.

6. Involves a substantial secondary impact, such as population changes or effects on public facilities:

   The proposed project will not encourage new population growth. Substantial secondary impacts are not anticipated by this proposed project.

7. Involves a substantial degradation of environmental quality:

   The proposed project will not involve any substantial degradation of environmental quality. As described in this assessment, the impacts on the environment are generally beneficial, and negative impacts are minimal.

8. Individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions:

   As described in this assessment, the proposed project does not have any significant impacts or effects upon the environment or involve any commitment for larger actions.

9. Substantially affects rare threatened or endangered species, or its habitat:

   There are no identified endangered or critical species of flora and fauna in the vicinity of the project site that would be disturbed.

10. Detrimentally affects air or water quality or ambient noise levels:

    The proposed project will have positive impacts on decreasing salinity levels in the Iao Aquifer by spreading out the withdrawal of groundwater. This project will not detrimentally affect air or water quality, or ambient noise levels.

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 proposed project is not located within any flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater or coastal waters. The proposed project does not detrimentally affect any environmentally sensitive area.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies:

The visual impacts of the proposed project area are not expected to be significant. The work will be done on an existing site, and improvements will be at underground or buried.

13. Requires substantial energy consumption:

    The operation of pumping groundwater requires some energy consumption; however, this is a necessary public utility for the public. The pump and related equipment will be designed to be as energy efficient as possible.

B. DETERMINATION

Based upon the above findings and considerations, the proposed project is not anticipated to have significant adverse environment impacts on the historic sites, coastal waters, local ecology, hydrology and atmosphere. Mitigation measures will be implemented as deemed necessary and as required by the government agencies. A Finding of No Significant Impact (FONSI) determination is anticipated. Therefore, an Environmental Impact Statement is not required.

X. REFERENCES

1. State of Hawaii Commission on Water Resource Management. "Hearings Officer's Findings of Fact, Conclusions of Law, and Decision and Order in the Matter of Water Use Permit Applications For the Iao Ground Water Management Area Basal Source Contested Case Hearing (CCH-MA05-1)." August 11, 2006.

2. U.S. Geological Survey. "The Response of the Iao Aquifer to Ground-Water Development, Rainfall, and Land-Use Practices Between 1940 and 1998, Island of Maui, Hawaii" January 2001.

3. Water Resource Associates. "Results of Drilling and Testing – Iao Tank Exploratory Well (5230-03) Wailuku, Maui, Hawaii" January 2006.

4. State of Hawaii Commission on Water Resource Management. "Consultation for Draft EA – Iao Tank Site Pump Installation (Well No. 5230-03)" June 4, 2008.

5. Maui County Council. Wailuku-Kahului Community Plan (2002). 2002.

6. Commission on Water Resource Management & Department of Land and Natural Resources, State of Hawaii. Maui County Water Use and Development Plan. February 1992.

7. County of Maui, Department of Planning. Maui General Plan 1990. <http://www.co.maui.hi.us/departments/Planning/generalPlan1990.htm>

8. Department of Health. Hawaii's Water Quality-Limited Waters: The 1997 Assessment 1997.

9. Maui County Board of Water Supply. Final Environmental Assessment "Iao Treatment Facility and Pipeline" June 1997.

10. Maui County Board of Water Supply. Final Environmental Assessment "Iao Tank Exploratory Well" December 2003.

APPENDIX A
AGENCY COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT

LINDA LINGLE
GOVERNOR OF HAWAII

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

RECEIVED
LAND DIVISION
2008 MAY -6 P 3:32
DEPT OF LAND & NATURAL RESOURCES STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 2, 2008

MEMORANDUM

RECEIVED '08 MAY -6 A10:51 FORESTRY & WILDLIFE STATE OF HAWAII

TO: **DLNR Agencies:**
_x_ Div. of Aquatic Resources
___ Div. of Boating & Ocean Recreation
___ Engineering Division
_x_ Div. of Forestry & Wildlife
___ Div. of State Parks
_x_ Commission on Water Resource Management
___ Office of Conservation & Coastal Lands
_x_ Land Division – Maui District

FROM: Morris M. Atta
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development
LOCATION: Maui, Hawaii: TMK: (2) 3-5-001:021
APPLICANT: County of Maui, Department of Water Supply

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 21, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

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

Signed:
Date:

PAUL J. CONRY, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE
MAY - 6 2008

cc: Central Files

LINDA LINGLE
GOVERNOR OF HAWAII

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

RECEIVED
MAUI DISTRICT
LAND DIVISION
2008 MAY -6 PM 12:48

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 2, 2008

MEMORANDUM

TO: **DLNR Agencies:**
_x_ Div. of Aquatic Resources
___ Div. of Boating & Ocean Recreation
___ Engineering Division
_x_ Div. of Forestry & Wildlife
___ Div. of State Parks
_x_ Commission on Water Resource Management
___ Office of Conservation & Coastal Lands
_x_ Land Division – Maui District

FROM: Morris M. Atta
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development
LOCATION: Maui, Hawaii: TMK: (2) 3-5-001:021
APPLICANT: County of Maui, Department of Water Supply

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by May 21, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

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

Signed: _____
Date: 5/7/08

cc: Central Files

CHARMAINE TAVARES
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

May 8, 2008

Mr. Andrew L. Amuro, Engineer
FUKUNAGA & ASSOCIATES, INC.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814

Dear Mr. Amuro:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR DRAFT ENVIRONMENTAL ASSESSMENT FOR IAO TANK SITE WELL DEVELOPMENT

We reviewed the subject application and have the following comment:

1. Obtain all necessary building permits.

Please call Michael Miyamoto at (808) 270-7845 if you have any questions regarding this letter.

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

MMA:MMM:ls
xc: Highways Division
Engineering Division
S:\LUCA\CZM\Preconsult_lao_tank_well_dev_dea_35001021_ls.wpd

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2008 MAY 21 A 10: 21
DEPT. OF LAND
NATURAL RESOURCES
STATE OF HAWAII

LAURA H. THIELEN
CHAIRPERSON

MEREDITH J. CHING
JAMES A. FRAZIER
NEAL S. FUJIWARA
CHIYOME L. FUKINO, M.D.
DONNA FAY K. KIYOSAKI, P.E.
LAWRENCE H. MIIKE, M.D., J.D.

KEN C. KAWAHARA, P.E.
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

May 19, 2008

REF: IaoTankPIP.EA

TO: Morris Atta, Acting Administrator
Land Division

FROM: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Iao Tank Site Well (5230-03) Pump Installation DEA

FILE NO.: TMK: (2) 3-5-001:021

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at *http://www.hawaii.gov/dlnr/cwrm*.

Our comments related to water resources are checked off below.

☒ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM: Additional information and forms are available at *www.hawaii.gov/dlnr/cwrm/forms.htm*.

☐ 4. The proposed water supply source for the project is located in a designated ground-water management area, and a Water Use Permit is required prior to use of ground water.

☐ 5. A Well Construction Permit(s) is (are) required before the commencement of any well construction work.

☒ 6. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 7. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 8. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 9. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.

☐ 10. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.

☐ 11. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 12. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☐ 13. We recommend that the report identify feasible alternative non-potable water resources, including reclaimed wastewater.

☒ OTHER:

The well construction permitting portion of this project is complete. The DEA step precedes application for the pump installation permit. This well is proposed to shift current pumpage from the Wailuku Shaft to other wells to reduce concentrated pumping effects in this portion of the basal aquifer. A water use permit has been approved for 0.498 mgd from this well.

If there are any questions, please contact Charley Ice at 587-0251.

Cl:ss

LINDA LINGLE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 22, 2008

Fukunaga & Associates, Inc.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, HI 96814

Attention: Mr. Andrew L. Amuro, Engineer

Dear Mr. Amuro:

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development; Maui, Hawaii; TMK: (2) 3-5-001:021

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (a) Engineering, (b) Forestry & Wildlife, (c) Commission on Water Resources, and (d) Maui District office of the Land Division on the subject matter. Should you have any questions, please feel free to call my office at 587-0433. Thank you.

Sincerely,

Morris M. Atta
Administrator

Enclosure(s)

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/
Ref.: DEA Pre-consultation Letter for Iao Tank Site Well Development Project Maui.005

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone ___.

(X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM) with Community-Panel No. 150003 0170 B, dated June 1, 1981, is located in Zone C. The National Flood Insurance Program does not have any regulations for developments within Zone C.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
ERIC T. HIRANO, CHIEF ENGINEER

Date: 5/2/08

CHARMAINE TAVARES
Mayor

TAMARA HORCAJO
Director

ZACHARY Z. HELM
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

May 21,2008

Fukunaga & Associates Inc
Attention: Andrew L. Amuro
1388 Kapiolani Blvd 2nd floor
Honolulu, Hawaii 96814

Dear Mr. Andrew L. Amuro

Subject: Pre Assessment Consultation for Draft Environmental Assessment - Iao Tank Site Well Development

We have reviewed the Pre Assessment Consultation for Draft Environmental Assessment - Iao Tank Site Well Development , and we have no comments or objections to the subject project.

Thank you for the opportunity to comment. Please contact me or Patrick Matsui, Chief of Planning and Development, at 270-7387 if there are any questions.

Sincerely,

For TAMARA HORCAJO
Director, Parks & Recreation

xc: Patrick Matsui, Chief of Planning & Development

TH:PM:ak

PHONE (808) 594-1888 FAX (808) 594-1865

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

HRD08/1395B

May 22, 2008

Andrew Amuro, Engineer
Fukunaga & Associates, INC.
1388 Kapi'olani Blvd., 2nd Floor
Honolulu, Hawai'i 96814

RE: Request for comments on the pre-assessment consultation for a Draft Environmental Assessment (DEA), proposed I'ao tank site well development project Maui, TMK: 3-5-01:21.

Aloha e Andrew Amuro,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated April 28, 2008. OHA has reviewed the project and offers the following comments.

OHA realizes that in Hawai'i water is a source of wealth, the law and life. Water is also an integral part of our culture, and is a kinolau or bodily manifestation of the divine. Water in the western sense is known as a public trust resource and under the Hawai'i Constitution, article XI, section 1, creates a burden for those who want to use it. For such persons, they must demonstrate that their use will not significantly harm the resource, or if it will harm it, that the proposed use is consistent with the purposes of the trust. Further, the public trust doctrine deems "Native Hawaiian and traditional and customary rights" as public trust purposes.[1]

As such, OHA looks forward to reviewing this proposal and providing comments on all of the potential impacts to our beneficiaries that may present themselves and also hoping to better shape this proposed project, should it go forward.

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold (808) 594-0263 or e-mail him at granta@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Administrator

C: OHA Maui CRC Office

[1] In re Waiahole Ditch Combined Contested Case Hearing, 94 Haw. at 137, 9 P.3d at 449.

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793

May 23, 2008

Mr. Andrew Amuro
Engineer
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

SUBJECT: IAO TANK SITE WELL DEVELOPMENT
EARLY CONSULTATION DRAFT EA
TMK (2) 3-5-001:021, WAILUKU, MAUI

Dear Mr. Amuro,

We reviewed the subject project as a pre-application consultation and have the following comments:

1. Solid Waste Division comments

   a. None.

2. Wastewater Reclamation Division comments:

   a. None.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

Cheryl K. Okuma

Cheryl Okuma, Director

MEMORANDUM

To: Morris Atta
Land Division

From: Dan Polhemus
Aquatic Resources

Subject: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development

We have no objections ☐

We have no comments ☐

Comments are attached ☑

Date: 6-2-08

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawai'i 96793
May 28, 2008

To: Alton Miyasaka & Richard Sixberry, Aquatic Biologists

From: Skippy Hau, Aquatic Biologist

Subject: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development (DAR 1603) TMK: (2) 3-5-001:021

(Received on May 20, 2008; Comments to Morris Atta (Land) by May 21, 2008)

The Iao Tank Site Well was completed in September 2005. What is the sustainable quantity of water that can be produced from this well? During the testing of this well, was there any impact on the flow in 'Iao Stream? Will this water be mixed with surface treated water?

Please identify all of the wells in the Iao watershed. Current levels of pumping do not appear to be sustainable.

In my personal observations since the mid1980s, the stream appears to be decreasing and water appears to be standing in certain locations of the stream by Kepaniwai Park. At one time there was a waterfall above the debris basin. Stream flow is intermittent in that part of the stream.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

June 4, 2008

Mr. Andrew Amuro
Fukunaga & Associates, Inc.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, HI 96814

Dear Mr. Amuro:

Consultation for Draft EA
Iao Tank Site Pump Installation (Well No. 5230-03)

Thank you for your request dated April 28, 2008, for comments on the captioned well.

As noted in your letter, the well construction phase is successfully completed. Maui Department of Water Supply (MDWS) has yet to apply for a pump installation permit, which we would expect to follow successful completion of the HRS Chapter 343 requirements.

This project is intended to begin the replacement of Wailuku Shaft, a major source of drinking water that poses safety concerns for operators and creates drawdown concerns in the basal aquifer in the Iao Aquifer System Area. New wells may be spaced to spread the total pumpage and better protect the aquifer from localized overpumpage.

The MDWS is currently operating its basal wells in the Iao Aquifer within the amounts approved as existing as of July 21, 2003, the date when the Iao Aquifer System Area was designated a ground water management area. MDWS may transfer allocations among Iao basal wells so long as there is no net increase in overall water withdrawals approved so far. Well sources in the Iao Aquifer, other than the Iao Tank Site Well, have already applied for and had approved such changes, showing the proposed changes among all Iao wells in tabular form and reflecting no net increase in the total pumpage from Iao. The Iao Tank Site Well may pump up to 0.498 mgd, as a 12-month moving average, under Water Use Permit No. 823, issued on November 26, 2007.

As pumpage is spread more optimally between well sources in Iao, MDWS may make application for increased total pumpage from Iao, in the form of "new uses" – those arising after the date of designation. The total approved use from basal sources in Iao, including amounts for Kehalani Mauka and Living Waters, is 17.709 mgd, which is less than the accepted sustainable yield from Iao of 20 mgd.

If you have any questions, please contact Charley Ice of our staff at 587-0251.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

CI:ss

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793

June 4, 2008

Mr. Andrew Amuro
Engineer
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

SUBJECT: IAO TANK SITE WELL DEVELOPMENT
EARLY CONSULTATION DRAFT EA
TMK (2) 3-5-001:021, WAILUKU, MAUI

Dear Mr. Amuro,

We reviewed the subject project as a pre-application consultation and have the following comments:

1. Solid Waste Division comments

   a. None.

2. Wastewater Reclamation Division comments:

   a. None.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

for Cheryl Okuma, Director

LINDA LINGLE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 5, 2008

Fukunaga & Associates, Inc.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, HI 96814

Attention: Mr. Andrew L. Amuro, Engineer

Dear Mr. Amuro:

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Iao Tank Site Well Development; Maui, Hawaii; TMK: (2) 3-5-001:021

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

In addition to the comments previously sent you, enclosed are comments from the Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call my office at 587-0433. Thank you.

Sincerely,

Charlene E. Unoki
for Morris M. Atta
Administrator

Enclosure