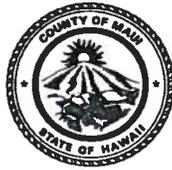


ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Acting Director

PAUL J. MEYER
Deputy Director

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

FEB 08 2011

January 11, 2011

Ms. Katherine Kealoha, Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

Subject: Finding of No Significant Impact
Lower Paia Water Tank Replacement
TMK: (2) 2-5-005:058, Paia, Maui, Hawaii

The County of Maui, Department of Water Supply has reviewed the Final Environmental Assessment and comments received on the Draft Environmental Assessment during the 30-day public comment period which ended on December 8, 2010. The Department has determined that this project will not have significant environmental impacts and has issued a Finding of No Significant Impact. Please publish notice in the next available OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and one (1) copy of the document in pdf format on a CD; and one (1) hardcopy of the Final EA.

If you have any questions, please call Curtis Eaton, P.E. of our Engineering Division at (808) 270-7835 or email Curtis.Eaton@co.maui.hi.us.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Taylor", is written over a horizontal line.

DAVID TAYLOR, P.E.
Acting Director

CE:pf

Enclosures

"By Water All Things Find Life"

The Department of Water Supply is an Equal Opportunity provider and employer.

LOWER PAIA TANK REPLACEMENT FINAL ENVIRONMENTAL ASSESSMENT

DWS JOB NUMBER 09-09 A

PAIA, MAUI, HAWAII

TMK: (2) 2-5-005:058

DECEMBER 2010

Prepared By:

County of Maui
Department of Water Supply
Wailuku, Maui, Hawaii

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LOWER PAIA TANK REPLACEMENT
FINAL ENVIRONMENTAL ASSESSMENT
PAIA, MAUI, HAWAII

EXECUTIVE SUMMARY

Applicant: County of Maui, Department of Water Supply

Type of Document: Final Environmental Assessment

Legal Authority: Chapter 343, Hawaii Revised Statutes

Agency Determination: Finding of No Significant Impact (FONSI)

Applicable Environmental Assessment Review “Trigger”:

Use of Public Land and Funds.

Location: TMK: (2) 2-5-005:058

Accepting Authority: Department of Water Supply
County of Maui
200 South High Street
Wailuku, Maui, Hawaii
Contact: Mr. Herbert Chang
Phone: 808-270-7835

Prepared By: Department of Water Supply
County of Maui
200 South High Street
Wailuku, Maui, Hawaii
Contact: Curt Eaton, P. E.
Phone: 808-270-7835

Project Summary: The County of Maui, Department of Water Supply (DWS) proposes to construct a new 300,000 gallon glass lined steel water tank within the fenced site of

the existing 100,000 gallon glass lined steel Lower Paia water tank (TK32.) The existing tank will be removed. The increased capacity, combined with the 300,000 gallon Paia Tank (TK33) will provide a combined volume of 600,000 gallons. The new tank will be constructed of glass lined steel. The dimensions of the new tank will be nearly the same height as the existing tank of 19.26-feet (plus an additional 7367-feet for the domed roof) and a diameter of 53.15-feet. The tank will be located at nearly the same location as the existing tank. Site improvements, such as grading and paving, will be minimal.

INTRODUCTION

PROJECT OVERVIEW

The project is located on Baldwin Avenue, across from the Skil Village subdivision and the Paia Gym. The Maui County Department of Water Supply (DWS) is proposing removal of the existing 100,000 gallon Lower Paia water and replacing it with a new 300,000 water tank. The existing site has an area of 0.397 acres. The Tax Map Key (TMK) is (2) 2-5-005:058.

The existing 100,000 gallon tank is a glass lined steel tank. It is approximately 25-years old. The bottom elevation of the existing tank is 267-feet. Also located on the site are a pump station, pressure regulating valve, a concrete slab where an engine generator was, and a motor control center. None of these items will be replaced. However some improvements may be required.

To make room for the new tank, a 72,000 gallon temporary tank will be constructed and then removed after the new tank is put on-line. Electrical control will be similar to what is being used now. No electrical or telemetry modifications will be required, other than the connection of the control lines from the new transmitter for the new tank to the existing motor control center.

The time line for the project will be 9 months to a year.

The cost of the proposed project is \$1,013,000.

PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

Hawaii Revised Statutes (HRS) section 343-5 requires an Environmental Assessment when a project will “Propose the use of State or County lands or the use of State or County funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies.” Since the project will be constructed on land owned by the County, and the construction will be paid for by County, State and/or Federal funds, an EA for this project is required.

PURPOSE AND NEED FOR THE PROJECT

The purpose of this project is to improve the current capacity of the Paia water system. The existing 100,000 gallon tank does not provide the capacity for domestic and fire flow. Together with the Upper Paia Tank (TK33) a total of 600,000 thousand gallons of capacity will be available.

The Paia area has two separate service areas, Skil Village which is served by the 300,000 gallon Upper Paia Tank. The rest of the Paia area, ranging makai of

Skil Village to Paia Town and from Baldwin Beach to Hookipa Park is served by the 100,000 gallon Lower Paia Tank. The existing Lower Paia tank does not have the capacity required for basic fire protection. Currently, the 2002 Water System Standards (the manual) states that fire protection for Downtown Business is 2000 gallons per minute for 2 hours. That equates to 240,000 gallons required for fire protection only.

The Department of Water Supply's Annual reports for fiscal years beginning July 1, 1999 to June 30, 2009, shows the number of connections and the yearly consumption for the Paia-Kuau District to range from 143,698,000 (1999) to 163,313,000 gallons (2004) and back down to 150,937,000 (2008). The average over those ten years is 158,168,000 gallons per year. Using the average of the yearly consumption for the past 10 years, the average daily consumption is 433,337 gallons per day. The maximum Daily Demand is defined to be 1.5 X Average Day which is 650,006 gallons per day. According to section 111.07 of the manual, a reservoir shall be sized by one of three methods. Using method #1, it shall "Meet maximum day consumption."

The Draft Maui Island Plan projects the population of the Paia-haiku area will raise from 12,128 in 2010 to 13,151 in 2030. An increase of 8.44%.

During construction of the new tank, a 72,000 gallon temporary will be erected to serve Paia. This is slightly smaller than the existing tank, however, space and elevation constraints limits the size of the temporary tank.

The source of the water for the Paia area is deep wells in Waiehu and Waihee. From there the water flows through pipes under Waiehu Beach Road, through Maui Community College, under the Kahului Airport, and to the Paia golf course. From the golf course, the water is pumped to the Lower Paia Tank. The Lower Paia Tank serves Paia as earlier described by gravity flow. However, from the Lower Paia Tank, booster pumps on the tank site pump water up to the 300,000 gallon Upper Paia Tank. The upper tank only serves Skil Village. There are valves on the lower tank site that will allow for the upper tank water to be routed to Paia Town in the event of emergency. These valves need to be operated by hand.

DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES.

LAND USE

Existing Conditions

The project is located in an agricultural area south-east of Paia on Baldwin Avenue. The property has an area of 0.397 acre and is owned by Maui County. The property is surrounded by an agricultural property on its north, east, and south sides. The west side of the property is bounded by Baldwin Avenue, with the Skil Village subdivision and Paia Gym on the west side of Baldwin Avenue.

The current land use designations are:

State Land Use: Agriculture

Paia-Haiku Community Plan: Single Family Residential

County Zone: Interim

Other: Located outside of the Special Management Areas.

Potential Impacts and Mitigation Measures

The proposed action involves removing an existing water storage tank and construction a new one in virtually the same place. The diameter of the new tank is 22.38-feet larger than the existing tank; however, it will have the same height. It will be located on the site such that grading will be minimized while providing adequate access around the tank. With the construction of a new tank at the location of the existing tank in an area surrounded by agricultural use, it is not anticipated to have an adverse effect on nearby land uses.

CLIMATE, TOPOGRAPHY, AND SOILS

Like most areas of Hawaii, Maui's climate is relatively uniform year-round. The coolest months on Maui are December and January. The hottest and more humid months are August and September. The region's tropical latitude, its position relative to storm tracks and the surrounding ocean combine to produce a stable climate. Variation in climate among different regions on Maui is largely due to local terrain.

Average temperatures at Kahului Airport range from 60 Degrees (F) in February to 80 degrees in August. Rainfall averages approximately 20 inches per year. Winds predominantly blow north to northeast.

Elevation at the project site is approximately 267-feet. Prior to construction of the existing tank, the property sloped toward Paia at approximately 6-percent. To develop the site, removal of earth was required. Thus in the vicinity of the tank and 14-feet around the tank, the site is virtually flat. The cut slopes have a maximum slope of 50%, 2 horizontal to 1 vertical.

According to information published by the U.S Soils Conservation Service, the area soils belong to the Paia Silty Clay series. The Paia series formed from weathered basic igneous rock and some volcanic ash. The soil is well drained with slow to medium runoff and moderate permeability. The Paia series is naturally high in plant nutrients and is mildly alkaline.

Potential Impacts and Mitigation Measures

The proposed project will not have any adverse impacts on microclimates.

Grading will be kept to a minimum. Less than 500 cubic yards of material will be removed. The topographic character of the site will not be substantially altered nor will there be any change in soil composition.

FLOOD AND TSUNAMI HAZARDS

Existing Conditions

The National Flood Insurance Program prints Flood Insurance Rate Maps (FIRMS) showing areas of flooding. The property is located within panel 1500030408E, revised September 25, 2009. The area is mapped in Flood Zone X, an area determined to be outside the 0.2% annual chance flood plain. Also, the elevation keeps the site safe of tsunamis.

Potential Impacts and Mitigation Measures

The proposed action involves the installation of a water storage tank within an area of minimal tsunami inundation. Appropriate drainage mitigation measures will be implemented. No adverse impact to flood conditions is anticipated.

FLORA AND FAUNA

Exiting Conditions

Due to the agricultural and residential nature of the surrounding areas, animal life in the vicinity consists of domesticated and stray dogs and cats. Wild life consists of mongooses and occasional deer.

There are no known species of rare or endangered wildlife or avian species in the project vicinity. The project area is currently vegetated with introduced grass species and weeds. There are no known rare or endangered flora species in the project vicinity.

Potential Impacts and Mitigation Measures

The project will not impact flora and fauna in the vicinity.

STREAMS AND WETLANDS

Existing Conditions

According to the United States Department of the Interior, Fish and Wildlife Service, National Wetland Inventory Map, there are a couple of wetland features in the vicinity of the project site. They are classified as Fresh Water Ponds.

These ponds are located either mauka of the site or makai of an irrigation ditch that is makai of the site. Thus all mapped wetlands in the vicinity of the site are isolated from the site by topographical features and will not be impacted by the construction activities on the site.

Potential Impacts and Mitigation Measures

The size and scope of the project will not affect any of the surrounding wetland features. All drainage will be captured and conveyed in its current patterns.

Onsite runoff will be captured by an existing onsite catch basin. The onsite catch basin drains into the storm system in Baldwin Avenue. This water is then routed through the Skil Village subdivision, piped approximately 3200-feet under a cane field in a 60-inch diameter pipe, and then discharged into Kailua Gulch. The discharge from the 60-inch pipe will then flow in Kailua Gulch approximately 1.3 miles before flowing into the Pacific Ocean. Any increase to runoff created from the increased impervious area will be very minimal and conveyed to the Pacific Ocean.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

Existing Conditions

The subject property is located on a parcel that has been disturbed during construction of the existing tank and appurtenances. There are no known materials of archaeological significance on the property.

Potential Impacts and Mitigation Measures

No impact to archaeological resources is anticipated. However, in the event anything of cultural and/or historic significance is found during construction, all work will cease and the appropriate authorities will be contacted for determination of appropriate mitigation.

CULTURAL RESOURCES

Existing Conditions

Current tax maps shows that this area was deeded to the Oahu College on January 30, 1860. The same tax map shows a Land Grant Award 11216:27. This LCA is located south-west of Skil Village, and that the south-west boundary of Skil Village is a portion of the boundary of the LCA. An LCA is an indicator of

native Hawaiian activities or presence in the mid to later half of the nineteenth century. There are no trails, streams, caves, native plants, or other cultural resources on the site.

Potential Impacts and Mitigation Measures

No impact of cultural resources is anticipated as a result of the proposed project. The site has been under control of the Department of Water Supply for at least 25 years when the existing tank was built. The land will stay under control of the Department.

SCENIC AND OPEN SPACE RESOURCES

Existing Conditions

The existing tank is located approximately 1.33 miles south-east of the center of Paia on Baldwin Avenue. The site is surrounded by vacant agricultural lands on 3 sides and Baldwin Avenue on the west. The Skil Village subdivision is on the west side of Baldwin Avenue. The proposed tank will be the same height as the existing tank and only 22.38-feet larger in diameter. The existing views will remain the same for the residences in Skil Village and the view from Baldwin Avenue will remain since a person would be in a moving vehicle.

Potential Impact and Mitigation Measures

The new tank will not affect the scenic character of the region. As mentioned before, the height will be the same as the existing tank and the width will be slightly increased.

PUBLIC SERVICES

Existing Conditions

The County of Maui's Police Department headquarters is located in Wailuku. There are four patrol districts on the island of Maui: Wailuku, Lahaina, Hana, and Kihei districts. The project is located in the Makawao district.

Fire protection services are provided by the County Department of Fire and Public Safety. The Department provides fire and emergency services to the islands of Maui, Lanai, and Molokai from 14 fire stations and a fire prevention office. The project area is serviced by the Paia Fire Station located at 179 Hana Highway, in Paia.

Maui Memorial Medical Center is currently the only major medical facility on the island. Acute, general, and emergency care services are provided by the facility.

In addition, there are private medical and dental clinics to service residents of Paia, Makawao, and Pukalani.

Single family solid waste collection service is provided twice weekly by the County of Maui. Residential solid waste is disposed of at the County's Central Maui landfill, located in the Puunene region, adjacent to Ameron Hawaii's rock quarry site. Commercial waste collected by private collection companies is also disposed of at the County landfill.

The main recreation facility found in the vicinity is the Pacific Ocean. Baldwin Beach and Hookipa Beach provide excellent recreational opportunities.

The site is located within the State of Hawaii, Department of Education schools Kekaulike complex. Schools within this complex are Haiku Elementary, Kalama Intermediate, Kekaulike High, Kula Elementary, Makawao Elementary, Paia Elementary, and Pukalani Elementary. There are also various private schools in the area.

Maui Community College in Kahului, which is a branch of the University of Hawaii system, offers higher education programs.

Potential Impacts and Mitigation Measures

The proposal will not impact public services. The proposed use will be the same as the existing.

SOCIO-ECONOMIC ENVIRONMENT

Existing Conditions

Maui County has experienced considerable growth in recent years. Between 2000 and 2005, the U. S. Census estimates that Maui's resident population increased from 117,644 to 129,471; and projects a population of 135,838 in 2010, and 176,687 in 2030. In the Paia-Haiku Community Plan area, the population and population estimates are 11,866 in the year 2000, 12,210 in 2005, 12,128 in 2010, and 13,151 in 2030. (Draft Maui Island Plan, December 2009).

Potential Impacts and Mitigation Measures

The project will not have a significant impact on population or economy due to the project's limited size, scope, and use.

INFRASTRUCTURE

Existing Conditions

The project is accessed from Baldwin Avenue, a two-lane, two way State road way. The speed limit on Baldwin Avenue is 30 miles per hour and 20 miles per hour during school hours.

A sanitary sewer line extends up Baldwin Avenue from Paia to the Skil Village subdivision. However, the line does not front the site. Wastewater generating facilities do not exist on the project site.

The existing 100,000 gallon tank serves Paia excluding Skil Village, east to Hookipa Park, and west to Baldwin Park. The new tank will replace the existing tank and serve the same area.

The existing drainage pattern from the site includes an interceptor ditch on the south side of the parcel that conveys offsite runoff around the tank. The tank and paved access drainage is captured in a concrete swale surrounding the access road. This water is conveyed to a catch basin on site and then piped to the existing storm line in Baldwin Avenue. This drainage concept will be maintained and modified as needed to accommodate the larger tank.

Electrical service is provided by Maui Electric Company. There is no telephone service on site.

Potential Impacts and Mitigation Measures

The proposed tank will not impact traffic flow on local roadways in the vicinity of the project site. Currently, DWS personnel conduct monitoring and maintenance

operations at the site twice daily. The new tank will not result in any increase in this requirement. There will not be any increase in traffic due to this project.

The proposed water tank will enhance the existing water system by increasing the water available for domestic and fire flow. Also on site are booster pumps that lift water up to the Upper Paia Tank. The proposal will reduce the cycle time for these pumps.

The proposed action will not have a negative impact on the waste water system since wastewater service is not available on site and that there will not be wastewater generated on site.

The increase of runoff to the Baldwin Avenue drainage system will be negligible. The runoff to the adjacent property will remain the same.

CUMULATIVE AND SECONDARY IMPACTS

A cumulative impact is defined as an impact to the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Actions such as those that involve the construction of public facilities or infrastructure stimulate secondary impacts, such as population growth and increased demands for public services and infrastructure.

The proposed tank replacement project is intended to meet existing water system needs. The proposed project is not a part of a larger water system development proposal.

RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

STATE LAND USE DISTRICTS

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four (4) major use districts in which all lands in the State are placed. These districts are designated as Urban, Rural, Agricultural, and Conservation. The site is located in the Agricultural district. Water tanks are permitted in Agricultural districts.

MAUI COUNTY GENERAL PLAN

The Maui County General Plan (1990 update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter, the General Plan:

“... shall indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain the opportunities and the social, economic, and environmental consequences related to the potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to

be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density, land use maps, land use regulations, water and sewage systems, visitor destinations, urban design, and other matters related to development.”

The proposed action is in keeping with the following General Plan Water objectives and policies:

Objective:

To provide an adequate supply of potable and irrigation water to meet the needs of Maui County’s residents.

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 Use Development Plan provisions for the applicable community plan area.
- (B) Support the Board of Water Supply in its determination of future water needs consistent with

the General Plan, Community Plans, and the growth management strategy.

Objective:

To make more efficient use of our ground, surface, and recycled water sources.

Policy

(A) Maximize use of existing water sources by expanding storage capabilities.

The proposed action is in keeping with the following General Plan Public Utilities and Facilities objectives and policies:

Objective:

Improve the quality and availability of public facilities throughout Maui County.

Policy:

Seek improvement in the maintenance and operation of public facilities.

The proposed action is in keeping with the following General Plan Government objectives and policies:

Objective:

Improve the delivery of services by government agencies to all community plan areas.

Policy:

Insure that necessary services not provided by the private sector are made available by government.

PAIA – HAIKU COMMUNITY PLAN

Within Maui County there are nine Community Plan regions. From a General Plan implementation standpoint, each region is governed by a Community Plan which sets forth desired land use patterns, as well as goals, objectives, policies, and implementing actions for a number of functional areas including infrastructure-related parameters. The subject property is located within the Paia – Haiku Community Plan region.

The Community plan in which the site is located currently designates the site as Agricultural. The proposed project is permitted in this designation and is consistent with the current use.

Applicable goals, objects, and actions for water in the Paia – Haiku Community Plan are:

Goal:

1. Increase water storage capacity with a reserve for drought periods.
2. Ensure that adequate water capacity is available for domestic and agricultural needs of the region.
3. Ensure that the development of new water sources does not adversely affect in-stream flows.

4. Continue the conversion to drip irrigation in sugar cane fields, provided that the practice complies with soil conservation standards.
5. Improve the existing potable water distribution system and develop new potable water sources prior to further expansion of the State Urban District Boundary or major subdivision of land in the State Agricultural or Rural Districts.
6. Ensure adequate supply of groundwater to residents of the region before water is transported to other regions of the island.

Implementing Actions

1. Prepare or update a water improvement master plan for the Paia - Haiku region to be incorporated as a functional component of the Community Plan.
2. Update the County's Water Use and Development Plan and estimated water use for the Paia – Haiku region based on the adopted Community Plan. And include a reserve capacity for drought conditions.
3. Develop a comprehensive agricultural water system, including the use of recycled water and a dual water system for domestic and irrigation uses.
4. Provide incentives for water conservation practices.

COUNTY ZONING

The site is zoned Agricultural by the County. The proposed tank use is permitted in this zone.

COSTAL ZONE MANAGEMENT AREA OBJECTIVES AND POLICIES

Pursuant to Chapter 205A, Hawaii Revised Statutes, projects are evaluated with respect to Costal Zone Management (CMZ) objectives, policies, and guidelines. It should be noted that although the subject property is not located within the County of Maui's Special Management Area (SMA), the project's relationship to applicable coastal zone management considerations has been reviewed and assessed.

Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

- (A) Improve coordination and funding of coastal recreational planning and management; and
- (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
 - (i) Protection coastal resources uniquely suited for recreational activities that cannot be provided in other area;

- (ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development: or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;
- (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shore lines with recreational value;
- (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
- (v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
- (vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

- (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and
- (viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the Land Use Commission, Board of Land and Natural Resources, and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS.

Response:

The subject property is located inland, away from the coastline. The proposed action is not, therefore, anticipated to adversely impact existing coastal recreational resources.

Historic Resources Objective:

Objective:

Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

- (A) Identify and analyze significant archeological resources;
- (B) Maximize information retention through preservation of remains and artifacts of salvage operations; and
- (C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Response:

There are no known historic deposits or any items of cultural significance which would be affected by the proposed project. In accordance with Section 6E-43.6, Hawaii Revised Statutes, and Chapter 13-300, Hawaii Administrative Rules, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DNLR) will be contacted.

Scenic and Open Space Resources

Objective:

Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

- (A) Identify valued scenic resources in the coastal zone management area;

- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
- (D) Encourage those developments that are not coastal dependent to locate in inland areas.

Response:

The project site is not located within a significant coastal view corridor. The proposed action is not anticipated to have an adverse impact on shoreline views or open space resources.

Coastal Ecosystems

Objective:

Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

- (B) Improve the technical basis for natural resource management;
- (C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance.
- (D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
- (E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Response:

Appropriate soil erosion and drainage control measures will be implemented during construction, in order to minimize disruption to downstream coastal water ecosystems. In light of the location of the project, and limited scope and scale of the proposed action, adverse impact on coastal ecosystems is not anticipated.

Economic Uses

Objective:

Provide facilities and improvements important to the State's economy in suitable locations.

Policies:

- (A) Concentrate coastal dependent development in appropriate areas:
- (B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and
- (C) Direct the location and expansion of coastal dependent developments and permit reasonable long-term growth in such areas and permit coastal dependent development outside of presently designated areas when:
 - (i) Use of presently designated locations is not feasible;
 - (ii) Adverse environmental effects are minimized; and
 - (iii) The development is important to the State's economy.

Response:

While short-term employment opportunities during project construction will be generated, there should be no significant adverse economic impacts associated with the proposed project. The proposed action is not contrary to the objective and policies for economic use.

Coastal Hazards

Objective:

Reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies:

- (A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind subsidence, and point and nonpoint pollution hazards;
- (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
- (D) Prevent coastal flooding from inland projects.

Response:

According to the Flood Insurance Rate Map for the area, the project site is located in an area of minimal tsunami inundation. In addition, the project site is not located within environmentally sensitive areas that are subject to natural hazards. The proposed project is not anticipated to affect the region's susceptibility to coastal hazards.

Managing Development

Objective:

Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

- (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
- (B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Response:

Opportunities for public understanding of the proposed project are provided for during processing of the Environmental Assessment (EA) in accordance with Chapter 343, HRS, notice and public review provisions. All aspects of development will be conducted in accordance with applicable Federal, State, and County standards.

Public Participation

Objective:

Stimulate public awareness, education, and participation in coastal management.

Policies:

- (A) Promote public involvement in coastal zone management processes;
- (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and
- (C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response:

As noted above, the applicant conducted consultation in accordance with the Environmental Assessment requirements, Chapter 343, HRS. The proposed project does not contradict the objectives of public awareness, education, and participation.

Beach Protection Objective:

Objective:

Protect beaches for public use and recreation.

Policies:

- (A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;
- (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
- (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response:

The proposed project will not involve construction near shoreline areas, and is, therefore, not anticipated to have an adverse effect on the local beach environment.

Marine Resources Objective:

Objective:

Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

- (A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

- (B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
- (C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
- (D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
- (E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response:

The proposal will not have an adverse impact on coastal marine resources.

COMPLIANCE WITH THE STATE OF HAWAII'S DRINKING WATER STATE REVOLVING FUND PROGRAM

This project will be funded by Federal funds through the State of Hawaii's Drinking Water State Revolving Fund (DWSRF) program. The U. S. Congress established the DWSRF program as a new Section 1452 of the Safe Drinking Water Act (SDWA), 33 U.S.C. 300j-12, by the SWDA Amendments of 1996, Public Law 104-182. The Safe Drinking Water Act was established to help

prevent contamination through source water protection and enhanced water system management. The proposed project is consistent with the overall program intent to prevent potential contamination. This document includes all of the environmental information required for compliance with the DWSRF program.

CROSS-CUTTING FEDERAL AUTHORITIES

The following subsections address the proposed project's relationship to other Federal "cross-cutting" authorities.

Archaeological and Historic Preservation Act (16 USC 461) and National Historic Preservation Act (16 USC 470)

As discussed in Chapter 2, Sections F and G, there are no known archaeological or cultural deposits on the project site.

A copy of this Final Environmental Assessment (ES) will be provided to the Department of Land and Natural Resources, State Historic Preservation Division for review and comment.

Clean Air Act (42 USC 7401)

As discussed in Chapter 2, Section E, air quality at the project site is good. The only anticipated impacts are short-term impacts associated with the construction activities. There are no long-term impacts associated with the operation of the proposed 300,000-gallon Lower Paia Tank.

Coastal Barriers Resources Act (16 USC 3501)

According to the State Department of Health, this act does not apply to the State of Hawaii at this time. Nonetheless, the proposed water storage tank will be located approximately one and one-third miles inland from the coastline and is not anticipated to adversely impact coastal resources.

Coastal Zone Management Act (16 USC 1451)

Chapter 3, Section E addresses the project's relationship to the Hawaii Coastal Zone Management Program. The proposed project is not located within the County of Maui's Special Management Area and is not anticipated to have any adverse impact upon coastal resources.

A copy of this Final Environmental Assessment (EA) will be provided to the State Department of Business, Economic Development, and Tourism, which oversees the Office of Coastal Zone Management, for review and comment.

Endangered Species Act (16 USC 1531)

The Endangered Species Act, as amended, provides broad protection for species of flora and fauna that are listed as rare, endangered, or threatened. This Act mandates that federal agencies seek to conserve such species and use their authorities in furtherance of the Act's purpose.

As discussed in Chapter 2, Section D, there are no known rare, endangered, or threatened species of flora or fauna in the vicinity of the project site. Further, no known rare, endangered, or threatened species of flora or fauna are anticipated to be impacted by the project.

A copy of this Final Environmental Assessment (EA) will be provided to the U. S. Fish and Wildlife Service and the State Department of Land and Natural Resources for review and comment.

Environmental Justice (Executive Order 12898)

Executive Order 12898 call upon federal agencies to attempt to identify and address disproportionately high and adverse human health or environmental effects of programs, policies, or actions upon minority and low-income populations.

Chapter 3 discusses the anticipated impacts of the proposed project. No human health or environmental effects are anticipated for all segments of the population. The project will improve human health by replacing the existing aging tank with a new tank that will meet all federal drinking water safety standards.

Farmland Protection Policy Act (7 USC 4201)

The Farmland Protection Policy Act is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, while assuring that federal programs are administered in such a way as to be compatible with other programs and policies concerning farmland protection.

As discussed in Chapter 1, the subject property lies within the State Agricultural district. However, the new tank will be located within the already fences site for the existing tank of less than half an acre in size, which represents less than one tenth of one percent of the approximately 245,000 acres of State Agricultural

district lands on the island of Maui. Therefore, adverse impacts to agricultural productivity are not anticipated as a result of the proposed action.

A copy of this Final Environmental Assessment (EA) will be provided to the Natural Resources Conservation Service, which has the leadership in administering the Farmland Protection Policy Act, for review and comment.

Fish and Wildlife Coordination Act (16 USC 661)

The Fish and Wildlife Coordination Act, as amended, authorizes the Secretaries of Agriculture and Commerce to require consultation with the U. S. Fish and Wildlife Service and the State agency responsible for fish and wildlife, when any body of water is proposed to be impacted by any agency under a federal permit or license. Consultation is to be undertaken to prevent any adverse impact to wildlife resources.

As discussed in Chapter 2, Section D, there are no known rare, endangered, or threatened species of flora or fauna in the vicinity of the project site. Further, no known rare, endangered, or threatened species of flora or fauna are anticipated to be impacted by the project. The proposed water storage tank will not result in any impacts to any bodies of water or fish or wildlife populations.

A copy of this Final Environmental Assessment (EA) will be provided to the U. S. Fish and Wildlife Service and the State Department of Land and Natural Resources for review and comment.

Floodplain Management (Executive Order 11988, As Amended By Executive Order 12148)

As discussed in Chapter 2, Section C, the subject property lies well outside of any floodplain, on lands designated as “minimal tsunami inundation” by the Flood Insurance Rate Map. The project is consistent with all applicable regulations and guidance relating to floodplain management.

National Historic Preservation Act (16 USC 470)

The construction of the existing tank included excavation for pipes and grading the site. No cultural deposits were discovered in the project site. In accordance with Section 6E-43.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) will be contacted. Discovery of any significant cultural deposits of human skeletal remains is anticipated for this project.

Protection of Wetlands (Executive Order 11990, As Amended by Executive Order 12608)

There are no wetlands on or near to the project site. Neither are there any resources on the site vital to the wildlife that uses wetlands elsewhere on the island.

A copy of this Final Environmental Assessment (EA) will be provided to the U. S. Fish and Wildlife Service and the State Department of Land and Natural Resources for review and comment.

Safe Drinking Water Act (42 USC 330f)

The Safe Drinking Water Act (SDWA) is the principal, federal law that ensures the quality of drinking water. Under this act, the Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees those who implement said standards. All public water systems are required to meet these water quality standards. According to the EPA, there are no sole source aquifers on the island of Maui.

As previously discussed, the purpose of the new water storage tank is to provide adequate water for both domestic and fire flow purposes. The proposed improvements will be implemented in accordance with Federal water quality standards.

Wild and Scenic Rivers Act (16 USC 1271)

According to the National Wild and Scenic Rivers System, there are no wild and scenic rivers in Hawaii. As a result, the State Department of Health noted that, at this time, this act does not apply to the State of Hawaii.

Essential Fish Habitat Consultation Process Under the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801)

The proposed water storage tank will be located approximately one and a half miles inland from the coastline and is not anticipated to adversely impact any essential fish habitat situated near the coastline.

SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed project will result in certain unavoidable construction-related environmental impacts as outlined in Chapter 2.

In the short term, construction associated with the project will generate noise impacts. These impacts will be limited to the immediate vicinity of the project construction areas. Sound attenuating construction equipment will be used, where practicable, to mitigate noise impacts caused by construction.

Unavoidable air quality impacts will also arise as a result of construction activities, such as the generation of dust and other airborne pollutants. Appropriate best management practices (BMPs) will be incorporated in the construction process to mitigate adverse impacts, such as frequent watering of exposed surfaces and regular maintenance of construction equipment to minimize construction-related impacts.

The proposed storage tank will redevelop an existing tank site. The commitment of fuel, labor, funding, and material resources will be justified given the benefits.

In the long term, the construction of the new water tank will not result in any long term adverse environmental effects that would not have occurred by leaving the existing tank.

ALTERNATIVES TO THE PROPOSED ACTION

A variety of alternatives were looked at. These alternatives were to construct larger tanks, or a pair of smaller tanks.

PREFERRED ALTERNATIVE

The preferred alternative is to construct a temporary tank, remove the existing 100,000 gallon tank and constructing the 300,000 tank in nearly the same

location as the existing tank. The width of the proposed footprint will be less than 25-feet larger than the existing however it will fit on the site without problems.

NO ACTION ALTERNATIVE

The existing tank is approximately 25 years old and is showing signs of corrosion. The tank would eventually fail, creating the need for a new tank. Also, and of more immediate concern, is that the existing water system would continue to be inadequate for current needs.

OTHER ALTERNATIVES

Other alternatives included (1) constructing a permanent 100,000 gallon tank, removing the existing 100,000 gallon tank and then construction an additional 200,000 tank. This configuration would fit on the site. (2) Constructing a 400,000 gallon tank. This tank would fit on the site and would be constructed in the same manner as the preferred alternative. (3) Constructing a 500,000 gallon tank. This tank would fit on the site provided a couple of retaining walls were constructed to provide access around the tank. It could be constructed in the same manner as the preferred alternative.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The development of the proposed project would involve the commitment of funds. In addition, labor and material resources would be expended as part of the project's construction phase. These commitments, however, are also considered appropriate in the context of significantly improving the adequacy of the Paia water system.

SIGNIFICANCE CRITERIA ASSESSMENT

The "Significance Criteria" Section 12 of the HAR, Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed to determine whether the proposed action will have significant impacts on the environment. The following criteria and preliminary analysis are provided.

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

There are no known archaeological features on the project site. In accordance with Section 6E43.6, HRS and Chapter 13-300, Hawaii Administrative Rules, if any significant cultural deposits of human skeletal remains are encountered, work will stop in the immediate vicinity and the SHPD will be contacted.

The project entails the use of less than 0.5 acre of land that is currently being use for a water storage tank.

Curtails the range of beneficial uses of the environment

The subject property contains existing water storage and appurtenant facilities. The proposed action involves removal of the existing tank and construction of a new storage tank at the site. Given the limited size and scope of the proposed action, there would be no consequent curtailment of the range of beneficial uses of the environment.

Conflicts with the State's long-term environmental policies of goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The State's Environmental Policy and Guidelines are set forth in Chapter 344, HRS. The proposed action is consistent with the policies and guidelines of Chapter 344, HRS.

Substantially affects the economic welfare, social welfare, and cultural practices of the community of State.

The construction of the new storage tank will not have a significant impact on community economic or social welfare parameters.

Substantially affects public health.

No adverse impact to public health is anticipated. The tank will be operated as the current tank is.

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

There will be no adverse effect on public services.

Involves a substantial degradation of environmental quality.

The new storage tank will not have a substantial impact on environmental quality.

Is individually limited but cumulatively has considerable effect upon the environment of involves a commitment for larger actions.

The proposed action does not involve a commitment to larger actions nor will it have a significant cumulative impact on the environment. BMPs will be used to minimize and avoid environmental impacts.

Detrimentially affects air or water quality or ambient noise levels.

There are no known rare, endangered, or threatened species on or near the project vicinity. The site is fenced. Thus there should be no impact to wildlife.

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, and installation of dust screens, will be implemented to minimize wind-blown emissions. Noise impacts will occur from construction equipment.

Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health Administrative rules Title 11, Chapter 46, "Community Noise Control." These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46 rules. No long-term air or water quality or ambient noise level impacts are anticipated.

Affects or is likely to suffer damage by being locate in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The site is not located in any environmentally sensitive area, near wetlands, or in a flood / tsunami inundation area. No other environment effects to environmentally sensitive areas are anticipated.

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

The new tank will be placed in nearly the same location as the existing tank. It will be the same height and less than 25-feet wider. It will not impinge on view corridors or adversely impact the visual character of the project area.

Requires substantial energy consumption.

Once the tank is constructed, no additional energy will be required over what is currently used.

Based on the foregoing analysis, the Department of Water Supply concludes that the proposed action will result in a Finding of No Significant Impact (FONSI).

LIST OF PERMITS AND APPROVALS

The proposal will require the following governmental approvals.

County of Maui:

1. Grading permit
2. Building permit

State of Hawaii:

1. National Pollutant Discharge Elimination System Permit (as applicable.)

AGENCIES AND ORGANIZATIONS CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT

The following agencies and organizations were consulted during the preparation of the Draft Environmental Assessment. Agency comments and responses to substantive comments are included in Appendix A.

1. State of Hawaii
Office of Hawaiian Affairs
Clude W. Nāmu'o, CEO
711 Kapi'olani Boulevard, Suite 500
Honolulu, HI 96813

2. Maui Electric Company, Ltd.
Kyle Tamori, Staff Engineer
210 West Kamehameha Avenue
P. O. Box 398
Kahului, Maui, HI 96733-6898
808-871-8461

3. Department of Transportation
Don Medeiros, Director
200 South High Street
Wailuku, HI 96793-2155
808-270-7511

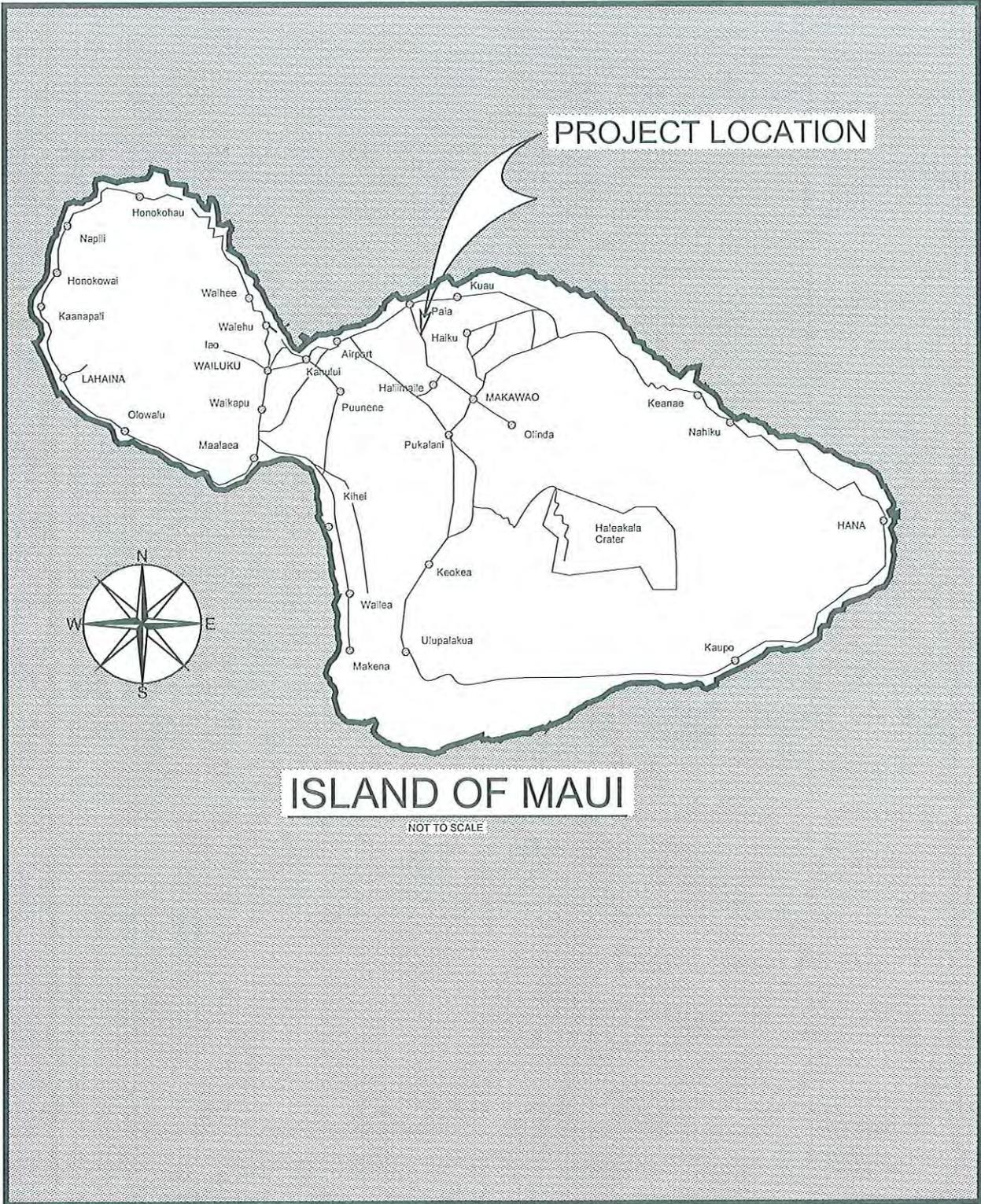
4. Department of Public Works
Milton M. Arakawa, A.I.C.P.
200 South High Street
Wailuku, HI 96793
808-270-7845

5. County of Maui Police Department
Gary A. Yabuta, Chief of Police
55 Mahalani Street
Wailuku, HI 96793
808-244-6411

6. Fire Prevention Bureau
Paul Haake, Captain
313 Manea Place
Wailuku, HI 96793
808-244-9061
7. Office of Environmental Quality Control
Department of Health
235 South Beretania Street
Liopapa A Kamehameha
Suite 702
Honolulu HI 96813
808-586-4185
8. Department of Planning
Kathleen Ross Aoki, Director
250 South High Street
Wailuku, HI 96793
808-270-7634
9. Department of Health
Stuart Yamada, P. E., Chief
P. O. Box 3378
Honolulu, HI 96801-3378
808-586-4258
10. Department of Environmental Management
Cheryl K Okuma, Director
2200 Main Street, Suite 100
Wailuku, Maui, HI 96793
11. State of Hawaii Department of Health
Patti Kitkowski
54 High Street
Wailuku, Maui, Hawaii 96793

EXHIBITS

- Exhibit 1 Vicinity Map
- Exhibit 2 TMK Map
- Exhibit 3 Flood Rate Insurance Map
- Exhibit 4 Flood Zone Map
- Exhibit 5 Soil Map
- Exhibit 6 Wetland Inventory
- Exhibit 7 Wetland Aerial Photo
- Exhibit 8 Sewer Service Map



DEPARTMENT OF WATER SUPPLY
 COUNTY OF MAUI
 LOWER PAIA WATER TANK
 REPLACEMENT
 PAIA, MAUI, HAWAII

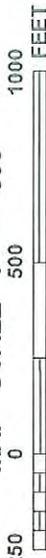
VICINITY MAP



Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0408E

FIRM
FLOOD INSURANCE RATE MAP
MAUI COUNTY,
HAWAII

PANEL 408 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY MAUI COUNTY NUMBER PANEL SUFFIX
150003 0408 E

MAP NUMBER
1500030408E

MAP REVISED
SEPTEMBER 25, 2009

Federal Emergency Management Agency

U.S. DEPARTMENT OF HOMELAND SECURITY

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov

Exhibit 3 Flood Rate Insurance Map

LOWER PAIA TANK FLOOD ZONE



**MAP NUMBER
1500030408E**

MAP REVISED

LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual flood (100-year flood) also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard areas are subject to flooding by the 1% annual chance flood. Areas of special flood hazard include Zones A, AE, AH, AO, AV, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.
- ZONE A** No base flood elevations determined.
 - ZONE AE** Base flood elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet, usually areas of portlands, levee flood elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet, usually areas of portlands, levee flood elevations determined. For areas of shallow water flooding, velocities also determined.
 - ZONE AV** Special flood hazard areas formerly protected from the 1% annual chance flood by a flood control system that has substantially deteriorated. Zone AV indicates that the former flood control system is being restored to provide protection from the annual chance or greater flood.
 - ZONE AVP** Areas to be protected from the annual chance flood by a Federal flood protection system under construction. No Base Flood Elevation determined.
 - ZONE V** Coastal flood zone with velocity hazard (wave setup); base flood elevations determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave setup); base flood elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel or a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried out without substantial increases in flood heights.
- OTHER FLOOD AREAS**
 - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
 - OTHER AREAS**
 - Areas determined to be outside the 0.2% annual chance floodplains.
 - Areas in which flood hazard is undetermined, but possible.
 - COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
 - OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS is located offshore and may, in some instances, be adjacent to Special Flood Hazard Areas.

This is an official copy of a portion of the above referenced flood map. It was extracted using T-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov



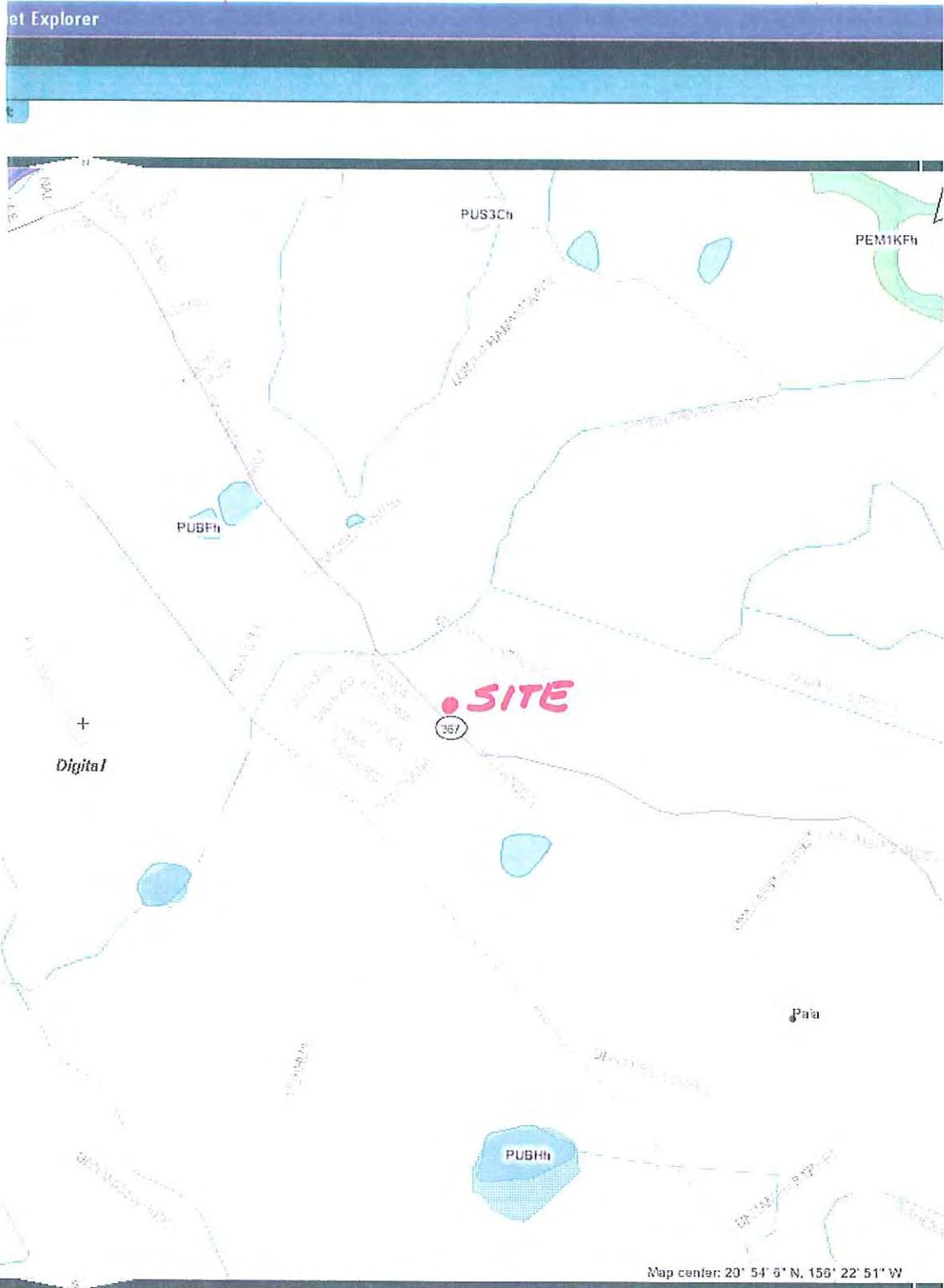
PAIA TANK SITE
SOILS MAP.
SITE SOILS PCB
PAIA SILTY CLAY
3-7% SLOPES



69

Map Legend

-  Interstate
-  Major Roads
-  Other Road
-  Interstate
-  State highway
-  US highway
-  Roads
-  Hawaii Cities
-  HI Wetland Polygons
-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine
-  Hawaii Available Wetland Data
-  Non-Digital
-  Digital
-  No Data
-  Scan
-  NHD Waterbodies
-  NHD Streams
-  Urban Areas 300K
-  Hawaiian Islands 10DK



Layer: Wetland Polygons

622648

Wildlife ... Wetlands Mapper - Mi... http://wetlandsfws.e... Windows

PAIA TANK WETLANDS



SITE

**LOWER
PAIA TANK
WETLAND INVENTORY**

**FRESH WATER PONDS
(TYPICAL)**

LAKE

paia hawaii

SEWER SERVICE MAP

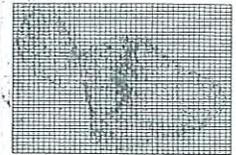


County of Maui
 Department of Public Works
 and Waste Management

Sewer System Inventory
 and Problem Assessment

LEGEND:

- Existing Parcel's
- Existing Sewer Manhole
- Existing Sewer Line
- Existing Sewer Force Main
- KA22KA3100 Manhole ID Number



Island of Maui

C20R13



200 0 200 Feet

PANEL C19R13
 Kahului-Wailuku
 Maui

FCRUNAGA & ASSOCIATES, INC.
 Consulting Engineers
 1388 Mahelele Boulevard, Honolulu, Hawaii 96814

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APPENDICES

APPENDIX A

LETTERS RECEIVED FROM AGENCIES AND ORGANIZATIONS THAT
REVIEWED THE DRAFT ENVIRONMENTAL ASSESSMENT AND
RESPONSES TO SUBSTANTIVE COMMENTS



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
HOUSING DIVISION
COUNTY OF MAUI

CHARMAINE TAVARES
Mayor

LORI TSUHAKO
Director

RECEIVED

JO-ANN T. RIDAO
Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

December 6, 2010

DEPT. OF WATER SUPPLY
COUNTY OF MAUI

Mr. Curtis Eaton, P.E.
Department of Water Supply
200 South High Street
Wailuku, HI 96793

Dear Mr. Eaton:

**Subject: Draft Environmental Assessment (EA) for the Lower Paia
Water Tank Replacement Project located in Makawao, Maui.
TMK: (2) 2-5-005:058**

The Housing Department has reviewed the Draft Environmental Assessment for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. The Department has no additional comments to offer at this time.

Please call Mr. Buddy Almeida of our Housing Division at 270-7356 if you have any questions.

Sincerely,

WAYDE T. OSHIRO
Housing Administrator

cc: Director of Housing and Human Concerns



October 28, 2010

Mr. Curtis Eaton, P.E.
County of Maui - Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

RECEIVED
2010 NOV -1 AM 11:19
DEPT. OF WATER SUPPLY
COUNTY OF MAUI

Subject: Lower Paia Tank Replacement – Draft Environmental Assessment
Baldwin Avenue
Paia, Maui, Hawaii
Tax Map Keys: (2) 2-5-005:058

Dear Mr. Eaton,

Thank you for allowing us to comment on the Draft Environmental Assessment for the subject project.

In reviewing our records and the information received, Maui Electric Company has no additional comments to the subject project at this time.

Should you have any questions or concerns, please call me at 871-2341.

Sincerely,

Kyle Tamori
Staff Engineer

From: "Carey, Alain" <Alain.Carey@doh.hawaii.gov>
To: "Curtis Eaton" <Curtis.Eaton@co.maui.hi.us>
CC: "Miyahira, Michael M" <michael.miyahira@doh.hawaii.gov>
Date: 10/27/2010 2:49 PM
Subject: Lower Paia Tank

Curtis,

I reviewed the construction plans and draft EA and have the following comments:

Plans

Please confirm the existence of the temporary tank's:

- a. Roof vent has an insect screen.
- b. Overflow outlet is flappered, screened, or valved.

Draft EA

- ✓ a. Page 8, Purpose of the Environmental Assessment:
Please add federal funds in the last sentence as one of the sources of funding for this project.
- ✓ b. Page 38: Please revise the sentence, "The DWSRF was established to help prevent contamination..." to "The Safe Drinking Water Act was established to help prevent contamination..."
- c. Please include written evidence of consultation with the State Historic Preservation Office in the final EA.

Letter sent 10-27-10

Please let me know if you have any questions.

Thanks,

Alain Carey, P.E.

Environmental Engineer | Safe Drinking Water Branch | Environmental Management Division

Hawaii Department of Health | 919 Ala Moana Blvd., Room 308 | Honolulu, HI 96814

(808) 586-4258 Voice | (808) 586-4351 Fax

Please consider financing your drinking water projects with low cost loans. Contact me for more information on the benefits of using Drinking Water State Revolving Fund (DWSRF) Loans.

CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

December 23, 2010

Mr. Alain Carey
State of Hawaii
Department of Health
Environmental Management Division
Safe Drinking Water Branch
919 Ala Moana Blvd., Room, 308
Honolulu, HI 96814

RE: Lower Paia Water Tank Replacement
Final Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Mr. Carey,

Thank you for your email of October 27, 2010. Your comments have been addressed as follows:

Plan

- a) A roof vent insect screen has been added to the plans and specifications with Addendum #1.
- b) Addendum #1 has modified the specifications requiring the overflow to be screened.

Draft EA

- a) "Federal Funds" has been added to the sentence.
- b) The sentence has been revised to read as requested.
- c) Attached to this letter and (with a copy of this letter and attachment) included in the Appendix of the Final Environmental Assessment is a copy of our October 27, 2010, letter to the State Historic Preservation Office.

A copy of the FEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely

JEFFREY K. ENG
Director

CE

"By Water All Things Find Life"



CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

Date: **October 27, 2010**

To: **DLNR - STATE HISTORIC PRESERVATION DIVISION
Maui Office Annex, 130 Mahalani Street, Wailuku**

Attn: **Ms. Morgan Davis**

Project Name: **Lower Paia Water Tank Replacement**

Tax Map Key: **(2) 2-5-058**

Location: **Baldwin Avenue, Paia, Maui, Hawaii
(Across Baldwin Ave. from Skill Village and the Paia Gym)**

Description of Work: **Replace a 100,000 gallon Glass Fused Steel Tank with a 300,000 gal;pm
Glass Fused Tank**

Applicant's Name: **Department of Water Supply – Curt Eaton, P. E., Proj. Engr.
200 South High Street, 5th Floor
Wailuku, Hawaii 96793**

THIS REQUEST IS FOR:

REVIEW AND APPROVAL

**REQUEST FOR INSPECTION SERVICES ON COUNTY ROADS AND/OR WORK ON
COUNTY HIGHWAY**

Expected Start Date: **March 2011**

Completion Time: **9-12 months**

Excavation: **Less than 500 cy**

Attached: **Location map and construction plans**

Should you have any questions or need further information, please call Curt Eaton of our Engineering Division at (808)270-7835.

CRE

"By Water All Things Find Life"

CE

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
DOH/CWB

11056PSW.10

November 29, 2010

Mr. Curtis Eaton, P.E.
County of Maui, Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

RECEIVED
NOV 29 2 41 PM '10
DEPT. OF WATER SUPPLY
COUNTY OF MAUI

Dear Mr. Eaton:

**SUBJECT: Draft Environment Assessment for Lower Paia Water Tank Replacement
Paia, Island of Maui, Hawaii
TMK: (2) 2-5-005: 058 (por)**

The Department of Health, Clean Water Branch (CWB), has reviewed the document received November 4, 2010 regarding the subject project and offers these comments. Please note that our review is based solely on the document for the subject project and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

- a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. This includes areas used for a construction base yard and the storage of any construction related equipment, material, and waste products. An NPDES permit is required before the start of the construction activities.
- b. Hydrotesting water,
- c. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI forms may be picked up at our office or downloaded from our website at

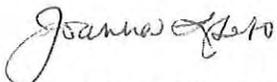
<http://hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>

3. For other types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 2 or Class AA waters, an NPDES individual permit will need to be obtained. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at
<http://hawaii.gov/health/environmental/water/cleanwater/forms/environmental/water/cleanwater/forms/indiv-index.html>
4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

If you have any questions, please visit our website at

<http://hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

Sincerely,



for ALEC WONG, P.E. CHIEF
Clean Water Branch

SW:ml

c: DOH-EPO #I-3414 [via email only]



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

December 23, 2010

Mr. Alec Wong, P. E., Chief
State of Hawaii
Department of Health
Environmental Management Division
Clean Drinking Water
P. O. Box 3378
Honolulu, HI 96801-3378

RE: Lower Paia Water Tank Replacement
Final Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Mr. Wong,

Thank you for your letter dated September 29, 2010, commenting on the Draft Environmental Assessment. Your comments are addressed as follows:

1.
 - a. The quality of the storm water discharge from the site will not be degraded. The ultimate use of the site will be the same as the current use. The only change is that there will be a larger diameter water tank, some new underground piping, and minimal grading necessary for the construction of the new tank. During construction, the runoff from the site will follow the existing pattern of onsite collection and discharge into an onsite catch basin. A catch basin insert will be placed in the onsite catch basin to trap sediment prior to discharge from the site. The insert will be replaced as it fills with sediment. The insert will remain until the site has stabilized.

The onsite catch basin drains into the storm system in Baldwin Avenue. This water is then routed through the Skill Village subdivision, piped approximately 3200-feet under a cane field in a 60-inch diameter pipe, and then discharged into Kailua Gulch. The discharge from the 60-inch pipe will then flow in Kailua Gulch approximately 1.3 miles before flowing into the Pacific Ocean.
 - b. Per the Hawaii Department of Health, Water Quality Standards Map of the Island of Maui, October 1987, the receiving State water is the Kailua Gulch and has an inland classification of Class 2.

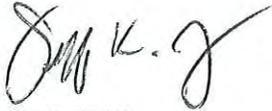
"By Water All Things Find Life"



- c. This project will not impact the existing water quality. When the project is finished, storm water discharge from the site will be nearly identical to the current discharge from the site.
- 2.
- a. This section is not applicable since the site is less than 1 acre in size. It is 0.395 of an acre in area. All work will be onsite.
 - b. Hydrotesting water may be discharged into the onsite catch basin and routed to Kailua Gulch as described above. There are methods to use the hydrotest water for domestic use. The contractor is planning not to discharge the hydrotest water. However, he will submit a NOI in the event he will be discharging the hydrotest water. The hydrotest water will be discharged to the onsite catch basin and will be routed to Kailua Gulch as previously described. The Maui Department of Public Works maintains the storm system the flow through Skill Village. They will be issuing a letter of acknowledgement to allow the hydrotest water to be released into their storm system.
 - c. This section is not applicable since construction dewatering effluent is not required for this project.
3. There is not any other waste water other than that listed above projected for the project.
4. The State's Water Quality Standards will be complied with.

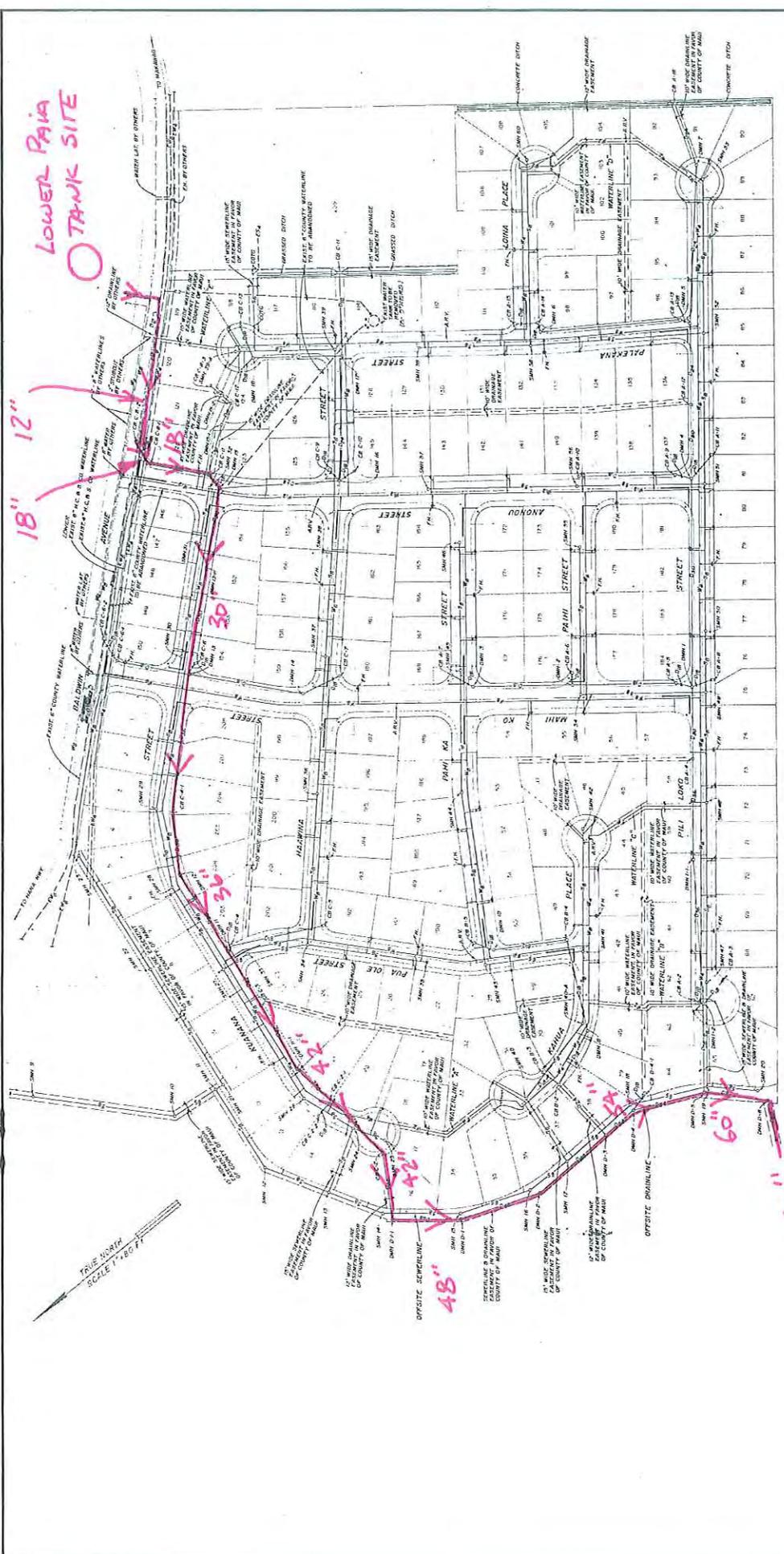
A copy of the FEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely



JEFFREY K. ENG
Director

CE



LOWER PAIA
TANK SITE

18" 12"

30"

42"

48"

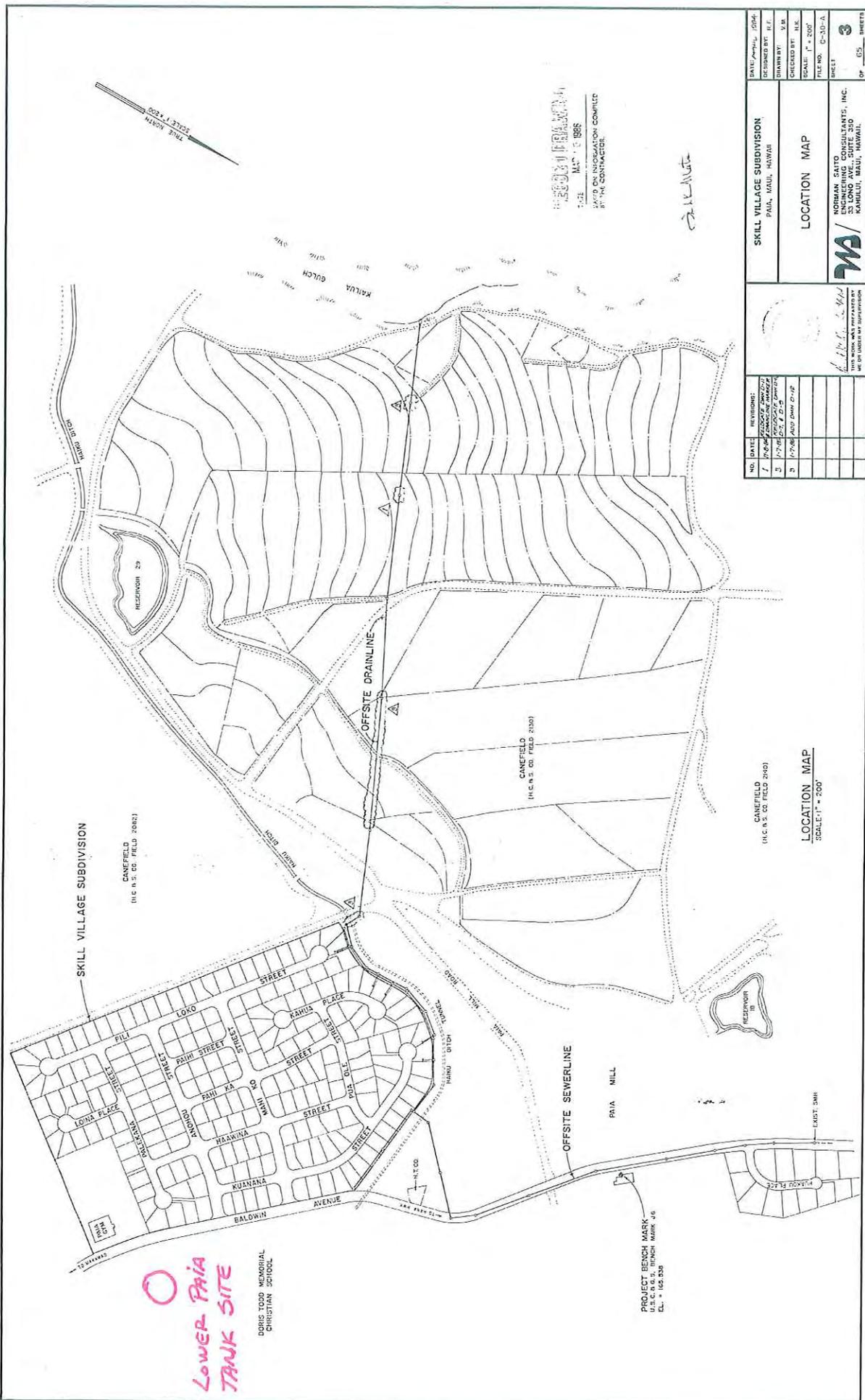
60"

60" OUTFALL
TO KAILUA
TO GULCH

DATE PAPER: 02/04	DESIGNED BY: R.T.	SKILL VILLAGE SUBDIVISION PAIA, MAUI, HAWAII	DATE PAPER: 02/04
DRAWN BY: V.M.	CHECKED BY: N.K.	WATER, SEWER, & DRAINAGE PLAN	DESIGNED BY: R.T.
SCALE: 1" = 80'	FILE NO. C-35-A	 NORMAN SAITO 33 LONO AVE., SUITE 350 KAHULUI, MAUI, HAWAII.	DRAWN BY: V.M.
			FILE NO. C-35-A
			CHECKED BY: N.K.
			SCALE: 1" = 80'
			FILE NO. C-35-A
			SHEET
			OF 65

RECORDED & RETURNED
MAY 4 1995
PLANNING DEPARTMENT
MAY 4 1995
MAY 4 1995
MAY 4 1995

LOWER PAIA WATER TANK REPLACEMENT
STORM WATER PATH FROM SITE THROUGH SKILL VILLAGE



LOWER PAIA TANK SITE

BORIS TODD MEMORIAL CHRISTIAN SCHOOL

PROJECT BENCH MARK
U.S.C. & G.S. BENCH MARK 46
E.L. = 165.000

CANEFIELD
(H.C. & S. CO. FIELD 360)

LOCATION MAP
SCALE 1" = 200'

NO.	DATE	REVISIONS
1	10/10/07	ISSUE FOR PERMITS
2	11/14/07	REVISED PER COMMENTS
3	11/14/07	REVISED PER COMMENTS

SKILL VILLAGE SUBDIVISION
PAIA, MAUI, HAWAII

LOCATION MAP

USMAN STATES
ENGINEERING CONSULTANTS, INC.
33 LONG AVE., SUITE 300
KAPAHULU, MAUI, HAWAII

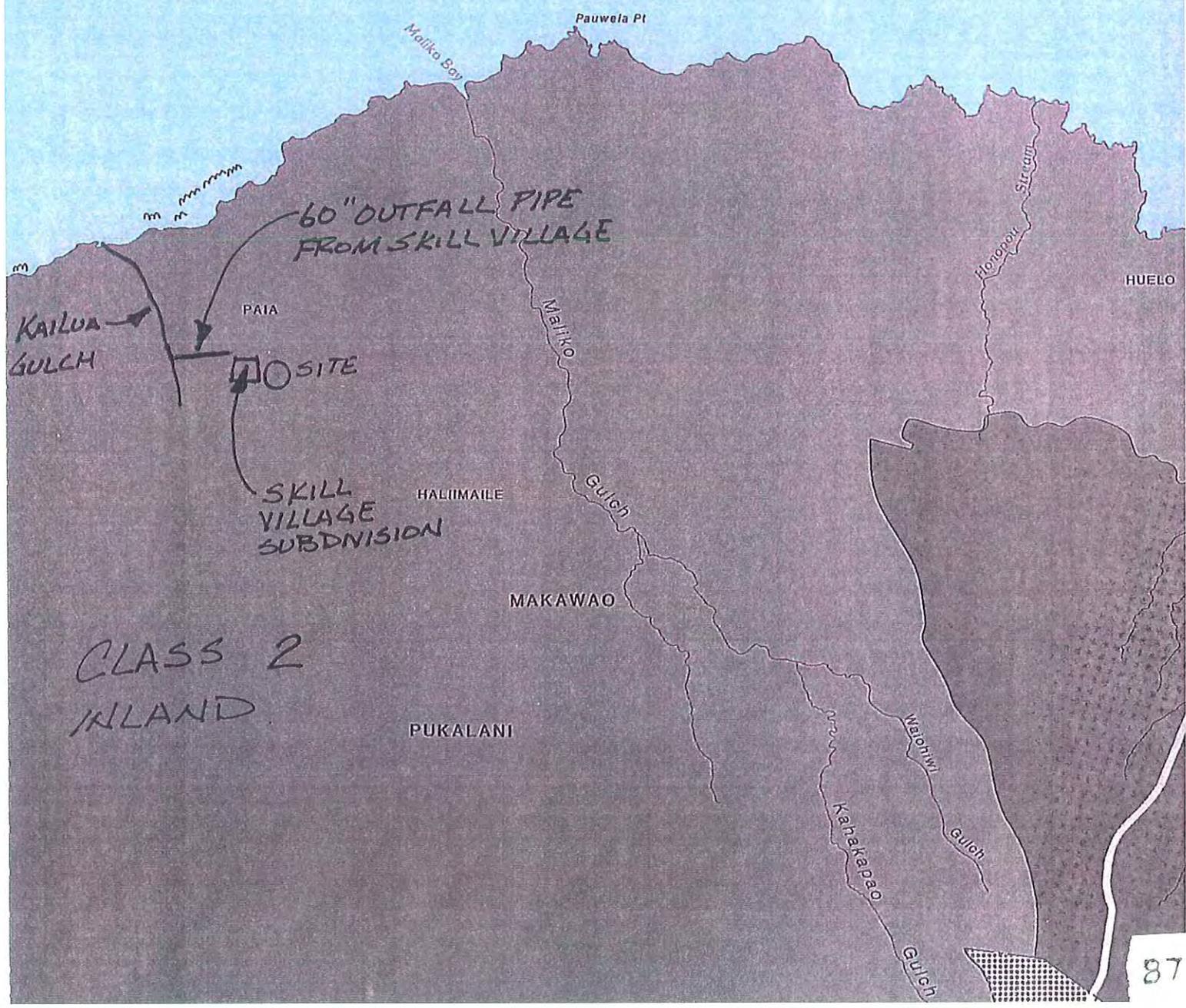
DATE: 10/10/07
DESIGNED BY: R.F.
DRAWN BY: V.B.
CHECKED BY: H.K.
SCALE: 1" = 200'
FILE NO.: C-330-1
SHEETS: 3
OF: 05 SHEETS

*Lower Paia Water Tank Replacement
Storm Water Path From Site
To Outfall At Kailua Gulch*

O C E A N

100

CLASS A
MARINE

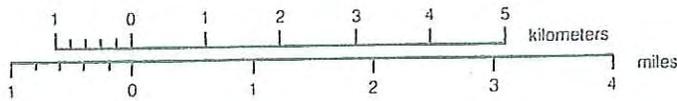


LOWER PAIA WATER TANK REPLACEMENT

Office of Environmental Planning
Hawaii Department of Health

Water Quality Standards Map of the ISLAND OF MAUI

Prepared in conjunction with Hawaii Department of Health, Chapter 54, Water Quality Standards

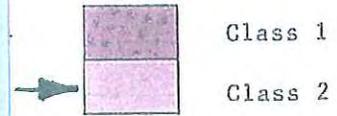


October 1987

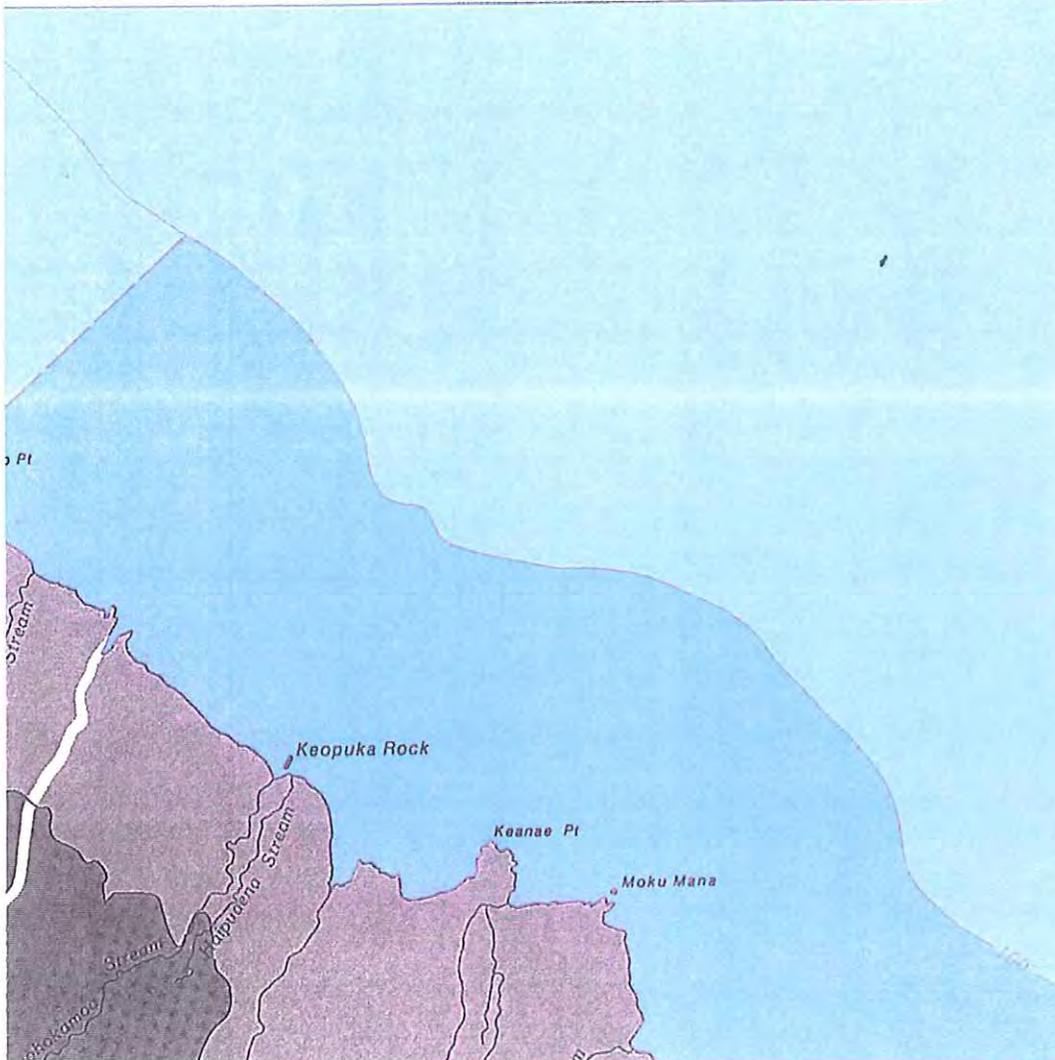
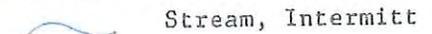
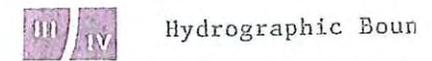
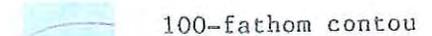
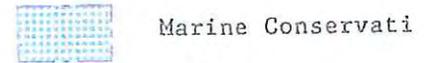
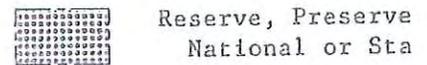
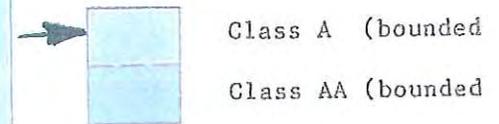
EXPLANATION:

WATER QUALITY STANDARDS CLASSIFICATION

INLAND CLASSIFICATION



MARINE CLASSIFICATION



Compiled in 1987 by Dames
Base map provided by U.S.
(Maui 1975, scale 1:
This information not inte
There may be private inh
the National or Stat

CE

121310
1210014 -

PHONE (808) 594-1888

FAX (808) 594-1865



RECEIVED
13 AM 11:45

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

HRD10/5242B

December 2, 2010

Jeffrey K. Eng, Director
County of Maui, Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793-2155

DEPT. OF WATER SUPPLY
COUNTY OF MAUI
DEC 13 11 30 AM '10

**Re: Comments on the Draft Environmental Assessment, Lower Pā'ia,
TMK: (2) 2-5-005:058, Makawao, Maui, Hawai'i**

Aloha e Mr. Eng:

The Office of Hawaiian Affairs (OHA) is in receipt of your October 21, 2010 request for comments on the above-referenced project. We thank you for the opportunity to provide input into the decision-making process.

OHA understands that the County of Maui Department of Water Supply (DWS) proposes to remove the existing 100,000 gallon Lower Pā'ia water tank and replace it with a new 300,000 gallon, glass-lined, steel water tank. The proposed project will expand the capacity of the Pā'ia water system from 400,000 gallons to 600,000 gallons, thereby increasing the availability of water for existing domestic and fire flow. The use of county lands and funds triggered the need for an environmental assessment (EA) of the proposed project. Based on the documentation provided, OHA offers the following comments.

First, OHA notes a general lack of supporting information about the proposed project. As recognized by the Hawai'i Supreme Court, the EA is "a preliminary informational document, which is intended to provide sufficient information to allow the accepting authority to determine whether 'the anticipated effects constitute a significant effect in the context of [chapter 343 of the Hawai'i Revised Statutes].'" Kahana Sunset Owners Ass'n v. County of Maui, 86 Haw. 66, 70 (1997). Based on our review, OHA believes that the drafted document does not adequately describe many aspects of the Pā'ia water system. Although the Draft EA states that the purpose of the project is "to improve the current capacity of the Paia water system [because] [t]he existing 100,000 gallon tank does not provide the capacity for domestic and fire flow," the Draft

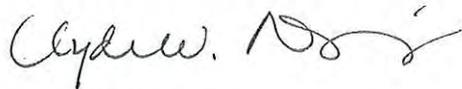
EA does not provide a description of the Pā'ia water system itself, the number of residents served by the system, their current or projected water use, or any identified shortcoming in water availability for residential or fire uses. A discussion of water needs could be included in the "Public Services" section of the Draft EA (EA at 15-17), which currently states that "[t]he proposal will not impact public services" (*id.* at 17.) The Draft EA does not address the effects on water availability during the nine month to one year construction period when the Pā'ia area will be serviced by a temporary tank of unknown size.

The Draft EA also fails to identify the source for the Pā'ia water system. Based on a conversation between DWS and OHA staff on November 30, 2010, the water for the Pā'ia system is believed to come from the Wailuku area. This source of water could potentially implicate pending litigation over water flow from the Nā Wai 'Ehā stream system, a case in which both OHA and the County of Maui are parties. However, any analysis of the project's impact on scarce water resources is impossible without information regarding the water source and any change in usage due to the increased tank size.

The Draft EA also falls short in its discussion of many of the primary impacts for the proposed project. With regard to wetland protection, for example, the Draft EA recognizes "there are a couple of wetland features in the vicinity of the project site" (EA at 13), but later states "[t]here are no wetlands on or near the project site" (*id.* at 44.) According to the U.S. Fish and Wildlife Service Wetland Inventory (*id.* at 64), there are several freshwater ponds nearby, but these ponds are of unknown character, distance, and orientation to the project site. Although it is believed that "[t]he size and scope of the project will not affect any of the surrounding wetland features" (*id.* at 13), the support for this determination is limited. Based on a description of the surrounding topography from a DWS staff member, there also appears to be a small stream downhill from the project site that may be affected by construction activity, particularly given the planned grading that is expected at the project site. The potential need for a National Pollutant Discharge Elimination System permit was recognized in the Early Consultation letter from the State of Hawai'i Department of Health, Maui District Health Office (*id.* at 88), but this permit was only minimally addressed in the Draft EA (*see id.* at 55.)

Thank you once again for the opportunity to comment. Should you or your staff have any questions, please contact Everett Ohta at 594-0231 or by email at everetto@oha.org.

'O wau iho nō me ka 'oia'i'o,



Clyde W. Nāmu'o
Chief Executive Officer

C: OHA Trustee Boyd P. Mossman
OHA Maui Community Resources Coordinator

CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

December 23, 2010

Mr. Clyde W. Nāmu'o
Chief executive Officer
State of Hawaii
Office of Hawaiian Affairs
700 Kapi'olani Blvd. Suite 500
Honolulu, HI 96813

RE: Lower Paia Water Tank Replacement
Final Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Mr. Nāmu'o,

Thank you for your letter dated December 2, 2010, commenting on the Draft Environmental Assessment. Your comments are addressed as follows:

A description of the Paia water system has been added to the Final Environmental Assessment.

The Draft EA does mention wetlands in the vicinity. However, each mapped wetland is either uphill from the site or across the drainage ditch down hill of the site. No runoff from the site will reach any of the mapped wetlands. An aerial photo of the area with these wetlands and the drainage ditch shown is attached to this letter and included in the FEA.

A copy of the FEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely

A handwritten signature in black ink, appearing to read "J.K. Eng".

JEFFREY K. ENG
Director

CE

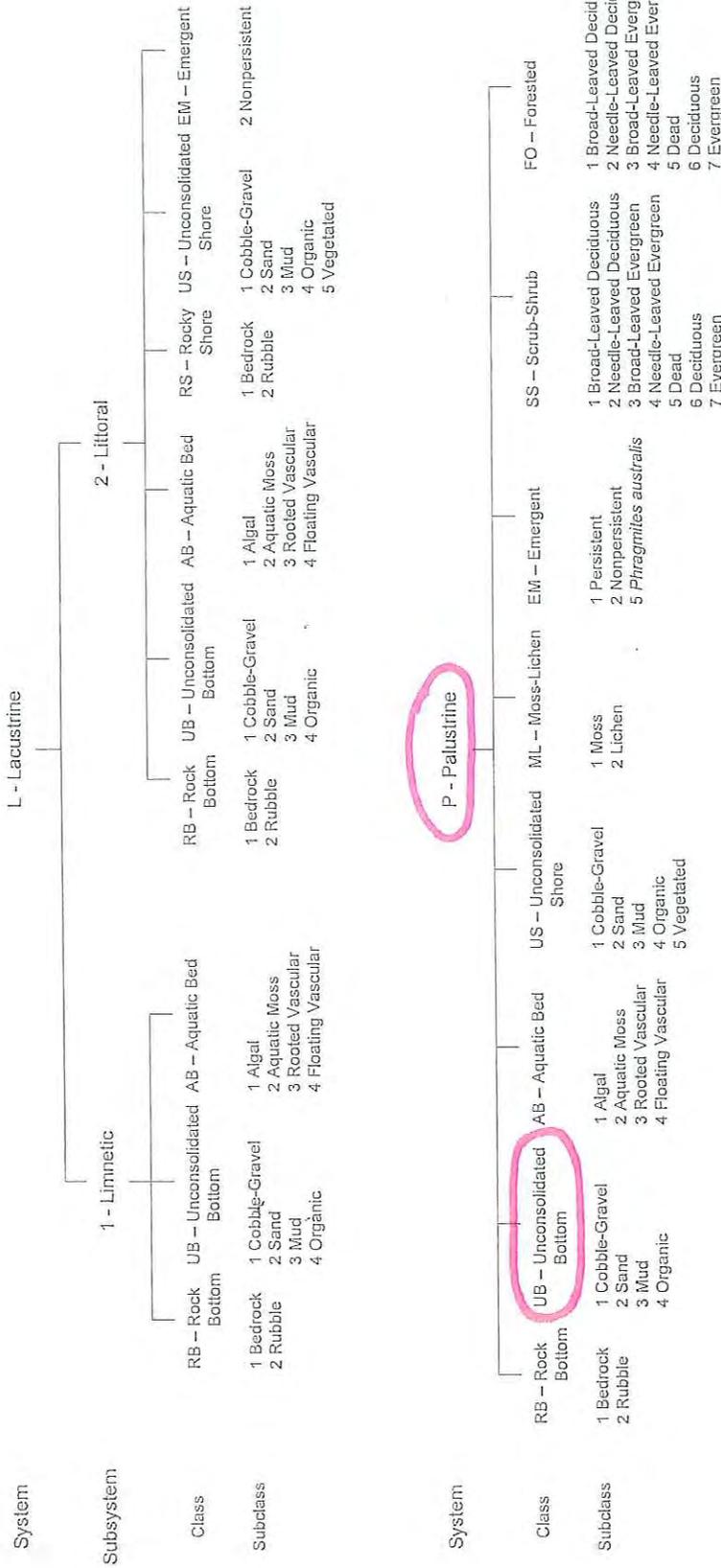
"By Water All Things Find Life"





Map produced by County of Maui
 Geographic Services Department
 December 2010

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

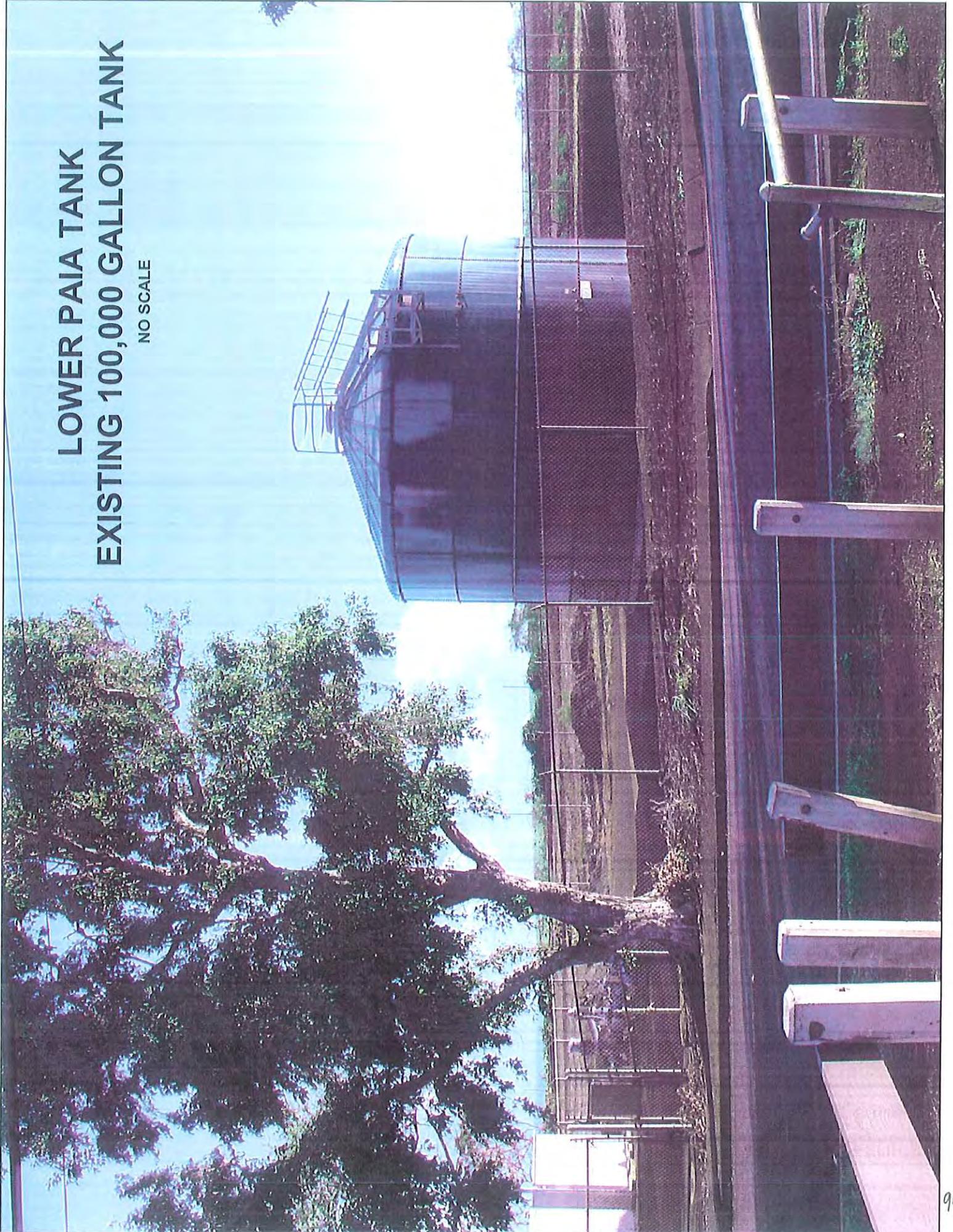


		MODIFIERS	
		Water Regime	Special Modifiers
		In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.	
		Water Chemistry	
		Coastal Salinity	Inland Salinity
		pH Modifiers for all Fresh Water	
		1 Hyperhaline	7 Hypersaline
		2 Euhaline	8 Eusaline
		3 Mixohaline (Brackish)	9 Mixosaline
		4 Polyhaline	0 Fresh
		5 Mesohaline	
		6 Oligohaline	
		0 Fresh	
		Soil	
		g Organic	
		n Mineral	
		1 Circumneutral	
		1 Alkaline	
		1 Broad-Leaved Deciduous	
		2 Needle-Leaved Deciduous	
		3 Broad-Leaved Evergreen	
		4 Needle-Leaved Evergreen	
		5 Dead	
		6 Deciduous	
		7 Evergreen	
		1 Persistent	
		2 Nonpersistent	
		5 Phragmites australis	
		1 Moss	
		2 Lichen	
		1 Cobble-Gravel	
		2 Sand	
		3 Mud	
		4 Organic	
		5 Vegetated	
		1 Algal	
		2 Aquatic Moss	
		3 Rooted Vascular	
		4 Floating Vascular	
		1 Cobble-Gravel	
		2 Sand	
		3 Mud	
		4 Organic	
		1 Algal	
		2 Aquatic Moss	
		3 Rooted Vascular	
		4 Floating Vascular	
		1 Cobble-Gravel	
		2 Sand	
		3 Mud	
		4 Organic	
		1 Algal	
		2 Aquatic Moss	
		3 Rooted Vascular	
		4 Floating Vascular	
		1 Cobble-Gravel	
		2 Sand	
		3 Mud	
		4 Organic	
		1 Algal	
		2 Aquatic Moss	
		3 Rooted Vascular	
		4 Floating Vascular	
		1 Cobble-Gravel	
		2 Sand	
		3 Mud	
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APPENDIX B

PHOTOGRAPHS AND RENDERINGS

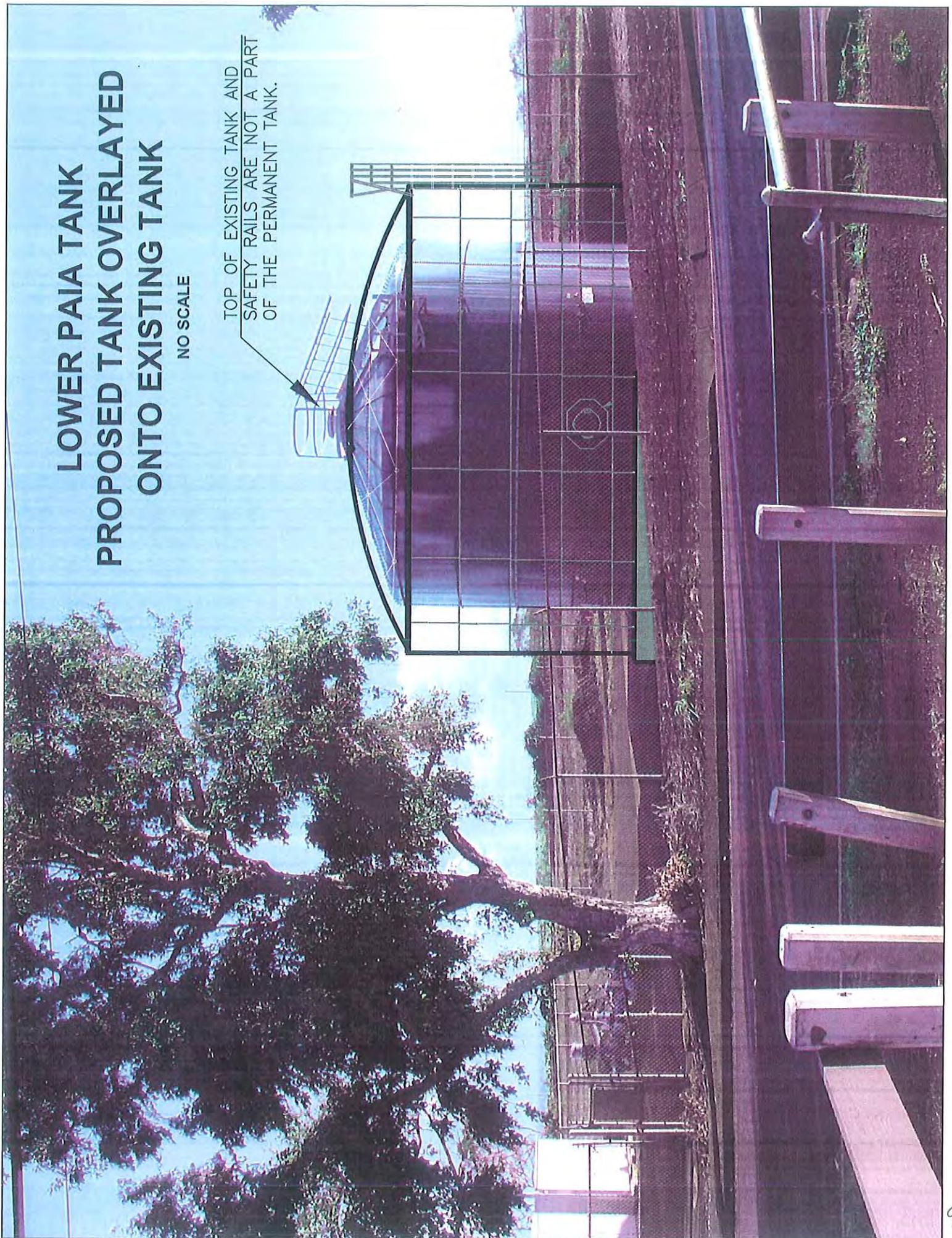
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EXISTING 100,000 GALLON TANK
NO SCALE**



LOWER PAIA TANK PROPOSED TANK OVERLAYED ONTO EXISTING TANK

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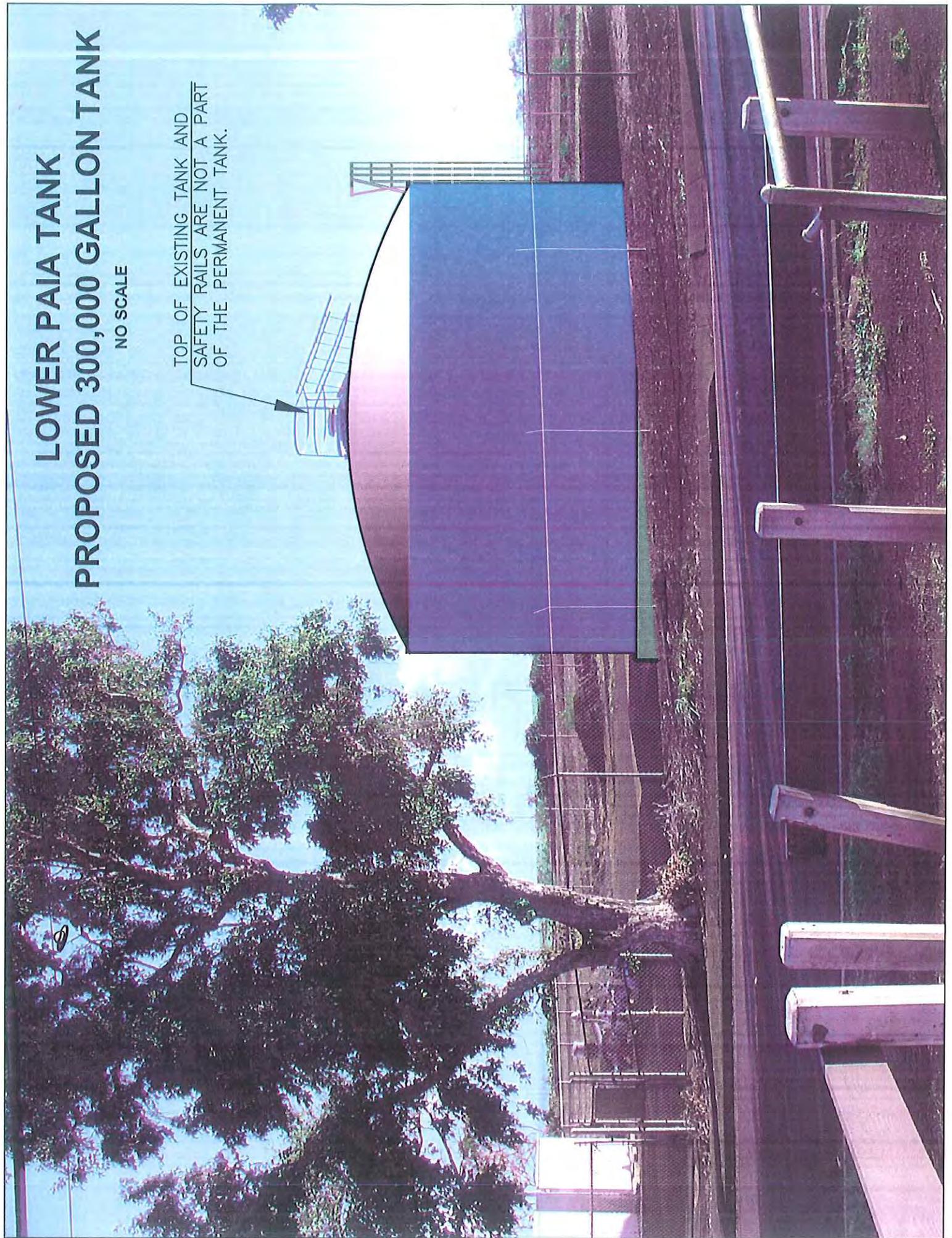
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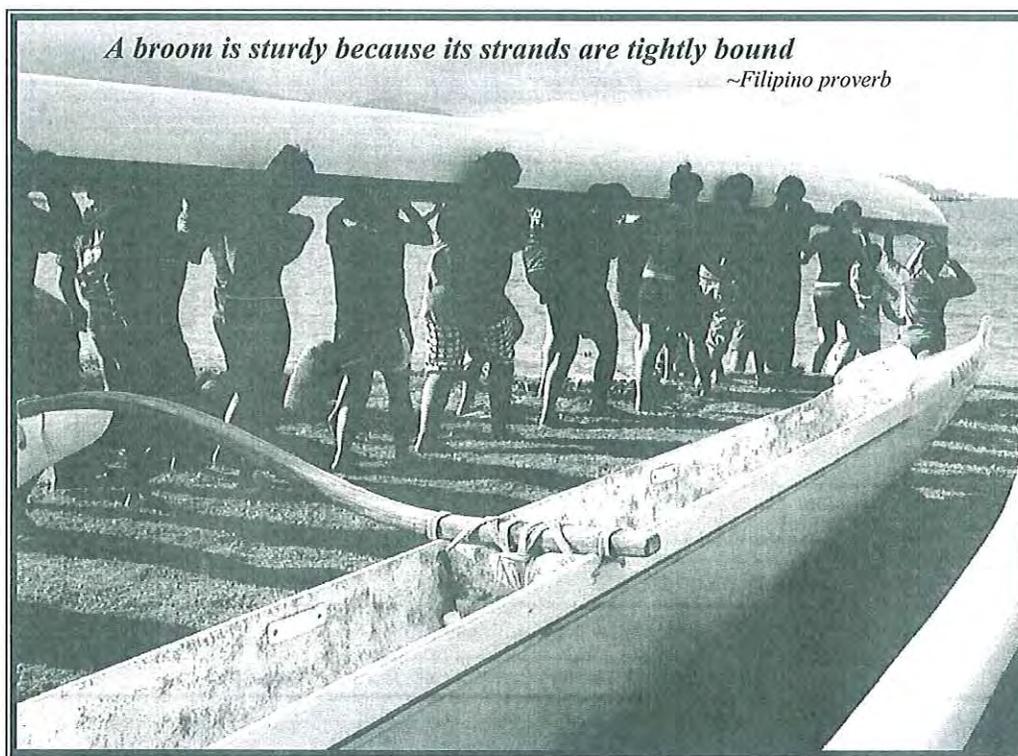
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APPENDIX C

POPULATION PROJECTION FROM THE DRAFT MAUI ISLAND PLAN,
EXERPTS FROM THE ANNUAL REPORTS, TANK SIZING CRITERIA FROM
THE 2002 WATER SYSTEM STANDARDS

Chapter 1: Population



Canoe launch. Kahului, Maui, Hawai'i.

When we cite the multi-cultural diversity of our population as one of our Core Values, it is a call to action. A call to attend to the needs of all aspects of our population- the individual, the various ethnic groups, the children, the old, those who live on the land today and those who are still to come. Population change on the island is inevitable. In-migration and out-migration occur at different rates and for different reasons. Understanding that our overall population will likely follow recent upward trends, it is our responsibility to decide how we would like this growth to manifest itself. Population growth can have positive and negative impacts on the environment, the socio-economic and cultural composition of the island, and the visitor experience. Visitors and new residents may arrive to Maui with expectations and values that conflict with the local way-of-life; a lifestyle that has been rooted on Maui for generations.

POPULATION

The policies that are adopted to address the impacts of population change will ultimately define our expectations for the future, and are far more important than the population change itself.

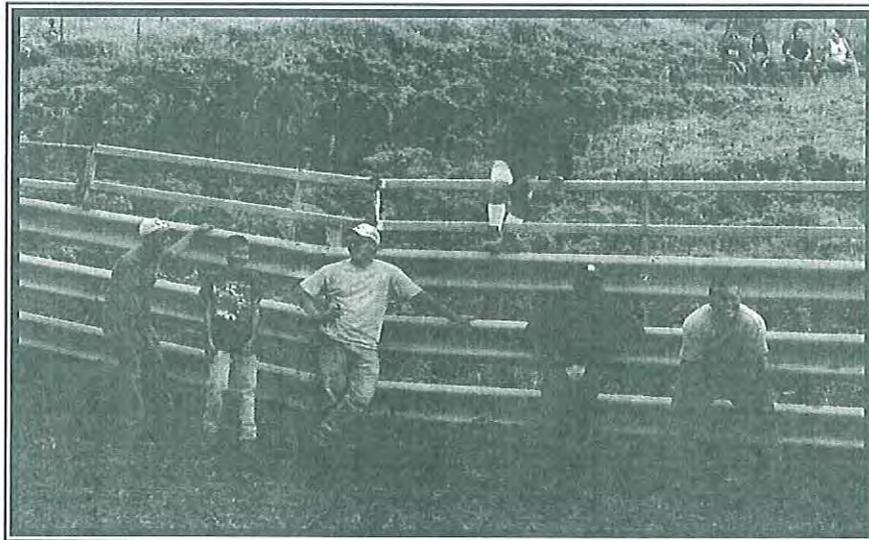
Background Information

The background information in this element draws from the following plans, data sources, and technical studies:

1. *Population and Economic Projections for the State of Hawai'i to 2035: DBEDT 2035 Series, July 2009 (Revised);*
2. *Socio-Economic Forecast, The Economic Projections for the Maui County General Plan 2030. Maui County Planning Department. June 2006;*
3. *Land Use Forecast, Island of Maui, Maui County General Plan 2030. PlanPacific, Inc. November 2006; and*
4. *Maui Island Housing Issue Paper. John M. Knox & Associates, Inc. December 2006.*

The studies address many of the demographic and socio-economic issues on the island and provide an analysis of trends, and existing and anticipated challenges and opportunities. The studies and reports are available from the Maui County Department of Planning's Long Range Planning Division.

Maui County commissioned an update of the 2002 Maui County Socio-Economic forecast to aid Maui County in its preparation for the 2006 General Plan Update¹. The purpose of the report was to forecast residential, visitor and employment growth, as well as housing demand, for the following Community Plan areas: Lāna'i, Moloka'i, West Maui, Kīhei-Mākena, Wailuku-Kahului, Makawao-Pukalani-Kula, Pā'ia-Ha'ikū, and Hāna.



Makawao Rodeo Grounds. Makawao, Maui, Hawaii.

The forecast is a planning tool; it identifies future options for the community to consider. The community may want to adopt policies to achieve a specific outcome that differs from the forecasted outcome, and to minimize the undesirable impacts of current trends. These projections are based on trends and model assumptions, which are absent of policy changes or directives. The forecast affects both ongoing planning (project review and approval) and the desired future articulated by Maui's residents and political leaders (general plans and community plans). Since a long-term forecast identifies long-term trends and

¹ The 2002 report was prepared by SMS Research & Marketing Services, Inc. The present report includes input from SMS, Belt Collins Hawai'i, Plan Pacific, and the County of Maui Department of Planning, Long Range Division.

POPULATION

omits short-term variation, there will be many surprises along the way, even if a forecast turns out to be highly accurate.

The 2006 Forecast was based on projections developed by the State of Hawai'i Department of Business, Economic Development and Tourism (DBEDT). The forecast allocates expected Countywide change to local areas. The DBEDT long-term econometric model draws on historical data over the last twenty years, plus projections from DBEDT and national sources. The DBEDT model (and accordingly, the allocation model) is economically driven: industries that attract capital are taken as crucial to economic growth, which in turn leads to new jobs and increased population. DBEDT updates the long-term projections regularly and the County updates its databases as new projections become available.

Historic Population Trends

To put population increase into perspective, it is appropriate to compare Maui Island's population increase to the other major islands in the Hawaiian chain throughout the recent past. It is evident from Table 1-1 and 1-2 (below) that while O'ahu experienced the most dramatic population increase during the 1950s, the outer islands, including Maui, were impacted by the steepest increase in population between 1970 and 1990.

Table 1 - 1: State and Island Population 1960 - 2000

Island	1960	1970	1980	1990	2000
State of Hawai'i	632,772	769,913	964,691	1,108,229	1,211,537
O'ahu	500,409	630,528	762,565	836,231	876,156
Hawai'i	61,332	63,468	92,053	120,317	148,677
Maui	35,717	38,691	62,823	91,361	117,644
Kaua'i	27,922	29,524	38,856	50,947	58,303

U.S. Census Bureau, 1960 – 2000.

Maui's resident population is expected to grow from 129,471 in 2005 to 176,687 in 2030. This is a 1.46% annual growth rate which equates to a 36.5% increase in population over the 25 year period. These projections indicate a population increase of 16% between 2010 and 2020, and an increase of 12% between 2020 and 2030.

According to the *Socio-Economic Forecast*, the total population is not expected to increase equally throughout the island; rather, there are specific regions where population growth is more likely to occur.

Table 1 - 2: Community Plan Area Population 2000 – 2030

CP Area	2000	2005	2010	2015	2020	2025	2030
West Maui	17,967	19,852	20,892	22,627	24,326	25,904	27,419
Kihei-Mākena	22,870	25,609	27,222	29,731	32,208	34,528	36,767
Wailuku-Kahului	41,503	46,626	49,684	54,374	59,010	63,363	67,565
Makawao-Pukalani-Kula	21,571	23,176	23,862	25,360	26,792	28,077	29,294
Pā'ia-Ha'ikū	11,866	12,210	12,128	12,474	12,764	12,973	13,151
Hāna	1,867	1,998	2,050	2,173	2,290	2,393	2,492
Total Maui Island	117,644	129,471	135,838	146,739	157,390	167,239	176,687

U.S. Census Bureau, 2000, *Socio-Economic Forecast*, Maui County Department of Planning, 2006 revised 2009.

Population

Demographic Conditions, Trends, and Projections

Some demographic trends embedded in the 2006 forecast are consistent with the current projections.

- The population of residents and visitors, on Maui, on any given day (*de facto population*) is projected to increase from 159,462 in 2000 to 235,582 in 2030, a gain of more than 47%.
- The island's resident population is expected to grow at nearly an identical rate as the de facto population, with the resident population of Maui reaching 176,687 by 2030.
- The population is aging; the median age increased from 34.1 to 36.2 years between 1990 and 2000.
- Households are becoming smaller over time; the County average declined from 2.99 persons per household in 1990 to 2.85 persons per household in 2005 while Maui Island's household size is projected to decline from 2.94 persons per household in 2000 to 2.66 persons per household in 2030.

Economic

- Wage and salary jobs are expected to increase by about 1.1% annually.
- Per capita income will increase very little (in constant dollars).
- Visitor counts will increase by about 1.4% annually.
- Due to high occupancy rates, construction of new units is expected to resume, and the supply of visitor units is expected to grow at 1% annually.
- The past rate of growth in resident population, housing and jobs is higher than the rate of visitor growth. This indicates that the County's economy has diversified and is less driven by tourism than in the past.

Community Plan Area Findings

To project future employment and housing needs for the island's Community Plan areas, the forecast model allocated households based on historic trends, availability of entitled lands for development or redevelopment, development constraints, and careful consideration of planned and proposed development projects. The forecast model recognized that relatively isolated areas – Lāna`i, Moloka`i, Hāna – depend much more on the success of one major employer than do others; therefore, an economic downturn can have a devastating impact. Map #1-1 depicts Maui's major employment and population centers. For planning purposes, it is important to provide resident housing near employment.

Community Plan Area	Characteristics
West Maui	In the 1990s, the Lahaina District saw significant population and job growth. Looking to the future, these trends are projected to continue through 2030. Local development potential to monitor includes time-share, large master-planned communities, and Hawaiian Homelands. Time share and other Transient Vacation Rentals are of particular interest for the impact they may have on island-wide job distribution. Time shares have higher occupancies than hotels, but employ fewer workers at the lodging site.
Kihei-Mākena	This area has seen growth in the visitor economy, the technology sector, and expanding residential areas. It has had the smallest average household size and anecdotally its workforce is more transient than other areas. The forecast extends all these trends. Based in part on recent development proposals, the forecast shows stronger growth in residential units than in visitor units.

Population

Community Plan Area	Characteristics
Wailuku-Kahului	This area remains the economic and population center of the island. In the 1990s, this area saw significant increases in trade, transportation, communications and utilities, and government jobs. Kahului Harbor is the port through which most cruise ship visitors reach Maui. The socio-economic forecast suggests the Wailuku-Kahului area will grow faster than other parts of Maui, as former C. Brewer sugar lands are developed into residential subdivisions. Wailuku-Kahului is expected to continue as home to over a third of Maui's households.
Makawao-Pukalani-Kula	Upcountry Maui saw significant increases in population in the 1980s, but less growth in the last decade. New development slowed due to water supply problems. Job growth occurred at a much faster rate, but the forecast calls for economic growth to continue at a slower pace. With only one job Upcountry for every 2.5 households, the bulk of the area's residents commute outside the area for work. This will continue to be the case: by 2030, the forecast shows only 2.1 households per local job.
→ Pā'ia-Ha'ikū	Since windsurfing became popular in the 1980's, this region has taken on new importance as the "home" of this sport. In the 1990s, upland areas saw new development of homes on large agricultural lots, with the area population increasing by 52%. In light of limited availability of suitable land for new homes, the forecast calls for much slower growth in housing and population.
Hāna	In recent years, Hāna has seen job losses and a decrease of children and young adults. Slow growth is projected over the planning period provided the visitor economy remains healthy. Without policy intervention, Hāna may also experience new population resulting from an in-migration of mainland retirees who may not actively seek local employment.

CHALLENGES AND OPPORTUNITIES

The growth of Maui's resident and visitor population will pose both challenges and opportunities. Population growth can exacerbate existing infrastructure capacity deficiencies, place additional demands on environmental resources, foster shifts in the cultural and ethnic makeup of the population, and change the landscape. In addition, the loss of cultural identity and diversity has created social tensions that have increased over the last 20 years. The cultural understanding and sensitivity of new residents to the host culture has been a constant point of discussion throughout the Maui Island Plan's public engagement process.

Population Growth

Population growth can also contribute to the health of the community. Population growth is often necessary to maintain a growing economy, an expanding tax base, and employment opportunities. A host of negative social and economic conditions such as unemployment, crime, family disintegration, and substance abuse can be found in communities with longstanding population loss. Policies and actions to address population growth on Maui can be found throughout the Maui Island Plan. Figure 1-1 depicts the projected growth in Maui's resident and *de facto* population to 2030.

Maui's population is aging; and recent data shows trends related to Maui's aging population will be similar to the trends on the U.S. mainland. Figure 1-2 portrays Maui's age distribution over time. This demographic change has significant impacts to public services as they relate to the elderly including housing, transportation, healthcare, and elder care services.

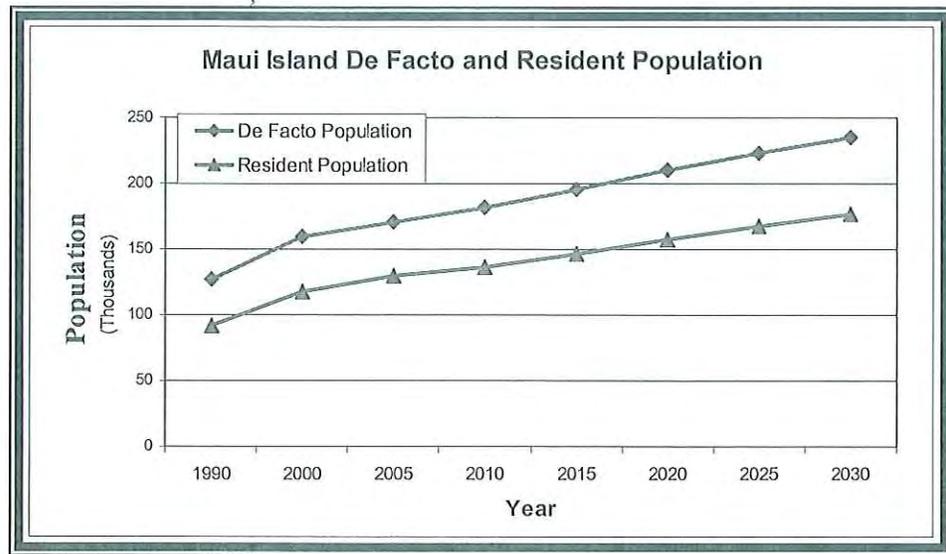


Figure 1 - 1. Maui Island Resident and Defacto Population Projections 1990 – 2030.²

*Aging
Population*

In addition to the challenge of providing more senior services, the wage earning population that typically supports children and seniors will be proportionally smaller. Policies and actions to address the island’s aging population can be found in this element as well as the Housing, Economic Development, Land Use, and Infrastructure Elements.

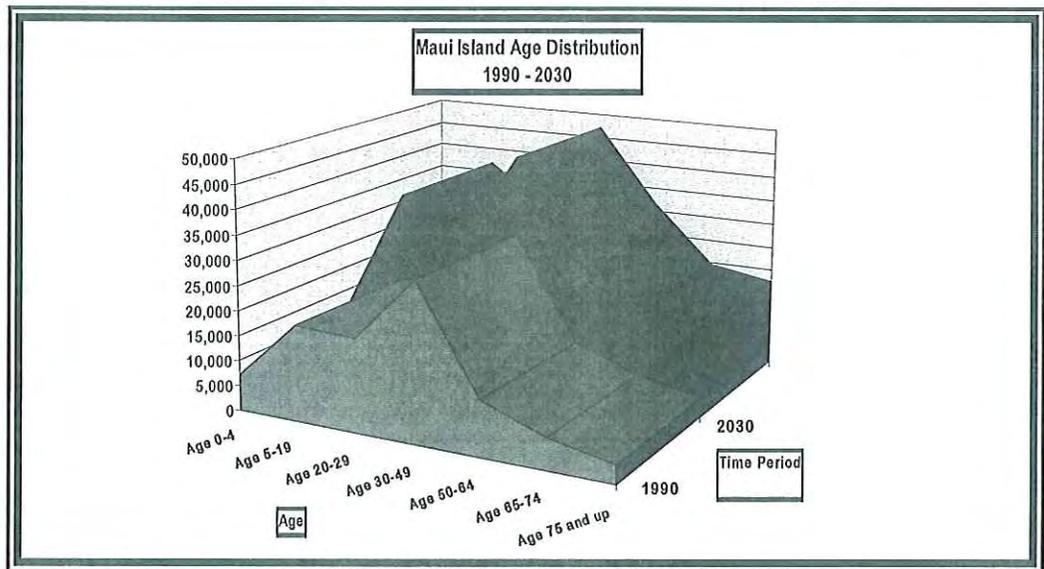


Figure 1 - 2. Maui Island Age Distribution 1990 – 2030.³

Figure 1-3 compares the percentage of Mauians born in Hawai‘i to the percentage born elsewhere. The percentage of those born in Hawai‘i has dropped from 67% in 1980 to 53% in 2000. The out-migration of island residents is a result of Maui’s high cost of housing, limited employment and educational opportunities, and the desire of some Maui residents to

² Population and Economic Projections for the State of Hawai‘i to 2035: DBEDT 2035 Series, July 2009 (Revised)

³ Socio-Economic Forecast, Maui County Department of Planning, 2006.

Population

experience life outside of Hawai'i. Policies and actions to help provide a choice for island residents to remain on Maui can be found throughout the Maui Island Plan.

Out-migration of Island Residents

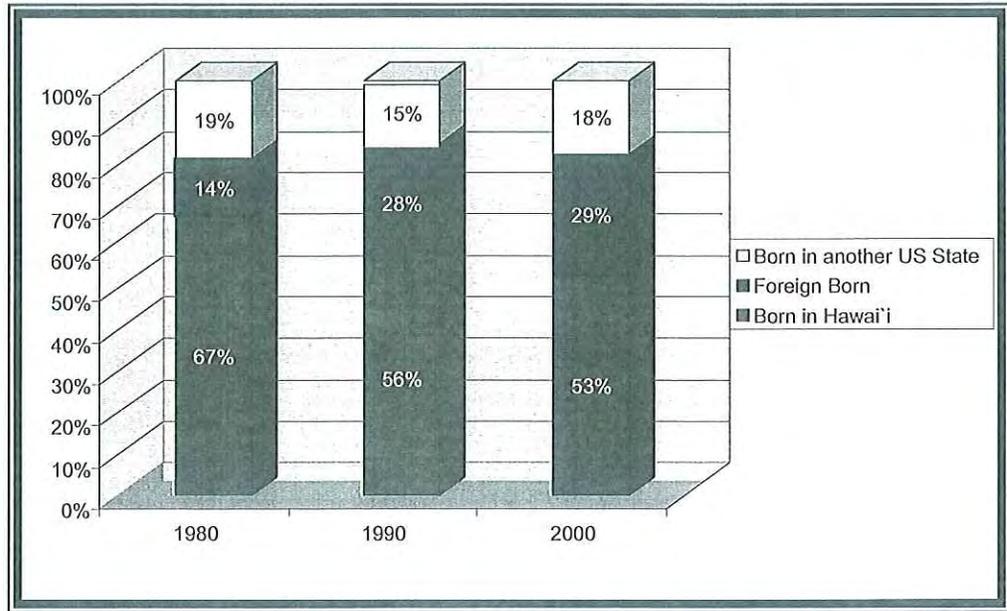


Figure 1 - 3. Maui Island Residents by Place of Birth 1980 – 2000.⁴

Maintaining a Balanced Ratio of Visitors to Residents

Figure 1-4 graphically depicts visitor/resident population trends from 1970 to the projection year of 2030. In 1970, approximately 1 to 20 people on Maui were tourists. This number has risen dramatically; by 2000, the ratio grew to 1 to 3. This trend is forecasted to continue.

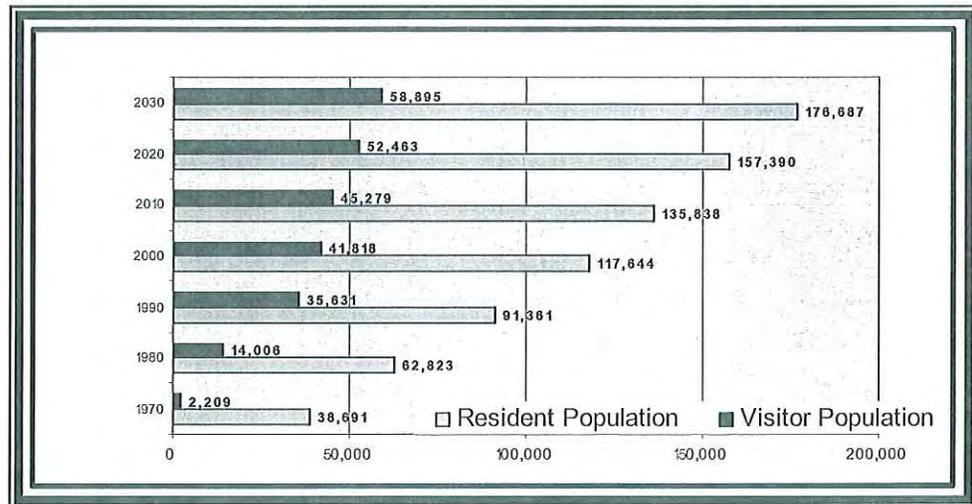


Figure 1 - 4. Maui Island Visitor/Resident Population 1970 – 2030.⁵

⁴ 1980, 1990 and 2000 U.S. Census Bureau

⁵ Socio-Economic Forecast, Maui County Department of Planning, 2006 with 2009 Revised.

Population

Tourism Dollar to Benefit Local Community

The rapid growth of Maui's visitor population has had a significant impact on wages and employment, the housing stock available to residents, recreation, and the continued strain on infrastructure and the environment. It has also altered the island's social fabric; without appropriate monitoring and management, the large volume of visitors could strain the aloha residents extend to visitors.

The relationship between the number of residents and visitors on the island at any given time cannot be overlooked as an important public policy discussion point. Resort communities all around the world that are dependent on tourism have grappled with the "golden goose" debate, whereby the tourism experience may be compromised by the very nature of the area's popularity. As the visitor/resident ratio continues to follow recent trends the once natural, tranquil, scenic destination becomes congested and unappealing.

To address this issue it has been State and County policy to maximize the economic benefit of the visitor industry by protecting and enhancing the quality of the visitor experience rather than maximizing the number of visitors to the island. As in previous plans, the focus of this plan is to provide a rich visitor experience while protecting the island's natural beauty, culture, island lifestyles, and aloha spirit.

GOAL, OBJECTIVES, AND POLICIES

Goal:

- 1.1 Maui's people, values, and lifestyles will thrive through strong, healthy, and vibrant island communities.**

Objective:

- 1.1.1 Greater retention of the island residents by providing viable work, education, and lifestyle options.**

Policies:

- 1.1.1.a** Expand programs that accommodate the employment, housing, and social service needs of youth and young adults.
- 1.1.1.b** Expand housing, transportation, employment, and social opportunities to ensure residents are able to comfortably age within their communities.
- 1.1.1.c** Measure and track resident satisfaction through surveys and community indicators.

Objective:

- 1.1.2 Maximize residents' benefits from the visitor industry, as measured by the percentage of residents earning a living wage, and ease the transition of new residents onto the island**

Policies:

- 1.1.2.a** Define the boundaries of Maui's *Resort Destination Areas* and limit them to Wailea, Mākena, Kapalua, and Kā'anapali, while ensuring public access to these areas; limit *large-scale resort development** to areas within these boundaries.

Population

* defined as complexes that include multiple accommodation facilities, activity businesses, retail complexes, and other amenities.

- 1.1.2.b Promote a sustainable community by not exceeding a visitor population greater than 33% of the resident population (1 visitor to 3 residents).
- 1.1.2.c Educate visitors and new residents about the customs and etiquette of Hawaiian and other cultures.
- 1.1.2.d Adopt a Directed Growth Plan that clearly delineates Resort Destination Areas.
- 1.1.2.e Use the required General Plan Annual Status Report to monitor trends related to residents and visitors.
- 1.1.2.f Work with the community to expand cultural education for new residents, visitors, and the general public.

Actions:

ACTION PLAN						
	ACTION	TIMING			AGENCY	
		UPON ADOPTION	2010-2015	2016-2021		2022-2030
1.1.1	Greater retention of the island residents by providing viable work, education, and lifestyle options.					
1.1.1-Action 1	A. Use an existing agency to facilitate young adult-related employment, housing, social services, and other programs that help retain young adults on Maui. B. Identify existing and develop new funding sources for youth and family services (e.g., recreation, health care, education, housing, child care) and integrate such resources to achieve an effective outcome.		X	X	X	MEDB
1.1.1-Action 2	Provide additional support and funding for transportation, housing, healthcare, recreation, and social service programs that help those with special-needs.		X	X	X	MEDB
1.1.1-Action 3	Develop and regularly conduct a Community Satisfaction Survey to measure residents' quality-of-life, facilitate the development of informed policies / programs, and improve service delivery.		X	X	X	C

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2009 OVER 2008

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase (Decrease)	June 30		Increase (Decrease)	June 30		Increase (Decrease)
	2009	2008		2009	2008		2009	2008	
Walluku District									
111 Walluku	6,041	6,176	(135)	1,255,838	1,316,720	(60,882)	4,491,677	4,308,917	182,760
113 Walhee	194	189	5	27,833	27,765	68	99,528	92,023	7,505
115 Walkapu	905	814	91	114,628	92,545	22,083	380,921	295,471	85,450
117 Walluku Heights	490	490	0	79,797	82,190	(2,393)	259,859	263,573	(3,714)
131 Kahului	4,877	5,065	(188)	1,590,329	1,723,055	(132,726)	5,793,693	5,740,179	53,514
141 Puunene	11	12	(1)	41,991	40,427	1,564	56,408	55,163	1,245
151 Kihei	6,225	5,940	285	3,743,867	4,084,151	(340,284)	13,542,961	13,276,683	266,278
153 Maalaea	45	45	0	78,970	76,813	2,157	307,678	267,175	40,503
155 Makona	197	204	(7)	222,521	216,696	5,825	839,035	733,893	105,942
171 Paia-Kuau	904	902	2	150,937	156,617	(5,680)	509,228	489,118	20,110
173 Spreckelsville	197	185	12	82,243	78,882	3,361	293,682	255,230	38,452
Subtotal	20,086	20,022	64	7,388,954	7,895,861	(506,907)	26,575,471	25,777,425	798,046
Makawao District									
311 Kokomo-Kaupakalua	1,111	1,271	(160)	193,739	171,681	22,058	631,977	517,578	114,399
312 Kula	253	296	(43)	69,526	69,054	472	178,313	170,884	7,429
313 Haiku-Pauwela	808	838	(30)	155,328	151,788	3,540	484,499	435,609	48,890
315 Makawao	2,033	2,032	1	326,863	349,315	(22,452)	1,056,785	993,579	63,206
316 Pukalani	2,040	2,076	(36)	333,826	367,251	(33,425)	1,111,339	1,148,857	(37,518)
317 Hallimaile	199	202	(3)	33,764	34,426	(662)	113,433	107,237	6,196
331 Upper Kula	2,239	1,963	276	459,324	492,097	(32,773)	1,324,921	1,352,231	(27,310)
333 Lower Kula	1,112	1,100	12	734,935	681,804	53,131	1,401,577	1,233,430	168,147
335 Ulupalakua-Kanaio	81	80	1	42,623	52,732	(10,109)	78,390	85,854	(7,464)
337 Kula Ag Park	39	39	0	149,727	172,643	(22,916)	166,098	170,664	(4,566)
Subtotal	9,915	9,897	18	2,499,655	2,542,791	(43,136)	6,547,332	6,215,923	331,409
Lahaina District									
511 Lahaina	2,092	2,026	66	753,164	848,378	(95,214)	2,740,368	2,825,872	(85,504)
513 Honokowai	452	471	(19)	511,992	591,221	(79,229)	1,956,607	2,015,418	(58,811)
515 Alaeloa	791	840	(49)	558,735	571,151	(12,416)	2,058,850	1,940,292	118,558
517 Honokohau	13	9	4	777	913	(136)	2,962	3,268	(306)
Subtotal	3,348	3,346	2	1,824,668	2,011,663	(186,995)	6,758,787	6,784,850	(26,063)
Molokai District									
711 Kawela-Kaunakakai	1,174	1,169	5	207,135	214,746	(7,611)	737,726	694,183	43,543
713 Ualapue	379	374	5	63,023	62,530	493	213,048	194,124	18,924
715 Kalae	113	112	1	9,617	9,767	(150)	34,641	32,112	2,529
717 Halawa	0	0	0	0	0	0	247	0	247
Subtotal	1,666	1,655	11	279,775	287,043	(7,268)	985,661	920,419	65,242
Hana District									
911 Hana	382	384	(2)	65,639	49,162	16,477	222,958	158,358	64,600
913 Nahiku	39	39	0	4,578	2,680	1,898	15,687	9,113	6,574
915 Keanae	82	84	(2)	9,104	6,837	2,267	33,105	23,475	9,630
917 Kaupo	22	17	5	1,569	1,074	495	4,563	2,813	1,750
Subtotal	525	524	1	80,890	59,753	21,137	276,312	193,759	82,553
Total - Gen. & Agr.	35,540	35,444	96	12,073,942	12,797,111	(723,169)	41,143,564	39,892,376	1,251,188

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2008 OVER 2007

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2008	2007	(Decrease)	2008	2007	(Decrease)	2008	2007	(Decrease)
Wailuku District									
111 Walluku	6,176	5,927	249	1,316,720	1,343,947	(27,227)	4,308,917	3,854,290	454,627
113 Waihee	189	190	(1)	27,765	33,825	(6,060)	92,023	101,609	(9,586)
115 Waikapu	814	510	304	92,545	63,792	28,753	295,471	181,527	113,944
117 Wailuku Heights	490	490	0	82,190	90,001	(7,811)	263,573	261,640	1,933
131 Kahului	5,065	5,031	34	1,723,055	1,852,311	(129,256)	5,740,179	5,306,744	433,435
141 Puunene	12	11	1	40,427	34,992	5,435	55,163	44,557	10,606
151 Kihei	5,940	5,823	117	4,084,151	4,149,576	(65,425)	13,276,683	11,506,770	1,769,913
153 Maalaea	45	45	0	76,813	77,900	(1,087)	267,175	224,788	42,387
155 Makena	204	205	(1)	216,696	244,010	(27,314)	733,893	695,440	38,453
171 Paia-Kuau	902	903	(1)	156,617	161,968	(5,351)	489,118	453,123	35,995
173 Spreckelsville	185	174	11	78,882	81,895	(3,013)	255,230	226,290	28,940
Subtotal	20,022	19,309	713	7,895,861	8,134,217	(238,356)	25,777,425	22,856,778	2,920,647
Makawao District									
311 Kokomo-Kaupakalua	1,271	1,254	17	171,681	179,109	(7,428)	517,578	485,480	32,098
312 Kulaha	296	296	0	69,054	62,704	6,350	170,884	145,970	24,914
313 Haiku-Pauwela	838	836	2	151,788	149,392	2,396	435,609	389,478	46,131
315 Makawao	2,032	2,028	6	349,315	369,692	(20,377)	993,579	969,568	24,011
316 Pukalani	2,076	2,074	2	367,251	390,582	(23,331)	1,148,857	1,088,050	60,807
317 Hallimaille	202	201	1	34,426	31,784	2,642	107,237	89,742	17,495
331 Upper Kula	1,963	1,960	3	492,097	552,991	(60,894)	1,352,231	1,309,477	42,754
333 Lower Kula	1,100	1,098	2	681,804	813,945	(132,141)	1,233,430	1,278,060	(44,630)
335 Ulupalakua-Kanaio	80	81	(1)	52,732	57,333	(4,601)	85,854	82,575	3,279
337 Kula Ag Park	39	39	0	172,643	213,454	(40,811)	170,664	193,824	(23,160)
Subtotal	9,897	9,865	32	2,542,791	2,820,986	(278,195)	6,215,923	6,032,224	183,699
Lahaina District									
511 Lahaina	2,028	2,016	10	848,378	846,086	2,292	2,825,872	2,400,480	425,392
513 Honokowai	471	471	0	591,221	562,877	28,344	2,015,418	1,603,325	412,093
515 Aiaeloa	840	840	0	571,151	528,010	43,141	1,940,292	1,507,940	432,352
517 Honokohau	9	9	0	913	866	47	3,268	2,766	502
Subtotal	3,346	3,336	10	2,011,663	1,937,839	73,824	6,784,850	5,514,511	1,270,339
Molokai District									
711 Kawela-Kaunakakai	1,169	1,162	7	214,746	216,996	(2,250)	694,183	624,880	69,303
713 Ualapue	374	375	(1)	62,530	69,971	(7,441)	194,124	191,155	2,969
715 Kalae	112	113	(1)	9,767	9,789	(22)	32,112	30,195	1,917
717 Halawa	0	0	0	0	0	0	0	0	0
Subtotal	1,655	1,650	5	287,043	296,756	(9,713)	920,419	846,230	74,189
Hana District									
911 Hana	384	382	2	49,162	54,758	(5,596)	158,358	158,801	(443)
913 Nahiku	39	39	0	2,680	3,740	(1,060)	9,113	11,481	(2,368)
915 Keanae	84	84	0	6,837	7,904	(1,067)	23,475	24,801	(1,126)
917 Kaupo	17	17	0	1,074	1,364	(290)	2,813	4,483	(1,670)
Subtotal	524	522	2	59,753	67,766	(8,013)	193,759	199,366	(5,607)
Total - Gen. & Agr.	35,444	34,682	762	12,797,111	13,257,564	(460,453)	39,892,376	35,449,109	4,443,267

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2007 OVER 2006

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2007	2006	(Decrease)	2007	2006	(Decrease)	2007	2006	(Decrease)
<u>Wailuku District</u>									
111 Wailuku	5,927	5,689	238	1,343,947	1,303,985	39,962	3,854,290	3,359,757	494,533
113 Waihee	190	190	0	33,825	29,451	4,374	101,609	78,993	22,616
115 Waikapu	510	334	176	63,792	54,308	9,484	181,527	137,296	44,231
117 Wailuku Heights	490	487	3	90,001	86,437	3,564	261,640	224,766	36,874
131 Kahului	5,031	4,752	279	1,852,311	1,809,576	42,735	5,306,744	4,639,744	667,000
141 Puunene	11	11	0	34,992	37,249	(2,257)	44,557	41,373	3,184
151 Kihei	5,823	5,725	98	4,149,576	4,321,126	(171,550)	11,506,770	10,690,269	816,501
153 Maalaea	45	45	0	77,900	85,455	(7,555)	224,788	219,980	4,808
155 Makena	205	195	10	244,010	224,534	19,476	695,440	574,050	121,390
171 Paia-Kuau	903	904	(1)	161,968	154,687	7,281	453,123	388,645	64,478
173 Spreckelsville	174	170	4	81,895	78,433	3,462	226,290	194,973	31,317
Subtotal	19,309	18,502	807	8,134,217	8,185,241	(51,024)	22,856,778	20,549,848	2,306,930
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	1,254	1,235	19	179,109	176,445	2,664	485,480	435,636	49,844
312 Kuiaha	296	296	0	62,704	57,339	5,365	145,970	123,097	22,873
313 Haiku-Pauwela	836	836	0	149,392	140,101	9,291	389,478	341,342	48,136
315 Makawao	2,026	2,015	11	369,692	347,767	21,925	969,568	839,688	129,880
316 Pukalani	2,074	2,072	2	390,582	364,340	26,242	1,088,050	913,025	175,025
317 Haliimaile	201	200	1	31,784	38,594	(6,810)	89,742	97,784	(8,042)
331 Upper Kula	1,960	1,956	4	552,991	490,633	62,358	1,309,477	1,030,641	278,836
333 Lower Kula	1,098	1,092	6	813,945	809,058	4,887	1,278,060	1,135,147	142,913
335 Ulupalakua-Kanaio	81	82	(1)	57,333	60,706	(3,373)	82,575	80,294	2,281
337 Kula Ag Park	39	39	0	213,454	220,901	(7,447)	193,824	185,727	8,097
Subtotal	9,865	9,823	42	2,820,986	2,705,884	115,102	6,032,224	5,182,381	849,843
<u>Lahaina District</u>									
511 Lahaina	2,016	1,980	36	846,086	849,042	(2,956)	2,400,480	2,170,210	230,270
513 Honokowai	471	441	30	562,877	575,581	(12,704)	1,603,325	1,476,272	127,053
515 Alaehoa	840	768	72	528,010	502,252	25,758	1,507,940	1,292,580	215,360
517 Honokohau	9	13	(4)	866	1,098	(232)	2,766	3,114	(348)
Subtotal	3,336	3,202	134	1,937,839	1,927,973	9,866	5,514,511	4,942,177	572,334
<u>Molokai District</u>									
711 Kawela-Kaunakakai	1,162	1,146	16	216,996	226,897	(9,901)	624,880	586,375	38,505
713 Ualapue	375	366	9	69,971	64,482	5,489	191,155	165,445	25,710
715 Kalae	113	110	3	9,789	11,114	(1,325)	30,195	30,174	21
717 Halawa	0	8	(8)	0	159	(159)	0	765	(765)
Subtotal	1,650	1,630	20	296,756	302,652	(5,896)	846,230	782,761	63,469
<u>Hana District</u>									
911 Hana	382	382	0	54,758	50,836	3,922	158,801	135,650	23,151
913 Nahiku	39	37	2	3,740	4,183	(443)	11,481	11,513	(32)
915 Keanae	84	82	2	7,904	7,462	442	24,601	21,237	3,364
917 Kaupo	17	17	0	1,364	1,900	(536)	4,483	5,719	(1,236)
Subtotal	522	518	4	67,766	64,381	3,385	199,366	174,118	25,248
Total - Gen. & Agr.	34,682	33,675	1,007	13,257,564	13,186,131	71,433	35,449,109	31,631,285	3,817,824

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2006 OVER 2005

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2006	2005	(Decrease)	2006	2005	(Decrease)	2006	2005	(Decrease)
Wailuku District									
111 Wailuku	5,689	5,393	296	1,303,985	1,301,950	2,035	3,359,757	2,996,664	363,093
113 Waihee	190	191	(1)	29,451	26,752	2,699	78,993	65,215	13,778
115 Waikapu	334	328	6	54,308	55,294	(986)	137,296	127,094	10,203
117 Wailuku Heights	487	485	2	86,437	80,765	5,672	224,766	187,698	37,068
131 Kahului	4,752	4,719	33	1,809,576	1,710,232	99,344	4,639,744	3,951,826	687,918
141 Puunene	11	12	(1)	37,249	24,011	13,238	41,373	30,395	10,979
151 Kihei	5,725	5,670	55	4,321,126	4,057,198	263,928	10,690,269	9,033,399	1,656,870
153 Maalaea	45	45	0	85,455	75,752	9,703	219,980	175,608	44,373
155 Makena	195	198	(3)	224,534	231,555	(7,021)	574,050	553,227	20,823
171 Paia-Kuau	904	891	13	154,687	168,313	(13,626)	388,645	383,164	5,481
173 Spreckelsville	170	172	(2)	78,433	80,298	(1,865)	194,973	183,435	11,538
Subtotal	18,502	18,104	398	8,185,241	7,812,120	373,121	20,549,848	17,687,726	2,862,122
Makawao District									
311 Kokomo-Kaupakalua	1,235	1,164	71	176,445	185,173	(8,728)	435,636	412,578	23,058
312 Kula	296	296	0	57,339	59,338	(1,999)	123,097	115,165	7,932
313 Haiku-Pauwela	836	836	0	140,101	147,638	(7,537)	341,342	324,086	17,256
316 Makawao	2,015	2,005	10	347,767	397,844	(50,077)	839,688	850,889	(11,201)
316 Pukalani	2,072	2,065	7	364,340	362,849	1,491	913,025	832,159	80,867
317 Halimaile	200	205	(5)	38,594	39,344	(750)	97,784	90,049	7,735
331 Upper Kula	1,956	1,935	21	490,633	488,050	2,583	1,030,641	914,119	116,522
333 Lower Kula	1,092	1,081	11	809,058	805,756	3,302	1,135,147	1,081,996	53,150
335 Ulupalakua-Kanaio	82	82	0	60,706	57,248	3,458	80,294	88,092	(7,798)
337 Kula Ag Park	39	39	0	220,901	236,187	(15,286)	185,727	181,304	4,423
Subtotal	9,823	9,708	115	2,705,884	2,779,427	(73,543)	5,182,381	4,890,437	291,944
Lahaina District									
511 Lahaina	1,980	1,974	6	849,042	810,192	38,850	2,170,210	1,861,574	308,636
513 Honokowai	441	436	5	575,581	686,581	(111,000)	1,476,272	1,450,664	25,608
515 Alaeloa	768	756	12	502,252	494,394	7,858	1,292,580	1,136,586	155,994
517 Honokohau	13	13	0	1,098	1,299	(201)	3,114	3,170	(56)
Subtotal	3,202	3,179	23	1,927,973	1,992,466	(64,493)	4,942,177	4,451,994	490,182
Molokai District									
711 Kawela-Kaunakakai	1,146	1,132	14	226,897	238,496	(11,599)	586,375	562,563	23,812
713 Ualapue	366	367	(1)	64,482	66,127	(1,645)	165,445	150,924	14,521
715 Kalae	110	108	2	11,114	11,915	(801)	30,174	29,266	909
717 Halawa	8	8	0	159	418	(259)	765	1,077	(312)
Subtotal	1,630	1,615	15	302,652	316,956	(14,304)	782,761	743,830	38,931
Hana District									
911 Hana	382	381	1	50,836	46,283	4,553	135,650	112,399	23,251
913 Nahiku	37	37	0	4,183	4,540	(357)	11,513	10,894	619
915 Keanae	82	82	0	7,462	7,668	(206)	21,237	19,360	1,877
917 Kaupo	17	17	0	1,900	1,126	774	5,719	3,261	2,458
Subtotal	518	517	1	64,381	59,617	4,764	174,118	145,913	28,205
Total - Gen. & Agr.	33,675	33,123	552	13,186,131	12,960,586	225,545	31,631,285	27,919,901	3,711,384

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2005 OVER 2004

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2005	2004	(Decrease)	2005	2004	(Decrease)	2005	2004	(Decrease)
<u>Wailuku District</u>									
111 Wailuku	5,393	5,150	243	1,301,950	1,202,221	99,729	2,996,664	2,803,276	193,388
113 Waihee	191	189	2	26,752	24,200	2,552	65,215	58,525	6,690
115 Waikapu	328	327	1	55,294	47,914	7,380	127,094	110,758	16,335
117 Wailuku Heights	485	472	13	80,765	78,465	2,300	187,698	181,303	6,395
131 Kahului	4,719	4,530	189	1,710,232	1,533,709	176,523	3,951,826	3,538,838	412,988
141 Puunene	12	10	2	24,011	29,886	(5,875)	30,395	42,756	(12,361)
151 Kihei	5,670	5,565	105	4,057,198	3,946,031	111,167	9,033,399	8,784,597	248,802
153 Maalaea	45	45	0	75,752	80,793	(5,041)	175,608	186,891	(11,283)
155 Makana	198	164	34	231,555	218,190	13,365	553,227	517,018	36,209
171 Paia-Kuau	891	886	5	168,313	163,271	5,042	383,164	372,396	10,768
173 Spreckelsville	172	171	1	80,298	77,520	2,778	183,435	172,318	11,117
Subtotal	18,104	17,509	595	7,812,120	7,402,200	409,920	17,687,726	16,768,678	919,048
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	1,164	1,079	85	185,173	178,073	7,100	412,578	394,180	18,398
312 Kujaha	296	303	(7)	59,338	58,133	1,205	115,165	113,955	1,210
313 Haiku-Pauwela	836	837	(1)	147,638	146,674	964	324,086	311,691	12,396
315 Makawao	2,005	1,980	25	397,844	348,717	49,127	850,889	775,004	75,884
316 Pukalani	2,065	2,040	25	362,849	370,656	(7,807)	832,159	860,636	(28,477)
317 Halimaille	205	201	4	39,344	38,301	1,043	90,049	87,074	2,976
331 Upper Kula	1,935	1,920	15	488,050	439,704	48,346	914,119	854,591	59,527
333 Lower Kula	1,081	1,084	(3)	805,756	758,392	47,364	1,081,996	1,025,398	56,598
335 Ulupalakua-Kanaio	82	79	3	57,248	55,254	1,994	88,092	65,765	22,327
337 Kula Ag Park	39	40	(1)	236,187	192,208	43,979	181,304	155,599	25,705
Subtotal	9,708	9,563	145	2,779,427	2,586,112	193,315	4,890,437	4,643,894	246,544
<u>Lahaina District</u>									
511 Lahaina	1,974	1,973	1	810,192	891,755	(81,563)	1,861,574	2,064,803	(203,229)
513 Honokowai	436	430	6	686,581	642,345	44,236	1,450,664	1,467,125	(16,461)
515 Alaeloa	756	745	11	494,394	504,055	(9,661)	1,136,586	1,162,007	(25,421)
517 Honokohau	13	13	0	1,299	1,604	(305)	3,170	3,868	(698)
Subtotal	3,179	3,161	18	1,992,466	2,039,759	(47,293)	4,451,994	4,697,804	(245,809)
<u>Molokai District</u>									
711 Kawela-Kaunakakai	1,132	1,130	2	238,496	231,602	6,894	562,563	536,184	26,379
713 Ualapue	367	350	17	66,127	83,722	(17,595)	150,924	186,528	(35,604)
715 Kalae	108	107	1	11,915	15,790	(3,875)	29,266	36,999	(7,734)
717 Halawa	8	8	0	418	125	293	1,077	643	434
Subtotal	1,615	1,595	20	316,956	331,239	(14,283)	743,830	760,355	(16,525)
<u>Hana District</u>									
911 Hana	381	381	0	46,283	57,017	(10,734)	112,399	136,539	(24,141)
913 Nahiku	37	35	2	4,540	4,770	(230)	10,894	11,605	(710)
915 Keanae	82	80	2	7,668	13,084	(5,416)	19,360	31,751	(12,391)
917 Kaupo	17	20	(3)	1,126	1,457	(331)	3,261	4,223	(962)
Subtotal	517	516	1	59,617	76,328	(16,711)	145,913	184,118	(38,205)
Total - Gen. & Agr.	33,123	32,344	779	12,960,586	12,435,638	524,948	27,919,901	27,054,848	865,053

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2004 OVER 2003

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2004	2003	(Decrease)	2004	2003	(Decrease)	2004	2003	(Decrease)
<u>Wailuku District</u>									
111 Wailuku	5,150	5,099	51	1,202,221	1,252,578	(50,357)	2,803,276	2,887,886	(84,610)
113 Waihee	189	185	4	24,200	26,089	(1,889)	58,525	61,920	(3,395)
115 Waikapu	327	301	26	47,914	51,704	(3,790)	110,758	117,873	(7,115)
117 Wailuku Heights	472	466	6	78,465	93,252	(14,787)	181,303	222,748	(41,445)
131 Kahului	4,530	4,502	28	1,533,709	1,728,800	(195,091)	3,538,838	3,956,009	(417,171)
141 Puunene	10	10	0	29,886	38,398	(8,512)	42,756	43,579	(823)
151 Kihei	5,565	5,282	283	3,946,031	3,916,117	29,914	8,784,597	8,786,781	(2,184)
153 Maalaea	45	45	0	80,793	83,639	(2,846)	186,891	194,249	(7,358)
155 Makena	164	159	5	218,190	204,780	13,410	517,018	535,024	(18,006)
→ 171 Paia-Kuau	886	856	30	→ 163,271	166,034	(2,763)	372,396	376,892	(4,496)
173 Spreckelsville	171	165	6	77,520	87,192	(9,672)	172,318	191,766	(19,448)
Subtotal	17,509	17,070	439	7,402,200	7,648,583	(246,383)	16,768,678	17,374,727	(606,049)
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	1,079	1,010	69	178,073	181,201	(3,128)	394,180	395,235	(1,055)
312 Kuiaha	303	299	4	58,133	52,758	5,375	113,955	107,490	6,465
313 Haiku-Pauwela	837	825	12	146,674	137,789	8,885	311,691	299,947	11,744
315 Makawao	1,980	1,975	5	348,717	357,361	(8,644)	775,004	786,918	(11,914)
316 Pukalani	2,040	2,020	20	370,656	383,638	(12,982)	860,636	928,584	(67,948)
317 Haliimaile	201	200	1	38,301	35,813	2,488	87,074	80,759	6,315
319 Paia-Hamakuapoko	0	0	0	0	0	0	0	0	0
331 Upper Kula	1,920	1,892	28	439,704	504,773	(65,069)	854,591	928,831	(74,240)
333 Lower Kula	1,084	1,076	8	758,392	796,066	(37,674)	1,025,398	1,070,051	(44,653)
335 Ulupalakua-Kanaio	79	76	3	55,254	69,514	(14,260)	65,765	76,151	(10,386)
337 Kula Ag Park	40	37	3	192,208	193,033	(825)	155,599	150,940	4,659
Subtotal	9,563	9,410	153	2,586,112	2,711,946	(125,834)	4,643,894	4,824,906	(181,012)
<u>Lahaina District</u>									
511 Lahaina	1,973	1,970	3	891,755	917,782	(26,027)	2,064,803	2,129,648	(64,845)
513 Honokowai	430	413	17	642,345	583,486	58,859	1,467,125	1,332,046	135,079
515 Alaeloa	745	711	34	504,055	424,846	79,209	1,162,007	976,913	185,094
517 Honokohau	13	13	0	1,604	1,446	158	3,868	3,474	394
Subtotal	3,161	3,107	54	2,039,759	1,927,560	112,199	4,697,804	4,442,081	255,723
<u>Motokai District</u>									
711 Kawela-Kaunakakai	1,130	1,114	16	231,602	247,731	(16,129)	536,184	571,166	(34,982)
713 Ualapue	350	349	1	83,722	78,920	4,802	186,528	176,726	9,802
715 Kalae	107	107	0	15,790	11,175	4,615	36,999	28,144	8,855
717 Halawa	8	8	0	125	272	(147)	643	919	(276)
Subtotal	1,595	1,578	17	331,239	338,098	(6,859)	760,355	776,955	(16,600)
<u>Hana District</u>									
911 Hana	381	380	1	57,017	55,867	1,150	136,539	131,129	5,410
913 Nahiku	35	34	1	4,770	3,522	1,248	11,605	9,144	2,461
915 Keanae	80	80	0	13,084	8,079	5,005	31,751	20,184	11,567
917 Kaupo	20	21	(1)	1,457	1,313	144	4,223	3,363	860
Subtotal	516	515	1	76,328	68,781	7,547	184,118	163,820	20,298
Total - Gen. & Agr.	32,344	31,680	664	12,435,638	12,694,968	(259,330)	27,054,848	27,582,489	(527,641)

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2003 OVER 2002

	Services			Consumption (1,000 Gallons)			Revenues			
	June 30		Increase	June 30		Increase	June 30		Increase	
	2003	2002	(Decrease)	2003	2002	(Decrease)	2003	2002	(Decrease)	
<u>Wailuku District</u>										
111	Wailuku	5,099	5,065	34	1,252,578	1,203,152	49,426	2,887,886	2,789,231	98,655
113	Waihee	185	182	3	26,089	27,569	(1,480)	61,920	64,937	(3,017)
115	Waikapu	301	301	0	51,704	47,280	4,424	117,873	108,118	9,755
117	Wailuku Heights	466	456	10	93,252	79,995	13,257	222,748	184,378	38,370
131	Kahului	4,502	4,439	63	1,728,800	1,720,531	8,269	3,956,009	3,948,090	7,919
141	Puunene	10	11	(1)	38,398	36,199	2,199	43,579	42,130	1,449
151	Kihei	5,282	5,079	203	3,916,117	3,761,182	154,935	8,786,781	8,274,545	512,236
153	Maalaea	45	45	0	83,639	81,312	2,327	194,249	187,711	6,538
155	Makena	159	136	23	204,780	189,097	15,683	535,024	456,240	78,784
171	Paia-Kuau	856	853	3	166,034	156,761	9,273	376,892	356,127	20,765
173	Spreckelsville	165	161	4	87,192	86,482	710	191,766	188,596	3,170
	Subtotal	17,070	16,728	342	7,648,583	7,389,560	259,023	17,374,727	16,600,104	774,623
<u>Makawao District</u>										
311	Kokomo-Kaupakalua	1,010	997	13	181,201	162,828	18,373	395,235	361,469	33,766
312	Kuiaha	299	299	0	52,758	45,614	7,144	107,490	93,898	13,592
313	Haiku-Pauwela	825	799	26	137,789	121,821	15,968	299,947	267,288	32,659
315	Makawao	1,975	1,971	4	357,361	335,729	21,632	786,918	741,512	45,406
316	Pukalani	2,020	1,956	64	383,638	349,274	34,364	928,584	799,188	129,396
317	Haliimaile	200	200	0	35,813	33,124	2,689	80,759	74,926	5,833
319	Paia-Hamakuapoko	0	0	0	0	0	0	0	0	0
331	Upper Kula	1,892	1,748	144	504,773	546,306	(41,533)	928,831	1,005,561	(76,730)
333	Lower Kula	1,076	1,088	(12)	796,066	858,699	(62,633)	1,070,051	1,129,844	(59,793)
335	Ulupalakua-Kanaio	76	79	(3)	69,514	72,420	(2,906)	76,151	83,346	(7,195)
337	Kula Ag Park	37	38	(1)	193,033	213,444	(20,411)	150,940	171,145	(20,205)
	Subtotal	9,410	9,175	235	2,711,946	2,739,259	(27,313)	4,824,906	4,728,177	96,729
<u>Lahaina District</u>										
511	Lahaina	1,970	1,931	39	917,782	865,907	51,875	2,129,648	1,993,009	136,639
513	Honokowai	413	410	3	583,486	550,398	33,088	1,332,046	1,253,482	78,564
515	Alaeloa	711	683	28	424,846	378,790	46,056	976,913	872,210	104,703
517	Honokohau	13	13	0	1,446	1,204	242	3,474	2,936	538
	Subtotal	3,107	3,037	70	1,927,560	1,796,299	131,261	4,442,081	4,121,638	320,443
<u>Molokai District</u>										
711	Kawela-Kaunakakai	1,114	1,109	5	247,731	232,704	15,027	571,166	536,867	34,299
713	Ualapue	349	350	(1)	78,920	73,041	5,879	176,726	166,716	10,010
715	Kalae	107	105	2	11,175	9,384	1,791	28,144	22,700	5,444
717	Halawa	8	6	2	272	165	107	919	682	237
	Subtotal	1,578	1,570	8	338,098	315,294	22,804	776,955	726,964	49,991
<u>Hana District</u>										
911	Hana	380	376	4	55,867	59,476	(3,609)	131,129	141,418	(10,289)
913	Nahiku	34	34	0	3,522	3,911	(389)	9,144	9,544	(400)
915	Keanae	80	80	0	8,079	7,595	484	20,184	19,015	1,169
917	Kaupo	21	21	0	1,313	911	402	3,363	2,992	371
	Subtotal	515	511	4	68,781	71,893	(3,112)	163,820	172,969	(9,149)
	Total - Gen. & Agr.	31,680	31,021	659	12,694,968	12,312,305	382,663	27,582,489	26,349,853	1,232,636

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2002 OVER 2001

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2002	2001	(Decrease)	2002	2001	(Decrease)	2002	2001	(Decrease)
<u>Wailuku District</u>									
111 Wailuku	5,065	4,933	132	1,203,152	1,503,497	(300,345)	2,789,231	3,556,604	(767,373)
113 Waihee	182	177	5	27,569	25,025	2,544	64,937	81,543	(16,606)
115 Waikapu	301	300	1	47,280	50,895	(3,615)	108,118	132,615	(24,496)
117 Wailuku Heights	456	451	5	79,995	98,427	(18,432)	184,378	218,248	(33,869)
131 Kahului	4,439	4,283	156	1,720,531	1,479,877	240,654	3,948,090	3,335,106	612,985
141 Puunene	11	11	0	36,199	36,901	(702)	42,130	44,148	(2,018)
151 Kihei	5,079	5,020	59	3,761,182	4,321,613	(560,431)	8,274,545	9,265,584	(991,039)
153 Maalaea	45	42	3	81,312	93,347	(12,035)	187,711	230,802	(43,091)
155 Makena	136	134	2	189,097	174,389	14,708	456,240	390,356	65,884
171 Paia-Kuau	853	843	10	156,761	159,393	(2,632)	356,127	375,370	(19,243)
173 Spreckelsville	161	151	10	86,482	72,786	13,696	188,596	198,481	(9,885)
Subtotal	16,728	16,345	383	7,389,560	8,016,150	(626,590)	16,600,104	17,828,855	(1,228,751)
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	997	955	42	162,828	157,439	5,389	361,469	343,075	18,395
312 Kuiaha	299	295	4	45,614	51,836	(6,222)	93,898	104,062	(10,164)
313 Haiku-Pauwela	799	795	4	121,821	123,110	(1,289)	267,288	262,681	4,607
315 Makawao	1,971	1,957	14	335,729	321,296	14,433	741,512	685,486	56,026
316 Pukalani	1,956	1,940	16	349,274	333,200	16,074	799,188	743,311	55,877
317 Haliimaile	200	197	3	33,124	34,936	(1,812)	74,926	77,333	(2,407)
319 Paia-Hamakuapoko	0	0	0	0	0	0	0	0	0
331 Upper Kula	1,748	1,722	26	546,306	503,530	42,776	1,005,561	902,485	103,076
333 Lower Kula	1,088	1,084	4	858,699	823,066	35,633	1,129,844	1,046,442	83,402
335 Ulupalakua-Kanaio	79	81	(2)	72,420	68,623	3,797	83,346	74,847	8,498
337 Kula Ag Park	38	38	0	213,444	210,858	2,586	171,145	156,651	14,494
Subtotal	9,175	9,064	111	2,739,259	2,627,894	111,365	4,728,177	4,396,374	331,804
<u>Lahaina District</u>									
511 Lahaina	1,931	1,912	19	865,907	883,993	(18,086)	1,993,009	1,971,289	21,721
513 Honokowai	410	403	7	550,398	561,707	(11,309)	1,253,482	1,242,525	10,958
515 Alaeloa	683	629	54	378,790	372,707	6,083	872,210	833,796	38,414
517 Honokohau	13	13	0	1,204	1,159	45	2,936	4,779	(1,842)
Subtotal	3,037	2,957	80	1,796,299	1,819,566	(23,267)	4,121,638	4,052,388	69,250
<u>Molokai District</u>									
711 Kawela-Kaunakakai	1,109	1,092	17	232,704	256,540	(23,836)	536,867	577,342	(40,475)
713 Ualapue	350	340	10	73,041	70,482	2,559	166,716	152,098	14,618
715 Kalae	105	104	1	9,384	9,847	(463)	22,700	23,660	(960)
717 Halawa	6	6	0	165	199	(34)	682	780	(98)
Subtotal	1,570	1,542	28	315,294	337,068	(21,774)	726,964	753,880	(26,916)
<u>Hana District</u>									
911 Hana	376	371	5	59,476	67,936	(8,460)	141,418	155,005	(13,587)
913 Nahiku	34	34	0	3,911	4,219	(308)	9,544	10,279	(735)
915 Keanae	80	80	0	7,595	9,151	(1,556)	19,015	22,363	(3,348)
917 Kaupo	21	21	0	911	1,057	(146)	2,992	3,365	(373)
Subtotal	511	506	5	71,893	82,363	(10,470)	172,969	191,012	(18,043)
Total - Gen. & Agr.	31,021	30,414	607	12,312,305	12,883,041	(570,736)	26,349,853	27,222,510	(872,657)

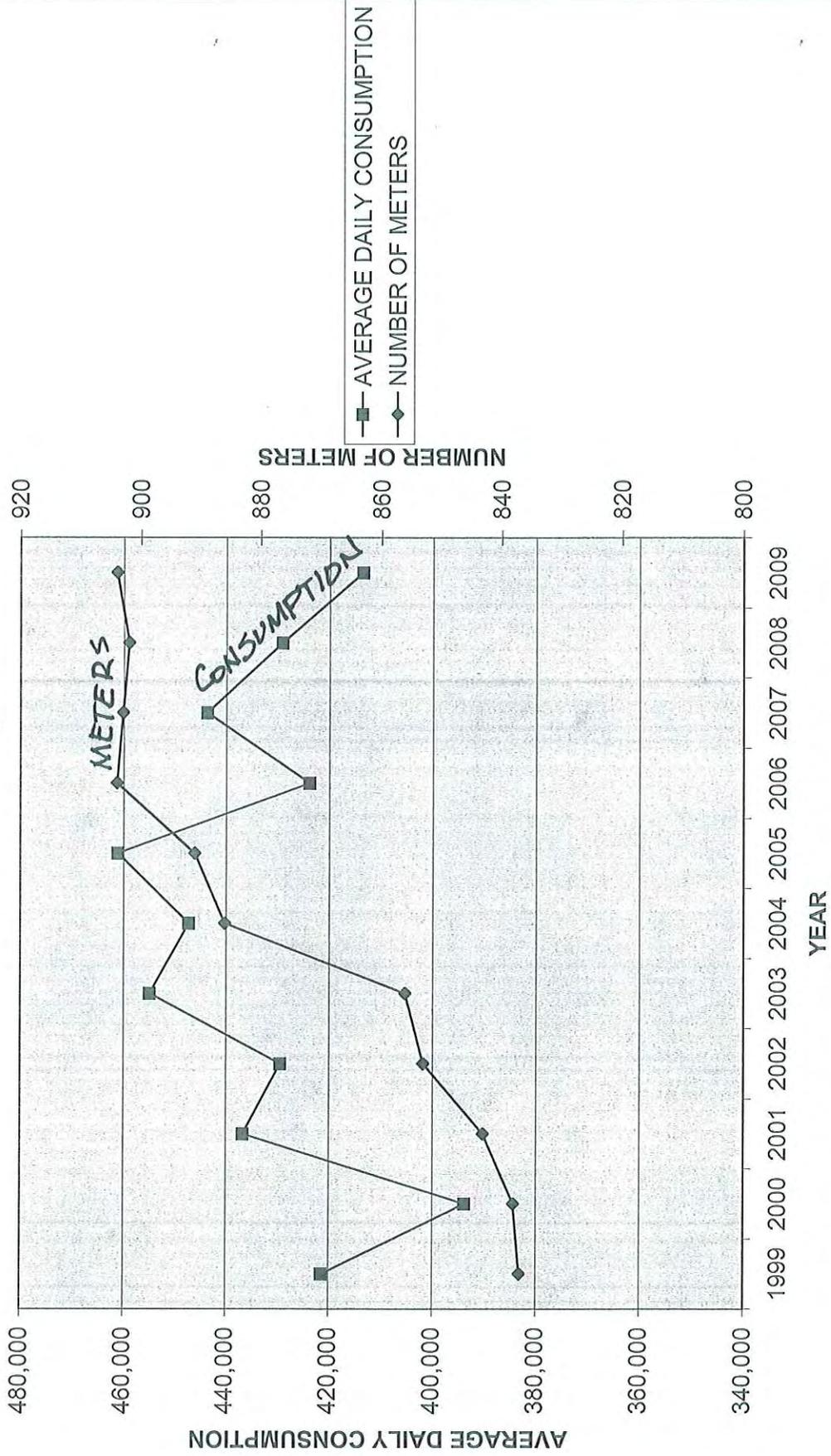
COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2001 OVER 2000

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase	June 30		Increase	June 30		Increase
	2001	2000	(Decrease)	2001	2000	(Decrease)	2001	2000	(Decrease)
<u>Wailuku District</u>									
111 Wailuku	4,933	4,864	69	1,503,497	1,313,512	189,985	\$3,556,604	\$2,504,675	\$1,051,929
113 Waihee	177	179	-2	25,025	33,769	-8,744	81,543	60,624	20,919
115 Waikapu	300	303	-3	50,895	51,740	-845	132,615	102,340	30,275
117 Wailuku Heights	451	443	8	98,427	96,983	1,444	218,248	187,077	31,171
131 Kahului	4,283	4,246	37	1,479,877	1,587,207	-107,330	3,335,106	3,225,757	109,349
141 Puunene	11	10	1	36,901	39,706	-2,805	44,148	55,531	-11,383
151 Kihei	5,020	4,685	335	4,321,613	4,026,565	295,048	9,265,584	7,250,820	2,014,764
153 Maalaea	42	40	2	93,347	117,877	-24,530	230,802	183,088	47,714
155 Makena	134	125	9	174,389	159,624	14,765	390,356	351,456	38,900
171 Paia-Kuau	843	838	5	159,393	153,807	5,586	375,370	291,241	84,129
173 Spreckelsville	151	162	-11	72,786	76,395	-3,609	198,481	141,857	56,624
Subtotal	16,345	15,895	450	8,016,150	7,657,185	358,965	\$17,828,855	\$14,354,466	\$3,474,389
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	955	955	0	157,439	140,451	16,988	\$343,075	\$294,700	\$48,375
312 Kuiaha	295	284	11	51,836	36,114	15,722	104,062	84,133	19,929
313 Haiku-Pauwela	795	812	-17	123,110	105,545	17,565	262,681	209,910	52,771
315 Makawao	1,957	1,938	19	321,296	346,953	-25,657	685,486	628,229	57,257
316 Pukalani	1,940	1,911	29	333,200	342,969	-9,769	743,311	731,226	12,085
317 Halliimaile	197	200	-3	34,936	36,529	-1,593	77,333	76,961	372
319 Paia-Hamakuapoko	0	0	0	0	0	0	0	0	0
331 Upper Kula	1,722	1,695	27	503,530	470,403	33,127	902,485	787,358	115,127
333 Lower Kula	1,084	1,023	61	823,066	907,746	-84,680	1,046,442	928,681	117,761
335 Ulupalakua-Kanaio	81	78	3	68,623	67,226	1,397	74,847	56,763	18,084
337 Kula Ag Park	38	38	0	210,858	188,466	22,392	156,651	140,103	16,548
Subtotal	9,064	8,934	130	2,627,894	2,642,402	-14,508	\$4,396,374	\$3,938,064	\$458,310
<u>Lahaina District</u>									
511 Lahaina	1,912	1,908	4	883,993	817,814	66,179	\$1,971,289	\$1,703,185	\$268,104
513 Honokowai	403	387	16	561,707	638,409	-76,702	1,242,525	1,445,551	-203,026
515 Alaeloa	629	578	51	372,707	372,574	133	833,796	855,705	-21,909
517 Honokohau	13	12	1	1,159	828	331	4,779	2,255	2,524
Subtotal	2,957	2,885	72	1,819,566	1,829,625	-10,059	\$4,052,388	\$4,006,696	\$45,692
<u>Molokai District</u>									
711 Kawela-Kaunakakai	1,092	1,085	7	256,540	264,829	-8,289	\$577,342	\$495,179	\$82,163
713 Ualapue	340	338	2	70,482	70,982	-500	152,098	126,526	25,572
715 Kalae	104	103	1	9,847	11,641	-1,794	23,660	23,189	471
717 Halawa	6	7	-1	199	399	-200	780	961	-181
Subtotal	1,542	1,533	9	337,068	347,851	-10,783	\$753,880	\$645,855	\$108,025
<u>Hana District</u>									
911 Hana	371	368	3	67,936	55,392	12,544	\$155,005	\$111,855	\$43,150
913 Nahiku	34	34	0	4,219	3,933	286	10,279	8,213	2,066
915 Keanae	80	80	0	9,151	9,804	-653	22,363	20,239	2,124
917 Kaupo	21	21	0	1,057	1,143	-86	3,365	3,027	338
Subtotal	506	503	3	82,363	70,272	12,091	\$191,012	\$143,334	\$47,678
Total - Gen. & Agr.	30,414	29,750	664	12,883,041	12,547,335	335,706	\$27,222,510	\$23,088,415	\$4,134,095

COMPARISON OF WATER SALES TO GENERAL & AGRICULTURAL CONSUMERS
BY DISTRICT & SYSTEMS
TWELVE MONTHS ENDED JUNE 30, 2000 OVER 1999

	Services			Consumption (1,000 Gallons)			Revenues		
	June 30		Increase (Decrease)	June 30		Increase (Decrease)	June 30		Increase (Decrease)
	2000	1999		2000	1999		2000	1999	
<u>Wailuku District</u>									
111 Wailuku	4,864	4,798	66	1,224,970	1,313,512	(88,542)	\$2,567,361	\$2,504,675	\$62,686
113 Waihee	179	158	21	25,170	33,769	(8,599)	55,556	60,624	(5,068)
115 Waikapu	303	303	0	53,113	51,740	1,373	110,474	102,340	8,134
117 Wailuku Heights	443	440	3	93,506	96,983	(3,477)	196,455	187,077	9,378
131 Kahului	4,246	4,155	91	1,630,297	1,587,207	43,090	3,436,060	3,225,757	210,303
141 Puunene	10	9	1	42,560	39,706	2,854	52,621	55,531	(2,910)
151 Kihei	4,685	4,608	77	3,947,829	4,026,565	(78,736)	7,883,556	7,250,820	632,736
153 Maalaea	40	41	(1)	80,252	117,877	(37,625)	169,513	183,088	(13,575)
155 Makena	125	117	8	178,093	159,624	18,469	370,504	351,456	19,048
→ 171 Paia-Kuau	838	837	1	→ 143,698	153,807	(10,109)	302,350	291,241	11,109
173 Spreckelsville	162	158	4	78,935	76,395	2,540	160,946	141,857	19,089
Subtotal	15,895	15,624	271	7,498,423	7,657,185	(158,762)	\$15,305,395	\$14,354,466	\$950,929
<u>Makawao District</u>									
311 Kokomo-Kaupakalua	955	951	4	169,747	140,451	29,296	\$343,496	\$294,700	\$48,796
312 Kuiaha	284	281	3	49,953	36,114	13,839	98,505	84,133	14,372
313 Haiku-Pauwela	812	779	33	126,083	105,545	20,538	259,305	209,910	49,395
315 Makawao	1,938	1,925	13	420,425	346,953	73,472	805,946	628,229	177,717
316 Pukalani	1,911	1,903	8	350,825	342,969	7,856	740,729	731,226	9,503
317 Haliimaile	200	200	0	37,389	36,529	860	79,129	76,961	2,168
319 Paia-Hamakuapoko	0	0	0	0	0	0	0	0	0
331 Upper Kula	1,695	1,670	25	458,350	470,403	(12,053)	771,100	787,358	(16,258)
333 Lower Kula	1,023	1,014	9	770,121	907,746	(137,625)	868,070	928,681	(60,611)
335 Ulupalakua-Kanaio	78	77	1	68,788	67,226	1,562	71,239	56,763	14,476
337 Kula Ag Park	38	38	0	211,658	188,466	23,192	150,787	140,103	10,684
Subtotal	8,934	8,838	96	2,663,339	2,642,402	20,937	\$4,188,306	\$3,938,064	\$250,242
<u>Lahaina District</u>									
511 Lahaina	1,908	1,904	4	1,025,927	817,814	208,113	\$2,128,266	\$1,703,185	\$425,081
513 Honokowai	387	383	4	694,499	638,409	56,090	1,443,471	1,445,551	(2,080)
515 Alaeloa	578	546	32	433,774	372,574	61,200	906,525	855,705	50,820
517 Honokohau	12	12	0	1,075	828	247	2,625	2,255	370
Subtotal	2,885	2,845	40	2,155,275	1,829,625	325,650	\$4,480,886	\$4,006,696	\$474,190
<u>Molokai District</u>									
711 Kawela-Kaunakakai	1,085	1,077	8	250,001	264,829	(14,828)	\$526,363	\$495,179	\$31,184
713 Ualapue	338	337	1	71,450	70,982	468	145,754	126,526	19,228
715 Kalae	103	103	0	9,769	11,641	(1,872)	22,042	23,189	(1,147)
717 Halawa	7	7	0	34	399	(365)	384	961	(577)
Subtotal	1,533	1,524	9	331,254	347,851	(16,597)	\$694,543	\$645,855	\$48,688
<u>Hana District</u>									
911 Hana	368	368	0	56,688	55,392	1,296	\$120,498	\$111,855	\$8,643
913 Nahiku	34	33	1	3,948	3,933	15	8,988	8,213	775
915 Keanae	80	80	0	8,347	9,804	(1,457)	19,169	20,239	(1,070)
917 Kaupo	21	21	0	1,351	1,143	208	3,672	3,027	645
Subtotal	503	502	1	70,334	70,272	62	\$152,326	\$143,334	\$8,992
Total - Gen. & Agr.	29,750	29,333	417	12,718,625	12,547,335	171,290	\$24,821,456	\$23,088,415	\$1,733,041

SERVICE METERS VS CONSUMPTION
Pala - Kuan System



DIVISION 100 - PLANNING

Table 100-19 - FIRE FLOW REQUIREMENTS

LAND USE	FLOW (GPM)/DURATION (HRS)/FIRE HYDRANT SPACING (FT.)			
	HAWAII	KAUAI	MAUI	OAHU
Agriculture	500/0.5/600 (1)	250/1/500	500/2/500	1000/0.5/700
Rural			1000/2/500	
Single Family	(2)	(4)	1000/2/350	1000/1/350
Duplex	1500/1/300	(4)	1250/2/350	1000/1/350
PUD Townhouse and Low Rise Apartments	1500/1/300	(4)	(5)	1500/1/250
Schools, Neighborhood Businesses, Small Shopping Centers, Hotels (except Maui), and High Rise Apartments	2000/2/300	2000/2/350	2000/2/250	2000/2/250
Light Industry, Downtown Business, Large Shopping Center, and Hospitals	2,000/2/300	3000/3/350	2000/2/250	4000/3/250
Heavy Industry, Hotels	2,000/2/300	3000/3/350	2,500/2/ 250	(3)

(1) - Applies to one acre lot size or less

(2) - 10,000 sq. ft. or larger lot size = 500/2/600; Less than 10,000 sq. ft. lot size = 1000/1/600

(3) - Subject to special review and control by Manager

(4) - R-2 = 500/1/500 R-4 = 750/2/500 R-6 = 1000/2/500 R-10 = 1250/2/350

R-20 = 1500/2/350 RR-10 = 1500/2/350 RR-20 = 2000/2/350

(5) - A-1 = 1500/2/250 A-2 = 2000/2/250

Note:

1. On dead end streets, the last F.H. shall be located at one half the spacing distance for F.H.s from the last house/unit (frontage property line or to the driveway/access for the property).
2. Spacing of fire hydrant shall be measured along the roadway.

Table 100-18 - DOMESTIC CONSUMPTION GUIDELINES

ZONING DESIGNATION	AVERAGE DAILY DEMAND*			
	HAWAII	KAUAI	MAUI	OAHU
RESIDENTIAL:				
Single Family or Duplex	400 gals/unit	500 gals/unit	600 gals/unit or 3000 gals/acre	500 gals/unit or 2500 gals/acre
Multi-Family Low Rise	400 gals/unit	350 gals/unit	560 gals/unit or 5000 gals/acre	400 gals/unit or 4000 gals/acre
Multi-Family High Rise	400 gals/unit	350 gals/unit	560 gals/unit	300 gals/unit
COMMERCIAL:				
Commercial Only	3000 gals/acre	3000 gals/acre	6000 gals/acre	3000 gals/acre
Commercial/Industrial Mix	--	5000 gals/acre	140 gals/1000 sq. ft.	100 gals/1000 sq. ft.
Commercial/Residential Mix	--	3000 gals/acre	140 gals/1000 sq. ft.	120 gals/1000 sq. ft.
RESORT (To include hotel for Maui only)	400 gals/unit (1)	350 gals/unit	350 gals/unit or 17000 gals/acre	350 gals/unit or 4000 gals/acre
LIGHT INDUSTRY:	4000 gals/acre	4000 gals/acre	6000 gals/acre	4000 gals/acre
SCHOOLS, PARKS:	4000 gals/acre or 60 gals/student	4000 gals/acre or 60 gals/student	1700 gals/acre or 60 gals/student	4000 gals/acre or 60 gals/student
AGRICULTURE:		2,500 gals/acre	5000 gals/acre	4000 gals/acre

* - Where two or more figures are listed for the same zoning, the daily demand resulting in higher consumption use shall govern the design unless specified otherwise.

(1) - Subject to special review and control by the Manager.

DIVISION 100 - PLANNING

Table 100-20 - DEMAND FACTORS		
Island	Maximum Daily Demand	Peak Hour
Hawaii	1.5 x Average Day	5.0 x Average Day
Kauai, Maui, Oahu	1.5 x Average Day	3.0 x Average Day

111.06 PIPELINE SIZING.

Pipelines shall be sized to meet the following requirements:

1. Maximum daily flow plus fire flow with a residual pressure of 20 psi at critical fire hydrant.
2. Peak hour flow with a minimum residual pressure of 40 psi.
3. In determining the carrying capacity of the mains, the "C"* values to be applied are shown in Table 100-21.

Table 100-21 - "C"* FACTORS	
Pipe Diameter (In.)	"C"
4", 6"	100
8", 12"	110
16", 20"	120
24" and Larger	130

* Not for metallic non-cement lined pipe.

4. Maximum velocity in distribution main (without fire flow) is 6 feet per second.
5. *For Maui Only: In addition, the maximum velocity in mains shall apply as follows:*
 - a. *Distribution mains - 10 feet per second with fire flow at max day domestic flow.*
 - b. *Transmission mains without water services or fire flow - 20 feet per second.*
 - c. *Fire lines - 13 feet per second.*

DIVISION 100 - PLANNING

6. *For Hawaii Only: Maximum velocity in distribution mains with fire flow shall be 10 feet per second.*
7. Unless specified otherwise, maximum static or pumping pressure, whichever is greater, shall not exceed 125 psi.
8. *For Oahu Only: Minimum diameter of influent-effluent line from booster pump to reservoir shall be 12-inches.*

111.07 RESERVOIR CAPACITY.

Reservoir shall be sized as follows:

- 1. Meet maximum day consumption. Reservoir full at the beginning of the 24-hour period with no source input to the reservoir.
- 2. Meet maximum day rate plus fire flow for duration of fire. Reservoir 3/4 full at start of fire, with credit for incoming flow from pumps, one maximum size pump out of service.
3. Minimum size reservoir shall be 0.1 MG. Reservoir size shall be as specified in Section 105.10 - RESERVOIR, Subsection A - Size.

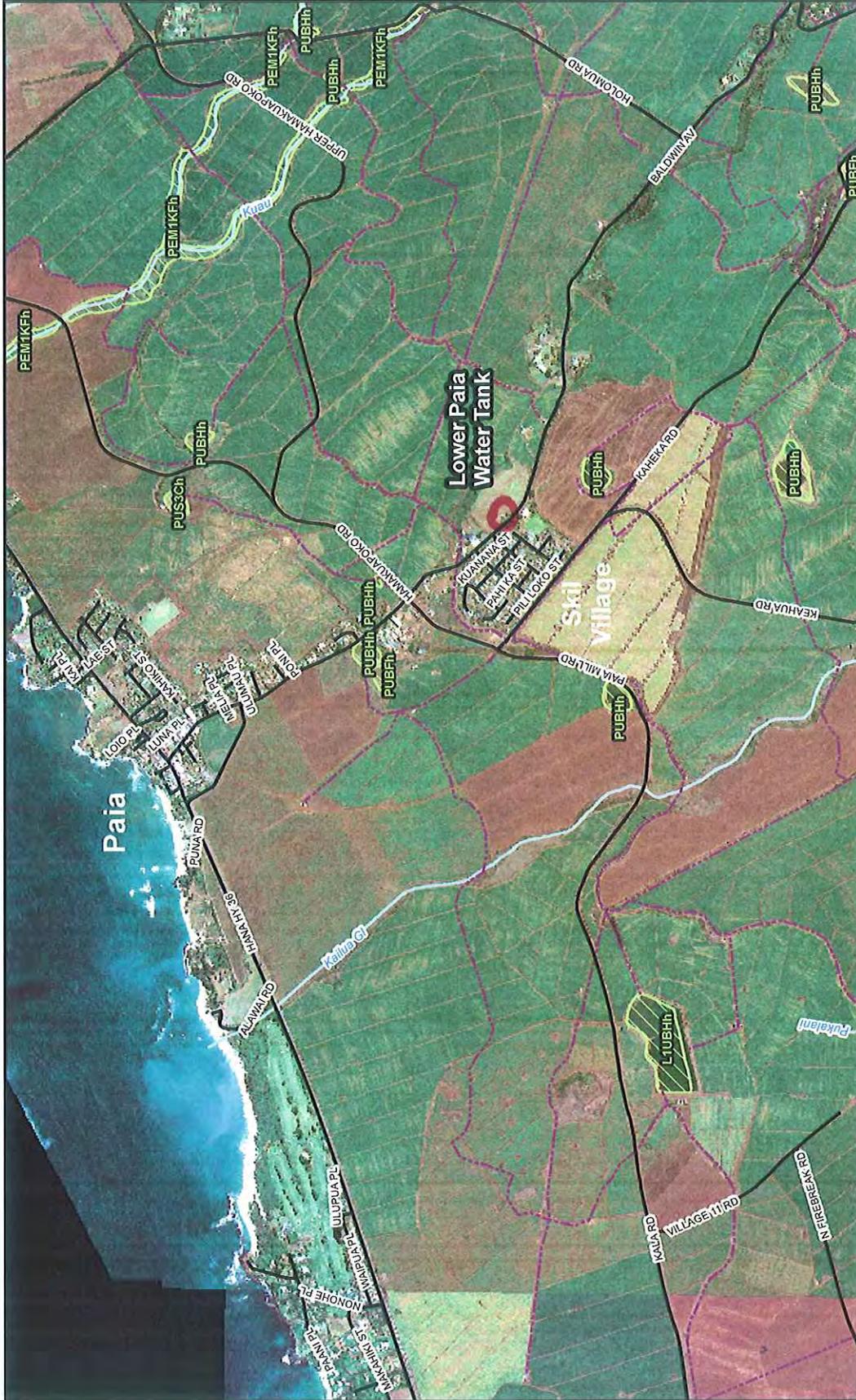
Where there are two or more reservoirs serving the same system, the design shall be made on the basis of combined protection provided by all facilities available.

111.08 TOTAL PUMP CAPACITY.

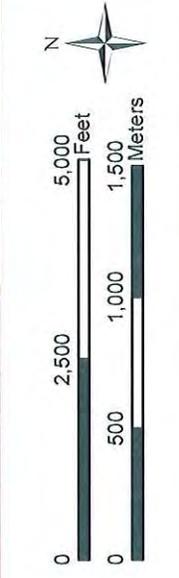
The total pump capacity for each site shall be based on the criteria that yields the maximum pumpage. The criteria for each island is as shown on Table 100-22.

APPENDIX D

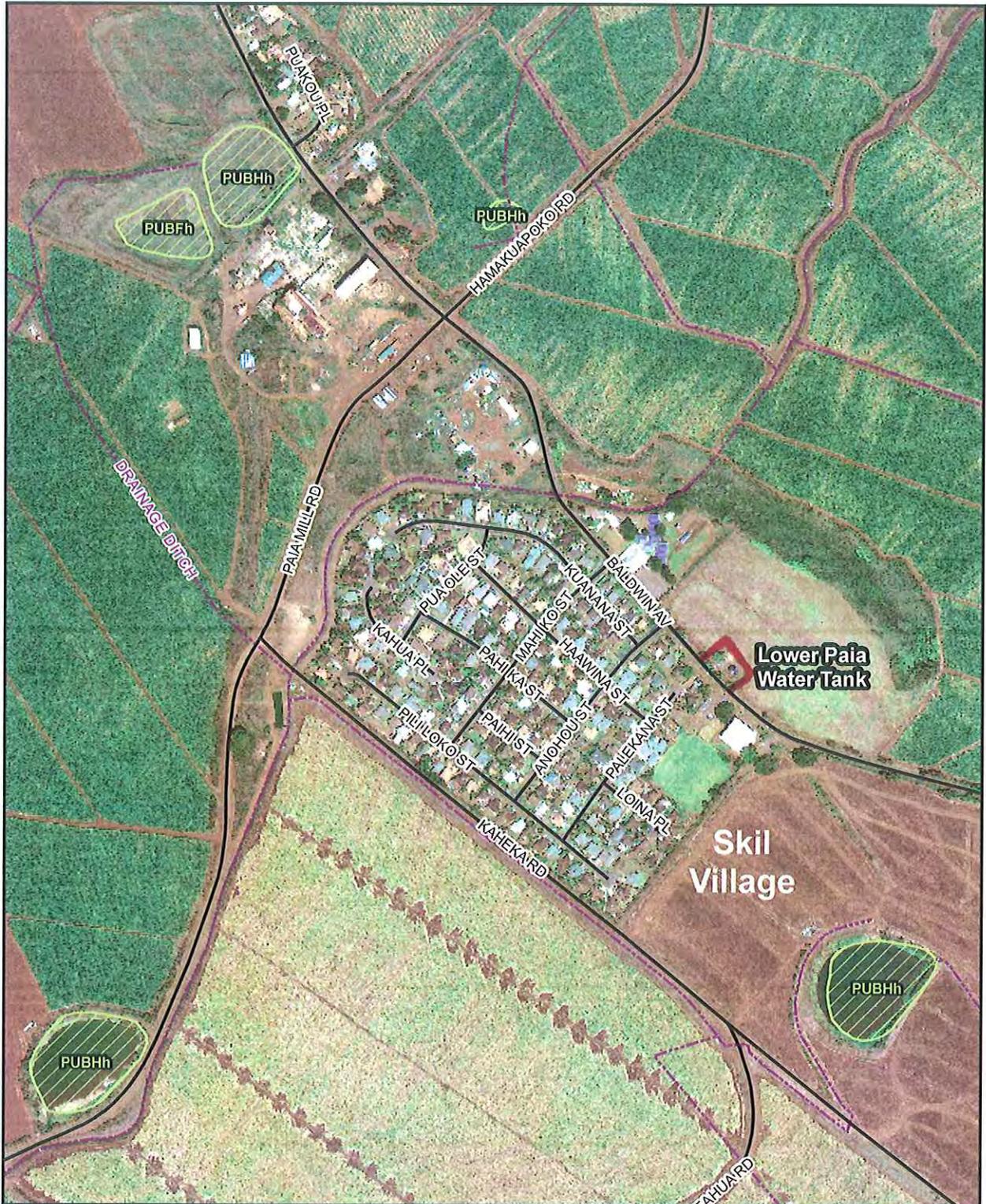
AERIAL PHOTOS AND MAPS SHOWING WETLAND AND DRAINAGE PATHS



-  Roads
-  Ditches
-  Streams
-  Wetlands

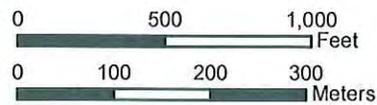


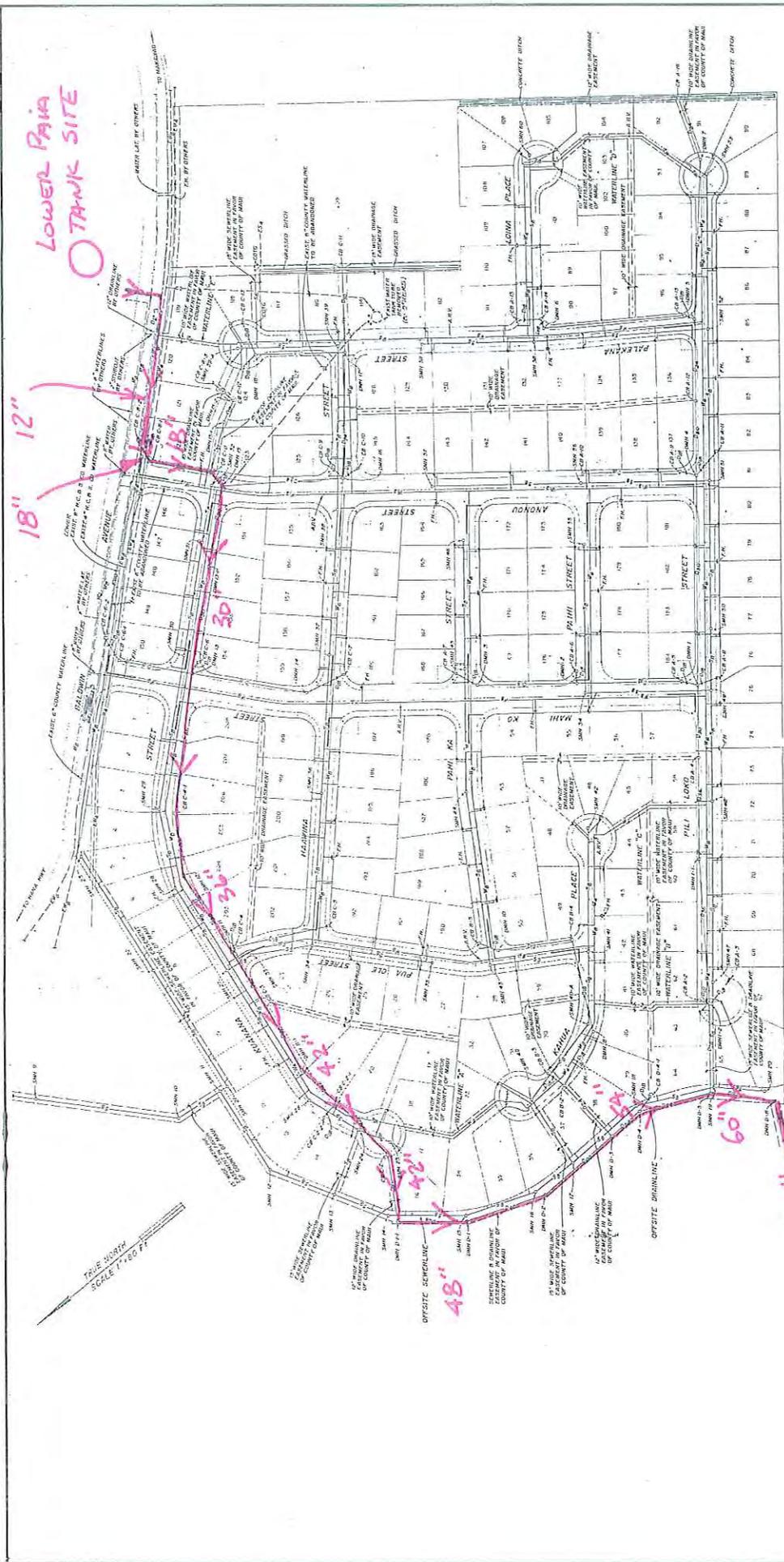

 Map produced by County of Maui
 Geographic Services Department
 December 2010



Map produced by County of Maui
 Geographic Services Department
 December 2010

- Roads
- - - Ditches
- ~ ~ ~ Streams
- ▨ Wetlands





DATE: APR. 1958	DESIGNED BY: REC	SKILL VILLAGE SUBDIVISION PAIA, MAUI, HAWAII WATER, SEWER, & DRAINAGE PLAN  NORMAN SATTO ENGINEERING CONSULTANTS, INC. 1000 KANILUA MAUI, HAWAII
DRAWN BY: VM	CHECKED BY: INE	
SCALE: 1" = 40'	FILE NO. C-30-A	
SHEET 4	OF 55	
NO. DATE:	REVISIONS:	

REPORT SUBMITTED
 DATE: MAR. 1, 1958
 MADE ON INFORMATION CONTAINED
 BY THE CONTRACTOR

LOWER PAIA WATER TANK REPLACEMENT
 STORM WATER PATH FROM SITE THROUGH SKILL VILLAGE



LOWER PAIA WATER TANK REPAKEMENT
PATH OF STORMWATER FROM SITE

APPENDIX E

LETTERS RECEIVED FROM AGENCIES AND ORGANIZATIONS CONSULTED
DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL
ASSESSMENT AND RESPONSES TO SUBSTANTIVE COMMENTS

PHONE (808) 594-1888



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

0310050 -

RECEIVED

2010 SEP 21 FAX (808) 594-1865

DEPT. OF WATER SUPPLY
COUNTY OF MAUI

HRD10/5242

September 13, 2010

Jeffrey K. Eng, Director
County of Maui-Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

**RE: Pre-draft Environmental Assessment consultation
Water Storage Tank Replacement
Paia, Island of Maui**

Aloha e Jeffrey K. Eng,

The Office of Hawaiian Affairs (OHA) is in receipt of your September 2, 2010 letter initiating consultation ahead of a draft environmental assessment (DEA) for the proposed replacement of an existing 100,000 gallon water storage tank (tank) with a new 300,000 gallon tank.

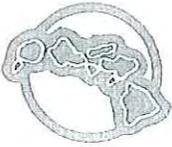
We have no specific comments at this time. We look forward to the opportunity to review the DEA. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o
Chief Executive Officer

C: Maui Community Resource Coordinator



RECEIVED
2010 SEP 14 AM 11:12
DEPT. OF WATER SUPPLY
COUNTY OF MAUI
091410
09140083

September 9, 2010

Mr. Jeffrey K. Eng, Director
County of Maui - Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

Subject: Early Consultation Request for the Proposed Lower Paia Tank Replacement
Project and Related Improvements
Baldwin Avenue
Paia, Maui, Hawaii
Tax Map Keys: (2) 2-5-005:058

Dear Mr. Eng,

Thank you for allowing us to comment on the Early Consultation Request for the subject project.

In reviewing our records and the information received, Maui Electric Company has no objections to the subject project at this time.

Should you have any questions or concerns, please call me at 871-2341.

Sincerely,

A handwritten signature in black ink, appearing to read "Kyle Tamori", with a long horizontal flourish extending to the right.

Kyle Tamori
Staff Engineer

CHARMAINE TAVARES
MAYOR



09 14 10
0910024

DON A. MEDEIROS
Director
WAYNE A. BOTEILHO
Deputy Director
Telephone (808) 270-7511
Facsimile (808) 270-7505

RECEIVED

2010 SEP 14 AM 11:08

DEPARTMENT OF TRANSPORTATION
COUNTY OF MAUI

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

September 9, 2010

Mr. Jeffrey Eng
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

RECEIVED
2010 SEP 15 AM 9:30
DEPT. OF WATER SUPPLY
COUNTY OF MAUI

Subject: Proposed Lower Paia Tank Replacement Project

Dear Mr. Eng,

Thank you for the opportunity to comment on this project. We have no comments to make at this time.

Please feel free to contact me if you have any questions.

Sincerely,

Don Medeiros
Director

CHARMAINE TAVARES
Mayor

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

MICHAEL M. MIYAMOTO
Deputy Director

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



09.27.10
0910058

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

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.

Highways Division
2010 SEP 27 AM 10:42

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

T.O. WATER SUPPLY
COUNTY OF MAUI

September 23, 2010

Mr. Jeffrey K. Eng, Director
Department of Water Supply
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Eng:

**SUBJECT: EARLY CONSULTATION REQUEST FOR THE
PROPOSED LOWER PAIA TANK REPLACEMENT
PROJECT AND RELATED IMPROVEMENTS
TMK: (2) 2-5-005:058**

We reviewed your early consultation request and have no comments.

Please call Michael Miyamoto at 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\prop_lower_paia_tank_replace_ec_25005058_ls.wpd



CHARMAINE TAVARES
MAYOR

OUR REFERENCE
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

2010 SEP 20 AM 10:57



GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

September 16, 2010

MEMORANDUM

TO: JEFFREY K. ENG, DIRECTOR
DEPARTMENT OF WATER SUPPLY

FROM : GARY A. YABUTA, CHIEF OF POLICE

SUBJECT : EARLY CONSULTATION REQUEST FOR THE PROPOSED
LOWER PAIA TANK REPLACEMENT PROJECT AND RELATED
IMPROVEMENTS
TMK: (2) 2-5-005:058

- No recommendation or comment to offer.
- Refer to enclosed comments and/or recommendations.

Thank you for giving us the opportunity to comment on this project.

A. D. Matsuura
Assistant Chief Danny Matsuura
For: GARY A. YABUTA
Chief of Police

c: Kathleen Ross Aoki, Maui County Planning Department

From: Jeffrey Eng
To: Haake, Paul
CC: Chang, Herb
Date: 9/16/2010 1:08 PM
Subject: Re: Proposed Lower Paia Tank Replacement

Thank you, Paul

>>> Paul Haake 9/16/2010 12:58 PM >>>

Date : September 16, 2010

To : Jeffrey K. Eng
Director, Dept. of Water Supply

Project : Proposed Lower Paia Tank Replacement Project and Related Improvements.
Early Consultation Request
TMK (2) 2-5-005: 058

Dear Jeffrey,

Thank you for allowing our office the opportunity to comment on this proposed project. At this time the Fire Prevention Bureau has no specific comments. If you do encounter any problems with the new installation and foresee a shut down of water supply for fire protection, please notify the fire stations that service that district; in this case Paia and Makawao Fire Stations.

If there are any questions or comments, please feel free to contact me by mail or at 244-9161 ext. 23.

Sincerely,

Paul Haake
Captain, Fire Prevention Bureau
313 Manea Place Wailuku, HI 96793
244-9161 ext. 23
244-1363 fax

CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

October 13, 2010

Fire Prevention Bureau
Captain Paul Haake
313 Manea Place
Wailuku, HI 96793

RE: Lower Paia Water Tank Replacement
Pre-Assessment Consultation for Draft Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Mr. Haake,

Thank you for your letter dated September 16, 2010, commenting on the proposed action. A note will be placed on the plans that will require the contractor to contact the Bureau if they encounter any problems with the new installation and/or foresee a shut down of water supply for fire protection.

A copy of the DEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely

A handwritten signature in black ink, appearing to read "J.K. Eng".

JEFFREY K. ENG
Director

CE

"By Water All Things Find Life"

LINDA LINGLE
Governor of Hawai'i



091610
09100281
KATHERINE PUANA KEALOHA
Director

2010 SEP 15 PM 3:25

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Department of Health
235 South Beretania Street
Leiopapa A Kamehameha, Suite 702
Honolulu, Hawai'i 96813

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI

Telephone (808) 586-4185
Facsimile (808) 586-4186
Electronic Mail: oeqc@doh.hawaii.gov

September 13, 2010

Jeffrey K. Eng, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Subject: Early Consultation Request for the Proposed Lower Paia Tank
Replacement Project and Related Improvements
TMK: (2) 2-5-005:058

Dear Mr. Eng:

Thank you for the early consultation on the environmental assessment for the proposed water storage system. Your September 2, 2010, letter states that Maui County Department of Water Supply will be the determining agency for the proposed project.

Under Section 343-5(b), Hawai'i Revised Statutes, the proposing agency determines whether the document meets the requirements under Chapter 343, HRS. If the proposing agency determines that the draft environmental assessment meets the requirements set forth under the Chapter 11-200, Hawai'i Administrative Rules (HAR), then the proposing agency writes and notifies OEQC of its determination that it anticipates a finding of no significant impact (FONSI) for the proposed project.

Please visit the following website address to review the checklist for draft and final environmental assessments:

http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Assessment_PrepKit/DEA-FEA-Checklist-2010.pdf

The proposing and determining agency also requests publication of the availability of the draft environmental document on the Environmental Notice for public comment. Please visit the OEQC the following website to access the publication calendar which lists the submittal due dates for document publication:

http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/2010_Deadline_Calendar.pdf.

Mr. Jeffrey K. Eng
9/13/2010
Page 2 of 2

There is also an OEQC publication form which must be completed and accompany the determination agency's letter; please find the OEQC_Publication_Form_2010 on the OEQC website.

If you have any questions, please call Herman Tuiolosega at 586-4185.

Sincerely,



KATHERINE PUANA KEALOHA
Director

CHARMAINE TAVARES
Mayor
KATHLEEN ROSS AOKI
Director
ANN T. CUA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 23, 2010

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DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI

Mr. Jeffrey K. Eng, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Eng:

SUBJECT: EARLY CONSULTATION IN PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED LOWER PAIA TANK REPLACEMENT PROJECT AND RELATED IMPROVEMENTS, LOCATED AT PAIA, ISLAND OF MAUI, HAWAII; TMKS: (2) 2-5-005:058 (RFC 2010/0134)

The Department of Planning (Department) is in receipt of your letter, dated September 2, 2010, requesting comments for the above-referenced project. The Department understands the proposed action includes the following:

- Replace an existing 100,000 gallon water storage tank with a 300,000 gallon water storage tank; and
- Construction of a temporary tank to maintain service during installation of the new 300,000 gallon water storage tank.

Based on the foregoing, the Department provides the following comments in preparation of the Draft EA:

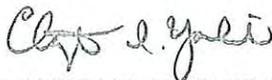
1. The land use designations for TMK: (2) 2-5-005:058 are as follows:
 - a. State Land Use - Agricultural
 - b. Paia-Haiku Community Plan - Single-Family Residential
 - c. County Zoning - Interim
 - d. Other - Located outside of the Special Management Area
2. Provide an aerial map of where the project is located;
3. Include photographs of the project area, existing water tank, immediate surrounding area, and if possible, a rendering of how the new tank will look once it is installed;

Mr. Jeffrey K. Eng, Director
September 23, 2010
Page 2

4. The Draft EA should include a brief discussion of how the proposed project implements the County General Plan as well as the Paia-Haiku Community Plan;
5. Discuss construction activities and timelines for the removal of the existing tank, installation and removal of the temporary tank, and construction of the new tank; and
6. Discuss impacts to the surrounding neighborhood or nearby residences (if any).

Thank you for the opportunity to comment. Please include the Department on the distribution list for the Draft. Should you require further clarification, please contact Staff Planner Danny Dias at danny.dias@mauicounty.gov or at 270-7557.

Sincerely,



CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for KATHLEEN ROSS AOKI
Planning Director

xc: Danny A. Dias, Staff Planner
Department of Planning, Long Range
Project File
General File

KRA:CIY:DAD:sa

K:\WP_DOCS\PLANNING\RFC\2010\0134_DWS Tank Replacement\PreConcultation.doc

CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

October 13, 2010

Department of Planning
Kathleen Ross Aoki, Director
250 South High Street
Wailuku, HI 96793

RE: Lower Paia Water Tank Replacement
Pre-Assessment Consultation for Draft Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Ms. Aoki,

Thank you for your letter dated September 23, 2010, commenting on the proposed action. We believe the Draft Environmental Assessment provides all the requested information.

A copy of the DEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely

A handwritten signature in black ink, appearing to read "J.K. Eng".

JEFFREY K. ENG
Director

CE

"By Water All Things Find Life"

LINDA LINGLE
GOVERNOR OF HAWAII



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

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CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

2010 SEP 14 PM 4:30

WATER SUPPLY
COUNTY OF MAUI

In reply, please refer to:
EMD/SDWB

September 10, 2010

Mr. Jeffrey K. Eng, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Eng:

SUBJECT: EARLY CONSULTATION REQUEST FOR THE PROPOSED LOWER PAIA
TANK REPLACEMENT PROJECT AND RELATED IMPROVEMENTS AT
TMK (2) 2-5-005:058

We are in receipt of the above referenced document and offer the following comments:

In the draft environmental assessment, please provide the following information:

- a. A statement of project needs and benefits, including a discussion of the drinking water quality benefits of the project and/or the public health/water quality problems to be corrected.
- b. A description of the proposed project and the public water system of which it is a part of.
- c. An evaluation of the alternatives considered to address the project needs.
- d. A description of the selected alternative and the relevant design criteria used.
- e. Cost information on the estimated total capital costs and annual operation and maintenance costs for the project.

Mr. Jeffrey K. Eng
September 10, 2010
Page 2

- f. The following statement should be included in the cost information section of the environmental assessment: *This project may be funded by federal funds through the state of Hawaii's Drinking Water State Revolving Fund (DWSRF), which would constitute a federal action, and will require the project to meet all NEPA and Hawaii DWSRF program requirements.*
- g. An evaluation of the impact of the project on the water supply (if applicable).

Please refer to the enclosed documents for the specific criteria and crosscutters that are expected to be addressed in the environmental assessment. Written documentation of consultation with the applicable state or federal agency for each environmental crosscutter is required to be included in the environmental assessment. The documentation shall also include the specific crosscutter being addressed.

For additional information please visit the DWSRF website at <http://hawaii.gov/health/about/admin/health/environmental/water/sdwb/dwsrf/dwsrf.html>.

Should you have any questions, please contact Alain Carey of the Safe Drinking Water Branch, Engineering Section, at (808)586-4258.

Sincerely,



STUART YAMADA, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

AC:slm

Enclosures

(Rev. Jul 25/07)

SAFE DRINKING WATER BRANCH
HAWAII DEPARTMENT OF HEALTH

ENVIRONMENTAL ASSESSMENT
CHECKLIST AND CERTIFICATION

PROJECT NAME: _____

PROJECT NUMBER: _____
(Applicant) (State)

=====

	YES	NO
--	-----	----

=====

ENVIR. ASSESSMENT SUBMITTED: -----

PRIOR DECISION DOC'T SUBMITTED: -----

A. OEQC CRITERIA ADDRESSED:

- (1) ID of applicant: -----
- (2) ID of approv. agency: -----
- (3) Agencies consulted: -----
- (4) Descrip. of proj. char: -----
- (5) Descrip. of envir: -----
- (6) Impacts and alternatives: -----
- (7) Mitigation measures: -----
- (8) Determination: -----
- (9) Findings and reasons: -----

B. SERP CRITERIA ADDRESSED:

- 1. Population projections current: -----
- 2. "No-action" alternative: -----

- 3. Impacts analysis addresses:
 - a. prim & sec impacts: -----
 - b. social parameters: -----
 - c. cumulative impacts: -----
 - d. other projects: -----
 - e. sensitive issues: -----

C. CROSS CUTTERS ADDRESSED:

- 1. Arch & Hist Pres Act: -----
- 2. Clean Air Act: -----
- 3. Coastal Zone Mang. Act: -----
- 4. Endangered Spec Act: -----
- 5. Environmental Justice Act: -----
- 6. Farmland Prot Act: -----
- 7. Fish & Wildlife Act: -----
- 8. Floodplain Mang EO: -----
- 9. Nat Hist Pres Act: -----
- 10. Prot of Wetlands EO -----
- 11. Safe Drink Water Act: -----
- 12. Wild & Scenic Rivers Act: -----
- 13. Essential Fish Habitat Act: -----

CERTIFICATION: (County certifies that it has conducted a current assessment of the environmental impacts of the proposed project, and has disclosed, in the Environmental Assessment Documents referred to in this checklist, all known significant environmental impacts of the proposed project.)

Signature Title Date

DWSRF Environmental Crosscutters

Environmental Authorities	Procedure	Responsible Agency
Archaeological and Historical Preservation Act of 1974, Pub. L. 86-523, as amended	Obtain review for all projects	State Historic Preservation Office
Clean Air Act, Pub. L. 84-159, as amended	Coordinate to assure project conforms with state implementation plan (SIP)	State Department of Health, Clean Air Branch
Coastal Barrier Resources Act, Pub. L. 92-348	Obtain review if project is located on a coastal barrier island	State Coastal Zone Management Agency
Coastal Zone Management Act, Pub. L. 92-583, as amended	Obtain review if project is located in coastal zone	State Coastal Zone Management Agency
Endangered Species Act, Pub. L. 93-205, as amended	Obtain review by U.S. Fish and Wildlife Service for all projects	U.S. Fish and Wildlife Service
Environmental Justice, Executive Order (EO) 12898	Are low income and minority groups affected?	U.S. Environmental Protection Agency
Floodplain Management, Executive Order 11988 as amended by EO 12148	Obtain review if project is located in or affects 100-year flood plain	Federal Emergency Management Agency
Protection of Wetlands, Executive Order 11990	Obtain review if project area contains wetlands	U.S. Army Corps of Engineers
Farmland Protection Policy Act, Pub. L. 97-98	Obtain review if project area contains prime farmland	Natural Resources Conservation Service- State Conservationist
Fish and Wildlife Coordination Act, Pub. L. 85-624, as amended	Obtain review for all projects	U.S. Fish and Wildlife Service
National Historic Preservation Act of 1966, PL 89-665, as amended	Obtain review for all projects	State Historic Preservation Office
Safe Drinking Water Act, Pub. L. 93-523, as amended	Obtain review if project could affect sole source aquifer	State Department of Health, Safe Drinking Water Branch
Wild and Scenic Rivers Act, Pub. L. 90-542, as amended	Obtain review if project is located in area with Wild and Scenic Rivers	National Park Service
Essential Fish Habitat consultation process under the Magnuson-Stevens Fishery Conservation and Management Act	Obtain review if it will affect essential fish habitat	National Marine Fisheries Service (NMFS)

CHARMAINE TAVARES
Mayor



JEFFREY K. ENG
Director

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

October 13, 2010

Mr. Stuart Yamada, Chief
State of Hawaii
Department of Health
Environmental Management Division
Safe Drinking Water Branch
919 Ala Moana Blvd., Room, 308
Honolulu, HI 96814

RE: Lower Paia Water Tank Replacement
Pre-Assessment Consultation for Draft Environmental Assessment
DWS Job #09-09 A
TMK: (2) 2-5-005:058

Dear Mr. Yamada,

Thank you for your letter dated September 10, 2010, commenting on the proposed action. We believe the Draft Environmental Assessment provides all the requested information, as well as the specific criteria listed in the "Environmental Assessment Checklist and Certification."

A copy of the DEA will be provided to your office for review and comment. In the meantime, please do not hesitate to call Curt Eaton, P. E., at 808-270-7835.

Sincerely

A handwritten signature in black ink, appearing to read "Jeffrey K. Eng".

JEFFREY K. ENG
Director

CE

"By Water All Things Find Life"

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director



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TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

REC'D
2010 OCT 19 PM 4:04

DEPT. OF WATER SUPPLY
COUNTY OF MAUI

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2200 MAIN STREET, SUITE 100
WAILUKU, MAUI, HAWAII 96793

October 15, 2010

Mr. Jeffrey K. Eng, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Eng:

**SUBJECT: LOWER PAIA TANK REPLACEMENT
EARLY CONSULTATION
TMK (2) 2-5-005:058, PAIA**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
 - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
 - a. None.

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

Sincerely,

CHERYL K. OKUMA
Director of Environmental Management

LINDA LINGLE
GOVERNOR OF HAWAII



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CHIYOME L. FUKINO, M. D.
DIRECTOR OF HEALTH
LORRIN W. PANG, M. D., M. P. H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

October 4, 2010

Mr. Jeffrey K. Eng
Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Eng:

Subject: Early Consultation Request for the Proposed Lower Paia Tank Replacement Project and Related Improvements
TMK: (2) 2-5-005:058

Thank you for the opportunity to review this project. We have the following comments:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage may be required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work.

It is strongly recommended that the Standard Comments found at the Department's website: <http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html> be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

Patti Kitkowski
Acting District Environmental Health Program Chief

c EPO