

Wainiha Water Well

DRAFT ENVIRONMENTAL ASSESSMENT

ISLAND OF KAUAI
September 2009

PREPARED FOR
County of Kauai
Department of Water

PREPARED BY
NKN Project Planning

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1.0 Summary

1.1 Proposed Action

The County of Kauaïi, Department of Water (DOW) is proposing to develop a new water well as part of its Wainiha-Häyena Water System. The proposed Wainiha Water Well project consists of two phases: Phase 1 involves test pumping to determine whether the proposed well site is capable of producing a sustainable yield of approximately 100 gallons of water per minute (GPM). Following the successful completion of the first phase, Phase 2 will involve developing a new water well and ancillary equipment. This proposed project will meet the projected requirements for the Wainiha-Häyena area forecast in DOW's *Kauaïi Water Plan 2020*.

1.2 Project Location

The proposed well is located in the Hanalei District of Kauaïi, adjacent to its existing Wainiha booster pump station and below its existing Häyena 0.1-million gallon (MG) steel water tank. The project site measures approximately 10,000 square feet and is located on TMK 4-5-8-002:003, Lot 1. The property is bound by undeveloped land and single family residences across Wainiha Powerhouse Road. Wainiha is located to the east of the project site; Häyena to the north.

1.3 Land Ownership and Proposing Agency

The project site is privately-owned by the Estate of Lester B. Robinson. DOW is currently using the site for its 0.1 MG steel water tank. The existing Wainiha booster pump station, located adjacent to the proposed project site, is owned by DOW.

In accordance with Section 343-5(a), *Hawaiïi Revised Statutes* (HRS), proposed use of state or county lands or funds requires preparation of an environmental assessment. The proposed project will involve the use of county funds for construction of the well. DOW is the proposing agency for this project and is the applicant for applicable entitlements. The mailing address and primary contact person is listed below:

Keith Fujimoto
County of Kauaïi

Department of Water
4398 Pua Loke Street
Lihue, Hawai'i 96766

1.4 Project Summary

The following summary describes the project locations, existing entitlements and proposed action:

Project Name	Wainiha Water Well
Landowner	Estate of Lester B. Robinson
Location	Wainiha, Kauaïi (Figure 1)
Tax Map Key and Land Area	(4)5-8-002:003, Lot 1; approximately 10,000 sq.ft. (Figure 2)
Proposing and approving agency	Department of Water, County of Kauaïi
Existing Uses	County of Kauaïi 0.1 million gallon Häyena steel water tank
Proposed Use	Design and construction of a new County water well and ancillary equipment
State Land Use District	Conservation (Figure 3)
County General Plan	Open (Figure 4)
County Zoning	None (no County zoning on State Conservation land)
Special designations	The project is not within the Special Management Area, a special design district or historic district
Anticipated Determination	Finding of No Significant Impact (FONSI)

2.0 Introduction

2.1 Project Background

The County of Kauaïi, Department of Water (DOW) is responsible for the management, control and operation of the County's water system. Service is provided to residential, commercial, industrial and institutional users via 11 separate, unconnected water systems distributed throughout Kauaïi, from Kekaha to Häyena. Currently, the DOW pumps water from 48 underground wells and tunnels into 43 storage tanks, through 400 miles of pipeline. In addition to its own sources, the DOW also purchases water from private sources. Many of the DOW water systems date back to the plantation era, with some pipelines 80-100 years old. The Wainiha-Häyena Water System is part of the North Shore water service area, which consists of low-lying areas along the shoreline and stream valley floors.

2.2 Project Purpose and Need

The Wainiha-Häyena Water System consists of three wells - Wainiha 67 (State No. 1232-01), Wainiha 2 (State No. 1232-02) and Häyena (State No. 1333-01) - and two storage tanks. The *Kauaïi General Plan* identifies the Wainiha-Häyena Water System to be near capacity and unable to meet the projected service area water demand through 2020. The *Kauaïi Water Plan 2020* recommends developing a new well capable of supplying at least 100 gallons per minute (GPM) of water to meet projected needs. The purpose of the proposed project is to develop a 100 GPM water well to meet this projected water demand, and maintain the public health and welfare for the residents of this area.

2.3 Project Location

The DOW is proposing to develop a 100 GPM water well in the Hanalei District of Kauaïi, adjacent to its existing Wainiha booster pump station and below its existing Häyena 0.1 MG steel water tank. The project site is about 3.4 miles west of Hanalei and about 900 feet west or mauka of Kühiö Highway, the main roadway along the North Shore of Kauaïi.

The lands to the north and east of the project site are privately-owned and currently developed with single-family residential units and related structures. The surrounding lands

to the south and west are currently undeveloped and vacant. Access to the project site is via Kūhiō Highway and then inland, via Wainiha Powerhouse Road and an unimproved access road.

2.4 Existing Project Site Conditions

Located at an elevation of approximately 80 feet mean sea level, the proposed Wainiha water well will be located adjacent to DOW's existing Wainiha booster pump station, along an existing 425-foot-long access road. DOW's existing Häyena steel water tank is located about 150 feet above the proposed project site, at the end of the access road. See Figure 5: Wainiha Water Well Project Site Plan.

The proposed Wainiha water well site and access road are located on TMK 4-5-8-002:003, Lot 1 and Easement D, respectively - part of a 229-acre parcel owned by the Estate of Lester B. Robinson. The DOW is currently using both Lot 1 and Easement D under a verbal agreement with the landowner. The Wainiha booster pump station is located on TMK 4-5-002:007, a 2,714-square foot parcel owned by the DOW.

2.5 Previous Environmental Documentation

2.5.1 Final Environmental Assessment (EA) for the Land Acquisition of the Wainiha Water Tank Site - 1997

In 1997, the DOW submitted a Final EA titled "Land Acquisition of the Wainiha Water Tank Site". The purpose of the EA was to begin the process for the DOW to purchase Lot 1 (the Häyena steel water tank) and Easement D (the unimproved access road) of TMK: (4)5-8-002:003. According to the Final EA, in 1977, the DOW constructed its 0.1 MG Häyena steel water tank on land owned by the Estate of Lester B. Robinson. In September 1991, the DOW offered to purchase the tank site as well as obtain an access/utility easement from the Estate. The easement would begin at the Wainiha booster pump station and end at the tank site.

Since the tank site and access/utility easement are within the State's Conservation District, a Conservation District Use Application (CDUA) must be filed for a subdivision to occur. The landowner and DOW, however, were unable to reach an agreement and a CDUA was not filed for either the tank site or access/utility easement.

2.5.2 Final EA and Conservation District Use Application for the Wainiha Booster Station Renovation and Häyena Steel Tank Renovation - 2008

In 2008, DOW submitted a Final EA and CDUA to renovate the existing Wainiha booster pump station, 0.1 MG Häyena steel water tank and 425-ft-long access road. The booster pump station renovation involves replacing the existing below-grade station with an above-grade station. The new booster pump station would be located adjacent to the existing station. The station improvements would also include constructing a 50-ft-long by six-ft-high concrete retaining wall adjacent to Wainiha Powerhouse Road, security fencing and related improvements within the DOW-owned parcel (TMK: 4-5-8-002:007).

The 2008 Final EA and CDUA also address renovations proposed to the existing 12-ft-wide by 425-ft-long access road. This portion of the project involves paving a vehicle turnaround area south of the tank, outside the tank access gate, and cutting approximately 90 feet from the embankment along the north and west sides of the tank. In addition, the 2008 renovation calls for constructing a 12-ft-high by 87-ft-long retaining wall to retain the embankment, and relocating the security fence from around the tank to the top of the new retaining wall.

In February 2007, DOW obtained approval of a right-of-entry from the landowner to undertake the renovations on TMK 5-8-002: 003, Lot 1 and Easement D. In September 2008, DOW obtained its Conservation District Use Permit. The project is currently in design, with construction expected to be completed in 2010.

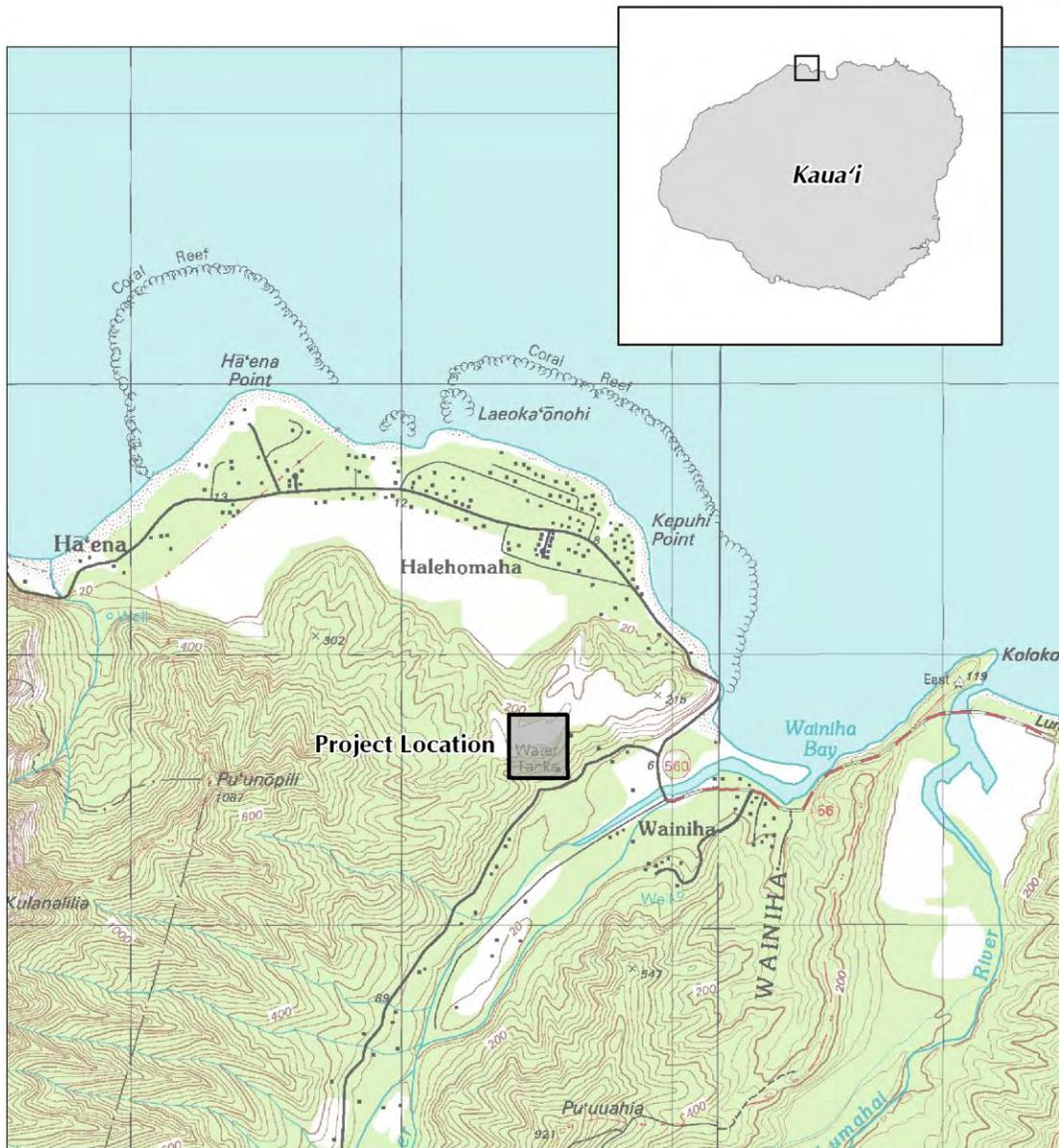
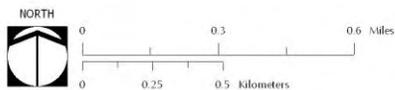


Figure 1
Wainiha, Kaua'i
Location Map

Source:
U.S. Geological Survey, 2005
Hawai'i Office of Planning Statewide GIS Program, 2008

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment



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January 2009

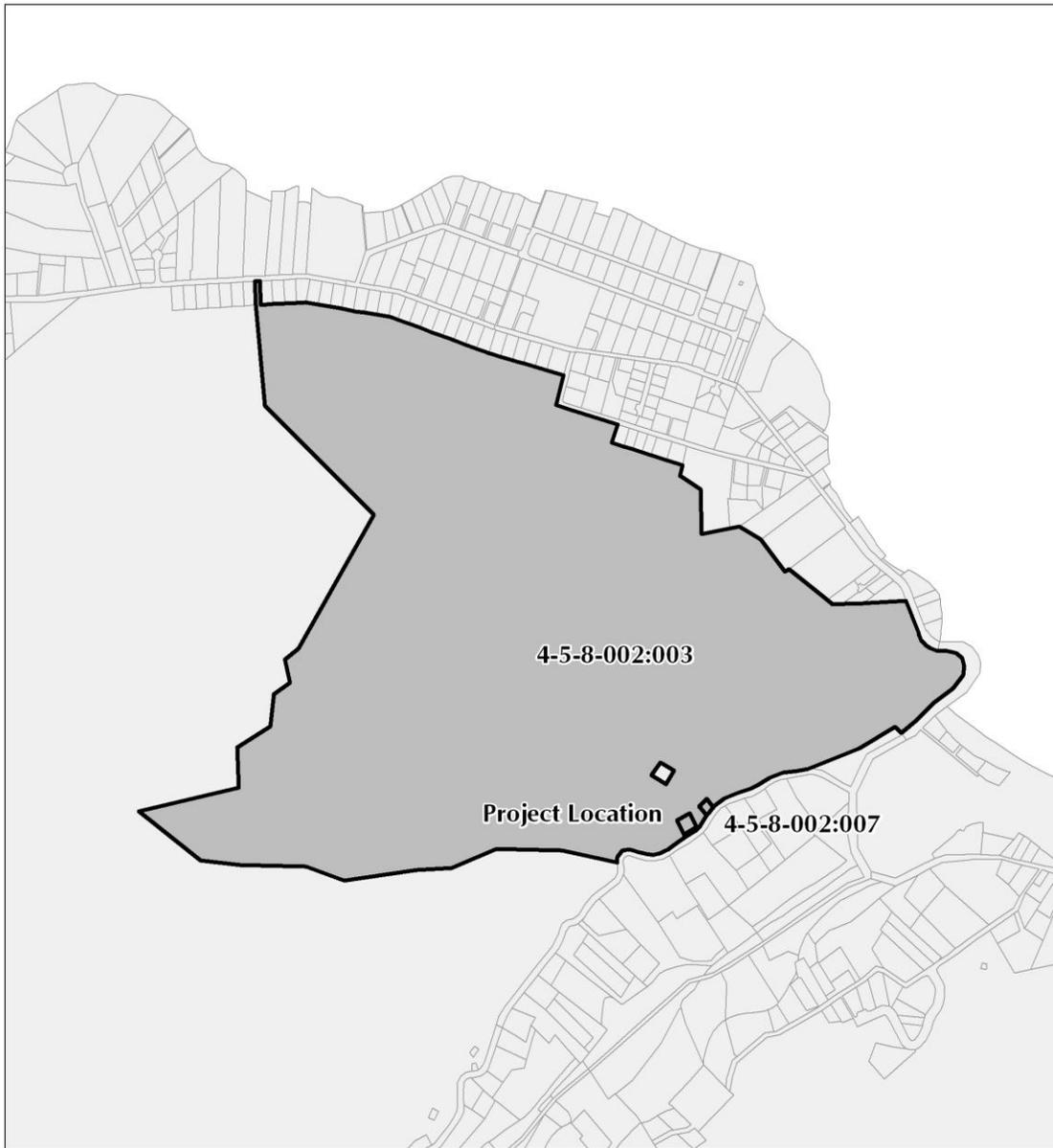
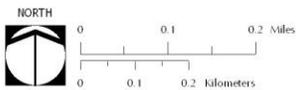


Figure 2
Wainiha, Kaua'i
Project Parcel Map

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment

Source:
Hawai'i Office of Planning Statewide GIS Program, 2008



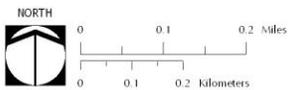
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Figure 3
Wainiha, Kaua'i
Land Use District Map

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment

Source:
Hawai'i Land Use Commission, 2006
Hawai'i Office of Planning Statewide GIS Program, 2008



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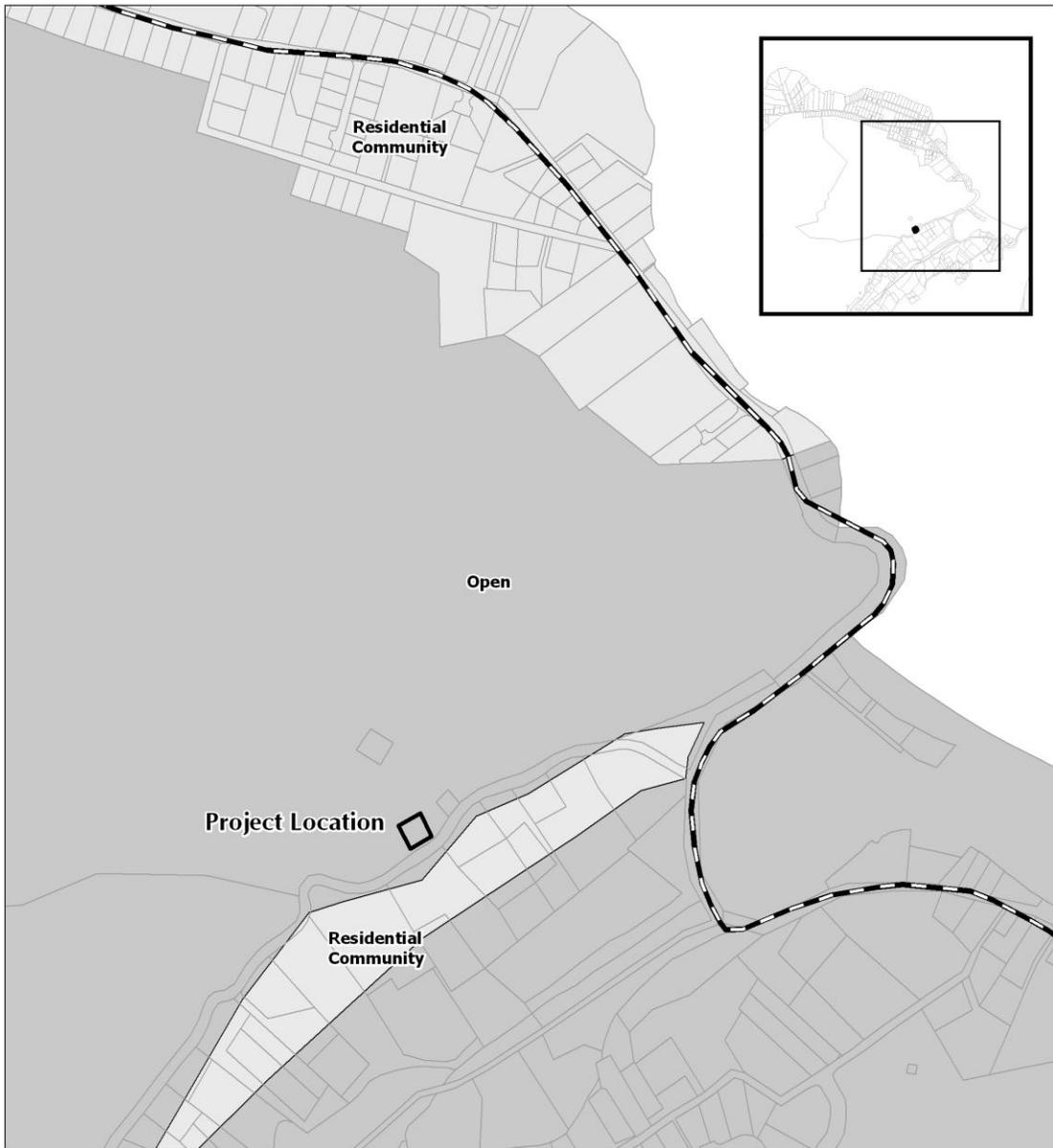
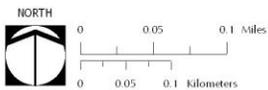


Figure 4
Wainiha, Kauai
General Plan Map

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment

Source:
County of Kauai, 2000



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Figure 5 Project site plan - keep blank

2.6 Project Description

The DOW is proposing to develop a new water well as part of its Wainiha-Häyena Water System. The proposed Wainiha water well project consists of two phases: Phase 1 involves test pumping to determine whether the proposed well site is capable of producing a sustainable yield of 100 gallons of water per minute (GPM). Following the successful completion of the first phase, Phase 2 will involve developing a new water well and ancillary equipment. The proposed water well will be located west of the DOW's Wainiha booster pump station, with access to the site via an existing access road. The discharge point is the existing Häyena steel water tank. As discussed previously in Section 2.5.2, the access road will be improved as part of the DOW's Wainiha booster pump station and Häyena steel water tank renovations.

2.7 Water Well Testing and Development

In Phase 1 of the proposed project, an exploratory well, measuring approximately 9 or 12 inches in diameter, will be dug to a depth of about 700 feet. The exploratory well will be located west of the Wainiha booster pump station, down slope from the existing access road. Two types of drills are available for drilling the well hole - a cable tool drill and a rotary drill. A cable tool drill involves attaching a drill bit (typically weighing about seven to eight tons and measuring about 20 feet long) to a 20-ft-long cable, which is then picked up and dropped, chipping away at the subsurface. A bailer is used to haul "cuttings" from the well hole. Although much slower, the cable tool drill is lighter and smaller than a typical rotary drill, and may be dismantled for transit. By contrast, a rotary drill is engine-powered and much faster than the cable tool drill. However, it is also significantly larger and heavier, and cannot be dismantled in as small pieces as a cable tool rig. A typical rotary drill may weigh far more than the posted bridge capacities of the one-lane bridges in the area. The contractor would determine the drilling method employed.

Once the exploratory hole is dug, test pumping will be conducted twice: initially in the open borehole at rates up to 100 GPM for up to eight hours; and then after the well's completion at rates up to 300 GPM and for 96 hours during the constant rate portion of this test.

Site preparation for the exploratory well will involve some grading and cutting, and constructing retaining walls along two sides of the project site. The project will require approximately 370 cubic yards of excavation and 300 cubic yards of embankment. Once the earthwork is completed, two retaining walls measuring about 10-ft-high (above grade) x 135-ft-long and 10-ft-high x 90-ft-long, will be constructed. The height of the two retaining walls will range from one to ten feet.

Following successful completion of the test pumping, Phase 2 will commence. Phase 2 will involve converting the exploratory well to a production well, measuring approximately 19 inches in diameter with concrete casing and the following dimensions:

- Ground elevation: 78 feet (approximately)
- Total depth: 700 feet
- Finished borehole diameter: 19 inches
- Length of 12-inch (ID), 3/8-inch thick solid casing (ASTM A53): 400 feet*
- Length of 12-inch (ID), 5/16-inch thick perforated casing (ASTM A53): 60 feet*
- 19-inch diameter open hole below the bottom of the perforated casing: 240 feet*
- Grouted annular space (above double cement baskets: 390 feet (Note: No gravel in the annulus outside of the perforated casing)*)

**Tentative measurements; subject to change based on field conditions*

2.8 Ancillary Water Well Equipment

In addition to developing the production well, Phase 2 will also involve constructing a well pad measuring approximately 120 square feet and a hollow tile control building, located adjacent to the well. The control building will be slab-on-grade and measure about 32-feet-long x 12-feet-wide x 11-feet-high. See Figure 6: Wainiha Water Well Pump Control Building Plan; Figure 7: Wainiha Water Well Pump Control Building Elevations; Figure 8: Retaining Wall Elevation Profile. The building will be painted an earth-colored tone to blend in with the surrounding landscape and will be ringed with security perimeter fencing.

Electrical power and telephone service is currently provided to the area along Wainiha Powerhouse Road and will be extended to the proposed project site via the improved access road.

2.9 Project Operation

No DOW personnel will be assigned to the daily operation of the Wainiha water well site. DOW personnel will, however, visit the project site about three times per week to conduct tests, perform maintenance and clean the surrounding area.

2.10 Costs

The total cost of improvements for the proposed project is approximately \$2.5 million, to be funded by DOW. The project may also be use federal funds through the Hawai'i Department of Health, Drinking Water State Revolving Fund (DWSRF) program, which would constitute a federal action and require the project to meet all DWSRF program requirements.

2.11 Phasing and Timing of the Action

Permits and plans for the proposed project are expected to be completed by mid-2010, with construction expected to be completed in 2011.

Figure 6
Wainiha Water Well Pump Control Building Plan

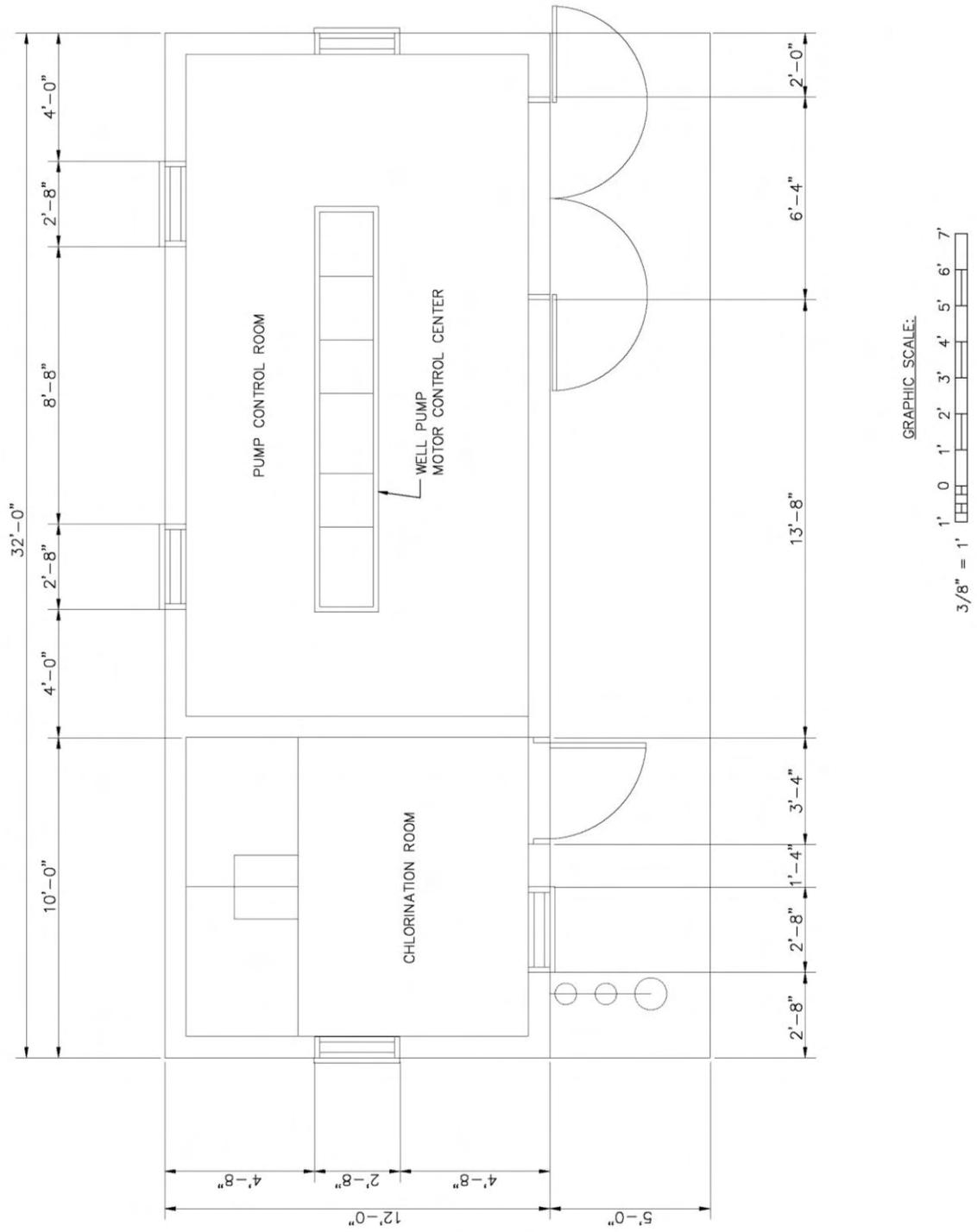


Figure 7
Wainiha Water Well Pump Control Building Elevations

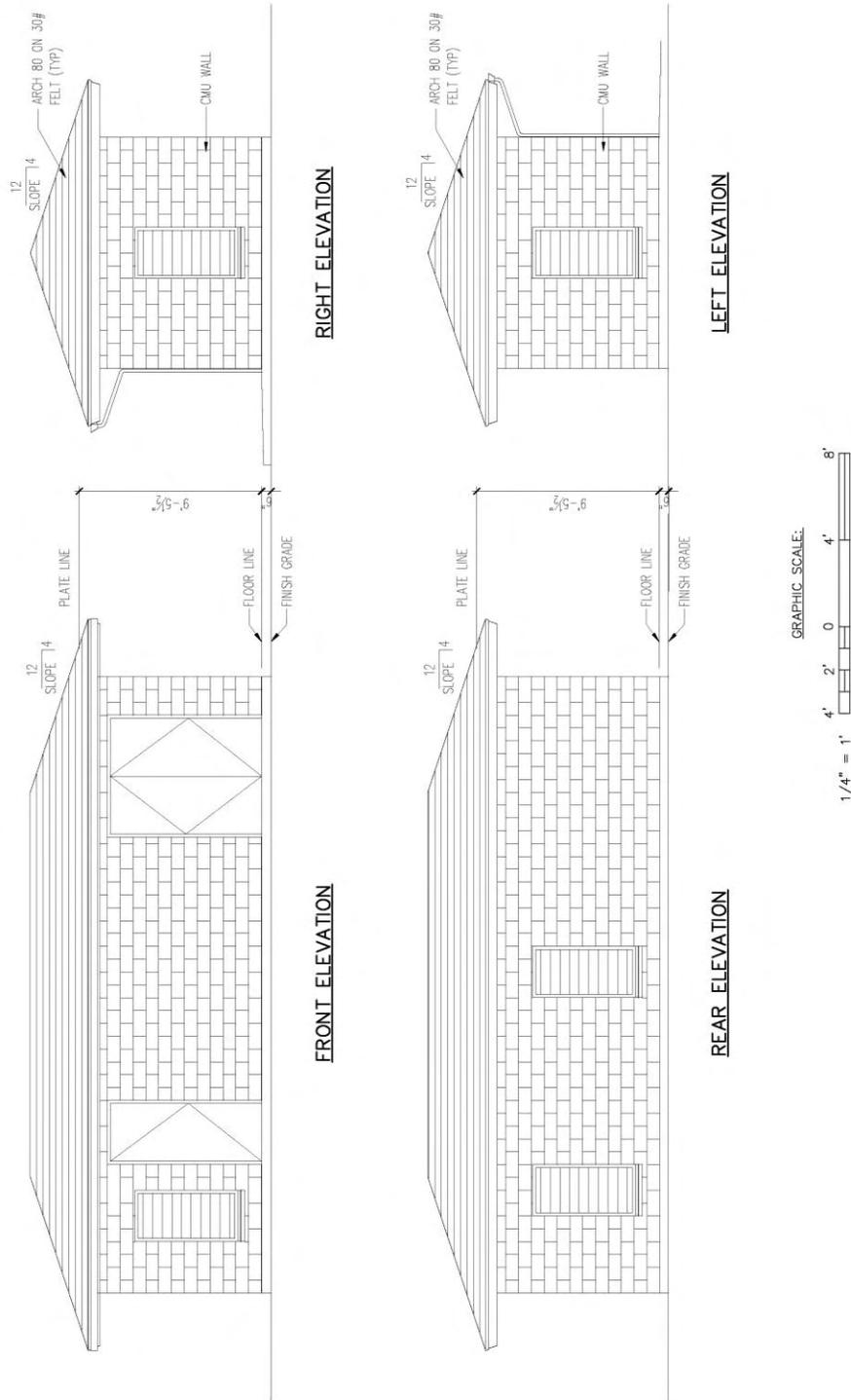
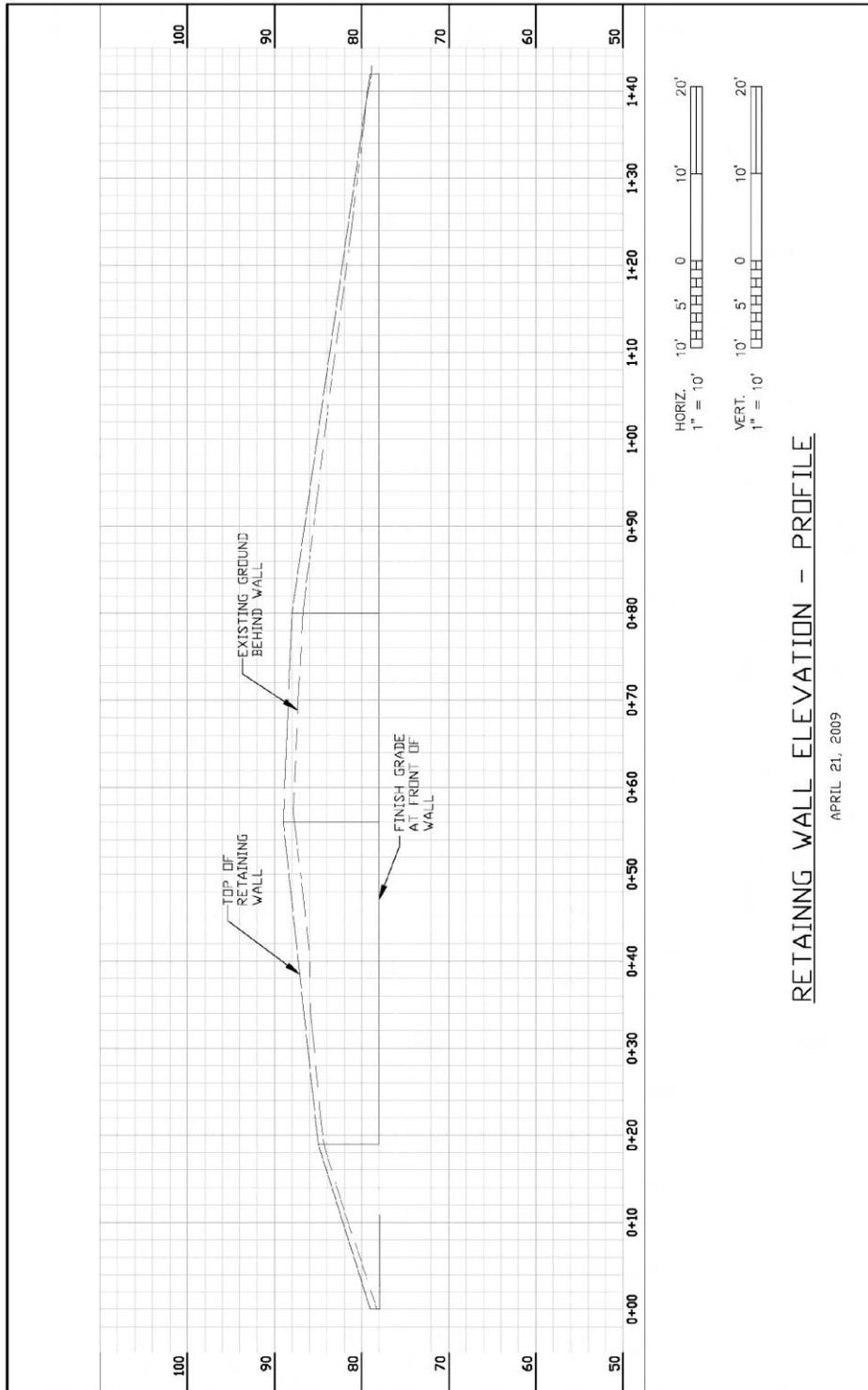


Figure 8
Retaining Wall Elevation Profile



3.0 Assessment of Existing Natural Environment

The following describes the existing natural environment associated with the property and potential impacts that may result from the development. Mitigation measures to address potential impacts are also described, as applicable.

3.1 Geology and Hydrology

Kauaïi is one of the oldest, and is structurally the most complicated, of the Hawaiian Islands. The rocks of the major Kauaïi shield volcano are known as the Waimea Canyon volcanic series. The thin flows, which compose the major portion of the volcanic edifice, are named the Napali formation of the Waimea Canyon volcanic series. After completion of the great Kauaïi shield came a long period of erosion during which time, no volcanic activity occurred. When volcanism renewed, eruption occurred from a series of minor vents across the island. The lavas, cinder cones and ash beds of this period are known as the Koloa volcanic series. Just before and during the eruption of the Koloa volcanic series, voluminous landslides and mudflows brought down a large amount of rock debris and soil. These materials, distributed by streams and buried by lavas of the Koloa volcanic series, are named the Palikea formation of the Koloa volcanic series.

The lavas of the Napali formation of the Waimea Canyon volcanic series are highly permeable. They carry basal water over much of the island and yield it freely to wells. The lava flows of the Koloa volcanic series are poorly to moderately permeable. They carry fresh or brackish water at sea level, but generally yield it slowly to wells. Locally, small bodies of fresh water are perched at high levels in the lavas of the Koloa by beds of ash and soil and by breccia and conglomerate of the Palikea formation.

A Well Site Selection Report was prepared in 2007 for DOW's Hanalei and Wainiha-Häyena water systems. According to the report, the service area of DOW's Wainiha-Häyena Water System consists of low-lying areas along the shoreline and on stream valley floors, separated by ridges of the Napali formation of the Waimea volcanic series. Of great significance for potential well development is the mapping of Koloa volcanics and the Palikea formation (masses of breccia and beds of conglomerate) on the west wall of Wainiha Valley. This remnant of the generally poorly permeable Koloa volcanics is relatively small

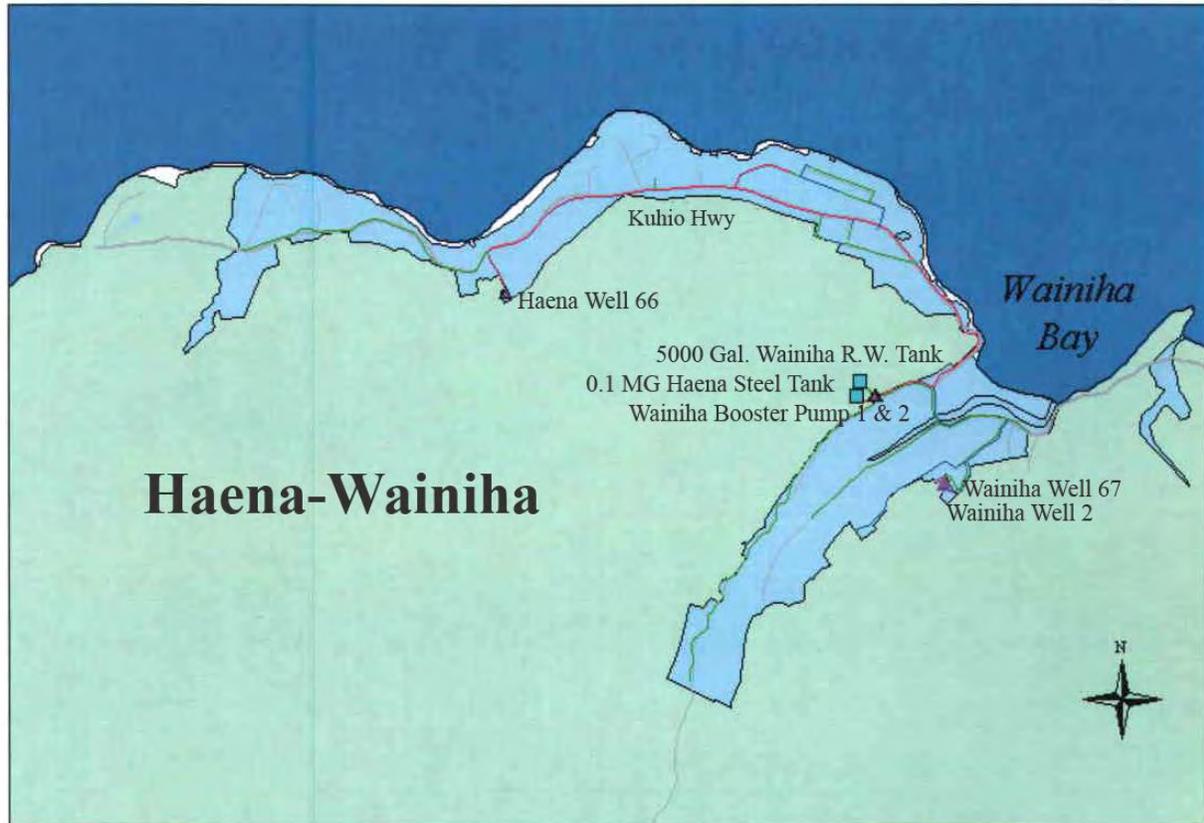
in areal extent and the (assumed to be) underlying Palikea formation is likely to have little or no permeability. The proposed project site and existing 0.1 MG Häyena steel water tank is located on this remnant of the Koloa volcanics.

While a well almost anywhere in the Waimea volcanics is likely to produce the system's projected nominal requirement of 100 GPM, a sustainable yield from a well located on the remnant of the Koloa volcanics is more problematic. Drilling deeper to pass through the Koloa volcanics and Palikea formation to reach the underlying Napali formation will be required.

3.1.1 Water System Configuration

The Wainiha-Häyena Water System consists of three supply wells - Wainiha 67 (State No. 1232-01), Wainiha 2 (State No. 1232-02) and Häyena 66 (State No. 1333-01). See Figure 9: Wainiha-Häyena Existing Water System.

Figure 9
Wainiha-Häyena Existing Water System



Source: County of Kauaïi, March 2001

The larger service zone, established by the 144-foot spillway elevation of the 0.1 MG Häyena steel water tank, receives water from two wells - Wainiha 2 and Häyena 66. According to the *Water Plan 2020*, these have (nominal) pumping capacities of 200 and 100 GPM, respectively. According to recent Supervisory Control and Data Acquisition (SCADA) data, present actual delivery rates average about 250 and 115 GPM, respectively.

Both wells are remote from the system's main storage tank and pump directly into the system's transmission/distribution mains. The well water either goes directly to customers or to the storage tank, depending on ongoing use in the system.

The Wainiha 67 well is located about ten feet from Wainiha Well 2, on the same small lot. Water can be delivered to the system's upper service zone in two ways - either by pumping the Wainiha

67 or by booster pumping from the 144-foot, 0.1 MG Häyena steel water tank. According to *Water Plan 2020*, Wainiha Well 67 has a (nominal) pumping capacity of 30 GPM. No actual delivery rates are available. Information on DOW's Wainiha-Häyena system is presented below in Table 1.

Table 1
Summary of Dimensions and Use of the Three Supply Wells
DOW Wainiha-Häyena System

Parameter	Wainiha 67 (1232-01)	Wainiha 2 (1232-02)	Haena (1333-01)
Year Drilled	1961	1985	1965
Ground Elevation (Feet MSL)	66	65	83
Total Depth (Feet)	188	300	159
Elevation at Bottom (Feet MSL)	-122	-235	-76
Casing Diameter (Inches)	6	10	8
Lengths of Casing : Solid	70	No Data	80
: Perforated	80	No Data	24
Length of Open Hole	38	No Data	55
Originally Measured Static Water Level (Ft MSL)	15.5	9.8	14.2
Present Static Water Level (Feet MSL)			
Original Hydraulic Performance (Drawdown @ GPM)	25.1' @ 17	33.7' @ 333	30.0' @ 300
Present Hydraulic Performance (Drawdown @ GPM)			
Nominal Installed Pump Capacity (GPM-Water Plan 2020)	30	200	100
Actual Pumping Rate (GPM)	No Data	244 to 250	110 to 120
Average Pumpage in 2006 (MGD)	0.004	0.063	0.056
Maximum Month Pumpage in 2006	0.009	0.159	0.080

Note: Data from the Commission on Water Resource Management files and DOW's SCADA system.

Source: Tom Nance Water Resource Engineering, April 2007

3.1.2 Existing System Use

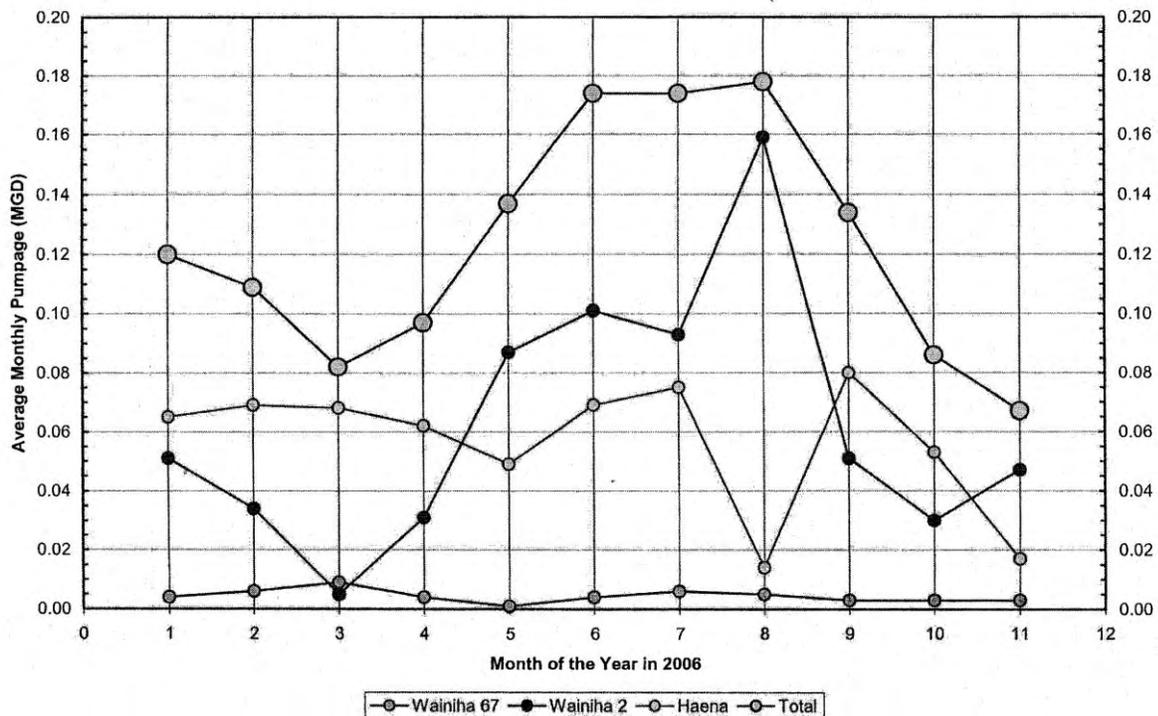
Despite the fact that all three wells tap the Napali series of the Waimea volcanics, drawdowns at relatively modest rates of pumping are more than one would expect. This may be a combination of two factors: the wells not having been drilled deep enough; and having had inadequate development during the completion of their construction.

The U.S. Geological Survey (USGS) has been periodically measuring the water levels in the smaller and older of the two

Wainiha wells (Wainiha 67, State No. 1232-01) since 1973. The second and larger Wainiha well (State No. 1232-02) was put into service sometime after 1985, but the aquifer's "static" level has been reasonably stable since that time. The DOW's SCADA system data, available only for the last two years and just for the larger well, confirms the aquifer's water level stability.

According to the USGS' water level data for the Häyena well, there was an apparent overdraft that began in 1997 and continued through 2004. Based on recent SCADA system data, the well pump delivers between 120 and 110 GPM, with the variation caused by the continuing drawdown through each pump cycle. When pumped frequently, the static water level does not recover fully between cycles and the static level declines. The data for the Häyena well, in contrast to the Wainiha wells, suggests that this well is being used at or close to its maximum long term yield. Figure 10 below depicts DOW's Wainiha-Häyena Water System use in 2006.

Figure 10
Use of the Wainiha-Häyena Water System Wells in 2006



Source: Tom Nance Water Resource Engineering, April 2007

3.1.3 Ground Water Hydrologic Units

The Hawai'i Commission on Water Resource Management (CWRM) established ground water hydrologic units to provide a consistent basis for managing the State's ground water resources. In general, each island is divided into regions that reflect broad hydrogeological similarities while maintaining, where possible, hydrographic, topographic and historical boundaries. Smaller sub-regions are then delineated based on hydraulic continuity and related characteristics. CWRM uses an aquifer coding system to reference and describe the ground water hydrologic units (see Figure 11: Hydrologic Units and Sustainable Yield - Island of Kaua'i). The proposed project site is located within the Wainiha Aquifer (20203) of the Hanalei Hydrologic Unit, with a sustainable yield of 24 MGD. According to *Water Plan 2020*, the Wainiha-Häyena Water System had an historical water use of 0.154 MGD in 1999, with a projected water use of 0.179 MGD in 2020.

GPM requirement for the new well, combined with other logistical, economic and landowner considerations, make this the most feasible development alternative available (see "Section 7.0 Alternatives to the Proposed Action" for a more in-depth analysis of the considered alternatives).

Water use for the system is projected to increase to 0.179 MGD in 2020 and will not adversely affect the Wainiha Aquifer. The County will conduct water sampling tests as part of its pump testing activities to ensure the quality of withdrawn water meets all applicable state and federal drinking water regulations. Once the testing phase is completed, the County will monitor the on-going operation of the Wainiha-Häyena Water system to ensure it continues to meet all applicable state and federal drinking water regulations. The proposed project will not adversely affect the water quality of the water system. No mitigation measures are proposed.

3.2 Soils

According to the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), the soil at the project site is classified as Rough Broken Land (rRR), with Hanalei Silty Clay, 0 to 2 percent slopes (HnA) found at the Booster Pump Station site. See Figure 12: Soil Survey Map.

According to NRCS, Rough Broken Land consists of very steep land broken by numerous intermittent drainage channels. In most places it is not stony and occurs in gulches and on mountainsides. The slope for this series is 40 to 70 percent. Elevations range from nearly sea level to about 8,000 feet. The local relief is generally between 25 and 500 feet. Runoff is rapid and geologic erosion is active. In follow-up discussions with NRCS, land classified as rRR indicate surveys conducted at the reconnaissance level, requiring a site visit to determine specific soil conditions, such as erodibility, parent material and top soil.

In preparation of the Final EA and Conservation District Use Application for the Wainiha Booster Station Renovation and Häyena Steel Tank Renovation - 2008, geotechnical investigations were undertaken at both the existing booster pump station and Häyena steel water tank sites. Four exploratory borings were drilled to depths ranging from approximately 15.5 to 30.5 feet. In addition, laboratory analysis was done on the soil samples taken during the borings.

The findings of the geotechnical study show that both sites are underlain by two distinct soil units within the upper 30.5 feet; clayey silt and weathered basalt. The surface soil was generally classified as reddish brown to brown clayey silt mixed with basalt sand in stiff condition. The laboratory tests indicated the clayey silt has low to moderate expansion potential.

Mottled tan, black, and brown completely weathered basalt was encountered below the clayey silt layer. Completely weathered basalt is rock that has decomposed to soil, but with its relic structure maintained. The completely weathered basalt was generally in a moist and stiff condition.

The County of Kauaïi uses the 1997 Uniform Building Code (UBC) to guide construction of its buildings, structures and facilities. In addition to construction guidelines, the UBC also assigns a seismic zone to geographic areas. According to the UBC, the County of Kauaïi is assigned Seismic Zone 1, indicating a relatively low level of potential seismic hazard.

Potential Impacts and Mitigation Measures

Construction Phase: Development of the water well will require drilling an exploratory hole measuring approximately 9 or 12 inches in diameter to a depth of about 700 feet. Following successful well testing, the exploratory well will be converted to a production well measuring approximately 19 inches in diameter. The proposed project will also require some grading and cutting, and construction of two retaining walls, a concrete well pad and control building. The project will require approximately 370 cubic yards of excavation and 300 cubic yards of embankment. Once the earthwork is completed, two retaining walls measuring about 10-ft-high (above grade) x 135-ft-long and 10-ft-high x 90-ft-long, will be constructed. The height of the two retaining walls will range from one to ten feet.

Drilling and construction activity will disturb surface and subsurface soils. Final engineering will include additional evaluation of the site-specific subsurface conditions and development of appropriate designs. All surface and subsurface material will be removed to an approved landfill or other approved site. In addition, the construction plans and documents for the proposed project will be required to provide Best Management Practices (BMPs) to prevent sediment from surface flows from entering adjacent properties or the Wainiha Stream. In addition, as part of the short-term mitigation measures, an

erosion control plan will be prepared and included in the design plans.

Operational Phase: Although cutting the embankment will remove the soil, construction of the retaining wall will retain the hillside behind the cut area. No long-term erosion impacts are anticipated and no mitigation measures are proposed.

3.3 Surface Water Resources and Flood Hazard

The Wainiha water well project site is located at an elevation of approximately 126.5 feet msl, with no surface water resources near the project site. There are no natural drainageways draining onto the project site and there are no conditions that would classify the project site as a wetland.

The nearest surface water resource is Wainiha Stream, located about 800 feet south of the project site, beyond Wainiha Powerhouse Road and intervening residential units. The proposed project site is located in Zone X on the Federal Emergency Management Flood Insurance Rate Map (FIRM). Zone X is defined as: "area determined to be outside of the 0.2% annual chance floodplain" and is not located within the flood hazard area of a 500-year floodplain. See Figure 13: National Wetland Inventory and Figure 14: Flood Hazard Map.

Potential Impacts and Mitigation Measures

There are no surface water sources on or near the proposed project site. A 700-ft-deep well hole will be excavated and approximately 5,000 square feet will be cleared to construct a well pad, control building and two retaining walls. Once completed, the adjacent undeveloped area will be returned to existing natural conditions, which will allow infiltration of rainfall and ensure that surface flows are retained on the site to the extent possible.

Temporary erosion control measures will be used during construction. These mitigation measures will include placement of a silt fence around the project site to contain surface flows and prevent surface runoff into adjacent areas.

As previously discussed, the construction plans and documents will require the contractor to provide a Best Management Practices (BMPs) plan to prevent sediment from surface flows at the project sites from entering adjacent properties or Wainiha

Stream. In addition, an erosion control plan will be prepared as part of the design plans.

No water resources are expected to be affected by the project and no mitigation measures are proposed. Additionally, the proposed project site is not subject to any flood hazards, hence, no flood mitigation measures are proposed.

3.4 Flora and Fauna

A botanical survey was conducted in May 1995 as part of the County's planned land acquisition. Vegetation on site consists primarily of non-native species with a scattering of native species. All native species found are relatively common and widespread and not considered to be rare, threatened or endangered by either the U.S. Fish & Wildlife Service or Hawai'i Department of Land and Natural Resources, Division of Forestry & Wildlife.

Although ironwood trees could be used as habitat for various bird species found along the low-land forested areas of the North Shore, there have been no known occurrences of any rare, threatened or endangered bird or bat species within the project area. The endangered Hawaiian Petrel and Newell's Shearwater, however, may pass by/over the project site when flying between the back portion of Wainiha Valley (approximately six miles from the project site) and the ocean.

Potential Impacts and Mitigation Measures

The proposed project will not require any removal of trees and only minimal disturbance to surface vegetation for construction of the water well, well pad and control building. The control building will require exterior lights at the entry doors/entry way but will only be used for evening maintenance or emergency work. The building design will direct the lighting towards the building entry so as not to interfere with the flight patterns of any Hawaiian Petrels or Newell's Shearwaters, which may be passing overhead, between Wainiha Valley and the ocean.

No impacts to any rare, threatened or endangered plant or animal species or their habitats are anticipated, and no mitigation measures are proposed.

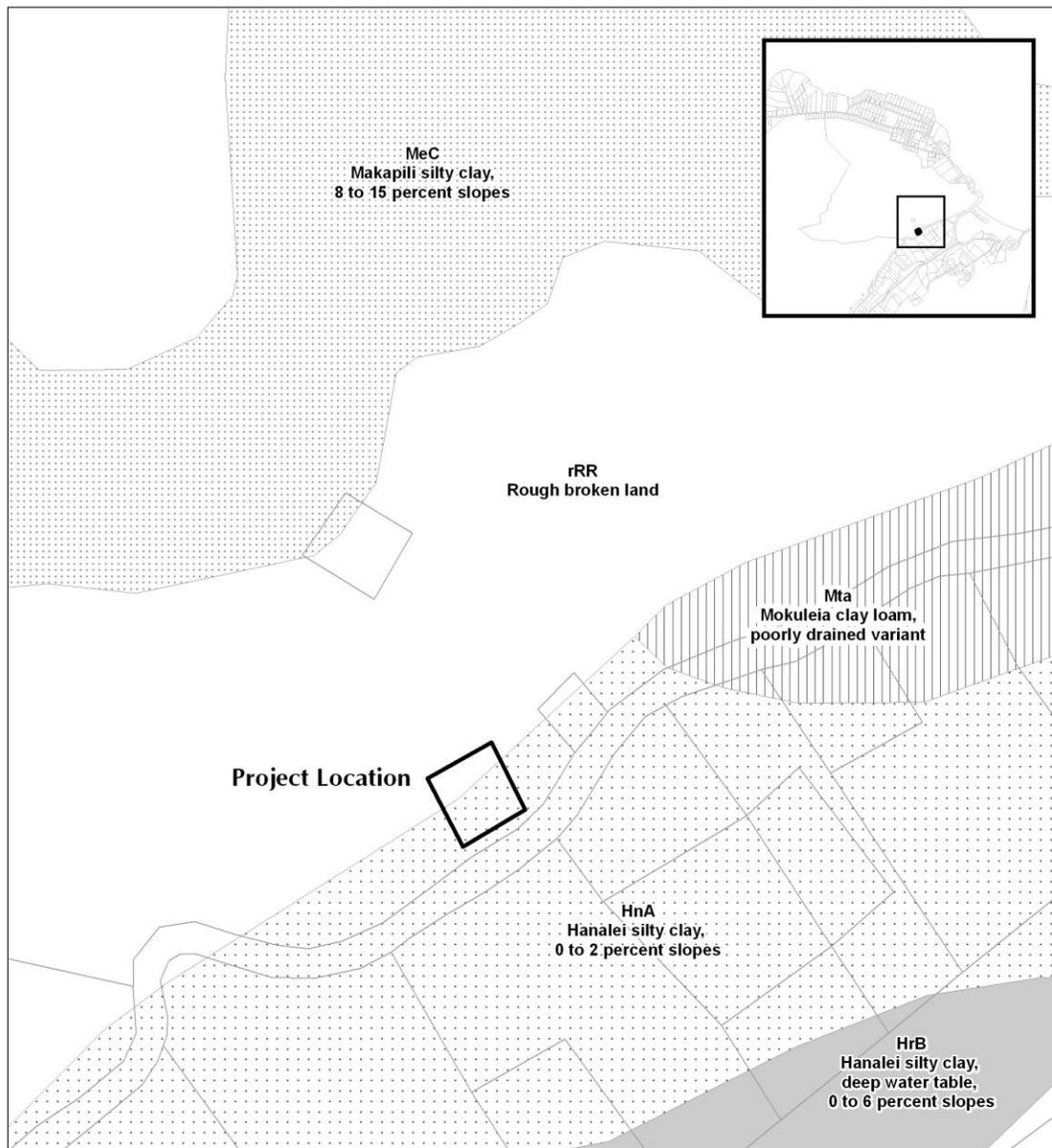
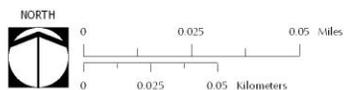


Figure 12
Wainiha, Kaua'i
Soil Survey Map

Source:
Natural Resource Conservation Service, 2005

Wainiha Water Well NEPA/Chapter 343 Environmental Assessment



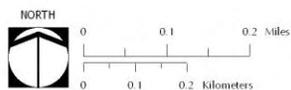
Prepared by:
NKN Project Planning
January 2009



Figure 13
Wainiha, Kauai
National Wetlands Inventory Map

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment

Source:
U.S. Fish & Wildlife Service, 2004



Prepared by:
NKN Project Planning
January 2009

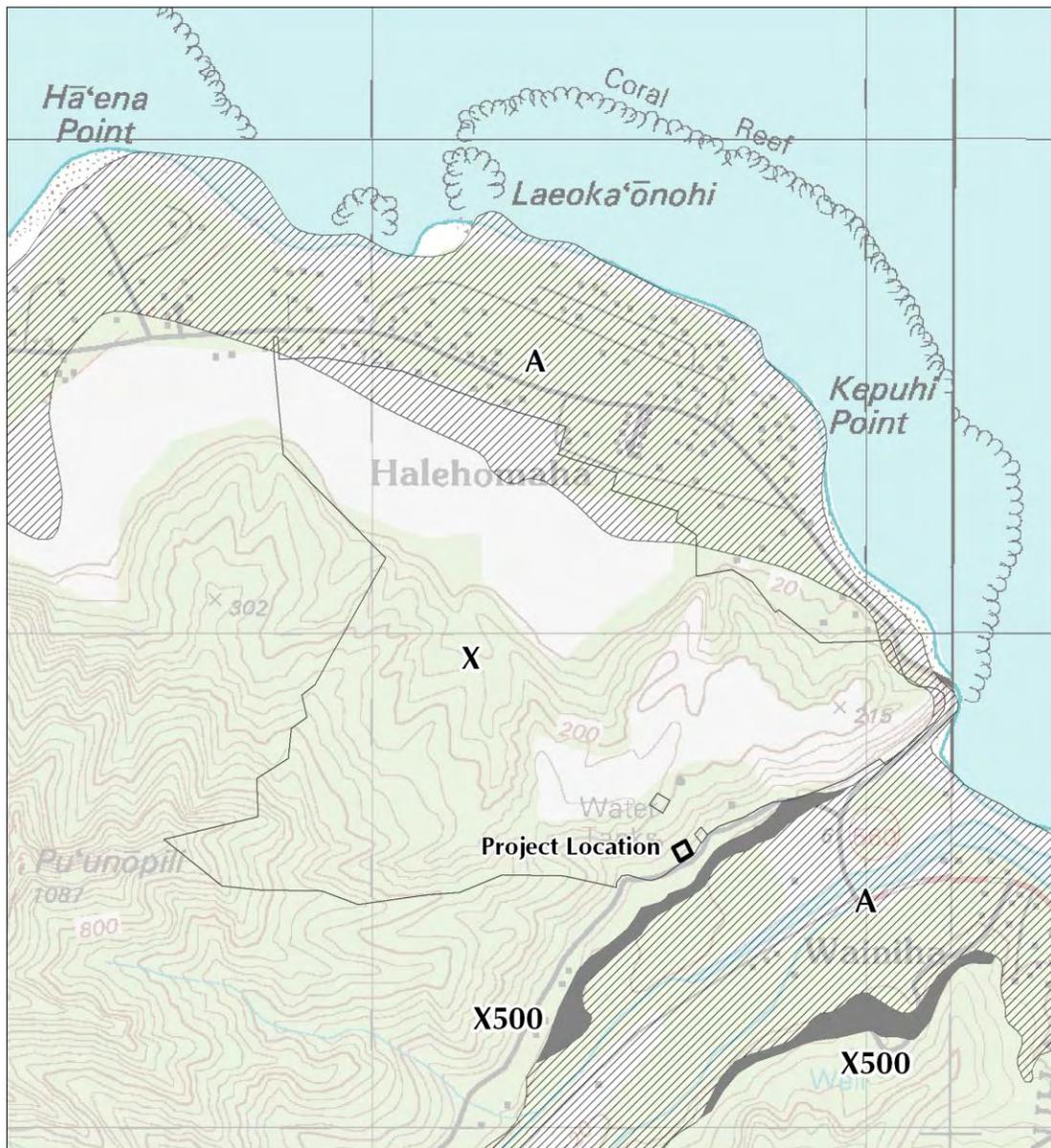
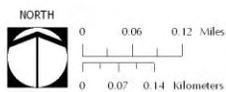


Figure 14
Wainiha, Kaua'i
Flood Hazard Map

Source:
Pacific Disaster Center, 1996
Hawaii's Office of Planning Statewide GIS Program, 2008

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment



Prepared by:
NKN Project Planning
January 2009

4.0 Assessment of Existing Human Environment

This section discusses the existing human environment of the project area and potential impacts that may result from the proposed development. Mitigation measures to address potential impacts are also described, as applicable.

4.1 Agricultural Lands

4.1.1 Agricultural Lands of Importance to the State of Hawai'i

In 1975, the U.S. Department of Agriculture Soil Conservation Service (now Natural Resources Conservation Service) initiated a nationwide inventory of important farmlands. The inventory included three categories: "prime", "unique" and "other farmlands of state-wide and local importance". This classification was later adopted by the Hawai'i Department of Agriculture under the title *Agricultural Lands of Importance to the State of Hawaii* (ALISH). The ALISH system defines "prime agricultural land" as land best suited for food, forage and timber crops. "Unique agricultural land" is defined as land other than prime, used for the production of high-value food crops. "Other agricultural land" is defined as land used for the production of food, feed, fiber and forage crops, but not classified as "prime" or "unique".

According to the ALISH system, the proposed project site is not classified, indicating that the lands are not the highest classification for productivity and high yield. Most of the nearby surrounding lands are also not classified in the ALISH maps. See Figure 16: Agricultural Lands of Importance to the State of Hawai'i.

4.1.2 Land Study Bureau Detailed Land Classification

During the 1960s and 1970s, the Land Study Bureau (LSB) of the University of Hawai'i prepared an inventory and evaluation of the State's land resources. LSB grouped all non-urban lands in the State into homogeneous units of land types and 1) described their condition and environment, 2) rated the land on its overall quality in terms of agricultural productivity, 3) appraised its performance for selected alternative crops, and 4) delineated the various land types and groupings based on soil properties and productive capabilities.

On a scale of A to E, with "A" having the highest rating, the proposed project site has been given an "E" rating by the Land Study Bureau - the lowest agricultural productivity rating. See Figure 17: Land Study Bureau Detailed Land Classification.

Potential Impacts and Mitigation Measures

Removal of this land - not classified by the ALISH system and having the lowest LSB rating - will not adversely affect the total land available for agricultural uses in this area of Kaua'i. No mitigation measures are proposed.

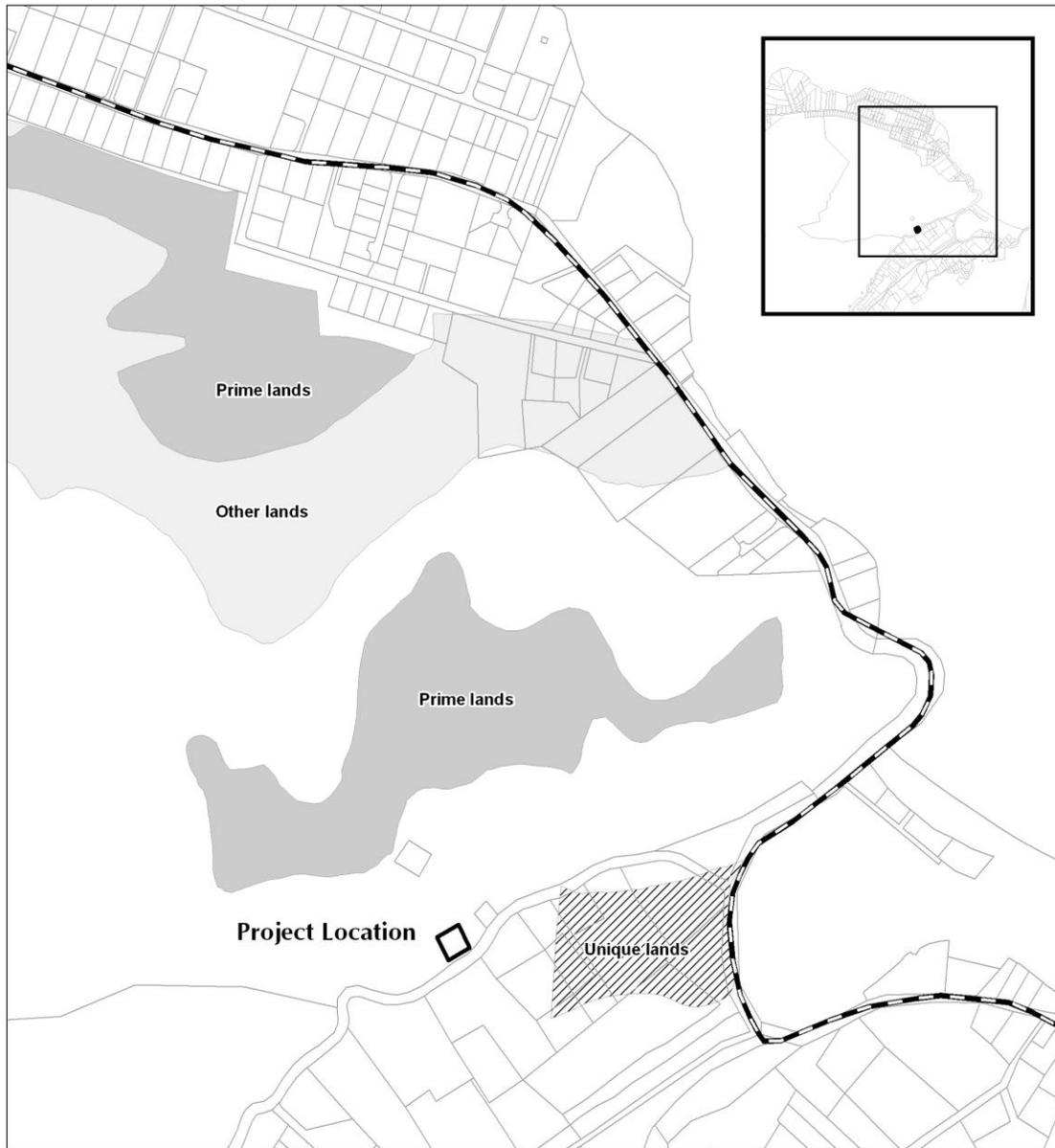
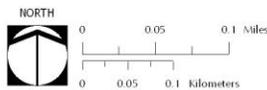


Figure 15
Wainiha, Kaua'i
Agricultural Lands of Importance to the State of Hawai'i

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment

Source:
Hawai'i Department of Agriculture, 1977
Hawai'i Office of Planning Statewide GIS Program, 2008



Prepared by:
NKN Project Planning
January 2009

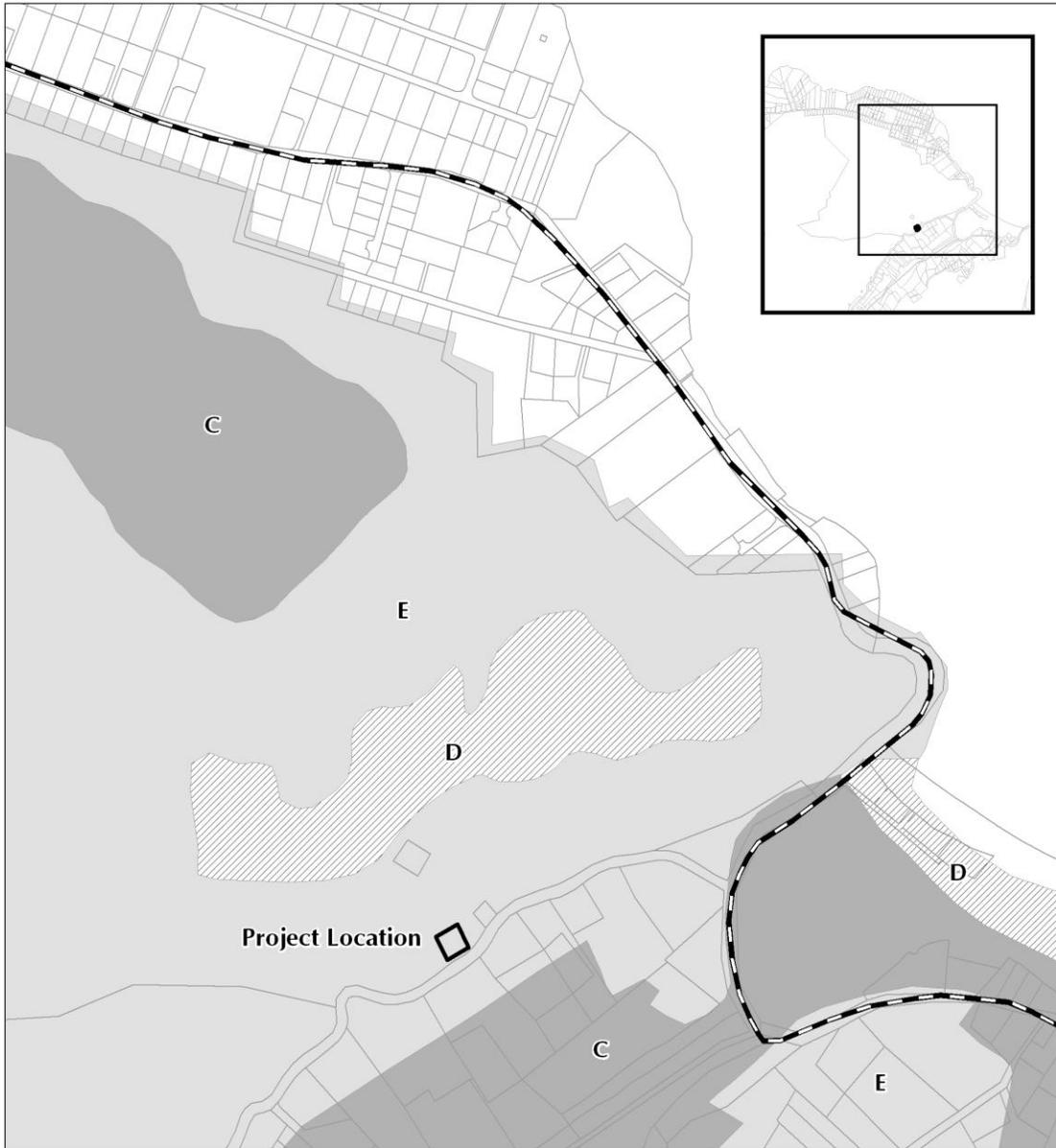
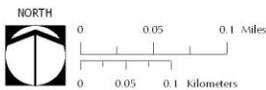


Figure 16
Wainiha, Kauai
Land Study Bureau Detailed Land Classification

Source:
University of Hawai'i, Land Study Bureau, 1986
Hawai'i Office of Planning Statewide GIS Program, 2008

Wainiha Water Well
NEPA/Chapter 343 Environmental Assessment



Prepared by:
NKN Project Planning
January 2009

4.2 Archaeological and Cultural Resources

In May 1995, Cultural Surveys Hawaii conducted an archeological survey as part of the County's planned land acquisition for the Häyena steel water tank and the access road. No archaeological sites or potential subsurface cultural materials were discovered and no further archeological research was recommended.

Potential Impacts and Mitigation Measures

The proposed development is not expected to have an impact on archaeological or cultural resources and no mitigation measures are proposed. If, however, any archaeological or cultural resources are discovered during construction activities, all work will immediately cease and the State Historic Preservation Division, Kaua'i Section, will be notified to assess the significance of the find and recommend mitigation measures, if necessary.

4.3 Air Quality

The proposed project site is located in the Hanalei District on the North Shore of Kaua'i, an area characterized by a relatively low level of residential and commercial development, and almost no industrial-type facilities. A low level of development generally indicates an absence of stationary and mobile sources of emissions that could affect ambient air quality. The North Shore area does not contain stationary industrial sources of emissions.

Vehicle traffic along Kūhiō Highway and on Wainiha Road is the primary source of mobile emissions near the project site.

Potential Impacts and Mitigation Measures

Construction Phase: The project site is relatively small, measuring approximately 10,000 square feet. Potential short-term adverse air-quality impacts during the construction phase include: 1) generation of fugitive dust from vehicle movement and soil excavation; and 2) exhaust emissions from on-site construction equipment and from construction workers' vehicles traveling to and from the project site. These adverse impacts will be short-term during the period of construction. Construction activities will comply with the provisions of Section 11-60.1, HRS, Air Pollution Control and Section 11-60.1-

33, HRS, with respect to fugitive dust. The construction specification will state that the contractor must maintain the areas within and without the project limits free from dust which would cause hazards to the workers and to other persons or property. The specifications will also state the contractor is permitted to use accepted methods for dust control, such as, enclosure and filtering. It is expected that the contractor will comply with state regulations and provide adequate means to control dust during the various phases of construction.

Operational Phase: Once the project is completed, no personnel will be assigned on a daily basis to service the Wainiha water well. DOW personnel will visit the project site to inspect the facility and perform maintenance service approximately three times per week. This level of activity will not create an adverse effect to traffic on nearby streets and highways. No long-term adverse air quality impacts are anticipated. No long-term mitigation measures are proposed.

4.4 Noise

The area surrounding the project site is primarily a low-density residential community. There are no commercial or industrial developments in the area of the project site and as a result, there is an absence of stationary noise sources. The main noise source in the vicinity of the project site is vehicle traffic on Kūhiō Highway and Wainiha Powerhouse Road, with relatively light vehicle traffic on both roads in the vicinity of the project site.

Potential Impacts and Mitigation Measures

Construction Phase: Construction activities such as drilling and excavating will create noise. The equipment used for these activities typically includes pick-up trucks, excavators, backhoes, concrete delivery trucks, forklifts and a drilling rig. Two types of drills are available for drilling the well hole - a cable tool drill and a rotary drill. A cable tool drill involves attaching a drill bit (typically weighing about seven to eight tons and measuring about 20 feet long) to a 20-ft-long cable, which is then picked up and dropped, chipping away at the subsurface. A bailer is used to haul "cuttings" from the well hole. No electrical or gas power is required and the operation is relatively quiet. A typical rotary drill will require an on-site air compressor for its operation. The contractor will determine the drilling method employed.

The County of Kauaïi zoning designation for the project site is Conservation. Under Hawaiïi Department of Health (DOH) regulations for zoning district Class A - areas equivalent to lands zoned conservation, residential, preservation, public space, open space or similar type - maximum permissible sound levels at any point at or beyond the property line is 55dBA for daytime and 45dBA for nighttime (Title 11, HAR Chapter 46).

Once the drilling method is determined, the contractor will consult with the Hawaiïi Department of Health if construction noise is expected to exceed the "maximum permissible" property-line noise levels. If so, the contractor will be required to obtain a permit prior to construction. DOH will review the proposed activity, location, equipment, project purpose and timetable in order to decide upon conditions and mitigation measures, such as restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers.

Other vehicle and construction noise will be short-term and limited to daytime hours throughout the period of construction. Once construction is completed, these noise impacts will cease.

Operational Phase: Once construction is complete, noise will be generated by DOW personnel vehicles and others visiting the project site. Visits will involve inspecting the facility and performing maintenance service approximately three times per week. This level of activity will not create significant adverse noise impacts to adjacent or surrounding properties. The control building will house a motor control center (MCC) and chlorination equipment. In addition, a transformer will be located just outside the building. Neither the transformer nor the control building will generate excessive noise that could be considered a nuisance.

4.5 Scenic Resources

The proposed Wainiha water well will be located about 30 feet above Wainiha Powerhouse Road, the nearest public road. The proposed project site is located just west of the existing Wainiha booster pump station, along an existing 425-foot-long access road. The surrounding terrain, trees and other vegetation currently obscure views of the existing water tank from travelers along Wainiha Powerhouse Road.

Potential Impacts and Mitigation Measures

The proposed project will include construction of a well pad, control building and two retaining walls. The new building will be constructed of CMU blocks and painted a shade of earth tone to blend into the surroundings. Preliminary site designs attempted to locate the proposed project closer to the existing Häyena 0.1 MG steel water tank, further obscuring the project from travelers along Wainiha Powerhouse Road. However, space constraints in this preliminary location, as well as on-going improvements to the pump station, prevented further consideration of that site and resulted in the current project location. The subject parcel has not been identified as a scenic resource in county or state plans or studies. Nevertheless, to minimize potential visual impacts of the proposed control building and retaining walls from Wainiha Powerhouse Road, existing mature landscaping will remain, to the extent possible. In addition, vegetation will be planted to screen the improvements and blend with the existing topography and vegetation. No significant adverse impacts on the visual character of the area are anticipated. Below are photos of the proposed project site and adjacent areas from accessible vantage points.



Subject parcel fronting Wainiha Powerhouse Road. Proposed water well and control building would be built approximately 30 feet from the road right-of-way.



Typical landscaping of hau trees and wedelia on southern border of property, along Wainiha Powerhouse Road.



Access road to the proposed project site. The proposed water well and control building will be located immediately left of the existing access road, past the security gate.



Typical view of the proposed water well and control building site. Construction will require removing some landscaping, grading and filling.



South of the proposed project site, along Wainiha Powerhouse Road. The parcels are zoned Residential R-1 and Open. Located in the valley, the properties are divided by Wainiha Stream.

4.6 Socio-Economic Characteristics

The 2000 U.S. Census reported that Kaua'i had a resident population of 58,463 (estimated 63,004 for 2006). The data reported a 478 resident population for the Hanalei Census Designated Place (CDP), a U.S. Census designation used to collect data on a community basis. Other relevant data follows:

Subject	Kauaïi	Hanalei CDP
Population	58,463	478
Percent in Labor Force	63%	68%
Median Family Income	\$51,378	\$55,750
<u>Race (%)</u>		
White	29.5%	57.1%
Asian	36.0%	18.4%
Native Hawaiian	9.1%	2.9%

According to *Water Plan 2020* population projections, the Wainiha-Häyena service area population will experience a 20 percent growth by the year 2020, with water demand projected to increase proportionately during that time. These projections are based on historical trends and economic development plans set forth in the *Kauaïi General Plan*, and assumes the Wainiha-Häyena service area will maintain its existing land use characteristics. Data for 2000 and projections for 2020 from *Water Plan 2020* are summarized below (additional historic water use data from Department of Water, 2009):

Wainiha-Häyena Water System	1985-86	1995-96	2000	2005-06	2020
Population	---	---	989	---	1,187
Water Use (1,000 gallons/day)	86	157	154	165	179
<u>Land Use</u>					
Single-Family (units)	---	---	297	---	357
MF/Resort (units)	---	---	74	---	74
Commercial (sq. ft.)	---	---	16,123	---	16,200
Industrial (sq. ft.)	---	---	0	---	0
Government (capita)	---	---	2	---	4

Potential Impacts and Mitigation Measures

The planning, design, and construction of the proposed project will generate temporary employment opportunities. Although, this will incrementally improve Kauaïi's economy in the short-term, no long-term economic impacts or benefits are anticipated from this project. Rather, the proposed project is intended to meet

the population needs projected for the area. No mitigation measures are proposed.

5.0 Assessment of Existing Infrastructure and Public Services

This section discusses the existing infrastructure of the project area and potential impacts that may result from the proposed development. Mitigation measures to address potential impacts are also described, as applicable.

5.1 Transportation Facilities and Traffic

Kühiö Highway is the sole means of access to the North Shore of Kauaïi, running parallel to the coastline. Personal vehicles are the primary mode of transportation although some small van-size tour busses make occasional stops in the area. Kauaïi's public transportation service, *The Kauaïi Bus*, concludes its route in Hanalei.

Along the North Shore, Kühiö Highway is for the most part, a two-lane roadway, with one travel lane in each direction. There are, however, a number of one-lane bridges in this area - beginning at the Hanalei Bridge and extending to the Wainiha Bridge, located just south of Wainiha Powerhouse Road. These one-lane bridges have posted load limits of either six or eight tons. The posted bridge load limits may limit the size and type of equipment and construction methods that could be used for construction of the new water well.

Direct access to the site is provided by Wainiha Powerhouse Road, which runs inland from Kühiö Highway, and an unimproved access road.

Potential Impacts and Mitigation Measures

Construction Phase: Traffic impacts related to construction activities will occur while equipment and materials are moved to the project site. Any additional traffic, however, will be short-term, occurring only during the construction period. This additional activity should not create an adverse impact to traffic on Kühiö Highway or Wainiha Powerhouse Road, as traffic volumes on this roadway are relatively low.

All construction equipment and methods will take into account the posted bridge load limits. Typical drill rigs weigh far more than the posted bridge capacities and may need to be partially dismantled to reduce their weight to allow crossing the series of bridges. Two types of drills are available for drilling the well hole - a cable tool drill and a rotary drill. Either method

may require a weight variance from the Hawai'i Department of Transportation. The contractor will determine the drilling method employed and whether a variance will be required.

Construction documents will also note that since Wainiha Powerhouse Road is a public road, the contractor will maintain public access for vehicles, including emergency vehicles, during construction. This will ensure there will be no adverse impact to the local roadway. No additional construction impacts are anticipated.

Operational Phase: Once completed, no personnel will be assigned on a daily basis to service the Wainiha water well. DOW personnel will visit the project site to inspect the facility and perform maintenance service approximately three times per week. This level of activity will not create an adverse effect to traffic on nearby streets and highways. No long-term adverse traffic impacts are anticipated. No long-term mitigation measures are proposed.

5.2 Utilities

Water: The project site is currently served by the County of Kaua'i, Department of Water system.

Electricity: Kaua'i Island Utility Company (KIUC) provides commercial electrical power to the North Shore area of Kaua'i. KIUC provides electrical service to the North Shore area, including the existing Wainiha booster pump station, via overhead power lines located on Wainiha Powerhouse Road. The proposed water well will be connected to the existing water tank, with power available from Wainiha Powerhouse Road via the access road.

Telephone: Hawaiian Telcom service is available in the area. Telephone service for tele-metering circuits will be required, with power available from Wainiha Powerhouse Road via the access road.

Sewer: The project site is not served by the County of Kaua'i sewer system and no toilet facilities will be constructed on the project site.

Potential Impacts and Mitigation Measures

Construction of the proposed project will not require shut down of the existing water system. The electrical and telephone

service demands for the proposed project will be relatively small, adding minimal load to the existing electrical and telephone systems. No public wastewater services or on-site wastewater treatment/disposal systems will be required. No adverse impacts to public utilities are anticipated and no mitigation measures are proposed.

5.3 Hazardous Waste

The proposed project site has not been previously cleared or developed. While the existing Häyena steel water tank was previously cleared when originally built, no additional work has occurred since its original construction. No structures buildings, facilities or underground storage tanks, which might contain hazardous materials, have been constructed on the proposed project site.

Potential Impacts and Mitigation Measures

The proposed project will not result in any hazardous waste impacts and no mitigation measures are proposed.

6.0 Alternatives to the Proposed Action

Under *Hawaii Administrative Rules*, Title 11, Chapter 200, Environmental Impact Statement Rules, Section 11-200-10(6), the alternatives to the proposed action considered are limited to those that would allow the objectives of the project to be met, while minimizing potential adverse environmental impacts. The feasible alternatives must also address the project's economic characteristics while responding to the surrounding land uses that will be impacted by the project. In conformance with applicable regulations, the following alternatives, including alternative sites and uses of the property, have been identified and investigated.

6.1 "No-Action" Alternative

The *Kauaïi General Plan* and *Kauaïi Water Plan 2020* identify the Wainiha-Häyena Water System to be near capacity and unable to meet the projected service area water demand through 2020. The *Kauaïi Water Plan 2020* further recommends developing a new 100 GPM water well to meet this projected need. The no-action alternative would not resolve the projected water demand for the service area and would not meet the goals set forth in both the *Kauaïi General Plan* and *Kauaïi Water Plan 2020*.

6.2 Alternative Locations

Three alternative well sites within the Wainiha-Häyena service area were evaluated:

- Alternative No. 1 (along Wainiha Powerhouse Road - *refer to Site 2 in Well Site Selection Report*). To develop a well at this location, it would be necessary to drill through the Paiikea formation to reach the Waimea volcanics. To avoid the Paiikea formation and drill into the Waimea volcanics directly, the well would have to be located as far back in the valley as the powerhouse. The well depth and cost of the connecting pipeline back to the system's storage tank (approximately 10,000 linear feet) are the primary drawbacks of this option. In addition, based on discussions with the landowner, it is believed this site is in close proximity to an unmarked cemetery and historic records for this area may be difficult to obtain.

- Alternative No. 2 (on the east side of Wainiha River - refer to *Site 3 in Well Site Selection Report*). This location is on the nose of a ridge of Waimea volcanics. Its connection to DOW's system could use the same pipeline that conveys Wainiha 2 water to the 0.10 MG Häyena steel water tank, so its development cost would be relatively modest in comparison to some of the other alternatives. Another advantage is that transporting the drill rig would not have to consider the load limitations of the double bridge across Wainiha River. Although logistically attractive, the ability to provide an additional well source on the west side of Wainiha River is a primary consideration for the preferred site. By developing a water source on the west side, should the bridge and/or pipeline break or become damaged, the Häyena customers would not be isolated from a water source.
- Alternative No. 3 (on the nose of Puu Nopili Ridge - refer to *Site 4 in Well Site Selection Report*). As with the site on the east side of Wainiha River, this location would provide direct access to the more hydrologically promising Waimea volcanics. A pipeline connection from this site directly to the 0.10 MG tank would require pumping to 240-foot elevation over the top of the ridge in order to drop water down to the 144-foot tank. Although this site has the highest potential for producing water, the landowner has future development plans for the area and is reluctant to offer a well site. Additionally, as mentioned above, DOW would like to develop a new water source on the west side of Wainiha River to ensure a water source for their Häyena customers. Finally, this site is one of the more costly alternatives.

7.0 Relationship to Existing Plans, Policies and Controls

7.1 Hawai'i State Plan

The Hawai'i State Plan, adopted in 1978 and revised in 1988, now set forth as Chapter 226, HRS, Hawai'i State Planning Act, states, among a number of purposes, that the plan shall serve as a guide for the future long-range development of the State; shall identify the goals, objectives, policies and priorities for the State; and shall provide a basis for determining priorities and allocating limited resources. The proposed Wainiha water well project supports and is consistent with the following State Plan objectives and policies:

Section 226-16 Objectives and policies for facility systems - water

(b) To achieve the facility systems water objective, it shall be the policy of the State to:

- (4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.*

Development of the Wainiha water well will meet projected demands of the service area. The proposed project will be consistent with the object of providing water to adequately accommodate current and future domestic, agricultural, commercial, industrial, recreational and other water needs of the Wainiha-Häyena service area.

7.2 Hawai'i Land Use Law

The Hawai'i State Land Use Law, Chapter 205, HRS, classifies all land in the State into four land use districts - Urban, Agriculture, Rural and Conservation. The Conservation District has five subzones: Protective, Limited, Resource, General and Special. With the exception of the Special subzone, the four subzones are arranged in a hierarchy of environmental sensitivity (Protective) to the least sensitive (General). These subzones define a set of identified land uses which may be allowed by discretionary permit.

The proposed project lies within the State Conservation District, Limited (L) subzone. Well facilities are an identified

use within this subzone. A State Conservation District Use Permit will be required for the development of the proposed water well.

7.3 Kauaïi General Plan

The *Kauaïi General Plan* is a direction-setting policy document that is intended to serve as a guide to help plan and improve the physical environment and quality of life for the people of Kauaïi, and to address the overall development of the island. This document also states the County's vision for Kauaïi and establishes the strategies to help achieve that vision. Section 7 of the Plan sets forth the policies for the island's water systems.

Section 7: Building Public Facilities and Services

This chapter addresses the basic services needed to support projected economic and population growth on Kauaïi.

7.4.4 Policy

- a) Develop a long-range plan to guide expansion, improvement, and rehabilitation of County water systems.*
- b) Coordinate planning of future water system development and rate structures with General Plan policies and guidelines.*
- c) Support compact development by giving priority to water supply improvements for existing and planned Urban Center, Residential Community, and Resort areas, while also supporting development in already-established Agricultural Communities.*

The *Kaua'i General Plan* identifies the Wainiha-Häyena Water System to be near capacity and calls for new water sources to meet long-range planning requirements. The land use designation for proposed project area is Open. Development of the Wainiha water well is consistent with the water supply policies of the *Kaua'i General Plan*.

7.4 Kauaïi Water Plan 2020

The purpose of the *Kaua'i Water Plan 2020* was to 1) develop a long-range plan to guide DOW's future operations and 2) identify the improvements and facilities required to continue to provide safe, affordable and reliable water service to the community in a sustainable and financially secure manner. A goal of *Water Plan 2020* is to ensure a reliable future water supply.

Water Plan 2020 recommends adding a new 100 GPM water well to the Wainiha-Häyena Water System to meet projected demand through 2020. The proposed project is consistent with the policies and recommendations of *Water Plan 2020*.

7.5 North Shore Development Plan

The proposed project site is located in the North Shore Planning Area. The *North Shore Development Plan* is intended as a statement of policy that reflects the community's desires,

intentions, and aspirations for the area. Although it was designed to guide decision-making in the North Shore Planning Area for a period of 10 years, the last update was completed in 1990 and continues to be the guiding document for the physical development of the community.

The *North Shore Development Plan* recognizes the limitations of the existing municipal water system serving the community and identifies improvements planned for the Wainiha-Häyena Water System, including the development of a 100 GPM water well. The proposed project is consistent with the goals and planned developments of the *North Shore Development Plan*.

7.6 Kauai County Comprehensive Zoning Ordinance

The purpose of the Comprehensive Zoning Ordinance (CZO) is to provide regulations and standards for land development and the construction of buildings and other structures in the County of Kauai. The regulations and standards prescribed in the CZO are intended to regulate development to ensure its compatibility with the overall character of the island.

As the proposed project site is within the State Conservation land use district, it is not zoned by the County.

7.7 Compliance with the State of Hawai'i's Drinking Water State Revolving Fund (DWSRF) Program Requirements

This project may be funded by federal funds through the Hawai'i's Drinking Water State Revolving Fund (DWSRF) program. In 1981, the U.S. Congress amended the Safe Drinking Water Act (Public Law 104-182; 42 USC 300-j) to establish the DWSRF, which helped each state to set up a special fund to assist public water systems in financing the cost of improvements. The DWSRF gave special consideration to the needs of small water systems, such as the DOW's Wainiha-Häyena Water System. The proposed project is consistent with the program's emphasis on improving small water systems. This document includes all of environmental information required for compliance with the DWSRF program.

Cross-Cutting Federal Authorities

The following sub-sections address the proposed project's relationship to other federal "cross-cutting" authorities.

7.7.1 Archaeological and Historic Preservation Act of 1974
(16 USC 461)

Under 16 USC 461, Declaration of National Policy, "It is declared that it is a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States."

As discussed in Section 4.2, the proposed project site is located in an area that has been used for the Wainiha booster pump station and Häyena steel water tank since the late 1970s. An archaeological survey was conducted in May 1995 as part of the County's planned land acquisition. No archaeological sites or potential subsurface cultural materials were discovered and no further archeological research was recommended. Copies of the Draft EA will be provided to the Hawai'i Department of Land and Natural Resources, State Historic Preservation Division and the Office of Hawaiian Affairs for review and comment.

7.7.2 Clean Air Act (42 USC 7506 (E))

During the late 1940s, serious smog incidents in Los Angeles and Donora, Pennsylvania raised public awareness and concern about the issue of clean air. In 1955, the government decided that this problem needed to be addressed on a national level. The Air Pollution Control Act of 1955 was the first in a series of clean air and air quality control acts which are still in effect and continue to be revised and amended.

Among the purposes of the Clean Air Act was to: (1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; (2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; (3) to provide technical and financial assistance to state and local governments in connection with the development and execution of their air pollution prevention and control programs; and (4) to encourage and assist the development and operation of regional air pollution prevention and control programs.

As discussed in Section 4.3, air quality in the Hanalei District and in the vicinity of the project site is good. There are no stationary sources of air pollutants and vehicle traffic is relatively light in the vicinity of the project site.

Only minor amounts of grading and excavation will be required for the project. Construction activities will comply with the Department of Health Air Pollution Control rules with respect to fugitive dust during construction. Although emissions from construction vehicles will slightly degrade air quality for the short period of time they are in operation, all applicable emission and ambient air quality standards will continue to be met. Consequently, no adverse health effects from this source are anticipated.

Once construction has been completed, operation of the project site will involve visits approximately three times a week by Department of Water personnel, who will perform periodic maintenance and testing of equipment and systems. This level of activity will not generate sufficient traffic to adversely affect air quality in the area.

The electrical power consumed in the operation of the control station will be relatively small, adding minimal load to the existing electrical systems. As such, additional fuel consumption and emissions from the power generation should not increase significantly and will represent only a small portion of total power usage on Kauaʻi.

7.7.3 Coastal Barrier Resources Act, (16 USC 1451)

In 1982, the US Congress passed the Coastal Barrier Resources Act (GBRA) (16 USC 3501), which established the John H. Chafee Coastal Barrier Resources System (CBRS), and was comprised of undeveloped coastal barriers along the Atlantic, Gulf, and Great Lakes coasts. The law encourages the conservation of hurricane prone, biologically rich coastal barriers by restricting federal expenditures that encourage development, such as federal flood insurance through the National Flood Insurance Program

The Coastal Barrier Resources Reauthorization Act of 2000 reauthorized the Coastal Barrier Resources Act (CBRA) and directed the U.S. Fish & Wildlife Service to complete a Digital Mapping Pilot Project that includes digitally produced draft maps for up to 75 CBRS areas and a report to Congress that describes the feasibility and costs for completing digital maps for all GBRS areas.

The purpose of the CBRA is to minimize the loss of human life, wasteful expenditure of federal revenues, and the damage to fish, wildlife, and other natural resources associated with the coastal barriers along the Atlantic and Gulf coasts and along

the Great Lakes, by restricting future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers.

The project site is located about 1,500 feet inland from the shoreline along Wainiha Bay. The project will not involve construction of facilities along coastal barriers.

7.7.4 Coastal Zone Management Act (16 USC 1456(C)(1))

In 1972, the U.S. Congress enacted the federal Coastal Zone Management Act to ensure that each federal agency undertaking an activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved state management programs. Each federal agency carrying out an activity subject to the Act shall provide a consistency determination to the relevant state agency designated under section 1455(d)(6) of this title at the earliest practicable time.

In 1977, Hawai'i enacted Chapter 205A, HRS, the Hawai'i Coastal Zone Management (CZM) Program. The CZM area encompasses the entire State, including all marine waters seaward to the extent of the State's police power and management authority, including the 12-mile U.S. territorial sea and all archipelagic waters.

The Hawaii Coastal Zone Management Program focuses on ten policy objectives:

- **Recreational Resources.** To provide coastal recreational opportunities accessible to the public and protect coastal resources uniquely suited for recreational activities that cannot be provided elsewhere.
- **Historic Resources.** To 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.
- **Scenic and Open Space Resources.** To protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

- Coastal Ecosystems. To protect valuable coastal ecosystems, including reefs, from disruption and to minimize adverse impacts on all coastal ecosystems.
- Economic Uses. To provide public or private facilities and improvements important to the State's economy in suitable locations; and ensure that coastal dependent development such as harbors and ports, energy facilities, and visitor facilities, are located, designed, and constructed to minimize adverse impacts in the coastal zone area.
- Coastal Hazards. To reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- Managing Development. To improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- Public Participation. To stimulate public awareness, education and participation in coastal management; and maintain a public advisory body to identify coastal management problems and provide policy advice and assistance to the CZM program.
- Beach Protection. To protect beaches for public use and recreation; locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion.
- Marine Resources. To implement the State's ocean resources management plan.

Other key areas of the CZM program include: a permit system to control development within a Special Management Area (SMA) managed by each County and the Office of Planning; a Shoreline Setback Area which serves as a buffer against coastal hazards and erosion, and protects view-planes; and marine and coastal resources. Finally, a Federal Consistency provision requires that federal activities, permits, and financial assistance be consistent with the Hawai'i CZM program.

The project site is located about 1,500 feet from the coastline and is not within the County of Kaua'i SMA. The project does not involve the placement, erection or removal of materials near the

coastline. Activities at the project site do not have the potential to significantly affect coastal resources. Finally, the proposed project is consistent with the CZM objectives that are relevant to this type of activity. A copy of this Draft EA will be sent to the Hawai'i Department of Business, Economic Development and Tourism, Office of Planning for review and comment.

7.7.5 Endangered Species Act (16 USC 1536(A)(2) and (4))

The Endangered Species Act (16 USC 1531-1544, as amended) provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. The Act mandates that federal agencies seek to conserve endangered and threatened species and use their authorities in furtherance of the Act's purposes. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species.

Under 16 USC 1536, Interagency Cooperation, each federal agency shall, in consultation with and with the assistance of the Secretary, ensure that any action authorized, funded or carried out by such agency (an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat of such species, which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action.

As discussed in Section 3.4, vegetation on site consists primarily of non-native species with a scattering of native species. All native species found are relatively common and widespread and not considered to be rare, threatened or endangered by either the U.S. Fish & Wildlife Service or Hawai'i, Department of Land and Natural Resources, Division of Forestry & Wildlife. Additionally, there are no known occurrences of any rare, threatened or endangered plants or animals on the project site. However, the listed Hawaiian Petrel and Newell's Shearwater are known to occur in the back portion of Wainiha Valley, more than six miles from the project site, and may pass by/over the project site when flying between the valley and the ocean.

The control building will require exterior lights at the entry doors/entry way but will only be used for evening maintenance or emergency work. The building design will direct the lighting

towards the building entry so as not to interfere with the flight patterns of any Hawaiian Petrels or Newell's Shearwaters, which may be passing overhead.

No impacts to any rare, threatened or endangered plant or animal species or their habitats are anticipated. Copies of the Draft EA will be provided to the U.S. Fish & Wildlife Service and to the Hawai'i Department of Land and Natural Resources for review and comment.

7.7.6 Environmental Justice, Executive Order 12898

Enacted on February 11, 1994, the intent of Executive Order 12898, Environmental Justice (full title Federal Actions to Address Environmental Justice to Minority and Low Income Populations) is to avoid disproportionately high adverse human health or environmental effects of projects on minority and low income populations. Executive Order 12898 also requires federal agencies ensure that minority and low income communities have adequate access to public information related to health and the environment.

As discussed in Section 4.6, the Hanalei CDP represents a relatively small proportion of the County's total population. Nevertheless, the proportion of whites in the Hanalei CDP is more than the twice the County's proportion, and the median family income is about 10 percent higher in the Hanalei CDP, compared to the rest of the County. As reflected in the census data, the proposed project will not result in a disproportionately high adverse human health or environmental effect on minority or low income populations.

7.7.7 Floodplain Management, Executive Order 11988 as amended by Executive Order 12148

Executive Order 11988, Floodplain Management, dated May 24, 1977 requires federal agencies to take action to reduce the risk of flood loss, restore the natural and beneficial values of floodplains, and minimize the impacts of floods on human, safety, health, and welfare. This Executive Order was amended by Executive Order 12148, July 20, 1979. The main feature of the amendment added that agencies with responsibilities for federal real estate properties and facilities shall, at a minimum, require the construction of federal structures and facilities to be in accordance with the criteria in the National Flood Insurance Program.

As discussed in Section 3.3, the Wainiha water well project site is located in Zone X on the Federal Emergency Management Flood Insurance Rate Map (FIRM). Zone X is defined as an "area determined to be outside of the 0.2% annual chance floodplain" and not located within the flood hazard area of a 500-year flood plain. The project site is not subject to flooding and is consistent with applicable regulations and guidance relating to floodplain management.

7.7.8 Protection of Wetlands, Executive Order 11990, 1977

Executive Order 11990, Protection of Wetlands, dated 1977 requires federal agencies to avoid, preserve, or mitigate effects of new construction projects on lands which have been designated wetlands.

As discussed in Section 3.3, there are no surface water resources on the project site and no conditions were observed which would classify the Wainiha water well project site as a wetland. Copies of the Draft EA will be provided to the U.S. Fish & Wildlife Service and to the Hawai'i Department of Land and Natural Resources for review and comment.

7.7.9 Farmland Protection Policy Act (7 USC 4202 (8))

Adopted on December 22, 1981, the purpose of the Farmland Protection Policy Act (FPPA) is to:

- Minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.
- Assure that federal programs are administered in a manner that, to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland.

Administered by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), "farmland", as used in the FPPA, includes prime farmland, unique farmland and land of statewide or local importance. "Farmland" subject to FPPA requirements does not have to be currently used for cropland.

As discussed in Section 4.1, the Wainiha water well project site is not classified in the *Agricultural Lands of Importance to the State of Hawaii* (ALISH) classification, indicating that the lands are not the highest classification for productivity and

high yield. Most of the nearby surrounding lands are also not classified in the ALISH maps. Additionally, on a scale of A to E, with "A" having the highest rating, the proposed project site has been given an "E" rating by the Land Study Bureau - the lowest agricultural productivity rating. Consequently, the project is in compliance with the FPPA and will not contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. A copy of the Draft EA will be provided to NRCS for review and comment.

7.7.10 Fish and Wildlife Coordination Act (16 USC 661-666)

The Fish and Wildlife Coordination Act, as amended, authorizes the Secretaries of Agriculture and Commerce to require consultation with the U.S. Fish & Wildlife Service and the fish and wildlife agencies of states where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted...or otherwise controlled or modified" by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources".

As discussed in Section 3.3, the project site does not contain surface water resources. In addition, the Wainiha River is located about 800 feet south of the project site, beyond Wainiha Powerhouse Road and intervening residential units. There will be no diversion of any water body and the project will not result in impacts on fish or wildlife resources. Copies of the Draft EA will be provided to the U.S. Fish & Wildlife Service and to the Hawai'i Department of Land and Natural Resources for review and comment.

7.7.11 National Historic Preservation Act of 1966 (16 USC 470 (F))

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effects of their projects on historic properties and allow the Advisory Council on Historic Preservation a reasonable opportunity to comment on such projects. The Section 106 review regulations are set forth in CFR 800. In most cases, the Hawai'i Department of Land and Natural Resources, Historic Preservation Division (SHPD) acts for the Advisory Council to undertake this review process. The Historic Preservation Division must concur that the proposed project will have "no effect" on historic properties.

As discussed in Section 4.2, the proposed project site is located in an area that has been used for the Wainiha booster pump station and Häyena steel water tank since the late 1970s. An archaeological survey was conducted in May 1995 as part of the County's planned land acquisition. No archaeological sites or potential subsurface cultural materials were discovered and no further archeological research was recommended. Copies of the Draft EA will be provided to SHPD and the Office of Hawaiian Affairs for review and comment.

7.7.12 Safe Drinking Water Act (42 USC 300f)

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources - rivers, lakes, reservoirs, springs and groundwater wells. (SDWA does not regulate private wells, which serve fewer than 25 individuals.) SDWA authorizes the United States Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. EPA, states and water systems then work together to ensure these standards are met.

Originally, SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

Sole Source Aquifer (SSA) designation is one tool to protect drinking water supplies. The designation protects areas where there are few or no alternative sources to the groundwater resource and where, if contamination occurred, using an alternative source would be extremely expensive. EPA defines a sole source aquifer as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend on the aquifer for drinking water. Under the rules, EPA will review certain proposed projects within SSA-designated areas. Furthermore, all proposed projects receiving federal funds are subject to review to ensure that they do not endanger the water source.

As discussed in Section 3.1, the Hawai'i Commission on Water Resource Management (CWRM) uses an aquifer coding system to reference and describe the State's ground water hydrologic units. The proposed project site is located within the Wainiha Aquifer (20203) of the Hanalei Hydrologic Unit, with a sustainable yield of 24 MGD. According to Water Plan 2020, the Wainiha-Häyena Water System had an historical water use of 0.154 MGD in 1999, with a projected water use of 0.179 MGD in 2020. The projected increase will not adversely affect the Wainiha Aquifer. A copy of the Draft EA will be provided to CWRM for review and comment.

7.7.13 Wild and Scenic Rivers Act (16 USC 1271-1287)

First passed in October 1968, the Wild and Scenic Rivers Act established a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic or recreational. The Act also designated specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added. The Act contains procedures and limitations for control of lands in federally administered components of the System and for disposition of lands and minerals under federal ownership. Hunting and fishing are permitted in components of the System under applicable federal and state laws.

There are no rivers in Hawai'i designated as wild and scenic as part of the Wild and Scenic Rivers Act. According to the Federal Requirements for DWSRF Loan Applications (August 2008), this Act is not applicable to the State of Hawai'i at this time.

7.7.14 Fishery Conservation and Management, Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801)

The Fishery Conservation and Management, Magnuson-Stevens Fishery Conservation and Management Act is intended to conserve, restore and enhance aquatic systems to provide for increased recreational fishing opportunities nationwide. To achieve this, the Congress found and declared the following:

1. The fish off the coasts of the United States, the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries, constitute valuable and renewable natural resources.

2. Certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened.
3. Commercial and recreational fishing constitutes a major source of employment and contributes significantly to the economy of the Nation.
4. International fishery agreements have not been effective in preventing or terminating the overfishing of these valuable fishery resources.
5. Fishery resources are finite but renewable. If placed under sound management before overfishing has caused irreversible effects, the fisheries can be conserved and maintained so as to provide optimum yields on a continuing basis.
6. A national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation's fishery resources.
7. A national program for the development of fisheries which are underutilized or not utilized by the United States fishing industry, including bottom fish off Alaska, is necessary to assure that our citizens benefit from the employment, food supply, and revenue which could be generated thereby.
8. The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States.
9. One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats.
10. Pacific Insular Areas contain unique historical, cultural, legal, political, and geographical circumstances which make fisheries resources important in sustaining their economic growth.

The Wainiha water well project site does not include water resources that support fishery resources and will not adversely affect any fishery resources.

7.8 Required Permits and Approvals

The proposed project site is located within the Hawai'i Conservation District and will require a Conservation District Use Permit (CDUP) from the Hawai'i Board of Land and Natural Resources.

Hawai'i Administrative Rules under Title 11, Chapter 20, require that all new sources of potable water serving a public water system be approved by the Director of Health, contingent upon a satisfactory report that addresses section 11-20-29 requirements.

A Well Construction/Pump Installation Permit is required from the Commission on Water Resources Management.

Building/Grading Permits are required from the County Department of Public Works.

A Community Noise Permit may be required from the Hawai'i Department of Health for operating drilling equipment.

A permit for Oversized and Overweight Vehicles on State Highways may be required from the Hawai'i Department of Transportation to transport the drilling equipment.

Upon acceptance of this EA, subsequent receipt of a CDUP and successful completion of the test pumping, DOW will submit documentation for the subdivision and land acquisition of the proposed water well, existing 0.1 MG Häyena steel water tank and access/utility easement. Upon completion of the subdivision and land acquisition, DOW will proceed with Phase 2 of the proposed project - development of the production well and construction of the well pad and control building.

8.0 Determination

This EA has evaluated the potential primary, secondary, and cumulative environmental impacts, both short-term and long-term, that could result from the proposed Wainiha water well project. Short-term impacts include disruption to the project site during construction, decline in air quality from construction activities and an increase in noise levels. Once construction is completed, no long-term impacts are anticipated.

8.1 Significance Criteria

Section 11-200-12 of the *Hawai'i Administrative Rules* sets forth the criteria by which the significance of environmental impacts shall be evaluated. The applicant has considered every phase of the proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short-and long-term effects of the proposed action. As a result of these considerations, the applicant has determined that:

1. The proposed action does NOT involve an irrevocable commitment or loss of or destruction of any natural or cultural resource;

The site is presently used as a water tank facility and access road. There are no rare, threatened, or endangered plant or animal species, or their habitats within or near the proposed project site. Based on the results of prior archaeological field surveys, no adverse impacts to historic resources are anticipated. The proposed project will not result in the loss or destruction of any natural cultural resource.

2. The proposed action does NOT curtail the range of beneficial uses of the environment;

The proposed project is consistent with the current use of the project site and compatible with the uses of the surrounding area. Sufficient water will remain, well within the sustainable yield of the aquifer, to promote other beneficial uses of groundwater in the region. The proposed project will occupy approximately 10,000 square feet of Conservation land and will not curtail future beneficial use of the environment.

3. The proposed action does NOT conflict with the State's long-term goals or guidelines as expressed in Chapter 344, HRS, State Environmental Policy;

The purpose of the proposed project is to meet projected water demand, and maintain the public health and welfare for the residents of this area. The proposed project will not involve actions or activities that would adversely affect the natural resources of the project site, and is consistent with the State's long-term environmental goals to conserve natural resources and enhance the quality of life. The proposed project will not conflict with the State's long-term goals or guidelines as expressed in Chapter 344, HRS, State Environmental Policy.

4. The proposed action does NOT substantially affect the economic or social welfare of the community or state;

Economic impacts on the community and state will not be negatively affected, although some short-term economic benefits will occur during the construction phase. The proposed project is consistent with the Kaua'i General Plan, Kaua'i Water Plan 2020 and North Shore Development Plan, and will benefit the social and economic welfare of Kaua'i by improving its potable water supply system.

5. The proposed action does NOT substantially affect public health;

Construction activities will be regulated to minimize noise, dust and erosion concerns. The project will include water quality testing to determine whether the source is suitable for domestic purposes. The purpose of the proposed project is to meet the projected water demand, and maintain the public health and welfare for the residents of this area. The proposed project will not negatively affect long-term public health.

6. The project will NOT involve substantial secondary impacts, such as population changes or effects on public facilities;

The project will not enable development but rather, assist in meeting the goals set forth in the Kaua'i General Plan, Kaua'i Water Plan 2020 and North Shore Development Plan. No DOW or contractor personnel will be assigned to daily operation of the Wainiha water well. DOW and/or contractor personnel will visit the project site to conduct tests and perform maintenance service. The personnel are expected to

be residents of the County of Kauaïi. The proposed project will not create secondary impacts, such as population changes or effects on public facilities.

7. The proposed action does NOT involve a substantial degradation of environmental quality;

The site is presently used as a water tank facility and access road. There is no rare, threatened, or endangered plant or animal species, or their habitats within or near the proposed project site. Based on results from prior archaeological field surveys, no adverse impacts to historic resources are anticipated. Short-term impacts include disruption to the project site, decline in air quality and an increase in noise levels from construction activities. Implementation of Best Management Practices for all construction will ensure that the proposed project activities will not substantially degrade the site's environmental quality.

8. The project is NOT one that is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions;

Cumulative impacts result when implementation of several projects that individually, have minor impacts, combine to produce more severe impacts or conflicts among mitigation measures. No cumulative impacts as a result of the proposed project are anticipated. While the proposed project is part of the County of Kauaïi, Department of Water's municipal water system, approval of the project does not constitute a commitment for any larger action.

9. The proposed action does NOT substantially affect rare, threatened or endangered species or habitats;

The site is presently used as a water tank facility and access road. There are no rare, threatened, or endangered plant or animal species, or their habitats within or near the proposed project site.

10. The proposed action does NOT detrimentally affect air or water quality or ambient noise levels;

Short-term impacts include disruption to the project site, decline in air quality and an increase in noise levels from construction activities. These impacts will be mitigated by normal construction practices and will be regulated by the

project plans and specifications. Once construction is completed, no long-term effects on air or water quality or noise levels are anticipated.

11. The proposed action does NOT affect an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary or coastal waters;

The proposed project is not located adjacent to the shoreline and is outside the 500-year flood hazard area and tsunami inundation line. There are no natural drainageways draining onto the project site and there are no conditions that would classify the project site as a wetland. The nearest surface water resource is Wainiha Stream, located about 800 feet south of the project site, beyond Wainiha Powerhouse Road and intervening residential units. Final engineering will include additional evaluation of the site-specific subsurface conditions and development of appropriate designs. Implementation of Best Management Practices will be employed to properly manage potential stormwater runoff or soil erosion. The proposed project site will not affect an environmentally sensitive area and no damages to the facilities or surrounding areas are expected as a result of the project.

12. The proposed action does NOT affect scenic vistas and view planes identified in county or state plans or studies;

The proposed project includes construction of a control building and two retaining walls, located west of the County's existing Wainiha booster pump station and below its existing Häyena 0.1-million gallon (MG) steel water tank. The subject parcel has not been identified as a scenic resource in county or state plans or studies. Nevertheless, to minimize potential visual impacts of the proposed control building and retaining walls from Wainiha Powerhouse Road, existing mature landscaping will remain, to the extent possible. In addition, vegetation will be planted to screen the improvements and blend with the existing topography and vegetation. The building and roof will also be painted to blend with the surrounding natural environment. Existing scenic vistas and view planes from Kūhiō Highway towards the mountains will not be significantly impacted by the proposed project.

13. The project will NOT require substantial energy consumption.

The power demand for both the construction and operation of the proposed project is small and will not result in substantial energy consumption.

8.2 Determination

Based on these findings the assessment of potential impacts for the proposed project, the DOW does not foresee that the proposed project will have any significant adverse impact on the existing natural, physical, or human environment, and anticipates a finding of no significant impact (FONSI).

9.0 Consulted Parties

A meeting with the Hanalei to Häyena Community Association was held on May 19, 2009 to discuss the project with members of the community. A summary from this meeting is included (see Technical Appendix).

Copies of the Draft EA will be sent to the Association as well as to the following agencies, organizations and individuals listed below:

Federal

U.S. Department of Interior, U.S. Fish & Wildlife Service
U.S. Department of Agriculture, Natural Resources Conservation Service

State of Hawai'i

Department of Agriculture
Department of Business, Economic Development & Tourism
 Office of Planning
Department of Health
 Environmental Management Division
 Safe Drinking Water Branch
 Office of Environmental Quality Control
Department of Land and Natural Resources
 Commission on Water Resources Management
 State Historic Preservation Office
 Office of Conservation and Coastal Lands
 Engineering Division
 Land Division
Department of Transportation
Office of Hawaiian Affairs
University of Hawai'i
 Environmental Center
Princeville Library

County of Kauaïi

Hanalei to Häyena Community Association
Planning Department
Department of Public Works

County of Kauaïi Public Officials

Office of the Mayor
Council Chair Bill "Kaipo" Asing
Senator Gary L. Hooser
Representative Hermina M. Morita

Public Utilities

Kauaïi Island Utility Company

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Key: 5-8-002:007 and 5-8-002:003, Lot 1.

TECHNICAL APPENDIX
Community Association Meeting Summary

Meeting Summary

Hanalei to Haena Community Association

May 19, 2009

Attendees: 10 residents, 3 Department of Water representatives, and 2 consultants

1. Greg Fujikawa and Keith Fujimoto of the Water Department discussed the need for additional well capacity for the Wainiha-Haena Water System.
2. Nadine Nakamura reviewed alternative sites for the well test and Keith Fujimoto described the advantages and disadvantages of each site.
3. Nadine described potential impacts during construction: noise, dust from grading and drilling. She also described the need to apply for permits to bring overweight or oversized vehicles across bridges to get drilling equipment to the site.
4. Community questions and comments:
 - Q: Will neighbors smell chlorine?
A: No.
 - Q: How important is this water project, compared to others on the island?
A: The Water Department's policy is to address the need of communities island-wide. Improving system redundancy is needed for the health and welfare of residents in this community.
 - Comment: no need for redundancy. County should restrict watering of lawns and commercial uses (vacation rentals) in residential areas. Supports "no build" alternative.
 - Q: When will project be built?

A: Assuming the test well is successful, the project could be built in early 2011.

- Q: What is the cost of the project?

A: The total estimated cost is \$2.5 million. The test well itself will cost \$.5 million.

- Comment: the water quality for this area, based on the annual County Water Department report, shows that water quality is very good.
- Comment: contact surrounding neighbors, including Stephanie Haumea, Tommy Taylor, and Janet Mello. They should be made aware of the project and County should get their feedback.
- Comment: upper site would have less of a visual impact.
- Comment: lower site requires a larger footprint and staging area. It looks like more grading would be required.
- Q: Will there be other opportunities to comment?
A: The public will have 30 days after the Draft EA to comment; the Board of Land and Natural Resources will hold a public hearing once the Conservation District Use Application is submitted.
- The community is not aware of cultural practices occurring on this site.
- The Hanalei to Haena Community Association (HHCA) requested two copies of the Draft EA.

Recorded by:

Nadine Nakamura

5.20.2009