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**DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII**

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June 18, 2009

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

**FINAL ENVIRONMENTAL ASSESSMENT AND FONSI FOR  
WAIMEA WATER SYSTEM IMPROVEMENTS  
SOUTH KOHALA DISTRICT, ISLAND OF HAWAII**

The County of Hawaii, Department of Water Supply has reviewed the comments that were received on the environmental assessment (EA) for the subject project, the comment period for which ended on May 25, 2009. Our agency has determined that the project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI). Please publish notice of availability for this project in the next available edition of the *Environmental Notice*. We have enclosed the following:

- Two copies of the Final EA.
- A CD containing the .pdf files for the EA and Word file with the OEQC transmittal materials, including the project summary.
- A completed OEQC Environmental Notice Publication Form, with the project summary, a distribution list for the Final EA, and a sample "Dear Participant" letter to be finalized when the publication date is known.

Please contact Mr. Lawrence Beck of our Water Resources and Planning Branch at (808) 961-8070, extension 260, or Mr. Ron Terry at (808) 982-5831, should you have any questions.

Sincerely yours,

Milton D. Pavao, P.E.  
Manager

LEB:dfg

Enc.

copy – (w/o enclosures) Mr. Ron Terry, Ph.D, Project Environmental Consultant

*... Water brings progress...*

# **FINAL ENVIRONMENTAL ASSESSMENT**

## **Waimea Water System Improvements**

TMK (3<sup>rd</sup>) 6-5-001:021; 6-5-004:079 and County Roadways Within  
TMK Plats 6-5-002, 6-5-004, 6-5-008 & 6-5-011  
South Kohala District, Hawai‘i Island, State of Hawai‘i

July 2009

County of Hawai‘i  
Department of Water Supply  
345 Kekuanaoa Street, Suite 20  
Hilo, Hawai‘i 96720

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TMK Plats 6-5-002, 6-5-004, 6-5-008 & 6-5-011

Waimea, South Kohala District, Hawai'i Island, State of Hawai'i

### **PROPOSING/ APPROVING AGENCY:**

County of Hawai'i  
Department of Water Supply  
345 Kekuanaoa Street, Suite 20  
Hilo, Hawai'i 96720

### **CONSULTANT:**

Geometrician Associates LLC  
PO Box 396  
Hilo, Hawai'i 96721

### **CLASS OF ACTION:**

Use of County Land  
Use of County Funds  
Use of State Land

This document is prepared pursuant to:

The Hawai'i Environmental Protection Act,  
Chapter 343, Hawai'i Revised Statutes (HRS), and  
Title 11, Chapter 200, Hawai'i Department of Health Administrative Rules (HAR).



## TABLE OF CONTENTS

SUMMARY .....	ii
PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND EA PROCESS.....	1
1.1 Project Location and Description.....	1
1.2 Purpose and Need .....	7
1.3 Environmental Assessment Process.....	7
1.4 Public Involvement and Agency Coordination .....	7
PART 2: ALTERNATIVES .....	8
2.1 No Action .....	8
2.2 Alternative Locations or Strategies .....	8
PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION .....	9
3.1 Physical Environment .....	9
3.1.1 Climate, Geology, Soils and Geologic Hazards.....	9
3.1.2 Drainage, Water Features and Water Quality .....	10
3.1.3 Flora, Fauna and Ecosystems .....	12
3.1.4 Air Quality, Noise and Scenic Resources .....	12
3.1.5 Hazardous Materials, Toxic Substances and Hazardous Conditions .....	13
3.2 Socioeconomic and Cultural .....	13
3.2.1 Socioeconomic Characteristics .....	13
3.2.2 Cultural and Historic Resources .....	14
3.3 Infrastructure .....	16
3.3.1 Utilities .....	16
3.3.2 Roadways and Traffic .....	16
3.4 Secondary and Cumulative Impacts.....	18
3.5 Required Permits and Approvals .....	18
3.6 Consistency With Government Plans and Policies .....	18
3.6.1 Hawai‘i State Plan .....	18
3.6.2 Hawai‘i State Land Use Law .....	18
3.6.3 Hawai‘i County General Plan and Zoning .....	19
3.6.4 South Kohala Community Development Plan .....	20
PART 4: DETERMINATION .....	21
PART 5: FINDINGS AND REASONS.....	22
REFERENCES .....	24
LIST OF FIGURES	
FIGURE 1 Project Location Map .....	2
FIGURE 2 Airphoto With Project Corridor .....	2
FIGURE 3 Project Site Photographs .....	3
FIGURE 4 Site Plan .....	6
FIGURE 5 Flood Insurance Rate Map .....	11
LIST OF TABLES	
TABLE 1 Selected Socioeconomic Characteristics.....	14
LIST OF APPENDICES	
APPENDIX 1a Comments in Response to Early Consultation	
APPENDIX 1b Comments to Draft EA and Responses	

## **SUMMARY OF THE PROPOSED ACTION, ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

The Hawai'i County Department of Water Supply (DWS) proposes to construct a water line to relieve a water pressure deficiency in its Waimea system. The approximately 6,000-foot-long water line will improve the water system delivery pressure and fire flow to the upper parts of Laelae and Opelo Roads.

Because the line will parallel existing water lines from reservoirs in the DWS' Waimea Water Reservation and will be contained within the same existing road rights-of-way, no valuable biological, historic or cultural resources are present or will be affected. In order to minimize the potential to disrupt traffic and pose a hazard, contractors will utilize a "cut and cover" method, in which asphalt pavement will be saw cut, and base course and underlying material will be removed by a backhoe. This material will be hauled to a stockpile site. The contractor will coordinate trench excavation, delivery of material to the work site, and water line installation to minimize inconvenience to the public. Except for one location on Kawaihae Road, most construction is along local roads. Professional traffic control will be used to ensure access to properties and safe and efficient traffic flow.

## **PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND ENVIRONMENTAL ASSESSMENT PROCESS**

### **1.1 Project Location and Description**

The Hawai'i County Department of Water Supply (DWS) proposes to construct a water relief line to relieve a water pressure deficiency in its Waimea system. The project consists of installing approximately 6,000 linear feet of 12-inch water line from the south side of Kawaihae Road along Opelo Road, Hoku'ula Road, Spencer Road and the access road to the reservoirs in the DWS' existing Waimea Water Reservation to the north of Spencer Road. The new water relief line is expected to improve the water system delivery pressure to the upper parts of Laelae and Opelo Roads. The new water line will parallel the existing water lines along those roadways, and will be contained within the road right-of-ways except near its terminus on an access road within two State of Hawai'i properties with no formal easement (TMKs 6-5-001:021 and 6-5-004:79) (Figures 1-4). An easement may be required within the State properties.

In order to minimize the potential to disrupt traffic and pose a hazard, contractors will utilize a "cut and cover" method, in which asphalt pavement will be saw cut, and base course and underlying material will be removed by a backhoe. This material will be hauled to a stockpile site. The water line will be placed in a nominal 24-inch wide trench at a nominal depth of four feet along its length. The contractor will coordinate trench excavation, delivery of material to the work site, and water line installation to minimize inconvenience to the public. The contractor will be required to steel plate open trenches during after-work hours to ensure public access and safety.

Solid waste generated from clearing the corridor will be hauled for disposal. Approximately one-half of the excavated material will be used for backfilling the trench. Any surplus material will become the property of the contractor for disposal as required by the County contract documents.

After a water line segment is installed, it will be pressure-tested and disinfected per DWS standards. Assuming there are no leaks, the line will then be drained, the hydro-testing water disposed of, and the trench backfilled with engineered fill. A minimum of 30 inches of cover consisting of engineered fill, base course, and asphalt paving will be used. This process will be repeated until the entire water line is installed and tested. The entire line will be disinfected with a chlorine solution prior to being brought on-line. Hydro-testing and disinfection water will be properly discharged along the roadside to percolate into the ground per the National Pollutant Discharge Elimination System (NPDES) expected permit conditions (see Section 3.1.2). Excavated areas will then be restored to pre-construction conditions or better.

The estimated cost of the proposed water line is \$1,000,000, and construction is expected to last about ten months.



**Figure 3. Project Site Photographs**



3a. Opelu Road ▲ ▼ 3b. Hoku‘ula Road



**Figure 3. Project Site Photographs, cont'd**

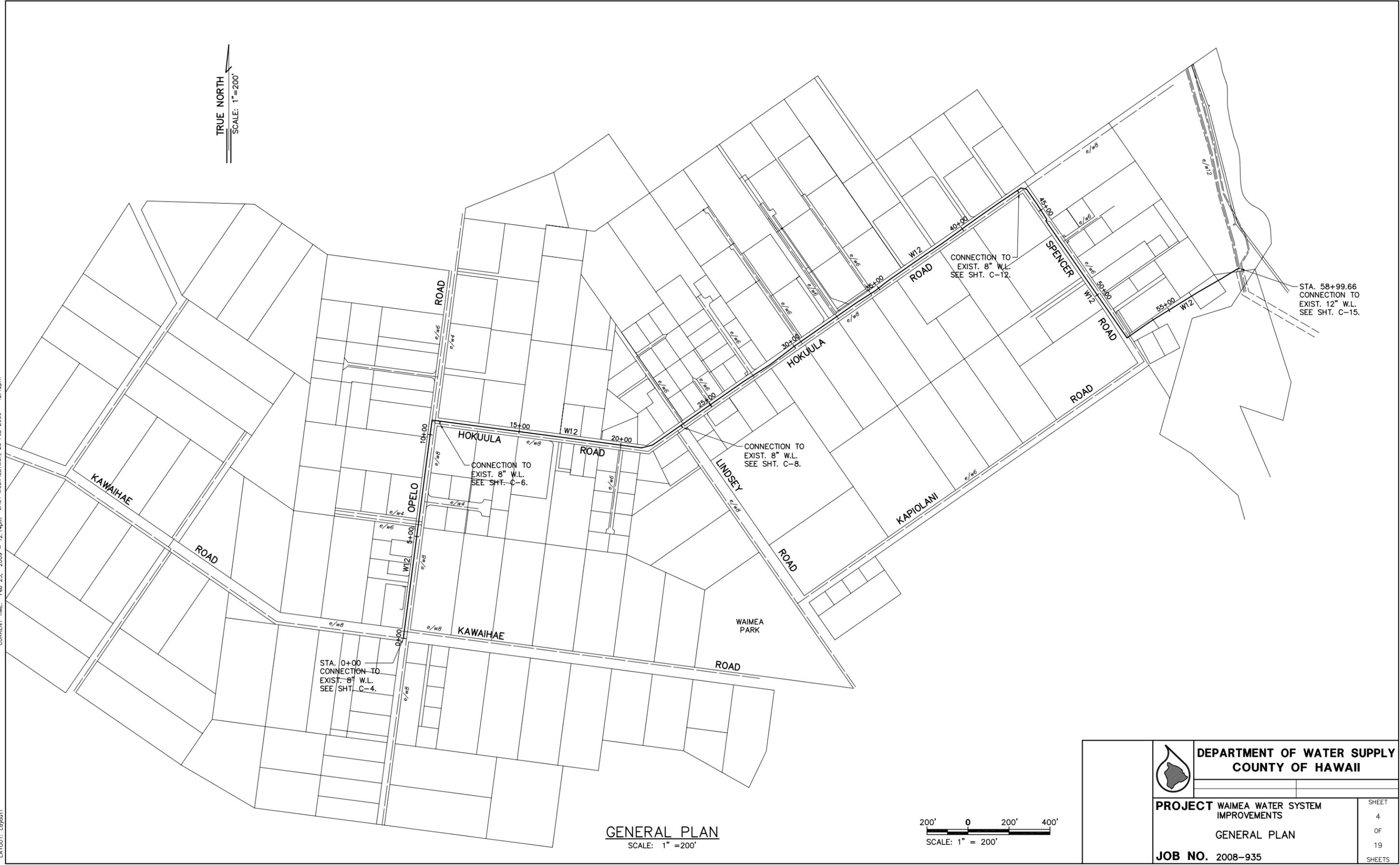


3c. Spencer Road ▲ ▼ 3d. DWS Access Road

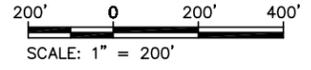


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**GENERAL PLAN**  
 SCALE: 1" = 200'



	<b>DEPARTMENT OF WATER SUPPLY COUNTY OF HAWAII</b>	
	<b>PROJECT WAIMEA WATER SYSTEM IMPROVEMENTS</b>	
<b>GENERAL PLAN</b>	SHEET 4 OF 19 SHEETS	
<b>JOB NO. 2008-935</b>		

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## **1.2 Purpose and Need**

The purpose of the water line is to improve the water system delivery pressure to the upper parts of Laelae and Opelo Roads, while at the same time providing additional water to areas going down Kawaihae Road. There are some low pressure areas mauka of Opelo Road along Konokohau and Lihipali Roads during peak demand. Should a fire emergency occur during the peak demand period, water pressure could be inadequate. The project will help ensure that residents have adequate water pressure and that adequate fire flow is available at hydrants for use during fire emergencies. Also, there is currently a moratorium on additional water services to properties along stretches of Kawaihae Road, due to the added stress these additional water services would place on the water system discussed above. By improving the transmission capacity of the water system, DWS may be able to lift the moratorium on these neighborhoods.

## **1.3 Environmental Assessment Process**

This Environmental Assessment (EA) process is being conducted in accordance with Chapter 343 of the Hawai‘i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200, of the Hawai‘i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai‘i. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria. Part 4 of this document states the finding (anticipated finding, in the Draft EA) that no significant impacts are expected to occur; Part 5 lists each criterion and presents the findings (preliminary, for the Draft EA) for each made by the Hawai‘i County Department of Water Supply, the proposing/approving agency. If, after considering comments to the Draft EA, the agency concludes that, as anticipated, no significant impacts would be expected to occur, then the agency issues a Finding of No Significant Impact (FONSI), and the action is permitted to occur. If the agency concludes that significant impacts are expected to occur as a result of the proposed action, then an Environmental Impact Statement (EIS) is prepared.

## **1.4 Public Involvement and Agency Coordination**

The following agencies and organizations were consulted in development of the environmental assessment:

State:

Department of Health  
Office of Hawaiian Affairs

County:

Police Department  
Planning Department  
Public Works Department  
County Council

Private:

Sierra Club  
South Kohala Traffic Safety Committee  
Waimea Community Association  
Neighboring property owners

Copies of communications received during early consultation are contained in Appendix 1a. Appendix 1b contains written comments on the Draft EA and the responses to these comments. Various places in the EA have been modified to reflect input received in the comment letters; additional or modified non-procedural text is denoted by double underlines, as in this paragraph.

## **PART 2: ALTERNATIVES**

### **2.1 No Action**

Under the No Action Alternative, the development of the Waimea Water System Improvements would not be undertaken. The public would not benefit from the improved water pressure and service by the DWS. Because of safety and other concerns associated with insufficient water pressure, the department considers the No Action Alternative undesirable.

### **2.2 Alternative Locations or Strategies**

The area proposed for the relief line is already being served by the DWS, and other water lines are already present in the rights-of-way, although those rights-of-way are not fully utilized. Other than establishing a new route for the water line, there is no other way to provide improved service to the area, and splitting water lines among different routes would be inefficient, costly and an inconvenience to the public. As there do not appear to be any environmental or other disadvantages associated with the particular proposed route, and the road right-of-ways are well suited to the proposed use and have been dedicated for utilities, no alternative routes have been advanced in this Environmental Assessment.

## **PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES**

### *Basic Geographic Setting*

The road rights-of-way in which the additional water line would be developed are referred to throughout this EA as the *project site*. The term *project area* is used to describe the general environs of this part of Waimea.

The project site consists of County road rights-of-way along Opelo Road, Hoku'ula Road, Spencer Road and about 500 feet of an access road within State land that leads to the existing Waimea Clearwater Reservoir. The reservoir already provides the water source for the water line that the project's additional line will parallel and will also be the water source for the relief line. Adjacent land use in the project area is primarily residential.

### **3.1 Physical Environment**

#### **3.1.1 Climate, Geology, Soils and Geologic Hazards**

##### *Environmental Setting*

The climate in the area is cool, with an average annual rainfall of about 50 inches (U.H. Hilo-Geography 1998:57). The project site is located at an elevation ranging from 2,650 to 2,740 feet above sea level on the flanks of the Kohala volcano. The surface consists of ash-covered lava flows from 120,000 to 230,000 years before the present (Wolfe and Morris 1996). Nearly all of the soil on the project site is classified by the U.S. Natural Resources Conservation Service (formerly Soil Conservation Service) as Palapalai silt loam (PLC), a well-drained soil usually found on slopes of 6 to 12 percent. Palapalai soil is formed from volcanic ash and tends to be slightly acid in the upper part of the surface layer and neutral in the subsoil. Permeability is moderately rapid, runoff is slow and erosion hazard slight. The capability subclass is IIIe, which means such soils are typically used for pasture. A small portion of the project site soil, involving the area where Opelo Road meets the Kawaihae Road, is Waimea very fine sandy loam (WMC), a soil with similar characteristics.

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard as assessed by the United States Geological Survey in this area of Waimea is zone 9, on a scale of ascending risk from 9 to 1 (Heliker 1990:23). The low hazard risk is based on the fact that the Kohala mountain is an extinct volcano, and zone 9 areas have had no eruptions in the past 60,000 years. As such, there is negligible risk of lava inundation over relatively short time scales in the project area.

In terms of seismic risk, the entire Island of Hawai'i is rated Zone 4 Seismic Hazard (*Uniform Building Code, 1997 Edition, Figure 16-2*). Zone 4 areas are at risk from major earthquake

damage, especially to structures that are poorly designed or built, as the 6.7-magnitude quake of October 15, 2006, demonstrated. The project site does not appear to be subject to subsidence, landslides or other forms of mass wasting.

### *Impacts and Mitigation Measures*

In general, geologic conditions impose no constraints on the proposed action, and the proposed project is not imprudent to construct. All design will take into account the soil's physical and chemical characteristics, and the water lines will be designed in accordance with regulations related to its seismic setting.

### **3.1.2 Drainage, Water Features and Water Quality**

#### *Existing Environment*

The project area has no perennial surface water bodies and the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) FM1551660168E (5/16/1994) (Figure 5) shows that the project site is in Flood Zone X, outside the 500-year floodplain. Waikoloa Stream runs within a deep ravine north and east of the project site. Occasional local (non-stream related) flooding occurs on Hoku'ula Street during very heavy rains, according to residents.

#### *Impacts and Mitigation Measure*

Because of the limited scale of construction on rights-of-way containing existing water lines, and because the property is not within a FIRM flood zone and no sensitive water resources are located nearby, additional risks for flooding or impacts to water quality associated with the proposed action are minor. The project will not be increasing pavement, and there will no increase in runoff. The project will conform to Chapter 27 of the Hawai'i County Code, which is related to drainage

Because the project will disturb more than one acre of soil and will involve discharge of hydrotesting and disinfection water (see below), a National Pollutant Discharge Elimination System (NPDES) permit must be obtained by the contractor before the project commences. This permit requires the completion of a Storm Water Pollution Prevention Plan (SWPPP) and will include consideration of flooding potential during construction. In order to properly manage storm water runoff, the SWPPP will describe the emplacement of a number of best management practices (BMPs) for the project. These BMPs may include, but will not be limited to, the following:

- For any work off paved surface, minimization of soil loss and erosion by revegetation and stabilization of slopes and disturbed areas of soil, possibly using hydromulch, geotextiles, or binding substances, as soon as possible after working;
- Minimization of sediment loss by emplacement of structural controls possibly including silt fences, gravel bags, sediment ponds, check dams, and other barriers in order to retard and prevent the loss of sediment from the site;



or groundwater. Conditions of the permit will include specifications on the non-sensitive locations along the project corridor where hydrotesting and chlorinated water will be discharged. If no suitable location for discharge is available, the water will be discharged into water trucks for appropriate off-site disposal.

These measures will help minimize water quality impacts.

### **3.1.3 Flora, Fauna and Ecosystems**

#### *Existing Environment, Impacts and Mitigation Measures*

The project site, which consists of right-of-ways associated with several residential roadways and a paved access road on State land, is mainly paved, and where not, it is covered by introduced grasses and shrubs (Figure 3a-d provides photos of typical segments). Because of the lack of native ecosystems, threatened or endangered plant species, and native animal habitat, no adverse impacts to biological resources would occur as a result of building the parallel water line.

### **3.1.4 Air Quality, Noise and Scenic Resources**

#### *Environmental Setting*

The strong and steady winds of this part of Kohala contribute to excellent air quality by generally dispersing human-derived pollutants as well as volcano-induced vog. In areas with bare surfaces, however, the strong winds may also exacerbate dust problems.

Noise on the project site is moderate and derived mainly from nearby residential activities and motor vehicles, with occasional noise from road use and maintenance activities.

The project area is one of the highly scenic old residential areas of Waimea. It has backdrop views of the Kohala Mountains that are noted for their scenic character in the Hawai'i County General Plan.

#### *Impacts and Mitigation Measures*

The proposed action will not measurably affect air quality or noise levels except minimally during construction activities. In order to minimize impacts from dust, the contractor will consult with the Department of Health (DOH) and, if required, will prepare a dust control plan compliant with provisions of Hawai'i Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, "Fugitive Dust."

Development would entail limited excavation, compressors and jackhammers, and vehicle and equipment engine operation. These activities may generate noise exceeding 95 decibels at times. In

cases where construction noise is expected to exceed the DOH “maximum permissible” property-line noise levels, contractors must obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction. DOH reviews 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.

No important viewplanes or scenic sites recognized in the Hawai‘i County General Plan would be permanently affected by the project, which involves no above-ground structures.

### **3.1.5 Hazardous Materials, Toxic Substances and Hazardous Conditions**

#### *Environmental Setting, Impacts and Mitigation Measures*

No professional evaluation such as a Phase I Environmental Site Assessment (ESA) was performed for the project site. To DWS officials’ knowledge, there have been no spills or other incidents involving hazardous or toxic substances, and no such materials are stored within the road rights-of-way where the water line will be installed. The installation of an additional water line does not appear to pose any unreasonable risk in terms of worker or public exposure to hazardous materials or toxic substances.

## **3.2 Socioeconomic and Cultural**

### **3.2.1 Socioeconomic Characteristics**

By improving the services of the Department of Water Supply, the proposed project would benefit public welfare in the Waimea area. Table 1 provides information on the socioeconomic characteristics of Waimea along with those of Hawai‘i County as a whole for comparison, from the United States 2000 Census of Population. Waimea has a diverse population of about 7,000, and Hawai‘i County is among the 100 fastest-growing counties in the U.S.

#### *Impacts*

The proposed project action would provide a public benefit by alleviating a water pressure deficiency in a portion of the Waimea water system and improving a supply issue in another portion of the system. No relocation of businesses or homes or any other social impacts are involved in the proposed action. Except for temporary construction impacts of the installation of an additional water line, there would be no disruption of local traffic patterns or effects to neighborhood character or integrity. After the water line is built and the system evaluated, the current moratorium on additional water services to properties along stretches of Kawaihae Road may be relieved, allowing at least some new services for properties that request additional meters. Each case would require individual consideration based on system characteristics as they develop, and it is not yet known where or when new services could be granted. As a rough estimate, the demand for additional water services in the existing neighborhoods currently affected by the moratorium is likely to be less than 100 new services over the next 20 years.

**Table 1**  
**Selected Socioeconomic Characteristics**

CHARACTERISTIC	ISLAND OF HAWAI'I	WAIMEA
Total Population	148,677	7,028
Percent Caucasian	31.5	30.6
Percent Asian	26.7	20.3
Percent Hawaiian	9.7	15.0
Percent Two or More Races	28.4	32.3
Median Age (Years)	38.6	36.5
Percent Under 18 Years	26.1	29.7
Percent Over 65 Years	13.5	10.1
Percent Households with Children	21.3	44.3
Average Household Size	2.75	2.95
Median Family Income	\$39,805	\$51,150
Percentage of Population Below 100% of Federal Poverty Level	15.7	6.0
Percent Housing Vacant	15.5	8.4

Source: U.S. Bureau of the Census. May 2001. *Profiles of General Demographic Characteristics, 2000 Census of Population and Housing, Hawai'i*. (U.S. Census Bureau Web Page).

### **3.2.2 Cultural and Historic Resources**

#### *Existing Environment*

The project site is located in the Kohala moku (district) of Hawai'i Island, within Waimea, in the *ahupua'a* (traditional Hawaiian land area) of Waikoloa. Pukui et al. (1974:226) indicate that the name Waimea refers to "reddish water." According to an archaeological study by IARII (1997), there is little information on traditional Hawaiian settlement patterns and land use in Waimea prior to the major changes wrought by Western introduction of goods, diseases, animals and cultigens. Kamehameha I gave management rights of much of Waimea to Isaac Davis, who later passed it to his son Hueue Davis. Early historical sources chronicle scattered settlement along lower parts of Waikoloa Stream. Even as late as 1823, after disease had likely decimated the population, as many as 1,200 people lived in the three miles between 'Ouli and Pu'u Kapu, with perhaps 300 in Waimea town itself (Ibid: 11). With a network of irrigation canals ('auwai) and relatively good soil, irrigated agriculture of taro, sweet potatoes and sugar cane was successfully practiced. Hundreds of parcels

were claimed in Waimea as part of the Land Commission Awards (LCAs) associated with the Mahele in the mid-19<sup>th</sup> century, many near Waikoloa Stream.

Although there were evidently many Hawaiian residents of Waimea who possessed land capable of supporting traditional Hawaiian land use, the institution of a Western monetary system undermined the traditional economic basis and dramatically altered society. The harvest of wild sandalwood in the early 19<sup>th</sup> century and of pulu (the fluffy orange coating around tree fern shoots, which served as a stuffing for mattresses and pillows) later in the century were both economically and environmentally disastrous. Chinese immigrants began growing and milling sugar cane in Waimea in the early 1830s. This production tapped into the existing 'auwai system. Plantation leases and mills were bought and sold, and the net result was to displace many Hawaiians who had lived in areas desired for fields. Cotton farming and ginning, sawmills, and various other economic ventures had their day on the landscape of Waimea, but the venture that brought lasting change was cattle.

The cattle brought by Captain Vancouver in 1793 and 1794, protected by a kapu placed on them by Kamehameha, multiplied rapidly. By the time the kapu was lifted a few years later, wild cattle had become rampant throughout the island, disturbing native gardens and damaging streams, grasslands and forests. Foreign bullock hunters were then employed to keep the herds under control. Although the meat was eaten, the main economic products were the hides. John Parker worked for Governor Kuakini as a bullock hunter in 1831, and before long had founded the famous ranch that still bears his name. By 1847, as Reverend Lorenzo Lyons noted, “two thirds of Waimea has been converted into a government pasture land” (quoted from Doyle 1945:48 in IARII 1997:19). Cattle ranching profoundly changed life in Waimea by displacing native agriculture, firmly establishing a monetary economy, altering the landscape and forests through direct and indirect means, and bringing in foreigners. During the 19<sup>th</sup> and 20<sup>th</sup> centuries, the project area was likely used for cattle ranching and harvesting wood for fuel. At least 50 years ago, streets were graded and paved, and the area was subdivided for homes, which fully line all the County roads on the project site, leaving no natural or cultural resources.

As part of the early consultation process, various agencies, including the Office of Hawaiian Affairs and the Waimea Community Association, as well as about 60 residents along the water line route, were contacted about the project. No information was received about natural, cultural or historical resources of concern in the rights-of-way of the project site, all of which were previously disturbed during installation of infrastructure including roads and water lines.

### *Impacts and Mitigation Measures*

As the previously cleared and excavated rights-of-way in a residential neighborhood appear to contain no resources of a potential traditional cultural nature (i.e., landform, vegetation, etc.), and no evidence of any traditional gathering uses or other cultural practices, the proposed additional installation of a parallel water line would not likely impact any historic sites or culturally valued resources or cultural practices. The State Historic Preservation Division was consulted by letter on the project and concurred by letter of February 12, 2009 (see Appendix 1a), that the project would not

appear to affect historic properties because of the existing level of disturbance.

The Office of Hawaiian Affairs and Waimea Community Association were both supplied a copy of the Draft EA for their comment. Neither these agencies, nor any other party, including the more than 60 neighbors who were notified, provided further information on cultural practices, resources or impacts.

As a further precaution, in the unlikely event that human skeletal remains, undocumented archaeological resources, or cultural or traditional remains are encountered during future development activities within the current study area, work in the immediate area of the discovery shall be halted and the State Historic Preservation Division contacted as outlined in Hawai‘i Administrative Rules 13§13-275-12.

### **3.3 Infrastructure**

#### **3.3.1 Utilities**

##### *Existing Facilities and Services, Impacts and Mitigation Measures*

The new relief water line will be installed parallel to existing water lines and will share the same rights-of-way. It will begin at the DWS’ Waimea Water Reservation and end on Opelo Road, will be entirely within DWS service areas and will enable no more than negligible geographic expansion of the service areas. The project involves no private property or undisturbed areas.

#### **3.3.2 Roadways and Traffic**

##### *Existing Facilities, Impacts and Mitigation Measures*

The proposed water line will be enclosed underground in the affected roadways’ rights-of-ways. The surface of those areas will be restored to the existing condition once installation is complete, and no permanent adverse effects are expected.

As discussed in Section 1, in order to minimize the potential to disrupt traffic and pose a hazard, contractors will utilize a “cut and cover” method, in which asphalt pavement will be saw cut and base course and underlying material removed by a backhoe. This material will be hauled to a stockpile site. The contractor will coordinate trench excavation, delivery of material to the work site, and water line installation to minimize inconvenience to the public. The water line will be placed in a maximum 24-inch wide trench at a minimum nominal depth of four feet along its length.

In general the project is on local roads, but as the waterline connects to the south side of Kawaihae Road at the Opelu Street intersection, a small amount of construction will occur on this busy road. Traffic control personnel will be used where and when necessary to ensure adequate access and safe and efficient traffic flow. Access to properties will be maintained at all times, although brief waits may be necessary. The South Kohala Traffic Safety Committee was provided a copy of the EA determine if any additional mitigation measures are necessary. This group replied in a letter of April 27, 2009 (see Appendix 1b), with questions and concerns about details of the trenching and the planned road reconstruction. The following additional information was supplied:

- The new main will be 12 inches in diameter, so the depth of the trench will be about 4 feet. This will vary where required (deeper) to accommodate existing conditions (e.g., other existing underground utilities). Class 52 12-inch ductile iron has an outside diameter (OD) of approximately 13.20 inches. The required depth of cover on 12-inch pipe is 2.5 feet, or 30 inches. The trench (per section 302.03 of the water system standards) is to be 6 inches below the invert grade. The invert grade is the bottom of the INTERIOR of the pipeline. The interior diameter (ID) of Class 52 ductile iron pipe is approximately 12.46 inches (the wall thickness is approximately 0.37 inches thick). The trench bottom gets backfilled with pipe cushion material to the depth of the invert. Therefore, the actual depth of the idealized trench section would be 30.0 inches of cover to finished grade, plus the top wall thickness of 0.37 inches, plus the ID of 12.46 inches, plus the trench depth below invert grade of 6.0 inches, for a total of 48.83 inches, or 4.07 feet.
- Engineered backfill is fill that has been compacted to standard specifications.
- At a minimum, the road section sub-base course, base course and asphalt pavement need to be “equal or better” than the existing. The existing road right-of-way is under the jurisdiction of the County Department of Public Works, and the design and plan require their approval.
- DWS standard specifications cover the procedures for back fill.
- In terms of layers of material from excavation to finished grade, there is usually a 6-inch cushion layer around the pipe, above which is the engineered backfill, which extends to the pavement subgrade.

### **3.4 Secondary and Cumulative Impacts**

Because the purpose of the project is improvement in water pressure rather than substantial expansion of existing water service, the proposed project would not involve major secondary impacts, such as population changes or effects on public facilities. Although the project would provide a few short-term construction jobs, these would largely be filled by local residents and would not induce in-migration. As discussed in Section 3.2.1, the demand for additional water services in the neighborhoods currently affected by the moratorium is likely to be less than 100 new services over the next 20 years. This level of change is not substantial in a community of almost 10,000 residents. Where these additional meters would service lots created as a result of changes of zone and/or subdivisions, the applications would be evaluated by the County Council, Planning Commission and/or the Planning Department, ensuring consideration of impacts to infrastructure, natural and cultural resources, and neighboring uses.

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. The adverse effects of the project – minor and temporary disturbance to air quality, noise or visual quality during construction – are very limited in severity, nature and geographic scale.

### **3.5 Required Permits and Approvals**

The following permits and approvals are expected to be required:

- County of Hawai‘i, Department of Public Works, Permit for Work in County Right-of-Way
- State of Hawai‘i, Department of Health, National Pollutant Discharge Elimination System Permit
- State of Hawai‘i, Board of Land and Natural Resources, Utility/Access Easement on State Land

### **3.6 Consistency With Government Plans and Policies**

#### **3.6.1 Hawai‘i State Plan**

Adopted in 1978 and last revised in 1991 (Hawai‘i Revised Statutes, Chapter 226, as amended), the Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State’s long-run growth and development activities. The three themes that express the basic purpose of the *Hawai‘i State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The project would promote these goals by enhancing water service on the Island of Hawai‘i, improving quality-of-life and community and social well-being.

#### **3.6.2 Hawai‘i State Land Use Law**

All land in the State of Hawai‘i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission, pursuant to Chapter 205, HRS. The property is in the State Land Use Urban District. The proposed use is consistent with intended uses for this Land Use District.

### **3.6.3 Hawai‘i County Zoning and General Plan**

*Hawai‘i County General Plan Land Use Pattern Allocation Guide (LUPAG)*. The LUPAG map component of the *General Plan* is a graphic representation of the Plan’s goals, policies, and standards as well as of the physical relationship between land uses. It also establishes the basic urban and non-urban form for areas within the planned public and cultural facilities, public utilities and safety features, and transportation corridors. The General Plan LUPAG designation for the properties surrounding the water line is Medium Density Urban and Low Density Urban. The project is consistent with these designations.

*Hawai‘i County Zoning and SMA*. Zoning for the properties that surround the water line vary from CV 7.5 (Village Commercial) to RS 7.5 or RS-10 (Residential, 7,500 and 10,000 square foot minimum lot size, respectively), to A-1a (Agricultural, minimum lot size 1-acre). Water lines are allowed, according to Section 25-4-11(a) of the Hawai‘i County Zoning Code, which states: “Communication, transmission, and power lines of public and private utilities and governmental agencies are permitted uses within any district.” The property is not situated within the County’s Special Management Area (SMA).

The *General Plan* for the County of Hawai‘i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai‘i. The plan was adopted by ordinance in 1989 and revised in 2005 (Hawai‘i County Planning Department). The *General Plan* itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai‘i. Most relevant to the proposed project are the following Goals, Policies, and Standards:

#### **PUBLIC UTILITIES – GOALS**

- Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users.
- Maximize efficiency and economy in the provision of public utility services.
- Design public utility facilities to fit into their surroundings or concealed from public view.

#### **PUBLIC UTILITIES – POLICIES**

- Public utility facilities shall be designed to complement adjacent land uses and shall be operated to minimize pollution or disturbance.
- Provide utilities and service facilities that minimize total cost to the public and effectively service the needs of the community.
- Utility facilities shall be designed to minimize conflict with the natural environment and natural resources.

- Improvement of existing utility services shall be encouraged to meet the needs of users.
- Develop short and long range capital improvement programs and plans for public utilities within its jurisdiction that are consistent with the General Plan.

## **WATER – POLICIES**

- Water system improvements shall correlate with the County’s desired land use development pattern.
- All water systems shall be designed and built to Department of Water Supply standards.
- Improve and replace inadequate systems.
- Water system improvements should first be installed in areas that have established needs and characteristics, such as occupied dwellings, agricultural operations and other uses, or in areas adjacent to them if there is need for urban expansion.

## **WATER – STANDARDS**

- Public and private water systems shall meet the requirements of the Department of Water Supply and the Subdivision Control Code.

## **PUBLIC LANDS – GOALS**

- Utilize publicly owned lands in the best public interest and to the maximum benefit.

## **PUBLIC LANDS – POLICIES**

- Encourage uses of public lands that will satisfy specific public needs.

Discussion: The General Plan notes that properly regulated, adequate, efficient and dependable water supply is vital to well-being of the public. It notes that changes in land use, population density and development usually generate changes in the demand and supply of utilities and the proposed action is designed to alleviate a shortage of water pressure for existing development. The General Plan also notes that rights-of-way are acquired by the County for public uses; the proposed action will benefit the public.

### **3.6.4 South Kohala Community Development Plan**

The South Kohala Community Development Plan (CDP) encompasses the judicial district of South Kohala, and was developed under the framework of the February 2005 County of Hawai‘i General Plan. Community Development Plans are intended to translate broad General Plan Goals, Policies, and Standards into implementation actions as they apply to specific geographical regions around the County. CDPs are also intended to serve as a forum for community input into land-use, delivery of

government services and any other matters relating to the planning area. The General Plan now requires that a Community Development Plan shall be adopted by the County Council as an “ordinance,” giving the CDP the force of law. This is in contrast to plans created over past years, adopted by “resolution” that served only as guidelines or reference documents to decision-makers. In November 2008, the South Kohala CDP was adopted by the County Council. The version referenced in this Environmental Assessment is at: <http://www.hcrc.info/community-planning/community-development-plans/south-kohala/skcdpfinaldraft11.18.08.pdf>.

The Plan has many elements and wide-ranging implications, but there are several major strategies that embody the guiding principles related to land use, housing, public facilities, infrastructure and services, and transportation.

The water relief line is generally consistent with all aspects of the South Kohala CDP. Under Section 2.4.1, Economic Characteristics, the plan notes that “Services such as schools, fire, police, medical, and various social services as well as more infrastructure, including roads, sewer, water, and electricity will need to be provided.” In particular, in Appendix D, under General Plan Courses of Action for Water under Public Utilities, subsection “b” specifies the need to “improve and replace inadequate distribution mains and steel tanks.” Under General Policy No. 5, the plan states that government agencies shall evaluate uses of natural resources to ensure they are consistent with the sustainable long-term health of the eco-system.

The plan also states in Section 2.5.5 (Water Delivery Systems) that improvements to the Waimea Water System have increased water capacity and enlarged distribution water lines. It notes further that repairs are planned for the two reservoirs damaged in the October 2006 earthquake which have reduced the storage capacity of the Waimea system, the source for the new water relief line. That \$1.9 million repair project has begun (*West Hawai‘i Today*, Feb. 10, 2009).

The project is also consistent and/or not inconsistent with other goals, objectives and policies of the South Kohala CDP, and in particular with the policies that seek to guide planning for the district as a whole and for the four communities of Waimea, Waikoloa Village, Kawaihae and Puako. Those policies include preserving South Kohala’s culture and “sense of place,” providing for transportation and circulation needs, protecting the community from natural hazards, providing affordable and workforce housing and promoting environmental stewardship and sustainability.

#### **PART 4: DETERMINATION**

Based on the findings below, and upon consideration of comments to the Draft EA, the Hawai‘i County Department of Water Supply has determined that the Proposed Action will not significantly alter the environment, as impacts will be minimal, and has therefore issued a Finding of No Significant Impact (FONSI).

## **PART 5: FINDINGS AND REASONS**

Chapter 11-200-12, Hawai‘i Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:

1. *The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.* No valuable natural or cultural resources would be committed or lost. The project site, rights-of-way along residential streets, is designed for and already contains water lines. The surrounding area supports residential development and will not be negatively affected by the installation of a parallel water line.
2. *The proposed project will not curtail the range of beneficial uses of the environment.* The proposed project expands and in no way curtails beneficial uses of the environment.
3. *The proposed project will not conflict with the State's long-term environmental policies.* The State’s long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor and fulfills aspects of these policies calling for an improved social and economic environment. It is thus consistent with all elements of the State’s long-term environmental policies.
4. *The proposed project will not substantially affect the economic or social welfare of the community or State.* The project will benefit the economic and social welfare of the community by enhancing the County’s water supply and therefore improving its public utilities system.
5. *The proposed project does not substantially affect public health in any detrimental way.* The proposed project will benefit public health by improving the supply of water.
6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* No adverse secondary effects are expected to result from the proposed action. This project, in and of itself, will not enable any substantial level of development, but will instead primarily ensure improved and safer public utilities.
7. *The proposed project will not involve a substantial degradation of environmental quality.* The implementation of best management practices for construction will ensure that the project will not degrade the environment in any substantial way.
8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* No endangered species of flora or fauna are present on the project site or would be affected in any way by the project.
9. *The proposed project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.* The project is not related to additional activities in the region in such a way as to produce adverse cumulative effects or involve a commitment for larger actions.
10. *The proposed project will not detrimentally affect air or water quality or ambient noise levels.* No adverse effects on these resources would occur. Mitigation of construction-phase impacts will preserve water quality. Ambient noise impacts due to construction will be temporary and restricted to reasonable daytime hours.

11. *The project does not affect nor would it likely to be damaged as a result of being located in environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal area.* Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawai‘i shares this risk, and the project is not imprudent to construct, and employs design and construction standards appropriate to the seismic zone.
12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No scenic vistas or viewplanes identified in the Hawai‘i County General Plan will be adversely affected by the project.
13. *The project will not require substantial energy consumption.* The project involves only minor energy use and no adverse effects are expected.

For the reasons above, the proposed action is not expected to have any significant effect in the context of Chapter 343, Hawai‘i Revised Statutes and section 11-200-12 of the State Administrative Rules.

## REFERENCES

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- Heliker, C. 1990. *Volcanic and Seismic Hazards on the Island of Hawai'i*. Washington: U.S. GPO.
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- Pukui, M.K., Elbert, S.H., and E.T. Mookini. 1974 *Place Names of Hawaii*. 2<sup>nd</sup> ed.. Honolulu: University of Hawai'i Press.
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- U.S. Soil Conservation Service. 1973. *Soil Survey of Island of Hawai'i, State of Hawai'i*. Washington: U.S.D.A. Soil Conservation Service.
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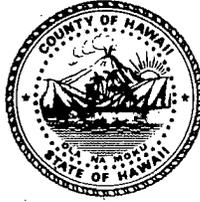
# **ENVIRONMENTAL ASSESSMENT**

## **Waimea Water System Improvements**

**County of Hawai‘i  
Department of Water Supply**

**Appendix 1a  
Comments in Response to Early Consultation**

William P. Kenoi  
Mayor



BJ Leithead Todd  
Acting Deputy Planning Director

County of Hawaii

**PLANNING DEPARTMENT**

Aupuni Center • 101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720  
Phone (808) 961-8288 • Fax (808) 961-8742

February 3, 2009

Mr. Ron Terry  
Geometrician Associates, LLC  
P.O. Box 396  
Hilo, HI 96721

Dear Mr. Terry:

**Pre-Consultation for Draft Environmental Assessment (EA)  
Lalamilo Water Relief Line  
Tax Map Key: 6-5 various plats and parcels,  
Waimea, South Kohala District, Hawai'i**

---

This is in response to your letter dated January 8, 2009, requesting our comments as part of the pre-consultation process for the Draft EA for the above-referenced proposed project. We provide you with the following comments:

1. The goals, policies, standards and course of action of the General Plan and the applicability to the proposed project should be discussed in the Draft Environmental Assessment. The document should also include discussion on the project in relation to the South Kohala Community Development Plan, DHHL plans, and other area development plans.
2. The Draft EA should discuss the land use designations, including the General Plan, State Land Use District, and County Zoning District. For your information, the project site is designated as Low Density Urban and Medium Density Urban by the General Plan Land Use Pattern Allocation Guide (LUPAG) Map. It is situated within the State Land Use Urban District and has various residential, agricultural, and commercial County zoning designations. The Draft EA should also include discussions on the surrounding land use designations and uses.

Mr. Ron Terry  
Geometrician Associates, LLC  
Page 2  
February 3, 2009

3. The project site is not located within the County's Special Management Area (SMA).
4. The Draft EA should clearly discuss the proposed project, the needs for the project, a project construction timeline, and include detailed maps of the proposed structures and improvements of the proposed project.

Thank you for the opportunity to provide comments for the Pre-Consultation. Should you have any questions, please feel free to contact Christian Kay of this department at 961-8288, ext. 203.

Sincerely,

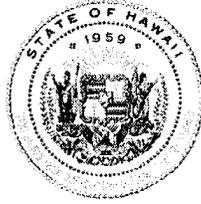
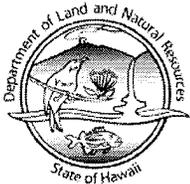


BJ LEITHEAD TODD  
Acting Deputy Planning Director

CRK:cs

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LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

Laura H. Thiele  
Chairperson  
Board of Land and Natural Resources  
Commission on Water Resource Management

Russell Y. Tsuji  
First Deputy

Ken C. Kawahara  
Deputy Director - Water

Aquatic Resources  
Boating and Ocean Recreation  
Bureau of Conveyances  
Commission on Water Resource Management  
Conservation and Coastal Lands  
Conservation and Resources Enforcement  
Engineering  
Forestry and Wildlife  
Historic Preservation  
Kaoolawe Island Reserve Commission  
Land  
State Parks

February 12, 2009

Ron Terry  
Geometrician Associates, LLP  
PO Box 396  
Hilo, Hawaii 96721

LOG NO: 2009.0080  
DOC NO: 0902MD20  
Archaeology

Dear Mr. Terry:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –  
Request for Consultation for an Environmental Assessment for the  
Lalamilo Water Relief Line  
Waimea Ahupua`a, South Kohala District, Island of Hawaii  
TMKs: (3) ROW within 6-5-002; 6-5-004; 6-5-007; 6-5-008 & 6-5-011**

Thank you for the opportunity to comment on the aforementioned project, which we received on January 29, 2009. The replacement parallel relief water line will be placed along currently existing/used water lines. All work will occur within previously disturbed/graded areas along Opelo, Hoku`ula and Spencer Roads, as well as the DWS reservoir access road.

We determine that **no historic properties will be affected** by this project because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other: *Based on the photographs submitted to us the ground has already been grubbed/graded in the past.*

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately at (808) 933-7653. If you have questions about this letter please contact Morgan Davis at (808) 933-7650.

Aloha,

Handwritten signature of Nancy A. McMahon in cursive.

Nancy McMahon, Deputy SHPO/State Archaeologist  
and Historic Preservation Manager  
State Historic Preservation Division

South Kohala Traffic Safety Committee  
P.O. Box 383375  
Waikoloa, HI 96738

Mr. R. Terry  
Geometrician Associates, LLC  
P. O. Box 396  
Hilo, HI 96721  
866 316-6988 Fax  
[rterry@hawaii.rr.com](mailto:rterry@hawaii.rr.com)

February 11, 2009

Ref: Comment on EA for Lalamilo Water Relief Line Waimea, HI

At the regular meeting of the committee on February 11, 2009 the membership (30 attendees) approved the following comments for your consideration in drafting the EA;

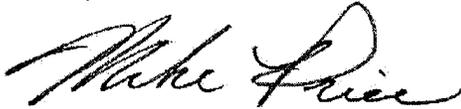
The ultimate destination of the increased water line capacity is the DHHL Lalamilo Homestead Development on Kawaihae Road. The section of Kawaihae Road from the DHHL property to Opelo Road is part State Highway, recently re-paved, and County, with asphalt overlaid approximately one year ago. At the time prior to the start of the State re-paving project, DHHL was asked to coordinate installation of the new water line prior to repaving. DHHL was unable to accelerate their schedule and accomplish this task. The Committee is concerned that trenching for the water line will result in an uneven surface along Kawaihae Road due to patching the pipe line trench and settling of the backfill material. The Committee requests measures to assure the repaired road is brought to the new level, smooth existing condition meeting State Highway Specifications.

Also the Committee requests more details and design to understand how the project will impact users of Opelu, Hoku'ula and Spencer Roads and adjacent homeowners. These roads are very narrow and steep in places, what mitigation is planned to enable continual access and prevent water runoff and erosion during construction?

Please provide data and details at one of our future meetings (2<sup>nd</sup> Tuesday every month, 4:00 PM at the Waimea Civic Center conference Room) or by mail. I can be contacted at 883-2918 or [whao@hawaii.rr.com](mailto:whao@hawaii.rr.com).

Thank you for this opportunity to comment and a copy of the draft EA upon report completion.

Sincerely,



Mike Price-Chair South Kohala Traffic Safety Committee

CC: SKTSC  
Stanley Tamura – District Engineer HDOT  
Linda Chinn – DHHL Lands Management Division Administrator  
James W. Du Pont – DHHL Homestead District Supervisor  
Warren Lee – Director Hawaii County Department of Public Works  
Councilman Pete Hoffmann – Hawaii County Council

Dear Mr. Terry:

I would like to obtain more information about this proposed water line to Lalamilo. When the proposal came up to resurface Kawaihae Road in this area --- I asked for clarification to be sure the Lalamilo water project would not later disturb this resurfacing. The response we got back was NO the resurfacing would not be disturbed. I want to know for sure this is the case...

Your project looks like a portion of a project... so are we to assume that there is already water pipe in place from Opelo to the development -- or is there another route for this water pipe to run, other than along Kawaihae Road.

If you do not have this information available, please advise. Thank you.

Margaret Wille

# **ENVIRONMENTAL ASSESSMENT**

## **Waimea Water System Improvements**

**County of Hawai‘i  
Department of Water Supply**

**Appendix 1b  
Comments to Draft EA and Responses**

Aloha Ron,

Can you enlighten the members on this issue? If you have some specifications that you can email, we will read them and hand around at the May 12 meeting. Thank you for your assistance.

Mike

----- Original Message -----

**From:** Leslie Hall  
**To:** Mike Price ; Gunner Mench ; Gunner Mench (home)  
**Sent:** Monday, April 27, 2009 11:37 AM  
**Subject:** FW: Waimea Water System Improvements EA

FYI

Leslie Hall  
*South Kohala Traffic Safety Committee Secretary*  
*SKTSCSecretary@gmail.com*

----- Forwarded Message

**From:** Murray Gardner <[mgardner@aloha.net](mailto:mgardner@aloha.net)>  
**Date:** Fri, 24 Apr 2009 08:09:19 -1000  
**To:** 'Leslie Hall' <[sktscsecretary@gmail.com](mailto:sktscsecretary@gmail.com)>  
**Subject:** RE: Waimea Water System Improvements EA

Leslie; Thank you for the opportunity to comment for review by Mike in advance of the May meeting and to request time on the agenda to voice my concerns. These concerns are all related to concern for the road and highway safety issue. I think that there is inadequate attention to protection of the condition of the roadways as well as restoration from depth of ditching to final grade. There is no scaled vertical cross section showing the ditch dug for the pipe, the precise position of the pipe and the backfill engineering. It is not adequate to merely state that the pipe will be at a "nominal depth of 4 feet". What is 4 feet deep, the top or the bottom of the pipe? Is the pipe buried 4 feet regardless of type of rock and soil encountered? What is the "engineered" backfill? How thick and what are each of the pipe packing, soil, sub-base, base and asphalt, etc. layers? What procedures are used to back fill? What are the compositions of the layers of material from excavation to finished grade? The EA should include the plans and specifications in the construction contracts, and the procedures for inspection and approval and so forth should all be spelled and drawn out in detail, rather than simply generalized or stated in boilerplate fashion. Sincerely yours, Murray

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# SOUTH KOHALA TRAFFIC SAFETY COMMITTEE

LOCATION: Waimea Civic Ctr. Conference Room, Waimea HI 96743

AGENDA FOR REGULAR MEETING OF April 14, 2009

CALL TO ORDER: 4:00 PM

ATTENDANCE: Please sign in and give your email address if it's not on file.

MINUTES OF PREVIOUS MEETING: Acceptance of March 10, 2009 Minutes as circulated.

ANNOUNCEMENTS:

STATE REPORT: Stanley Tamura 5 minutes

1. Kawaihae Rd. and Queen Ka'ahumanu HWY intersection project. – Construction Bid (January 2010) & Construction about Summer 2010.
2. Kawaihae Road Resurfacing east end to Wai'aka bridge improvements – Completion Update
3. Waiaka Bridge Project Public Meeting in April/May 2009.
4. Stimulus and STIP Funding Update

COUNTY REPORT: Ron Thiel, Warren Lee – DPW & (Transit Agency) 5 minutes

Active

1. Feedback on traffic calming devices on La'e La'e road and Smart Sign Kawaihae Road
2. Lalamilo EA Study – Status
3. Student drop off on Kawaihae Rd. – removal of posts.
4. Design Waikoloa Road/Paniolo Ave – climbing lane and other improvements with \$250,000 Budget appropriation.
5. Tree trimming Saddle Road
6. Federal Economic Stimulus funds for south Kohala District

No Action by County Administration

7. Prioritized road resurfacing list request.
8. Waikoloa Emergency Road - Pedestrian/Bike Use recommendation.
9. Waimea Circulation Study - Plan and schedule.
10. Waikoloa Village- Wehilani (Castle & Cook) Development extension of Kila Kila Rd to Waikoloa Road.
11. Access plan for Kawaihae Road near Waiaka Bridge.
12. Lindsey Road Bridge Project – ROW, consultant selection, schedule, design?
13. Hand Held Cell Phone requested ordinance

POLICE REPORT: Captain James Sanborn & CP Officer Bugado 5 minutes

1. Traffic incidents, citations and announcements.

UNFINISHED BUSINESS

15 minutes (after new business)

1. PR Connector Road – Update – Diane Quitquit
2. Hand Held Cell phone use while driving Co. ordinance – No response to 2 letters to Mayor
3. Ordinance amending Co. Code relating to inattention to driving – Hand Held devices April 21 hearing.
4. STIP Revision #5 & Future revision #6 – Update –letter
5. Donkeys crossing Waikoloa Road – Mitigation Update– Anika Glass
6. Tree Trimming on Saddle Road near Waikiki Ranch – Letter
7. Requests for comment on hybrid water system improvements for Puu Kapu DHHL Homesteads.

NEW BUSINESS

30 minutes

1. Presentation by Geometrician on District projects –
2. School Drop Off alternate traffic routing –Carol Yurth
3. Zoning application for rerouting Lindsey Road
4. Highway Safety Grant Program

NEXT MEETING: May 12, 2009 meeting at 4:00 PM- Waimea Civic Ctr. Conf. Rm: Presentation by Waikoloa Mauka Ranchland – Paniolo/Waikoloa Road Intersection – Sid Fuke

ADJOURN Drive Safe, Drive Defensively!

11:37:18 AM  
4/14/2009

# geometrician

ASSOCIATES, LLC  
integrating geographic science and planning

phone: (808) 969-7090 PO Box 396 Hilo Hawaii 96721 rterry@hawaii.rr.com

June 8, 2009

Mike Price, Chair  
South Kohala Traffic Safety Committee  
PO Box 383375  
Waikoloa HI 96738

Dear Mr. Price:

**Subject: Draft Environmental Assessment for Waimea Water System Improvements, South Kohala District**

Thank you for allowing the Department of Water Supply to present before your organization at your April meeting, and for the comment letter sent via email from your organization and dated April 27, 2009. DWS recognizes the need to repair the road to an acceptable condition after the waterline is installed. In response to the individual points made in that email, we offer the following:

1. *Inadequate attention to protection of the condition of the roadways as well as restoration from depth of ditching to final grade. No scaled vertical cross section, precise position of the pipe, backfill engineering, etc. The EA should include the plans and specifications in the construction contracts, and the procedures for inspection and approval and so forth should all be spelled and drawn out in detail, rather than simply generalized or stated in boilerplate fashion.* This level of detail on standard construction procedures is not usually addressed in an Environmental Assessment, which is generally done well before final design; instead, it is addressed in the plan review/approval process with DWS and its consulting engineers. The design will be done under the jurisdiction of the County DWS, following all applicable details, standards and procedures.
2. *Not adequate to merely state that the pipe will be at a "nominal depth of 4 feet". What is 4 feet deep, the top or the bottom of the pipe?* DWS' standard minimum cover is 3 feet. The new main will be 12 inches in diameter, so the depth of the trench will be about 4 feet. This will vary where required (deeper) to accommodate existing conditions (e.g., other existing underground utilities. To provide some details, Class 52 12-inch ductile iron has an outside diameter (OD) of approximately 13.20 inches. The required depth of cover on 12-inch pipe is 2.5 feet, or 30 inches. The trench (per section 302.03 of the water system standards) is to be 6 inches below the invert grade. The invert grade is the bottom

of the INTERIOR of the pipeline. The interior diameter (ID) of Class 52 ductile iron pipe is approximately 12.46 inches (the wall thickness is approximately 0.37 inches thick). The trench bottom gets backfilled with pipe cushion material to the depth of the invert. Therefore, the actual depth of the idealized trench section would be 30.0 inches of cover to finished grade, plus the top wall thickness of 0.37 inches, plus the ID of 12.46 inches, plus the trench depth below invert grade of 6.0 inches, for a total of 48.83 inches, or 4.07 feet.

3. *Will pipe be buried about 4 feet regardless of type of rock and soil encountered?* Yes.
4. *What is the “engineered” backfill?* Engineered backfill means that it is compacted to standard specifications.
5. *How thick and what are each of the pipe packing, soil, sub-base, base and asphalt, etc. layers?* At a minimum, the road section sub-base course, base course and asphalt pavement need to be “equal or better” than the existing. The existing road right-of-way is under the jurisdiction of the County Department of Public Works and design and plan requires their approval.
6. *What procedures are used to back fill?* This is covered under DWS standard specifications.
7. *What are the compositions of the layers of material from excavation to finished grade?* Usually, there is a 6-inch cushion layer around the pipe, above which is the engineered backfill that extends to the pavement subgrade.

We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

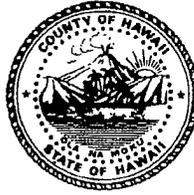
Sincerely,



Ron Terry, Principal  
Geometrician Associates

Cc: Milton Pavao, Hawai'i County Department of Water Supply

William P. Kenoi  
*Mayor*



BJ Leithead Todd  
*Director*

Margaret K. Masunaga  
*Deputy*

## County of Hawai'i

### PLANNING DEPARTMENT

Aupuni Center • 101 Pauahi Street, Suite 3 • Hilo, Hawai'i 96720  
Phone (808) 961-8288 • Fax (808) 961-8742

May 8, 2009

Mr. Ron Terry  
Geometrician Associates, LLC  
P.O. Box 396  
Hilo, HI 96721

Dear Mr. Terry:

**Draft Environmental Assessment (EA) Waimea Water System Improvements  
Tax Map Key: 6-5-001:021; 6-5-004:079 and County Roadways within  
TMK Plat(s): 6-5-002; 6-5-004; 6-5-008; & 6-5-11  
Waimea, South Kohala District, Hawai'i**

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Thank you for the opportunity to review a comment on this Draft Environmental Assessment, after careful review we have no further comments at this time.

Should you have questions, please feel welcome to contact Christian Kay of my staff at 961-8288, extension 259.

Sincerely,

BJ LEITHEAD TODD  
Planning Director

CRK:cs

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**MAY 11 2009**

# geometrician

A S S O C I A T E S , L L C  
integrating geographic science and planning

phone: (808) 969-7090 PO Box 396 Hilo Hawaii 96721 rterry@hawaii.rr.com

June 8, 2009

BJ Leithead-Todd, Director  
Hawai'i County Planning Dept.  
101 Aupuni Street, Suite 3  
Hilo HI 96720

Dear Ms. Leithead-Todd:

**Subject: Draft Environmental Assessment for Waimea Water System  
Improvements, South Kohala District**

Thank you for your comment letter on the Draft EA dated May 8, 2009, in which you stated that your agency had no further comments at this time. We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,



Ron Terry, Principal  
Geometrician Associates

Cc: Milton Pavao, Hawai'i County Department of Water Supply

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
601 KAMOKILA BOULEVARD, ROOM 555  
KAPOLEI, HAWAII 96707

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

RUSSELL Y. TSUJI  
FIRST DEPUTY

KEN C. KAWAHARA  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAIHOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

May 7, 2009

Ron Terry  
Geometrician Associates, LLP  
PO Box 396  
Hilo, Hawaii 96721

LOG NO: 2009.1478  
DOC NO: 0905MD10  
Archaeology

Dear Mr. Terry:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –  
Request for Comment on the Draft Environmental Assessment for the Waimea  
Water System Improvements  
Waimea Ahupua`a, South Kohala District, Island of Hawaii  
TMKs: (3) ROW within 6-5-002; 6-5-004; 6-5-007; 6-5-008 & 6-5-011**

Thank you for the opportunity to comment on the aforementioned project, which we received on April 27, 2009. The replacement parallel relief water line will be placed along currently existing/used water lines. All work will occur within previously disturbed/graded areas along Opelo, Hoku`ula and Spencer Roads, as well as the DWS reservoir access road.

We determine that **no historic properties will be affected** by this project because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other: *SHPD previously commented on this project and determined no historic properties will be affected (Log No. 2009.0080, Doc No. 0902MD20).*

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately at (808) 933-7653. If you have questions about this letter please contact Morgan Davis at (808) 933-7650.

Aloha,

Handwritten signature of Nancy A. McMahon in cursive script.

Nancy McMahon, Deputy SHPO/State Archaeologist  
and Historic Preservation Manager  
State Historic Preservation Division

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phone: (808) 969-7090 PO Box 396 Hilo Hawaii 96721 rterry@hawaii.rr.com

June 8, 2009

Nancy A. McMahon, Deputy SHPO  
State Historic Preservation Division  
Hawai'i State DLNR  
601 Kamokila Blvd., Rm. 555  
Kapolei, HI 96707

Dear Ms. McMahon:

**Subject: Draft Environmental Assessment for Waimea Water System  
Improvements, South Kohala District**

Thank you for the comment letter dated May 7, 2009, reiterating the conclusion that no historic properties will be affected made in your letter of February 27, 2009. The mitigation measure concerning inadvertent discoveries is included in the EA; in addition, we have informed DWS personnel of the need to cease work and contact your agency immediately in the case of any such finds.

We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,



Ron Terry, Principal  
Geometrician Associates

Cc: Milton Pavao, Hawai'i County Department of Water Supply

PHONE (808) 594-1888

FAX (808) 594-1865



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

HRD09/4291

May 15, 2009

Ron Terry  
Geometrician Associates  
PO Box 396 Hilo, Hawaii'i 96721

**RE: Request for comments on Waimea water system improvements, South Kohala, Hawaii'i.**

Aloha e Ron Terry,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated April, 2009. OHA has reviewed the project and offers the following comments.

We see that this project proposes to parallel existing water lines and will be contained within the same existing road rights-of-ways. We do ask that in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division shall be contacted.

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

'O wau iho nō me ka 'oia'i'o,

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

Clyde W. Nāmu'o  
Administrator

C: OHA CRC Kona

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phone: (808) 969-7090 PO Box 396 Hilo Hawaii 96721 rterry@hawaii.rr.com

June 8, 2009

Clyde Nāmu‘o, Administrator  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 1250  
Honolulu HI 96813

Dear Mr. Nāmu‘o:

**Subject: Draft Environmental Assessment for Waimea Water System  
Improvements, South Kohala District**

Thank you for the comment letter dated May 15, 2009, in which you ask that if any significant cultural deposits or human skeletal remains are encountered, work shall stop and SHPD be informed. The mitigation measure concerning inadvertent discoveries is included in the EA; in addition, we have informed DWS personnel of the need to cease work and contact your agency immediately in the case of any such finds.

We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,



Ron Terry, Principal  
Geometrician Associates

Cc: Milton Pavao, Hawai‘i County Department of Water Supply