



June 21, 1999

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 961-8660 • FAX (808) 961-8657

RECEIVED

'99 JUN 25 P1:13

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

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

FINAL ENVIRONMENTAL ASSESSMENT (FEA)
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
HAAHEO BOOSTER PUMP IMPROVEMENTS
HALEPUNA, SOUTH HILO DISTRICT, ISLAND OF HAWAII

The County of Hawaii Department of Water Supply has reviewed comments received during the 30-day comment period which began on May 8, 1999. The Department has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the July 8, 1999 OEQC Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the FEA.

If there are any questions, please contact our Water Resources and Planning Branch at (808) 961-8660.

Milton D. Pavao, P.E.
Manager

gms

Enc.

... *Water brings progress...*

77

JUL 8 1999

FILE COPY

FINAL ENVIRONMENTAL ASSESSMENT

Finding of No Significant Impact (FONSI)

1999-07-08-HA-FEA-

***HAAHEO BOOSTER PUMP
IMPROVEMENTS***

Halepuna (TMK 2-6-15:42)
Halaulani Place (TMK 2-6-06:21)
District of South Hilo
Island of Hawaii, State of Hawaii

June 1999

Prepared For:

DEPARTMENT OF WATER SUPPLY
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Prepared By:

Inaba Engineering, Inc.
273 Waianuenue Avenue • Hilo, Hawaii 96720

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County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720**

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**Inaba Engineering, Inc.
273 Waianuenue Avenue • Hilo, Hawaii 96720**

SUMMARY SHEET

Project: Haaheo Booster Pump Improvements

Applicant: Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Land Owner: County of Hawaii

Proposing Agency: Department of Water Supply
County of Hawaii

Project Location: Halepuna and Halaulani Place, South Hilo
County of Hawaii, Island of Hawaii

Tax Map Key: 2-6-15: 42 Proposed Booster Pump Site
3rd Division 2-6-06: 21 Existing Booster Pump Site

Land Area: = 5,500 sf Useable
= 22,400 sf Total Area

Existing Use: Vacant

State Land Use Designation: Urban

County General Plan: Low Density Urban

Existing Zoning: MG1a, General Industry 1.ac

Contact Person: Mr. Milton Pavao, P.E., Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720
Phone: 808.961.8660
Fax: 808.961.8657

TABLE OF CONTENTS

	<u>Page</u>	
PART 1	DESCRIPTION OF PROPOSED ACTION	1
	A. Project Location	
	B. Description, Purpose and Objectives of Project	
	C. Ownership	4
	D. Project Schedule and Cost	
	E. Consultation with Agencies, Organizations and Individuals	
PART 2	ENVIRONMENTAL SETTING	5
	A. Topography	
	B. Soils	
	C. General Climate	9
	D. Flood Hazards	
	E. Volcanic and Seismic Hazard	
	F. Flora and Fauna	11
	G. Historic Sites	
	H. Existing Land Use	
PART 3	SUMMARY POTENTIAL IMPACTS AND MITIGATION MEASURES	13
	A. Short Term Impacts	
	B. Long Term Impacts	
	C. Permits And Approvals	14
	D. Pump Shed Demolition and Removal	
PART 4	ALTERNATIVES TO THE PROPOSED ACTION	15
	A. No Action	
	B. Alternate Action	
PART 5	RELATIONSHIP TO PLANS AND POLICIES	16
	A. The General Plan Hawaii County	
	B. Water Master Plan, December 1980	
PART 6	DETERMINATION	17
PART 7	FINDINGS AND REASONS	17
	REFERENCES	20

LIST OF FIGURES:

		<i>Page</i>
Figure 1.	Island Location Map	2
Figure 2.	USGS Vicinity Map	3
Figure 3.	Contour Map of Site	6
Figure 4	Preliminary Site Layout	7
Figure 5.	SCS Soil Survey Map	8
Figure 6.	FIRM Flood Map	10
Figure 7.	County of Hawaii Zoning Map	12

LIST OF APPENDICES:

APPENDIX A	Map, Plate 7, Proposed Improvement & Existing Water System Paukaa-Papaikou. <i>Ref. Water Master Plan, Dec. 1980</i>
APPENDIX B	Comment Letters and Response
APPENDIX C	Asbestos and Lead Paint Facility Survey

PART 1

DESCRIPTION OF PROPOSED ACTION

A. Project Location

The proposed Pump Station site is located in Halepuna, South Hilo District, Island of Hawaii, locally known as the Wainaku area. (Figure 1 & 2). Both the existing and new booster pump sites are located on the makai side of Wainaku Street. The existing site is located between Halaulani Place and Pua Lane. The proposed pump site is located between Kaiwiki Road and Ohana Place.

B. Description, Purpose and Objectives of Project

The County of Hawaii Department of Water Supply (DWS) plans to replace its Haaheo Booster Pump Station No. 1 with a new facility at a new location. A new booster pump facility will be installed approximately 1,500 feet north of the existing pump station. See Figure 7. Once the new facility is complete, the existing pump station facility will be removed and the site restored to match the surrounding area.

System description. The existing Haaheo Booster Pump Station No. 1 (Elev. 82) is fed from the 1.0 MG Piihonua Reservoir No. 3 (O.F. Elev. 300) and pumps water to the Haaheo Booster and Reservoir No. 2 (O.F. Elev. 335). From Reservoir No. 2 the water is then processed through a series of 4 reservoirs and pumps to elevation 1552. This system then serves the Kaiwiki and Wainaku areas. See Appendix A.

Purpose of Project. The existing site is confined and located along side a narrow cut section of roadway. A hazardous situation exists when DWS staff services the site due to limited space for maintenance vehicles to safely park along side the roadway. Currently the pump system is operating below desired efficiency and capacity levels. The existing facility was constructed over thirty years ago with a pumping capacity of 150 gpm. In addition, the existing 9'x11' pump shed will be tested for hazardous materials and proper handling and disposal procedures will be established for the demolition phase of the project.

The new site will provide adequate space for the new facilities and off-street

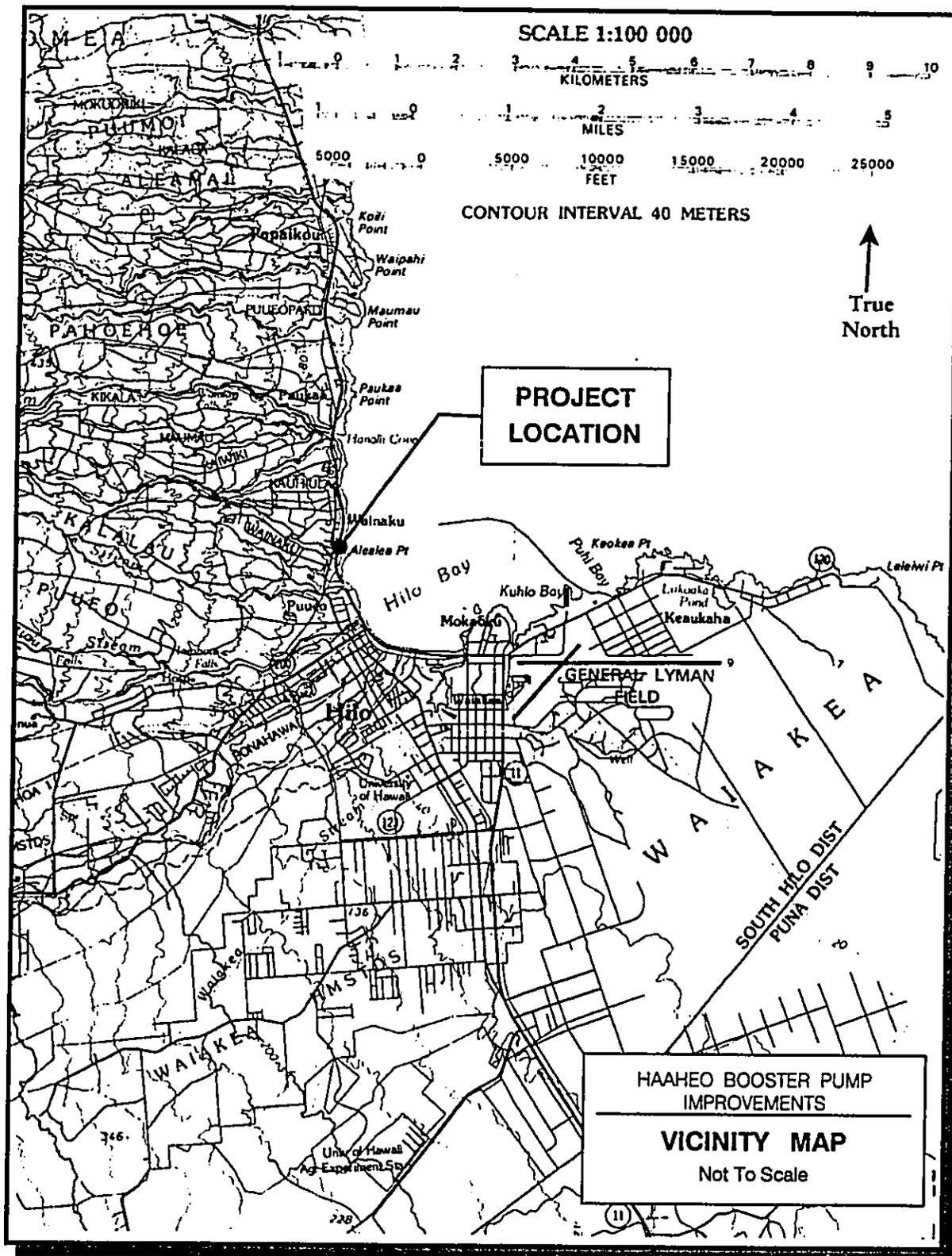


Figure 2 - USGS Vicinity Map

parking for maintenance vehicles. The pumps will be upgraded to two (2) 350 gpm pumps and provisions will be incorporated into the design for accommodating a third pump. The pumps and appurtenances will be installed on an concrete slab approximately 24'x24' with a sound attenuating shed. A hollow tile control building approximately 12' by 24' will house the pump motor controls, electrical and telemetry equipment. The site will be graded with paved driveway and fenced for security. The objectives of this project are to upgrade the existing system for capacity and efficiency and to provide safer access and parking for maintenance personnel and service vehicles. See Figure 4.

C. Ownership

The pump station and all appurtenances will be owned by the Department of Water Supply, County of Hawaii. The new pump site was acquired by Department of Water Supply from Mauna Kea Agribusiness Company, Inc. a subsidiary of C. Brewer and Company, Ltd. The existing pump station site is owned by the Department of Water Supply.

D. Project Schedule and Cost

The proposed project schedule is as follows:

Field Survey:	March 1999
Engineering Design and Review:	April 1999 - October 1999
Bid Process:	November 1999 - January 2000
Award & Execution of Contract:	February - March 2000
Construction:	April 2000 - October 2000

The estimated preliminary construction cost of the project is seven hundred fifty thousand dollars (\$750,000.00). The funding will be from the Department of Water Supply.

E. Consultation with Agencies, Organizations and Individuals

The following have been contacted during the preparation of this environmental assessment.

County Department of Water Supply
County Planning Department
Mauna Kea Agribusiness

This draft environmental assessment was prepared using information gathered from previously published documents (See Reference Listing) and informal contacts with the agencies listed above.

PART 2

ENVIRONMENTAL SETTING

Physical Environment Characteristics

A. Topography

The proposed site is bordered by the Hawaii Belt Road to the east (makai) and Wainaku Street to the west (mauka). Its north boundary is the Mokuhonua Stream. To the south is the remainder of the lot owned by Mauna Kea Agribusiness, Inc. which borders Kaiwiki Road. The total useable area of site is approximately 5,500 square feet, with the remainder being banks of the river gulch. Areas beyond the top of banks will not be used or affected. The useable area of the lot is sloping down to the north at about 8 to 10 percent. See Figure 3 & 4.

B. Soils

Soils for the area are classified as *HoC* per the "Soil Survey of Island of Hawaii, State of Hawaii," by the Soil Conservation Service. Symbol *HoC* represents "Hilo silty clay loam, 0 to 10 percent slopes" soil series, with erosion factor $K=0.05$, and hydrologic group "A." The Hilo series consists of well-drained silty clay loams. They are gently sloping to steep soils on uplands at an elevation ranging from near sea level to 800 feet. They receive from 120 to 180 inches of rainfall annually, and their mean annual soil temperature is between 72° and 74° F. The natural vegetation consists of Hilo grass, California grass, guava, ohia, and tree fern. Hilo soils are used for sugarcane, truck crops, orchards, and pasture.

Hilo silty clay loam, 0 to 10 percent slopes (*HoC*). This soil is low on the windward side of Mauna Kea and is dissected by deep, narrow gulches. In a representative profile the surface layer is dark brown silty clay loam about 12

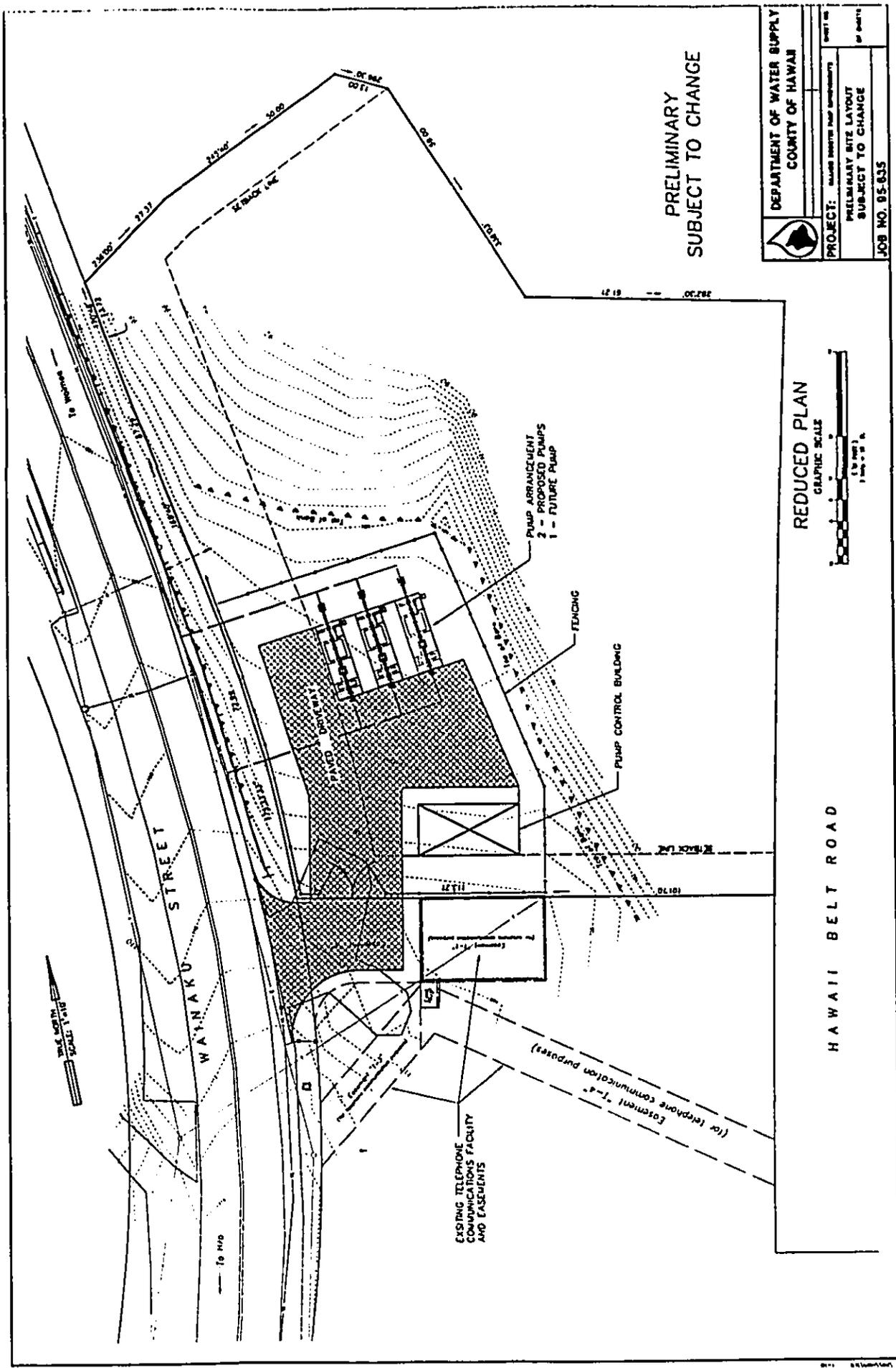


Figure 4. - PRELIMINARY SITE LAYOUT

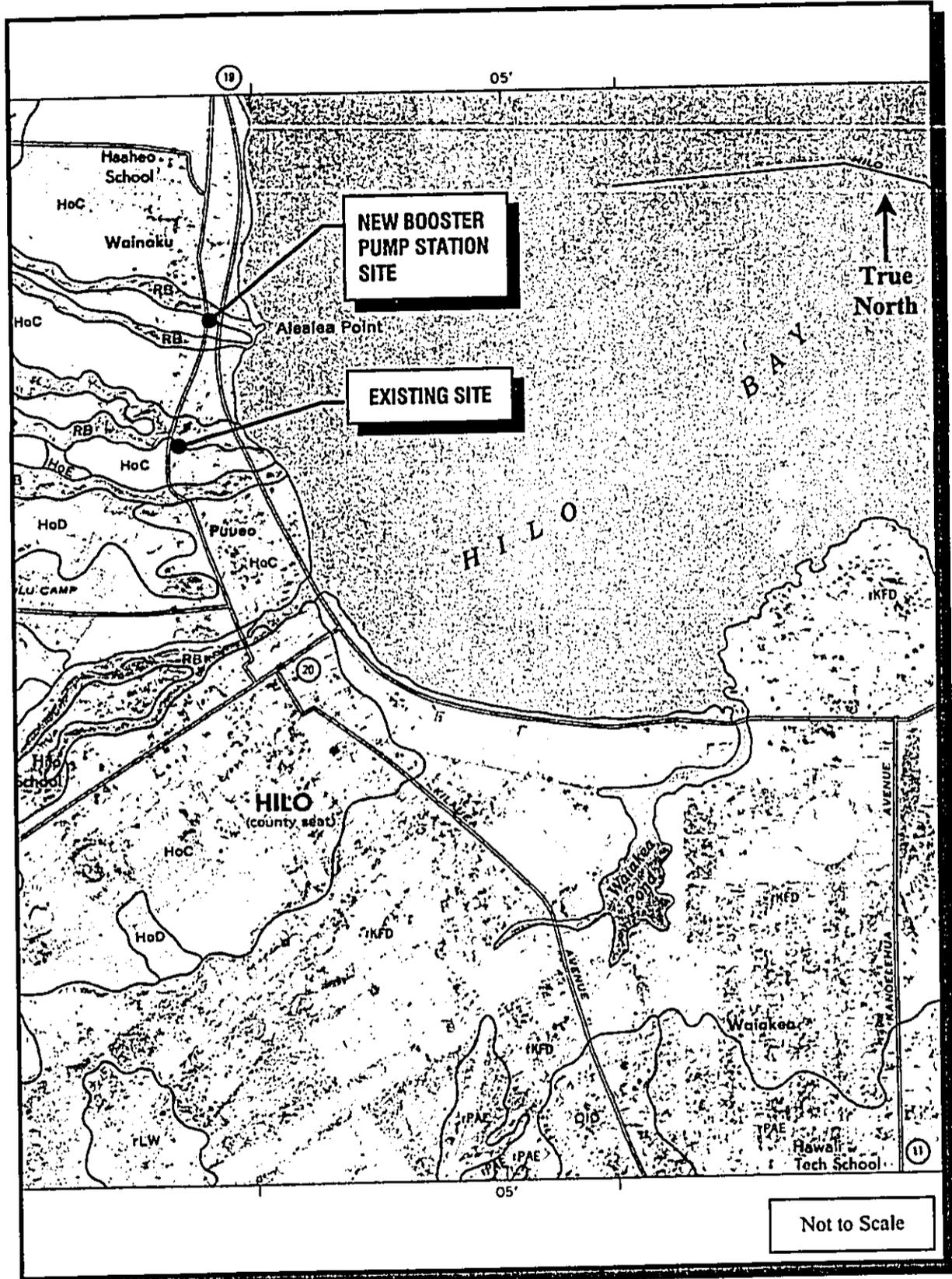


Figure 5. - Portion of Soil Survey Map Sheet 74
 Island of Hawaii, Soil Conservation Service

inches thick. The subsoil is about 48 inches thick and consists of dark-brown, dark reddish-brown, and very dark grayish-brown silty clay loam. Permeability is rapid, runoff is slow, and the erosion hazard is slight. This soil is used mostly for sugarcane. Small areas are in truck crops, orchards, and pasture. (See Figure 5.)

C. General Climate

Located on the windward side of the island, the area is subject to the prevailing northeasterly trade winds which are prevalent throughout the year. In general the trades are more persistent in the summer with winter and Kona storms bringing southerly winds. Average annual rainfall ranges from 120 to 150 inches and with temperatures ranging from the mid 60's to the high 80's.

D. Flood Hazards

Federal Insurance Rate Maps (FIRM), indicates the project area to be in "Other Areas Zone X." These are areas determined to be outside 500-year flood plain. Installation of the proposed improvements does not present a flood hazard to surrounding areas, nor will it be susceptible to flooding damage from the surrounding area. (See Figure 6.)

E. Volcanic and Seismic Hazard

The entire island of Hawaii is subject to geologic hazards such as lava flows and earthquakes. The project site is located on the lower slopes of Mauna Kea north of the Wailuku River. The lower slopes of Mauna Kea which includes the project site are located in the lava flow Hazard Zone 8. The island of Hawaii is divided into zones according to the degree of hazard from lava flows. Zone 1 is the area of greatest hazard and Zone 9 is of the least hazard. For Zone 8, no percentage of area has been covered by lava since 1800 nor in the last 750 years. As such, there is minimal risk of lava inundation to the project area.

Per the Uniform Building Code, the entire island of Hawaii is classified as Zone 4 for seismic activity. Zone 4 areas are at risk from major earthquake damage especially to structures that are poorly designed and built.

All improvements related to this project will be designed and constructed in accordance with applicable codes and ordinances of the County of Hawaii.

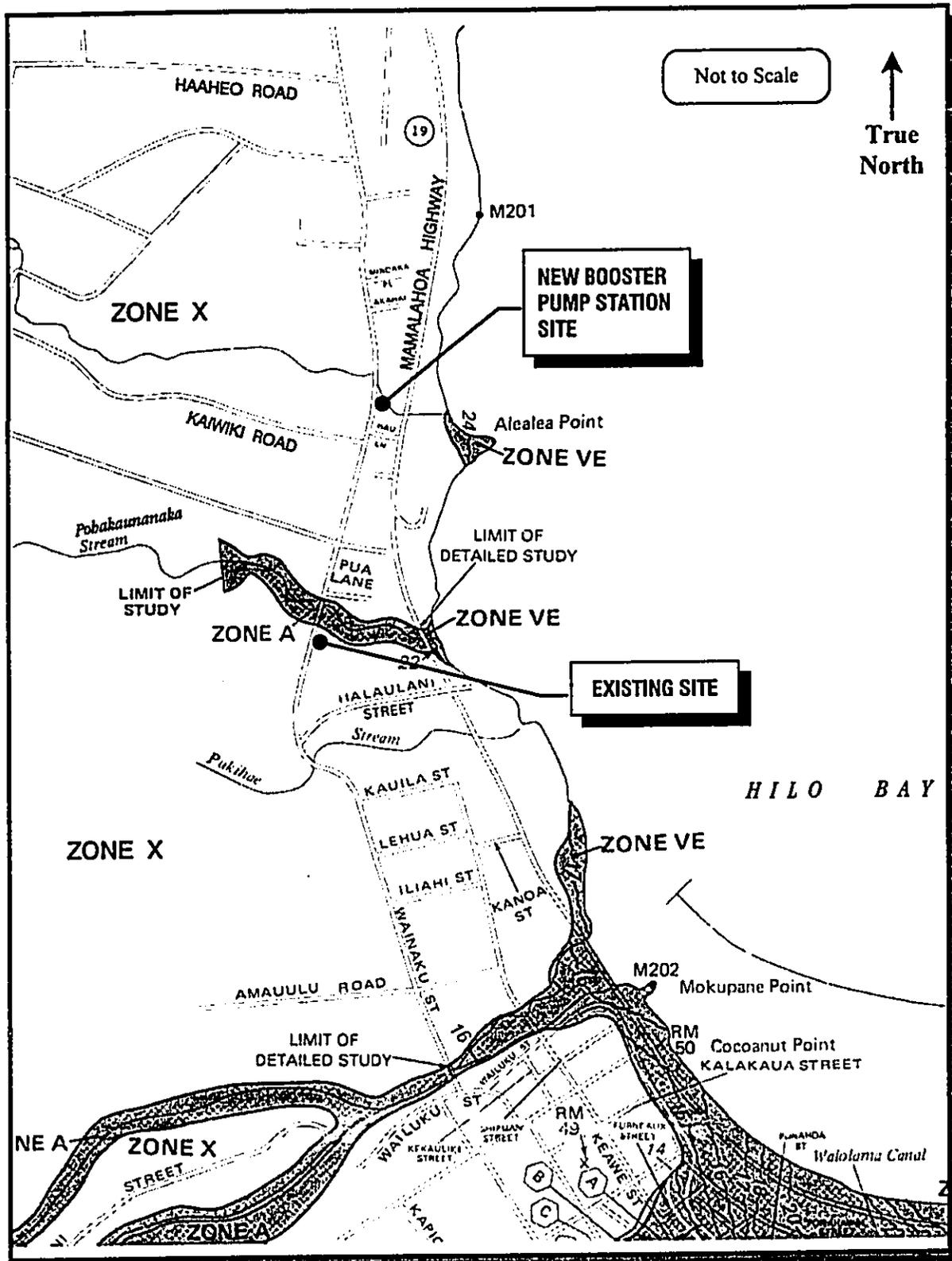


Figure 6. - Portion FIRM Map
 Panel 0880 C, Revised September 16, 1988

F. Flora and Fauna

The existing pump station site does not have any significant plant growth.

The proposed pump site was formerly owned by Mauna Kea Agribusiness Company, Inc. This overall site previously had an office building that was demolished and a truck scale for weighing cane trucks. The northern portion of the lot that was subdivided out for the DWS pump station was farmed by an individual from one of the plantation camps. Existing plant growth on the proposed pump site are generally weeds and grasses that have grown since farming ended. As such, there should be no effect to any significant plants. No protected or endangered animal species are expected to be encountered during construction of the project.

G. Historic Sites

The original lot (TMK: 2-6-15: 2) site contained an office building with driveway and parking and a scale for weighing cane trucks. The building was demolished and removed. Remnants of the existing pavement are still visible on the site. The northern portion of the lot was subdivided out to provide the DWS with a pump station site (TMK: 2-6-15:42). This portion of the lot was previously farmed by an individual from one of the plantation camps. Due to previous use, land alterations and demolition of improvements, no historic sites are anticipated to be encountered.

H. Existing Land Use

The pump station site is currently vacant. There is a paved driveway leading to the lot from Wainaku Street. Portions of the adjoining site are used for a telephone communication facility and water meters that service the new C. Brewer Company corporate offices.

State Land Use District classification system designates the area as Urban. The County of Hawaii General Plan land use allocation designates the proposed site as Low Density Urban. County of Hawaii Zoning for the site is Industrial 1 acre. (See Figure 7.)

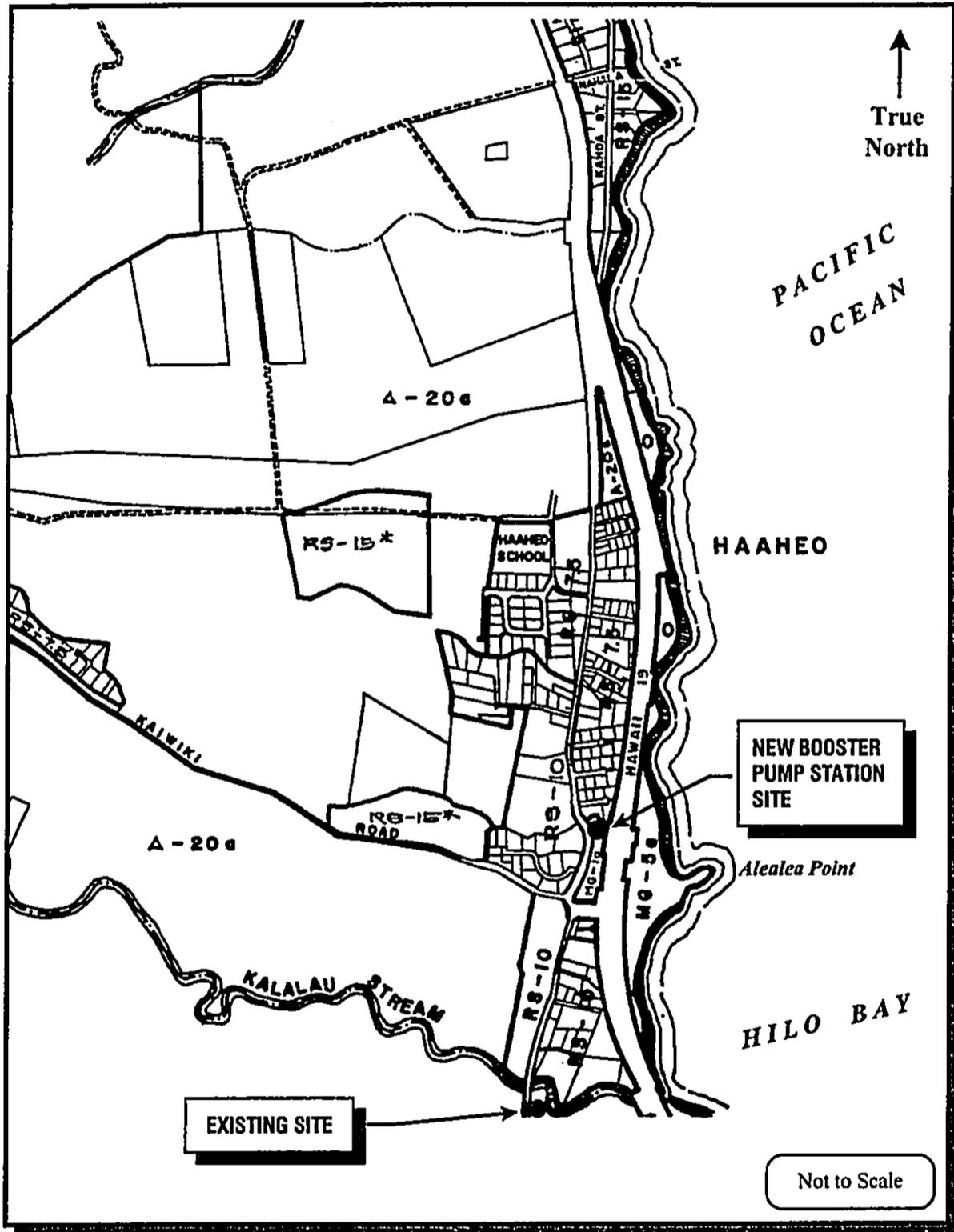


Figure 7. - Portion of Zone Map
County of Hawaii

PART 3

SUMMARY POTENTIAL IMPACTS AND MITIGATION MEASURES

A. Short Term Construction Impacts

Construction activity related to the proposed pump station and appurtenances will create short term impacts on the surrounding environment such as noise, dust, and traffic impacts. These impacts would occur only during the construction phase of the project and is temporary in nature.

Heavy equipment noise may be mitigated by allowing work only during normal working hours. The contractor shall be required to maintain his equipment with appropriate mufflers and noise suppressors in accordance with state regulations.

Ambient air quality will be affected by equipment emissions and construction generated dust. Dust can be managed by the Contractor using water sprinkling, limiting exposed areas, and covering the exposed trench areas with trench plates as soon as practicable. Equipment must be properly maintained to assure efficient operation in terms of fuel combustion to assure the cleanest possible exhaust emissions.

To minimize soil erosion, runoff, and sedimentation, the Contractor shall employ necessary measures to insure compliance with the County of Hawaii Grading Ordinance, and the applicable State Department of Health Pollution Control Standards. If construction dewatering is to be done, the contractor shall obtain necessary permits for the discharge of construction dewatering. The Contractor shall also be required to implement a Best Management Practices Plan as prescribed by the National Pollution Discharge Elimination System (NPDES) permit as administered by the State Department of Health, if required.

Traffic impacts will be mitigated by instituting a traffic control plan approved by the County of Hawaii Department of Public Works. Construction road work and material deliveries shall be scheduled to minimize the disruption to traffic.

B. LONG TERM IMPACTS

During periods of pump operation, there will be sound generated by the pumps

and motors. During the design and selection process, consideration will be given to equipment efficiency and quietness. In addition, it is anticipated that sound attenuating devices or enclosures will be constructed to shield neighboring homes from pump and motor noise.

No other long term major negative impacts are expected as a result of this project. This project will benefit the local community by upgrading the water system to be more efficient and economical.

C. PERMITS AND APPROVALS

Construction plans will be submitted to the following agencies for review and approval signatures:

- Department of Water Supply
- Department of Public Works
- Planning Department

The following is a list of permits required:

County of Hawaii:

- Permit to Dig Up Streets, Grading Permit, Building Permit

State of Hawaii Dept. Of Health:

- Hydro Testing Water

- Community Noise Permit for Construction.

- Special Management Area (SMA) Permit.

D. PUMP SHED DEMOLITION AND REMOVAL

An asbestos and lead paint facility survey was performed by EnvironMETeo Services, Inc. (EMET) on March 19, 1999. (See Appendix C) The test results have detected asbestos containing material (any material containing more than one percent (1%) asbestos) in some patching compound on the roof and lead in excess of 1.0 mg/cm² on painted interior and exterior surfaces of the pump shed. Based on the survey results, EMET will be retained by the DWS to provide an asbestos and lead paint response action specification for the shed demolition and removal phase of the project. These specifications will conform to applicable rules and regulations as required by concerned agencies to ensure public safety. The contractor will be required to comply with the specifications during the demolition and removal process.

PART 4

ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

The "No Action" alternative will not allow the objectives of the proposed new pump station replacement to be achieved. This alternative will result in no physical change to the water system and surrounding area and have no impacts to the community. DWS maintenance personnel will still have to park on the side of the roadway and the pump station capacity will not be increased.

There will be no benefits realized by the community.

B. Alternate Action

No alternate action was considered for this project.

PART 5

RELATIONSHIP TO PLANS AND POLICIES

A. The General Plan Hawaii County, November 1989:

Some listings under Section 4. Goals, Policies and Standards, Public Utilities, WATER, POLICIES, are as follows:

- All water systems shall be designed and built to Department of Water Supply standards.
- Improve and replace inadequate systems.
- Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.
- Water system improvements should be first installed in areas which have established needs and characteristics, such as occupied dwellings and other uses, or in areas adjacent to them if there is need for urban expansion, or to further the expansion of the agricultural industry.
- The fire prevention systems shall be coordinated with water distribution systems in order to ensure water supplies for fire protection purposes.

Under STANDARDS, the following:

- Water Systems shall meet the requirements of the Department of Water Supply and the Subdivision Control Code.

And under B. SOUTH HILO, (6) PUBLIC UTILITIES, (a) Water, Courses of Action, the following:

- The Hilo Water System should be improved to provide the city with a dependable and consistently clean water supply.

Implementation of this project would comply and meet with objectives of the General Plan Goals, Policies and Standards listed above.

B. Water Master Plan, December 1980:

Excerpts from the Water Master Plan regarding proposed improvements are as follows:

"Proposed Improvements: Improvements proposed by the Department of Water Supply are developed on the basis of: (1) accommodating anticipated increases in water demand, (2) providing good quality water meeting the standards of the U.S. Public Health Service, and (3) improving the system to provide adequate

water distribution, pressure and volume. These proposals are consistent with those as presented in the respective Community Development Plans of the Island of Hawaii."

Many of the improvement projects currently being implemented by the DWS have progressed beyond the 10 year range of the Water Master Plan. However, the improvements to the Haaheo Booster Pump Station No. 1 is consistent with the intent of the plan in that it will assure adequate water distribution, pressure and volume in the Haaheo and Kaiwiki areas.

PART 6

DETERMINATION

This project is mainly a replacement/maintenance type project with the replacement pump facility occupying a new site. The proposed project is intended to benefit both the Department of Water Supply and the water consumers. The DWS will be getting a site that is safer for their personnel and a new upgraded booster pump facility. Water consumers will benefit from a more dependable and reliable system. The project is not expected to significantly alter the environment and negative impacts will be mainly short term and minimal. Therefore, it is determined that the issuance of a Negative Declaration is appropriate.

PART 7

FINDINGS AND REASONS

In determining the issuance of a Negative Declaration and Finding of No Significant Impact (FONSI), the proposed action was reviewed and found to have no significant impact on the following significance criteria.

- ▶ *Involves the loss or destruction of any natural or cultural resource;*
The proposed project is not anticipated to affect any natural or cultural resource.
The proposed improvements are in previously disturbed areas.

- ▶ *Curtails the range of beneficial uses of the environment.*
This project will not curtail beneficial use of the environment. The area is developed and the project purpose is to satisfy safety concerns and demands on the existing water system.
- ▶ *Conflict with the State's long-term goals or guidelines and expressed in Chapter 344 HRS.*
This proposed project is consistent with the Environmental Policies established in Chapter 344 HRS.
- ▶ *Substantially affect the economic or social welfare of the community or state.*
The proposed waterline replacement is intended to maintain adequate uninterrupted water flow and fire protection to service areas. Short term economic benefits will be realized by construction employment and spending in the area.
- ▶ *Substantially affects public health.*
This project will not substantially affect public health. Any public health effects would be related to construction activity which is temporary and short term in nature. The contractor is required to comply with all Department of Health rules and regulations related to his actions.
- ▶ *Involves substantial secondary effects such as population changes or infrastructure demands.*
No substantial secondary effects are expected from this project.
- ▶ *Involves substantial degradation of environmental quality.*
Once completed, the project will not affect environmental quality. Any effects on environmental quality will be short term and related to construction activity. The contractors are required to comply with all Department of Health environmental and pollution control rules and regulations.
- ▶ *Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment to larger actions.*
This project will not have a considerable effect on the environment and is not connected to commitments to a larger action.
- ▶ *Substantially affects a rare, threatened or endangered species or its habitat.*
There are no known rare, threatened or endangered species of flora or fauna on the project site, thus no impact is expected from this project.

- ▶ *Detrimentially affects air or water quality or ambient noise levels.*
Once completed, the new pump station and appurtenances will not detrimentally affect air or water quality. Any effects to be noted will be short term and related to construction activity. During construction the contractor is required to comply with all state and county regulations related to air and water quality and to mitigate noise levels related to his construction equipment and activity. Any sound from pump equipment and controls will be mitigated by enclosures and sound attenuation devices.

- ▶ *Affects an environmentally sensitive area, such as a flood plain, tsunami zone or erosion prone area, geologically hazardous land, estuary, freshwater area, or coastal waters.*
The improvements will not affect any environmentally sensitive area. During construction, necessary measures will be required of the contractor to prevent damage to surrounding area by implementation of Best Management Plans (BMP's) and strict adherence to environmental rules and regulations.

- ▶ *Substantially affects scenic vistas and view planes identified in county of state plans or studies.*
This project will not affect scenic vistas or view planes.

- ▶ *Requires substantial energy consumption.*
This project will not require substantial energy consumption beyond normal operating requirements..

REFERENCES

Atlas of Hawaii, Second Edition, 1983, Department of Geography, University of Hawaii

Engineering Staff, Department of Water Supply, County of Hawaii

Planning Dept. Staff, Planning Department, County of Hawaii

The General Plan Hawaii County, November, 1989, County of Hawaii

Rules of Practice and Procedure, October 1996, County of Hawaii, Planning Commission.

Soil Survey of Island of Hawaii, State of Hawaii, December 1973, United States Department of Agriculture Soil Conservation Service, In Cooperation with University of Hawaii Agricultural Experiment Station.

Volcanic and Seismic Hazards on the Island of Hawaii, U.S. Department of the Interior, U.S. Geological Survey, Christina Heliker.

Water Master Plan, Island of Hawaii, December 1980, Department of Water Supply, County of Hawaii, R. M. Towill Corporation.

PROPOSED IMPROVEMENT
EXISTING WATER SYSTEM
PAUKAA-PAPAIKOU
DEPARTMENT OF WATER SUPPLY
COUNTY OF HAWAII

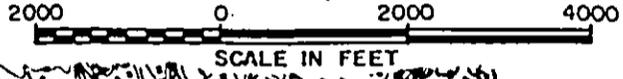
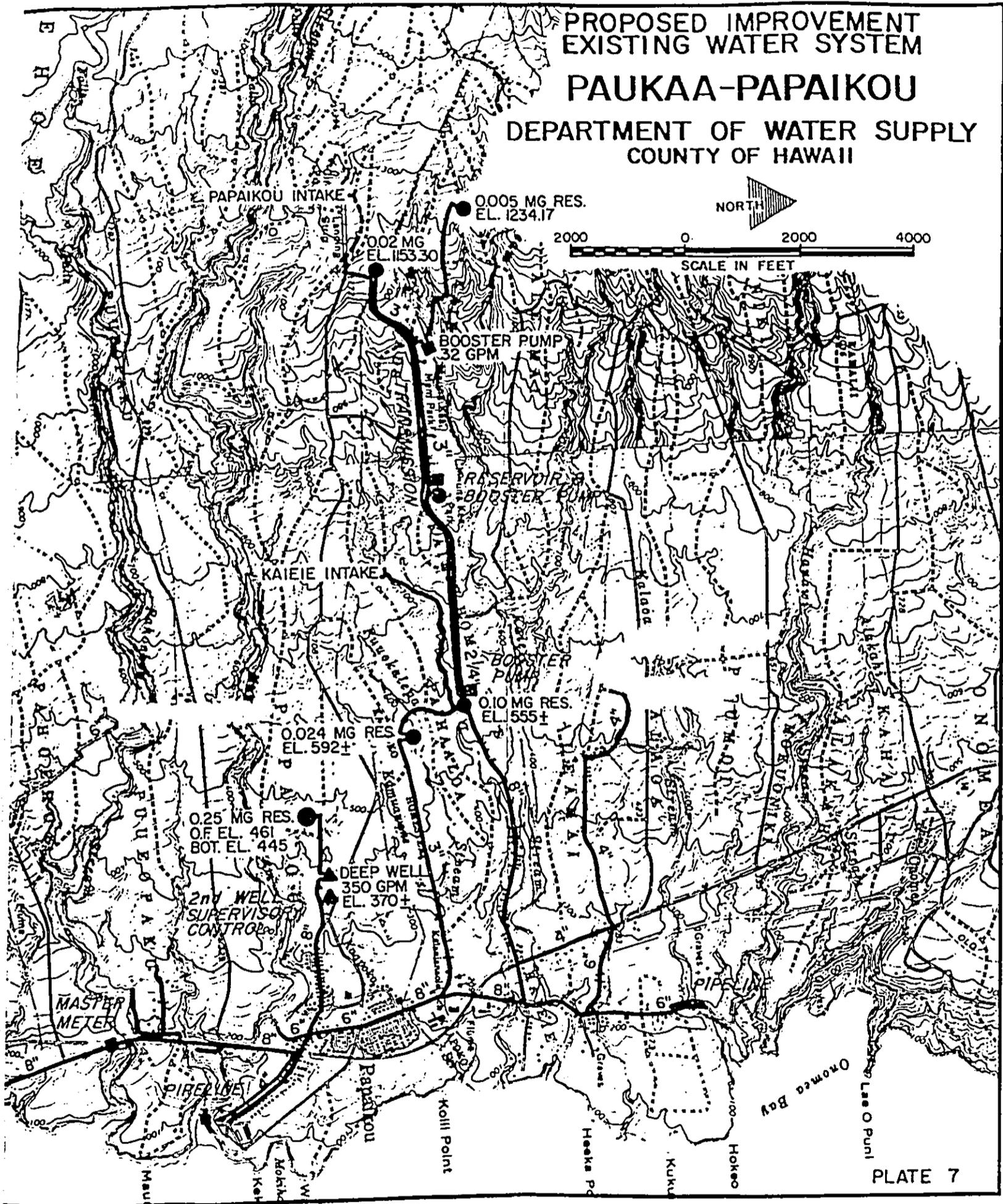


PLATE 7

APPENDIX A

APPENDIX B

Stephen K. Yamashiro
Mayor



County of Hawaii

DEPARTMENT OF PUBLIC WORKS
25 Aiehai Street, Room 202 • Hilo, Hawaii 96720-4122
(808) 961-8371 • Fax (808) 961-8630

Jiro A. Sumada
Deputy Chief Engineer

RECEIVED
MAY 5 1999

INABA ENGINEERING, INC.

May 3, 1999

MR JASON K INABA PE
INABA ENGINEERING INC
273 WAIANUENUE AVENUE
HILO HAWAII 96720

**SUBJECT : DRAFT ENVIRONMENTAL ASSESSMENT
HAAHEO BOOSTER PUMP IMPROVEMENTS**
Mokuhouua, Halaulani Place, South Hilo, Hawaii
TMK: 3 / 2-6-15: 42

We acknowledge receipt of your letter concerning the subject matter, and provide you with our comments as follows:

1. Any building construction shall conform to all requirements of code and statutes of the County of Hawaii.
2. All development generated runoff shall be disposed on site and shall not be directed toward any adjacent properties or streams.
3. All earthwork and grading shall be in conformance with Chapter 10, Erosion and Sediment Control, of the Hawaii County Code.
4. Any work within the County right-of-way shall be in conformance with Chapter 22, Streets and Sidewalks, of the Hawaii County Code. Wainaku Street is a County road.
5. Any construction within known watercourses, particularly Mokuhouua Stream, shall be in conformance with Chapter 27, Flood Control, of the Hawaii County Code.

DRAFT EA
May 3, 1999
Page 2 of 2

6. Any necessary sewer line connections shall conform to the rules and regulations of the County of Hawaii, Wastewater Division.
7. Improvements shall be located beyond the future road widening setback established by the Planning Department.

Should there be any questions concerning this matter, please feel free to contact Mr. Casey Yanagihara in our Engineering Division at (808)961-8327.


Galen M. Kuba, Division Chief
Engineering Division

CKY
copy: DWS (G. Ahuna)

TELEPHONE:
808.961.3727

FACSIMILE:
808.938.8033

CIVIL ENGINEERING • STRUCTURAL ENGINEERING • LAND SURVEYING
INABA ENGINEERING, INC.
273 WAIANUENUE AVENUE
HILO, HAWAII 96720

May 17, 1999

Mr. Jiro Sumada, Deputy Chief Engineer
Department of Public Works
County Of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Subject: DRAFT ENVIRONMENTAL ASSESSMENT
Haahoe Booster Pump Improvements
Mokuboma, Halaulani Place, South Hilo, Hawaii

Dear Mr. Sumada:

Thank you for reviewing the subject document. On behalf of the County of Hawaii Department of Water Supply, we offer the following responses to your comments.

1. Design of improvements shall conform to all applicable requirements and codes of the County of Hawaii. Plans will be submitted to the appropriate agencies for review and approvals.
2. Facilities will be provided on site to dispose of development generated runoff.
3. The contractor will be required to conform to Chapter 10, Erosion and Sediment Control, of the Hawaii County Code during construction of improvements.
4. The contractor will be required to conform to Chapter 22, Streets and Sidewalks, of the Hawaii County Code during construction of improvements.
5. No construction is planned within in the watercourse of Mokuhonua Stream.
6. No sewer line connection is planned for this project.
7. Improvements will be located beyond the future road widening setback established by the Planning Department.

The Department of Public Works comments and our responses will be included in the Final Environmental Assessment.

Should you have any questions or require additional information, please feel free to call this office at 961-3727 or Glenn Ahuna of the Department of Water Supply at 961-8660.

Very truly yours,

INABA ENGINEERING, INC.


Jason K. Inaba, P.E.

copy: Glenn Ahuna, DWS

K:\wp44\1\shp\10-draft.mxd

11.1.99009

Stephen K. Yamashiro
Mayor



County of Hawaii

PLANNING DEPARTMENT
25 Airport Street, Room 109 - Hilo, Hawaii 96720-4233
(808) 941-3228 - Fax (808) 941-8742

May 12, 1999

Mr. Jason K. Inaba, P.E.
INABA ENGINEERING, INC.
273 Waiannuue Ave.
Hilo, HI 96720

Dear Mr. Inaba:

Request for Review & Comment: Draft EA (Environmental Assessment)
Proposed Replacement Booster Pump Station @ Halepuna &
Removal of Existing Booster Pump Station No. 1 @ Haahoo
DWS Job No. 95-635
TMK: 2-6-15: 42, Halepuna, Kaiwāki Rd. - Ohana Pl., Wainaku, S. Hilo
TMK: 2-6-06: 21, Haahoo, Halaulani Pl. - Pua Lane, Wainaku, S. Hilo

Our comments on the above DEA are stated below pursuant to Hawaii Administrative Rule 11-200-9(a)(1) as the county agency responsible for implementing the Hawaii County General Plan. The following information pertains to the land use laws that apply to this project and that are within the Planning Department's jurisdiction.

Although this project will involve two different sites, our primary comments pertain to the proposed new facility on parcel 42 since the existing facility on parcel 21 will only involve its demolition. The primary comments address the permits that may be required to develop the new pump station. In addition, there is a discussion of the project's consistency with the respective land use designations.

Zoning & Land Use Designations: TMK: 2-6-15: 42: New Station Site, Halepuna

- County Zoning: MG-1a (General Industrial)
- SLU (State Land Use): "Urban"
- County GP (General Plan) Land Use Designation: Low Density*

*Parcels 42 and 21 share the same SLU and county GP land use designation.

Virginia Giddstein
Director
Russell Kukulthorn
Deputy Director

Mr. Jason K. Inaba, P.E.
INABA ENGINEERING, INC.
Page 2
May 12, 1999

SMA (Special Management Area) & Shoreline Setback Rules. The project site of the new station, parcel 42, is not within the county's SMA zone. The parcel is an inland lot that does not abut the shoreline. Consequently, the project is not subject to the state and county requirements of an SMA review and shoreline setback determination.

County Zoning: MG-1a, Permitted Use. The proposed county DWS (Department of Water Supply's) new public water pump station is a permitted public use or structure pursuant to and consistent with Zoning Code secs. 25-5-152(a)(46), 4-11(b), and 1-5(b)(86). Sec. 25-4-11 also has two additional requirements: a determination is required that the proposed use is not hazardous or dangerous to the surrounding area; and secondly, the project requires Plan Approval from the Planning Director.

No Hazard Determination. The new facility is a replacement booster station to pump water at a more efficient capacity level for the water system serving the Kaiwāki-Wainaku area. Relocating the facility to parcel 42 will improve the safety for DWS maintenance personnel by providing a larger lot area for the facility and for the off-street parking that is lacking at the existing pump station. According to the applicant's description, the function of the new pump station does not manifest any hazard or danger to the surrounding area. Zoning Code sec. 25-5-150.

Plan Approval Requirement. Zoning Code sec. 25-2-71(c)(2) & (5). PA (Plan Approval) is required in the MG district before construction or establishment of a public use, building or utility substation. A copy of the PA application form is enclosed for the applicant to complete this requirement.

SLU (State Land Use): "Urban". The state "Urban" designation indicates that the primary jurisdiction for determining the permitted uses within this district is the county government. Haw. Rev. Stat. sec. 205-2(b).

County GP Land Use Designation: Low Density. The project site is designated low density, according to the LUPAG (Land Use Plan Allocation Guide) Map - III County GP, Ordinance No. 89-142 (effective: November 14, 1989). The GP's low density designation is for single family residential and ancillary public uses. A proposed booster pump facility for the DWS water system that serves the Kaiwāki-Wainaku area is deemed consistent with a residential ancillary public use.

SMA Requirements: TMK: 2-6-06: 21: Demolition of Existing Water Pump Station, Haahoo. Parcel 21 is in the county's SMA zone and the demolition of the existing pump station requires an administrative review. An SMA assessment application is enclosed for that purpose.

Mr. Jason K. Inaba, P.E.
INABA ENGINEERING, INC.
Page 3
May 12, 1999

TELEPHONE:
908.981.3727

FACSIMILE
908.935.8033

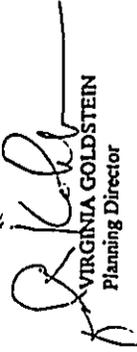
INABA ENGINEERING, INC.
CIVIL ENGINEERING • STRUCTURAL ENGINEERING • LAND SURVEYING
273 WAIAHUEAUE AVENUE
HILO, HAWAII 96720

May 17, 1999

This project will likely qualify for an exemption from further SMA rule requirements. Hawaii County Planning Commission SMA Rule 9 provides exemption categories that specifies the kinds of uses or activities that would qualify for an administrative exemption. The demolition or removal of structures is an exempt classification, according to Rule 9-4(10)(vii).

Thank you for this opportunity to offer comments on the DEA. Any follow up to these comments can be made with Earl Lucero. Ph: 961-8288.

Sincerely,


VIRGINIA GOLDSTEIN
Planning Director

EML:gp
Eml@govint.com

Enclosure: SMA Use Permit Assessment Application
Plan Approval Application

cc: SMA Section
Glenn Ahuna, Hawaii County Dept. of Water Supply

Virginia Goldstein, Director
Planning Department
County Of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Subject: DRAFT ENVIRONMENTAL ASSESSMENT
Haahco Booster Pump Improvements
DWS Job No. 95-635
Mokuhouua, Halaulani Place, South Hilo, Hawaii

Dear Ms. Goldstein:

Thank you for reviewing the subject document and providing your comments. On behalf of the County of Hawaii Department of Water Supply, we offer the following responses to your comments.

1. We acknowledge that the new pump station site is not in the county's SMA zone and we will be submitting the construction plans for plan approval by the Planning Department.
2. We will be submitting an SMA assessment application for parcel 2-6-6:21 which is in the County's SMA zone. This parcel contains the existing pump station and appurtenances that will be demolished and removed.

The Planning Department comments and our responses will be included in the Final Environmental Assessment.

Should you have any questions or require additional information, please feel free to call this office at 961-3727 or Glenn Ahuna of the Department of Water Supply at 961-8660.

Very truly yours,

INABA ENGINEERING, INC.


Jason K. Inaba, P.E.

copy: Glenn Ahuna, DWS

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11179499

APPENDIX C



EnvironMETeo Services, Inc.
Environmental / Industrial Health & Safety

Asbestos and Lead Paint Facility Survey

for

Inaba Engineering, Inc.
273 Waiuanue Avenue
Hilo, Hawaii 96720

Facility Surveyed

Haaheo Booster Pump #1 Shed
Wainaku Avenue
Hilo, Hawaii 96720

Conducted by

EnvironMETeo Services Inc. (EMET)

March 19, 1999

EMET ID: 9805218



Table of Contents

Certification of Report.....2
 Summary.....3
 Asbestos Background Information.....4
 Lead Background Information.....4
 Asbestos and Lead Paint Survey.....5
 Bulk Sampling and Sample Analyses.....6
 Limitations.....6
 Detailed Asbestos Survey Report.....Appendix A
 Lead Paint Survey Results.....Appendix B
 Photographs.....Appendix C
 Certifications.....Appendix D

Asbestos/Lead Paint Survey
Haaheo Booster Pump #1 Shed

EMET 9805218

Certification of Report

We certify that this report is based on a physical survey for asbestos-containing materials (ACM) and lead paint performed by EnvironMETeo Services Inc. (EMET) on March 19, 1999 of the areas affected by the planned demolition activities as prepared by Inaba Engineering, Inc.

Bulk samples of suspect asbestos-containing material taken during the survey were analyzed for asbestos content by a National Institute of Standards and Technology (NIST) accredited laboratory under the National Voluntary Laboratory Accreditation Program (NVLAP), for asbestos fiber analysis. Laboratory analyses performed by Polarized Light Microscopy (PLM) for asbestos identification are in accordance with EPA Method 40 CFR Part 763, Appendix A to Subpart F.

Painted surfaces were tested for lead concentrations utilizing a x-ray fluorescence (XRF) analyzer, an acceptable EPA and HUD testing methodology.

Results of the presence or absence of asbestos and lead containing paint are based on the visual inspection, and on the analysis of suspect materials encountered.

EnvironMETeo Services Inc. (EMET) makes no warranty and assumes no liability for the inappropriate use or misuse of this document. This report is not a specification for asbestos and lead paint materials and should not be used as such.

Clifford How
Project Director

Asbestos/Lead Paint Survey
Haahoe Booster Pump #1 Shed

2

EMET: 9805218

Summary

Haahoe Booster Pump #1 Shed, located at Hilo, Hawaii, was surveyed for asbestos-containing materials (ACM) and lead paint by EMET on March 19, 1999. EMET's scope of work consisted of asbestos and lead paint investigation of the areas and materials subject to planned demolition activities, as prepared by Inaba Engineering, Inc. The survey was conducted in accordance with EMET's scope of work, as requested and authorized by Melvin Inaba of Inaba Engineering, Inc.

Asbestos-containing material

An asbestos-containing material is defined by the Environmental Protection Agency (EPA) in 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPS); Asbestos NESHAP Revision; Final Rule and State of Hawaii, Hawaii Occupational Safety and Health Division (HIOSH) in 12-145, as any material containing more than one percent (1%) asbestos.

Based on the visual inspection and microscopic analyses of the bulk samples collected, ACM was detected in the following:

description	location
patching compound around pipe going through roof	north side of roof, approximately 1 sq. ft.

Lead paint

U.S. Department of Housing and Urban Development (HUD) regulations, 24 CFR Parts 35, 200, 881, and 886; and Guidelines for the evaluation and control of lead-based paint hazards in housing - dated June 1995, define lead-based paint as paint with lead content in excess of 1.0 mg/cm² or 5000 parts per million (ppm) or greater. However, OSHA (HIOSH) regulates any activity disturbing paint that contains lead, even if the content of lead is below the HUD standard.

Asbestos/Lead Paint Survey
Haahoe Booster Pump #1 Shed

3

EMET 9805218

Based on the test results, painted surfaces containing lead content in excess of 1.0 mg/cm² was detected in the following:

description	location
metal pipe w/ green paint	building exterior
wood walls, doors, windows and roof beams w/ grey paint	building interior

Based on the test results, painted surfaces containing lead content less than 1.0 mg/cm² was detected on all other components tested.

Asbestos Background Information

Asbestos is a naturally occurring mineral. It is distinguished from other minerals by the fact that its crystals form into long, thin fibers. Asbestos gained widespread use in the early 1900s because it was plentiful, readily available, low in cost and because of its unique properties -- it does not burn, it is strong, it conducts heat and electricity poorly and it is impervious to chemical corrosion. Asbestos is usually mixed or bonded with other materials into a solid form, so that the fibers cannot be separated from the rest of the material. As long as the material remains bonded, it poses no health risk.

Asbestos was used extensively in buildings as sprayed materials, wallboards, ceiling boards and floor tiles after the Second World War. The US Environmental Protection Agency (EPA) estimates that more than half of the multi-story buildings constructed in the United States during the 1950 - 1970 period contain some form of asbestos-containing materials. Asbestos uses did not decline until the 1973 - 1978 EPA bans on spray-applied materials.

Lead Background Information

Lead occurs as an element in nature (bluish in color). It was recovered in early times as a by-product in the smelting of silver. Once lead is mined, processed

Asbestos/Lead Paint Survey
Haaheo Booster Pump #1 Shed

4

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and introduced into man's environment, it is a potential problem forever. No known or foreseeable technology will destroy or render it harmless. The chronic disease of lead poisoning is often referred to as plumbism and may result from many occupational and non-occupational exposures.

It wasn't until the late 1700's that lead was suspected of being an occupational hazard. Benjamin Franklin described the toxic effects of lead occurring in tradesmen who used lead in their occupations, including printers, plumbers and painters. He lamented the fact that no one seemed to be doing anything to protect people from the poisonous nature of lead.

The severity of the problem is only now being fully realized. Children are especially vulnerable and susceptible to lead. We know now that too much lead in the body can cause serious damage to vital organs such as kidneys, red blood cells, the central nervous system as well as the brain. High levels of lead can cause retardation, convulsions, coma and sometimes death.

Asbestos and Lead Paint Survey

On March 19, 1999, Gary Wu of EMET Services Inc., conducted a survey for asbestos-containing materials and lead-containing paint of the following:

Haaheo Booster Pump #1 Shed
Wainaku Avenue
Hilo, Hawaii 96720

The purpose of the survey, sampling, and testing was to determine if ACM is present and to measure the concentration of lead in the existing paint prior to scheduled demolition activities.

Bulk Sampling and Sample Analyses

Three (3) samples of suspected building materials were collected. Bulk

Asbestos/Lead Paint Survey
Haaheo Booster Pump #1 Shed

5

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samples were collected and placed in plastic containers. A unique identification number was assigned to each sample and the ID number and sampling location were entered on a field data sheet.

Bulk samples were analyzed in accordance with EPA Method 40 CFR 763, Appendix A to subpart F utilizing polarized light microscopy.

Twenty-six (26) XRF readings of painted surfaces were conducted. A unique identification number was assigned to each test location and entered on a data sheet, indicating ID number, location and lead concentration.

Painted surfaces were tested for lead concentrations utilizing a x-ray fluorescence (XRF) instrument, an acceptable EPA/HUD testing methodology.

Limitations

The asbestos and lead paint survey and sampling was performed to identify building materials that could contain asbestos and to measure lead concentrations in paint. Original building plans and specifications were not available for review. Therefore, because of limitations and the nature of the buildings' construction and EMET's scope of work, the potential remains for undiscovered ACM and lead paint.

This report is not a specification for asbestos and lead paint materials and should not be used as such.

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Asbestos/Lead Paint Survey
Haaleo Booster Pump #1 Shed

6

EMET: 9605218

EnvironMETeo (EMET) Services, Inc. Waipahoehoe Business Park 94-515 Ulukoua Street, #200 Waipahoehoe, Hawaii, USA 96797-4200
(808) 671-2797 Telephone (808) 671-2797 Facsimile env@akaha.net E-mail

Asbestos/Lead Paint Survey
Haaleo Booster Pump #1 Shed

EMET 9605218

EnvironMETeo (EMET) Services, Inc. Waipahoehoe Business Park 94-515 Ulukoua Street, #200 Waipahoehoe, Hawaii, USA 96797-4200
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Appendix A

Detailed Asbestos Survey Report

Building Information Sheet

EMET ID: 9805218 Client: Inaba Engineering, Inc. Inspection Date: 03/19/99

Document Number: Building ID: 1 Building Name: Haahao Booster Pump #1 Shed

Building Location: Wainaku Avenue, Hilo, HI 96720

Number of Floors in this Building: 1 Number of Other Levels: 0

Building Construction Type	Use #1	Use #2	Use #3	Building Use	% Floor Space	ACM Present?
wood				pump shed	100	YES
Structural Concrete with: Metal Decks, Flat Slab, Beam/Joist or Waffle Slabs; Structural Tees, Steel Frame						YES = PRESENT NO = NOT PRESENT UNK = ASSUMED
Wood Frame, Lead Bearing Masonry Or Other (Specify)						

Inspector #1 Identification
 Name: Gary Wu
 Training Provider: META
 Certificate No.: 7ME03179901R004
 Certificate Expiration Date: 03/19/00

Inspector #2 Identification
 Name:
 Training Provider:
 Certificate No.:
 Certificate Expiration Date:

Inspector #3 Identification
 Name:
 Training Provider:
 Certificate No.:
 Certificate Expiration Date:

Inspector Comments
 This report is limited to suspect interior and exterior building materials in the pump shed only. This report is not a specification and should not be used as such. Results of the presence or absence of asbestos are based on the survey, and on the analyses of the suspect materials encountered. EMET makes no warranty and assumes no liability for the inappropriate use or misuse of this document.

EMET Services Inc. - 94-515 Ukee Street - Suite 304 - Waiipahu - Hawaii - 96797
 Phone (808) 671-8383 - FAX (808) 671-7979

United Homogeneous/Sample Area ACM - Space and Salient Cross - Reference
 Inspection Date: 03/19/99

Building ID and Name: Haahao Booster Pump #1 Shed
 Building Location: Wainaku Avenue, Hilo, HI 96720
 Document Number: 9805218

Sample ID or Salient Description: Homogeneous Sample Area/Lot

Sample ID	Comments	ACBM Present	Material Type*	Recommended Action	Estimated Costs (Approx)
218-1-1A	pink pipe gasket	YES	NO ACM		
218-1-1B	black pipe gasket	YES	NO ACM		

For the ACM - Space Identified as: 218-1-1

**** Recommended Response Actions**

1. Isolate area and restrict access. Remove or repair as soon as possible.
2. Continue Operations & Maintenance (O&M) program. Remove or repair as soon as possible.
- 3-5. Repair, continue O&M. Lower number indicates higher priority if all repair cannot be done immediately.
- 6-7. Continue O&M. Take preventive measures to reduce disturbance. Number indicates priority for removal.
8. Continue O&M until major renovation or demolition requires removal under NESHAPS.
- Note: An O&M program may include enclosure and encapsulation or unit hazard assessment factors change.

*** Refers to Material Type and Damage Conditions**

T = Mineral Type as	DC = Damage Condition	PD = Potential Damage Condition
S = Surfacing	ND = No Damage	NPD = No Potential Damage
M = Miscellaneous	D = Damage	PD = ACBM w/ Potential for Damage
T = Thermal Systems	SD = Significant Damage	PSD = Potential Significant Damage

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CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

Building Information Sheet

EMET ID	Client	Inspection Date	
9805218	Inaba Engineering, Inc.	03/19/99	
Document Number	Building ID	Building Name	
	1	Haahoe Booster Pump #1 Shed	
	Building Location		
	Wainaku Avenue Hilo, HI 96720		
Number of Floors in this Building <input type="text" value="1"/> Number of Other Levels <input type="text"/>			
Building Construction Type	Use #1	Building Use	% Floor Space
WOOD		pump shed	100
Structural Concrete with: Metal Decks, Flat Slab, Beam/Joist or Waffle Slabs; Structural Tees, Steel Frame Wood Frame Load Bearing Masonry Or Other (Specify)	Use #2		
	Use #3		
Inspector #1 Identification		Inspector Comments	
Name: Gary Wu Training Provider: META Certificate No.: 7ME031799011R004 Certificate Expiration Date: 03/19/00		<p>This report is limited to suspect interior and exterior building materials in the pump shed only. This report is not a specification and should not be used as such. Results of the presence or absence of asbestos are based on the survey, and on the analysis of the suspect materials encountered. EMET makes no warranty and assumes no liability for the inappropriate use or misuse of this document.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> ACM PRESENT? <input type="checkbox"/> YES YES = PRESENT NO = NOT PRESENT UNK = ASSUMED </div>	
Inspector #2 Identification			
Name: Training Provider: Certificate No.: Certificate Expiration Date:			
Inspector #3 Identification			
Name: Training Provider: Certificate No.: Certificate Expiration Date:			

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Unified Homogeneous/ Sample Area ACM - Space and Sallient Cross - Reference

Inspection Date: 03/19/99

EMET ID: 9805218 Document Number	Building ID and Name <input type="text" value="1"/> Haahoe Booster Pump #1 Shed	For the ACM - Space Identified as: <input type="text" value="218-1-1"/>
	Building Location Haahoe Booster Pump #1 Shed Wainaku Avenue Hilo, HI 96720	

Unified Sample Area or Sallient ID	Homogeneous Sample Area/Lot or Sallient Description	Comments	ACBM Present			Material Type*			Recommended Response Action	Estimated Costs (Approx)	
			Suspected	Confirmed	Friable	T	DC	PD		Removal	Replacement
218-1-1A	pink pipe gasket		YES	NO ACM							
218-1-1B	black pipe gasket		YES	NO ACM							

*Refers to Material Type and Damage Conditions	** Recommended Response Actions
T = Material Type ns DC = Damage Condition PD = Potential Damage Condition S = Surfacing ND = No Damage NPD = No Potential Damage M = Miscellaneous D = Damage PD = ACBM w/ Potential for Damage T = Thermal Systems SD = Significant Damage PSD = Potential Significant Damage	1. Isolate area and restrict access. Remove or repair as soon as possible. 2. Continue Operations & Maintenance (O&M) program. Remove or repair as soon as possible, or reduce potential for disturbance. 3-5. Repair, continue O&M. Lower number indicates higher priority if all repair cannot be done immediately. 6-7. Continue O&M. Take preventive measures to reduce disturbance. Number indicates priority for removal. 8. Continue O&M until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change. Note: An O&M program may include enclosure and encapsulation.

Sample Log and Notes

Building Number and Name
 1 Haahao Booster Pump #1 Shed
 Page 1 of 1
 EMET ID: 9E05218

Sample Area / Lot Number and Name
 218-1-1A pink pipe gasket

Sample #	% Asbestos (Average)	Description of Sampled Material	Sample Location
218-1-1A1	0	pink pipe gasket	pping inside shed

Inspector's Name Gary Wu
Date Samples Collected 03/19/99

Signature *Gary Wu*

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 Phone (808)671-8383 • Facsimile (808)671-7979

Sample Area Report -- Area Master

EMET ID: 9805218
 Document Number

Building Number and Name
 1 Haahao Booster Pump #1 Shed
 Unified Sample Area Number
 218-1-1A

Sample Area/Lot Number and Name
 218-1-1A pink pipe gasket

Drawing/Sketch Number and Name
 NOT APPLICABLE

A Sample Area should contain material of one, and only one, composition or matrix. An exception can be made in the case of layered applications of materials, such as occurs with a Three Coat Plaster system, that generally matches the same physical location. Special care must be taken while collecting samples of layered materials, to enable the analysis to discern the several matrices present. Such conditions should be described in detail on the Sample Notes form for the analyst.

Location of Confirmed, Assumed or new ACM within Building:

Sample Area Suspect Material

pink pipe gasket

NOT APPLICABLE

SAMPLING STRATEGY DATA

Ceiling Height (ft) #2

Square Feet of Ceiling Materials 0

Square Feet of Wall Materials 0

Square Feet of Floor Surface 0

Linear Feet of TSI 0

Square Feet of Structural Steel Coatings (includes over-407?) 0

Square Feet of Other ACM 0

% ACM Assessed within Sample Area (N/A in this Sample Space) 0

RISK ASSESSMENT DETERMINATION

Physical Damage Potential Damage Water Damage

Visible Reachable

Barriers If Yes

Air Movement Penetration to Region Activity

Friable Surface

GENERAL OCCUPANCY CHARACTERISTICS

Please describe the most important factors observed in the sample area that may increase the likelihood of fiber release.

SAMPLE ANALYSIS SUMMARY SECTION

Total number of Samples Collected 1

Total number of Samples Analyzed 1

AVERAGE PERCENTASBESTOS CONTENT

Samples Collected By EMET

Sample Numbers 218-1-1A1

Samples Analyzed By EMET

Number of Solvent Designations 0

How many square feet of the ACM is never accessed by anyone?
 NONE

How many square feet of the ACM is accessed only by maintenance personnel?
 NONE

Explain any abnormal access features.
 NONE

Sample Area Report -- Area Master

EMET ID: 9805218
 Document Number

Building Number and Name
 1 Haaheo Booster Pump #1 Shed

Sample Area/Lot Number and Name
 218-1-1B black pipe gasket

Drawing/Sketch Number and Name
 NOT APPLICABLE

Unified Sample Area Number
 218-1-1B

A Sample Area should contain material of one, and only one, composition or matrix. An exception can be made in the case of layered applications of materials, such as occurs with a Three Coat Plaster system, that generally matches the same physical locations. Special care must be taken when collecting samples of layered materials, to enable the analysis to discern the several matrices present. Such conditions should be described in detail on the Sample Notes form for the analyst.

Location of Confirmed, Assumed or new ACM within Building.

Sample Area Suspect Material

black pipe gasket

NOT APPLICABLE

SAMPLING STRATEGY DATA

Celling Height #1 #2

Square Feet of Ceiling Materials 0

Square Feet of Wall Materials 0

Square Feet of Floor Surface 0

Linear Feet of TSI 0

Square Feet of Structural Steel Coatings (include over-spray) 0

Square Feet of Other ACM 0

TOTAL Amount and/or linear feet of ACM in this Sample Space 0

RISK ASSESSMENT DETERMINATION

Physical Damage Potential

Visible

Barriers

Air Movement

Water Damage

Texture

Friable Surface

Activity

GENERAL OCCUPANCY CHARACTERISTICS

Record description of the most important factors observed in the sample area that may increase the likelihood of fiber release

SAMPLE ANALYSIS SUMMARY SECTION

Total number of Samples Collected 1

Total number of Samples Analyzed 1

AVERAGE PERCENT ASBESTOS CONTENT

Samples Collected By EMET

Sample Numbers 218-1-1B1

Samples Analyzed By EMET

Number of Sublot Designators 0

How many square feet of the ACM is now accessed by anyone? NONE

How many square feet of the ACM is accessed only by maintenance personnel? NONE

Explain any abnormal access features NONE

LABORATORY REPORT

Asbestos Bulk Sample Analysis
 by
 Polarized Light Microscopy
 in accordance with
 Test Method EPA/600/9-93/116



Client: Inaba Engineering, Inc.
 Address: 273 Waiuanue Avenue
 Hilo, HI 96720

Building: Haaheo Booster Pump #1 Shed
 Address: Wainaku Avenue
 Hilo, HI 96720

Analysis Date: 03/19/99
 Laboratory Analyst: *[Signature]*

Sample / Homogeneous Area: 218-1-1A, pink pipe gasket

EMET ID: 9805218

Lab ID	Sample ID	Color	Homogeneity	Asbestos Present	Asbestos (Type) Area%	Fibrous Components Area%	Non-fibrous Components Area%	Comments
L74516-1	218-1-1A1	pink	yes	no	<1	.	misc. part.	Sample of pink pipe gasket collected from piping inside shed.
							99	

*Accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the scope specific under Lab Code 1807.
 *Laboratory test report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.
 *Laboratory test report relates only to items tested.
 *Samples analyzed as received by the laboratory, interpretation is responsibility of the client.
 *Asbestos fiber percentage approximate - performed by visual observation only.
 *This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ and / or below detection limit (appr. 1%) of current PLM techniques.
 Note: EPA, OSHA and HIOSH define "asbestos-containing material" as any material or product which contains more than one percent asbestos.
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 218-1 - Page 6

LABORATORY REPORT

Asbestos Bulk Sample Analysis
by
Polarized Light Microscopy
in accordance with
Test Method EPA/600/9-93/116



Client: Inaba Engineering, Inc.
Address: 273 Waialanuene Avenue
Hilo, HI 96720

Building: Haaheo Booster Pump #1 Shed
Address: Wainaku Avenue
Hilo, HI 96720

Analysis Date: 03/19/99
Laboratory Analyst: *[Signature]*

Sample / Homogeneous Area: 218-1-1B, black pipe gasket

EMET ID: 9805218

Lab ID	Sample ID	Color	Homogeneity	Asbestos Present	Asbestos (Type) Area%	Fibrous Components Area%	Non-fibrous Components Area%	Comments
L74516-2	218-1-1B1	black	yes	no	<1	-	misc. part. 99	Sample of black pipe gasket collected from piping inside shed.

*Accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the scope specific under Lab Code 1807.

*Laboratory test report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

*Laboratory test report relates only to items tested.

*Samples analyzed as received by the laboratory, interpretation is responsibility of the client.

*Asbestos fiber percentage approximate - performed by visual observation only.

*This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ and / or below detection limit (appr. 1%) of current PLM techniques.

Note: EPA, OSHA and HIOSH define "asbestos-containing material" as any material or product which contains more than one percent asbestos.

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Phone (808)671-8383 • Facsimile (808)671-7979

218-1 - Page 8

Sample Log and Notes

Building Number and Name	1 Haaheo Booster Pump #1 Shed
Sample Area / Lot Number and Name	218-1-1B black pipe gasket

Page 1 of 1

EMET ID: 9805218

Sample#	% Asbestos (Average)	Description of Sampled Material	Sample Location
218-1-1B1	0	black pipe gasket	piping inside shed

Inspector's Name	Gary Wu	Date Samples Collected	03/19/99
Signature	<i>[Signature]</i>		

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218-1 - Page 7

Sample Area Report -- Area Master

EMET ID: 9805218 Document Number	Building Number and Name 1 Haaheo Booster Pump #1 Shed	Unified Sample Area Number 218-1-RA
	Sample Area/Lot Number and Name 218-1-RA patching compound on roof around pipe	
	Drawing/Sheet Number and Name	

A Sample Area should contain material of one, and only one, composition or matrix. An exception can be made in the case of layered applications of materials, such as occurs with a Three Coat Plaster system, that generally matches the same physical locations. Special care must be taken while collecting samples of layered materials, to enable the analysis to discern the several matrices present. Such conditions should be described in detail on the Sample Notes form for the analyst.

Location of Confirmed, Assumed or new ACM within Building.

Sample Area Suspect Material patching compound on roof around pipe	NOT APPLICABLE
---	----------------

RISK ASSESSMENT DETERMINATION	
Physical Damage	Potential Damage
Damaged Visible	Moderate
More than 10% Barriers	Resealable
None	Barely
Air Movement	Weathered
High	NO
	Less than 10%
	Activity
	Low

GENERAL OCCUPANCY CHARACTERISTICS	
Record description of the most important factors observed in the sample area that may increase the likelihood of fiber release	
How many square feet of the ACM is never accessed by anyone? NONE	
How many square feet of the ACM is accessed only by maintenance personnel? NONE	
Explain any abnormal access features NONE	

SAMPLING STRATEGY DATA	
Ceiling Height #1	0
Square Feet of Ceiling Materials	0
Square Feet of Wall Materials	0
Square Feet of Floor Surface	0
Linear Feet of ISI	0
Square Feet of Structural Steel Coatings (include over 100°F)	0
Square Feet of Other ACM	1
TOTAL Amount and/or linear feet of ACM in the Sample Space	1

SAMPLE ANALYSIS SUMMARY SECTION	
Total number of Samples Collected	1
Total number of Samples Analyzed	1
AVERAGE PERCENT ASBESTOS CONTENT	2
Samples Collected By	EMET
Sample Numbers	218-1-RA1
Samples Analyzed By	EMET
Number of Salient Designators	0

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218-1-1 Page 10

Unified Homogeneous/Sample Area ACM - Space
and
Salient Cross - Reference

Page 1 of 1

Inspection Date: 03/19/99

MET ID: 9805218 Document Number	Building ID and Name 1 Haaheo Booster Pump #1 Shed	For the ACM - Space Identified as: 218-1-R
	Building Location Haaheo Booster Pump #1 Shed Wainaku Avenue Hilo, HI 96720	

Unified Sample Area or Salient ID	Homogeneous Sample Area/Lot or Salient Description	Comments	ACBM Present			Material Type*			Recommended Response Action	Estimated Costs (Approx)	
			Suspected	Confirmed	Friable	T	DC	PD		Removal	Replacement
218-1-RA	patching compound on roof around pipe		YES	ACM	NO	M	D	PD	8	500	

*Refers to Material Type and Damage Conditions			** Recommended Response Actions	
T = Material Type #1:	DC = Damage Condition	PD = Potential Damage Condition	1. Isolate area and restrict access. Remove or repair as soon as possible. 2. Continue Operations & Maintenance (O&M) program. Remove or repair as soon as possible, or reduce potential for disturbance. 3-5. Repair, continue O&M. Lower number indicates higher priority if all repair cannot be done immediately. 6-7. Continue O&M. Take preventive measures to reduce disturbance. Number indicates priority for removal. 8. Continue O&M until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change. Note: An O&M program may include enclosure and encapsulation.	
S = Surfacing	ND = No Damage	NPD = No Potential Damage		
M = Miscellaneous	D = Damage	PD = ACBM w/ Potential for Damage		
T = Thermal Systems	SD = Significant Damage	PSD = Potential Significant Damage		

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LABORATORY REPORT

Asbestos Bulk Sample Analysis
by
Polarized Light Microscopy
in accordance with
Test Method EPA/600/9-93/116



Client: Inaba Engineering, Inc.
Address: 273 Waiānua Avenue
Hilo, HI 96720

Building: Haaheo Booster Pump #1 Shed
Address: Wainaku Avenue
Hilo, HI 96720

Analysis Date: 03/19/99
Laboratory Analyst: *[Signature]*

Sample / Homogeneous Area: 218-1-RA, patching compound on roof around pipe EMET ID: 9805218

Lab ID	Sample ID	Color	Homogeneity	Asbestos Present	Asbestos (Type) Area%	Fibrous Components Area%	Non-fibrous Components Area%	Comments
L74516-3	218-1-RA1	black	yes	yes	chrysotile	-	misc. part.	Sample of patching compound collected from roof, around pipe
					2	-	98	

*Accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the scope specific under Lab Code 1807.
*Laboratory test report may not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.
*Laboratory test report relates only to items tested.
*Samples analyzed as received by the laboratory, interpretation is responsibility of the client.
*Asbestos fiber percentage approximate - performed by visual observation only.
*This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ and / or below detection limit (appr. 1%) of current PLM techniques.
Note: EPA, OSHA and HIOSH define "asbestos-containing material" as any material or product which contains more than one percent asbestos.
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218-1 - Page 12

Sample Log and Notes

Page 1 of 1
EMET ID: 9805218

Building Number and Name	1 Haaheo Booster Pump #1 Shed
Sample Area / Lot Number and Name	218-1-RA patching compound on roof around pipe

Sample#	% Asbestos (Average)	Description of Sampled Material	Sample Location
218-1-RA1	2	patching compound on roof around pipe	around pipe on roof

Inspector's Name	Gary Wu	Date Samples Collected	03/19/99
Signature	<i>[Signature]</i>	EMET Services Inc. • 94-515 Ukee Street • Suite 304 • Waipahu • Hawaii • 96797 Phone (808)671-8383 • Facsimile (808)671-7979	

218-1 - Page 11

Inaba Engineering, Inc.
 Haaheo Booster Pump #1 Shed
 Painted Surface Test Results

EMETID: 9805218
 Project Name: Haaheo Booster Pump #1 Shed
 Date: 3/19/99
 Inspector: Gary Wu
 XRF Serial #: U745D4415
 XRF Analyzer Mode: Standard
 Ranges (NEG<INC<POS): Device PCS

No.	Inspector	Room	Side	Structure	Feature	Condition	Substrate	Color	PbL(mg/cm ²)	RES	PbK(mg/cm ²)	Combined	Ssec
1	GW	Calibrate-1							1.02 ±0.13	POS	0.8 ±0.4	1.0 ±0.2	20.3
2	GW	Calibrate-2							1.14 ±0.15	POS	0.3 ±0.4	1.1 ±0.2	20.3
3	GW	Calibrate-3							0.98 ±0.13	POS	0.6 ±0.4	1.0 ±0.2	20.3
4	GW	Shed Exterior	D	Exterior Wall-1		Peeling	Wood	Tan	0.50 ±0.16	NEG	0.3 ±0.4	0.5 ±0.2	20.5
5	GW	Shed Exterior	C	Exterior Wall-1		Peeling	Wood	Tan	0.79 ±0.20	NEG	1.2 ±0.4	0.8 ±0.2	22.8
6	GW	Shed Exterior	A	Exterior Wall-1		Peeling	Wood	Tan	0.84 ±0.25	NEG	1.2 ±0.4	0.8 ±0.2	20.5
7	GW	Shed Exterior	D	Door Exterior-1	Door	Peeling	Wood	Tan	0.09 ±0.10	NEG	0.1 ±0.6	0.1 ±0.6	10.9
8	GW	Shed Exterior	D	Door Exterior-1	Jamb	Peeling	Wood	Tan	0.54 ±0.20	NEG	0.6 ±0.4	0.5 ±0.2	20.4
9	GW	Shed Exterior	C	Window Ext.-1	Jalousies	Fair	Wood	Tan	0.00 ±0.15	NEG	0.1 ±0.5	0.0 ±0.2	6.1
10	GW	Shed Exterior	C	Window Ext.-1	Casing	Fair	Wood	Tan	0.08 ±0.10	NEG	0.1 ±0.5	0.1 ±0.4	8.5
11	GW	Shed Exterior	B	Window Ext.-1	Cage	Fair	Metal	Red	0.00 ±0.13	NEG	-0.1 ±1.1	0.0 ±0.2	5.9
12	GW	Shed Exterior	A	Ext. Elec. Box-1		Fair	Metal	Tan	0.40 ±0.26	NEG	0.2 ±0.4	0.2 ±0.4	39.5
13	GW	Shed Exterior	A	Exterior Pipe-1		Peeling	Metal	Green	1.89 ±0.39	POS	3.8 ±1.3	1.9 ±0.4	6.0
14	GW	Shed Exterior	A	Concrete Block-1	Exterior	Poor	Concrete	Green	0.73 ±0.11	NEG	0.7 ±0.5	0.7 ±0.2	20.6
15	GW	Shed Exterior	1	Roof-1		Poor	Metal	Green	0.02 ±0.14	NEG	-0.1 ±0.6	0.0 ±0.2	6.1
16	GW	Shed Exterior	1	Roof Beam Ext.-1		Fair	Wood	Tan	0.61 ±0.16	NEG	1.0 ±0.4	0.6 ±0.2	20.1
17	GW	Shed Interior	A	Interior Wall-1		Fair	Wood	Grey	0.01 ±0.32	NEG	0.2 ±0.6	0.0 ±0.4	6.1
18	GW	Shed Interior	C	Interior Wall-1		Fair	Wood	Grey	>>5.0 ±1.00	POS	3.4 ±2.5	3.4 ±2.4	1.2
19	GW	Shed Interior	B	Interior Wall-1		Fair	Wood	Grey	3.02 ±0.88	POS	4.4 ±1.3	3.0 ±0.8	3.5
20	GW	Shed Interior	1	Roof Beam Int.-1		Fair	Wood	Grey	2.37 ±0.68	POS	3.1 ±0.9	2.4 ±0.6	6.0
21	GW	Shed Interior	B	Window Int.-1	Casing	Fair	Wood	Grey	3.20 ±1.00	POS	3.3 ±1.2	3.2 ±1.0	3.5
22	GW	Shed Interior	D	Door Interior-1	Door	Fair	Wood	Grey	3.24 ±0.99	POS	4.8 ±1.3	3.2 ±1.0	3.5
23	GW	Shed Interior	D	Door Interior-1	Jamb	Fair	Wood	Grey	>>5.0 ±1.00	POS	10.8 ±2.8	10.8 ±2.8	1.2
24	GW	Shed Interior	D	Int. Elec. Box-1		Fair	Metal	Grey	0.06 ±0.21	NEG	0.2 ±1.0	0.1 ±0.2	7.8
25	GW	Shed Interior	D	Interior Pipe-1		Fair	Metal	Grey	0.04 ±0.10	NEG	0.1 ±0.9	0.0 ±0.2	6.4
26	GW	Shed Interior	D	Interior Pipe-2		Fair	Metal	Yellow	0.01 ±0.10	NEG	-0.1 ±1.0	0.0 ±0.2	6.4
27	GW	Shed Interior	1	Interior Pipe-3		Fair	Metal	Green	0.35 ±0.16	NEG	0.2 ±0.9	0.3 ±0.2	6.4
28	GW	Shed Interior	1	Interior Pipe-4		Fair	Metal	Black	0.21 ±0.15	NEG	0.6 ±0.7	0.2 ±0.2	16.3
29	GW	Shed Interior	1	Interior Wall-2	Base	Peeling	Wood	Brown	0.38 ±0.13	NEG	0.6 ±0.7	0.4 ±0.2	10.9
30	GW	Calibrate							1.04 ±0.13	POS	1.0 ±0.4	1.0 ±0.2	20.3
31	GW	Calibrate							1.00 ±0.13	POS	0.8 ±0.4	1.0 ±0.2	20.3
32	GW	Calibrate							1.04 ±0.13	POS	0.5 ±0.4	1.0 ±0.2	20.3

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Appendix B

Lead Paint Survey Results

EMET: 9805218

Asbestos/Lead Paint Survey
 Haaheo Booster Pump #1 Shed

Environment (EMET) Services, Inc. Waipahoehoe Business Park 941515 Uka'e Street, #111 Waipahoehoe, Hawaii, USA 96757-4381
 (808) 621-1443 Telephone (808) 621-2020 Fax (808) 621-1443 Email: emet@bahaha.net

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Shed exterior (S)



Shed exterior (NW)



Front of Shed (W)



Back of shed (E)



Exterior pipes (N)



Shed roof



Interior wall (E)



Interior pipes



Int. electrical box

Appendix C
Photographs

Asbestos/Lead Paint Survey
Haheo Booster Pump #1 Shed

EMET: 9805218

EnvironMETen/EMET Services, Inc. Waipae Centre Business Park, 91-515 Ulukou Street, #211 Waipaho, Hawaii, USA 96797-2101
(808) 671-8101 Fax: (808) 671-2729 Email: emet@akaha.net .Format

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UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001

May 29, 1998

Mr. Clifford How
EnvironMETeo Services Inc.
94-515 Ukee Street, Suite 304
Waipahu, HI 96797

NVLAP Lab Code: 101807-0

Dear Mr. How:

I am pleased to inform you that continuing accreditation for specific test methods in Bulk Asbestos Fiber Analysis (PLM) is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until June 30, 1999, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Appendix D

Certifications

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP logo in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Thomas R. Davis, Sr. Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, Building 820, Room 282, Gaithersburg, MD 20899-0001; (301) 975-4016.

Sincerely,

James L. Cigler, Chief
Laboratory Accreditation Program

Enclosure(s)

Asbestos/Lead Paint Survey
Haaboo Booster Pump #1 Shed

EMET: 900521B

EnvironMETeo (EMET) Services, Inc. Waipao Center Business Park 94-515 Ukee Street, #304 Waipahu, Hawaii, USA 96797-0301
Tel: (808) 671-7679 Fax: (808) 671-7679 E-mail: emet@bbkaha.net

NIST

United States Department of Commerce
National Institute of Standards and Technology



ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

ENVIRONMETEO SERVICES INC.
WAIPAHU, HI

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

BULK ASBESTOS FIBER ANALYSIS

June 30, 1999

Effective through

For the National Institute of Standards and Technology
NVLAP Lab Code: 101807-0

NVLAP-01C (11-85)

National Institute of Standards and Technology
National Voluntary Laboratory Accreditation Program



Scope of Accreditation

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Page: 1 of 1

NVLAP LAB CODE 101807-0

BULK ASBESTOS FIBER ANALYSIS

ENVIRONMETEO SERVICES INC.

94-515 Ukele Street, Suite 304
Waipahu, HI 96797

Mr. Clifford How

Phone: 808-671-8383 Fax: 808-671-7979

NVLAP Code
18/A01

Designation

U.S. EPA's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" as found in 40 CFR, Part 763, Subpart F, App. A, or the current U.S. EPA method for the analysis of asbestos in building material.

June 30, 1999

Effective through

For the National Institute of Standards and Technology

NVLAP-01S (11-85)



Certificate # 7ME031799021R008

This is to certify that

Gary S. Wu

has on 03/17/99, in HONOLULU, HI
completed the requirements for asbestos accreditation under Section 206 of TSCA, Title II, 15 U.S.C. 2646

AHERA Asbestos Inspector Recertification Course

as approved by the U.S.E.P.A. under 40 C.F.R. 763 (AHERA)
on 03/17/99 - 03/17/99 and passed the associated examination on 03/17/99
with a score of 70% or better

CM =



James P. Johnston
Instructor

R. Bruce McFarland
President

Soc. Sec #: 575-88-2879
Accreditation Expires: 03/17/00

M.E.T.A. - P.O. Box 786 - Lawrence KS 66044 - 800-444-6382



Certificate # 7ME101498021R008

This is to certify that

Clifford K. How

has on 10/14/98, in HONOLULU, HI
completed the requirements for asbestos accreditation under Section 206 of TSCA, Title II, 15 U.S.C. 2646

AHERA Asbestos Inspector Recertification Course

as approved by the U.S.E.P.A. under 40 C.F.R. 763 (AHERA)
on 10/14/98 - 10/14/98 and passed the associated examination on 10/14/98
with a score of 70% or better

CM =



James P. Johnston
Instructor

R. Bruce McFarland
President

Soc. Sec #: 576-68-3565
Accreditation Expires: 10/14/99

M.E.T.A. - P.O. Box 786 - Lawrence KS 66044 - 800-444-6382

NITON[®]

CORPORATION

Certificate of Achievement

Gary Wu

EnviromETeo(EMET) Services Inc.

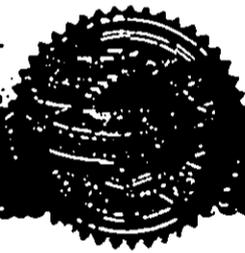
*has successfully completed the Manufacturer's Course in
measurement technology, monitoring
and machine maintenance of the NITON XRF Spectrum Analyzer.*

V19970815-01
Certificate Number

08/15/97 Waipahu, HI
Course Date & Site

Donald S. Smith
Director of Training

Hal Holystis
President & CEO - NITON



M·E·T·A
Mayhew Environmental Training Associates
INCORPORATED

Certificate # 7ME06269701D1010

This is to certify that

Gary Wu

*has on 06/26/97, in HONOLULU, HI
completed the EPA Regional Training Center Model Program*

EPA Model Lead Inspector Initial Course

*on 06/23/97 - 06/26/97 and passed the associated examination on 06/26/97
with a score of 70% or better*



James P. Johnston
Instructor

R. Bill M. J.
President

Soc. Sec #: 575-88-2879

META - P.O. Box 786 - Lawrence KS 66044 - 800-444-6382

NITON[®]

CORPORATION

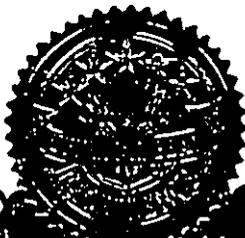
Certificate of Achievement

Clifford How
EnvironMETeo Services, Inc.

*has successfully completed the Manufacturer's Training Course for the
NITON Spectrum Analyzer and is now certified
in radiation safety and monitoring, measurement technology,
and machine maintenance of the NITON XRF Spectrum Analyzer.*

V1998322-3
Certificate Number

3/22/98 Las Vegas
Course Date & Site



Victoria Gygliński

Training Coordinator

Dr. Subot

Vice President, Marketing

Tufts University

CENTER FOR ENVIRONMENTAL MANAGEMENT
Division of Education and Training

This is to certify that
Clifford How
has successfully completed
course requirements in
Lead Inspector Training

9011-02-006

Certificate Number

November 26 - 28, 1990

Course Date

NA

Examination Date

NA

Expiration Date



Brenda Cole

Associate Director for
Education and Training

William R. Moorman

Director
Center for Environmental Management