BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1167

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OFC. OF ENVIRONMENTAL
QUALITY CONTROL

MEMORANDUM

TO: Ms. Genevieve Salmonson
Director, Office of Environmental Quality Control (OEQC)

FROM: Harold Sonomura, Acting Public Works Administrator

SUBJECT: Finding of No Significant Impact (FONSI) for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 12-27-5540
TMK (3rd): 2-4-08:09 (por.), Waiakea, South Hilo District, Hawaii

The Department of Accounting and General Services has reviewed the comments received during the 30-day public comments period which began on August 8, 2002. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the November 23, 2002, OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the Final EA. There were no changes to the Draft EA project description.

If there are any questions, please have your staff call Mr. Gregory Tanaka of our Project Management Branch at 586-0721.

GT/si
Encl.
c: John Borders, Dept. of Public Safety (no encl.)
Tyson Toyama, DMT Consultant Engineers (no encl.)

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2002-11-23-HI-FEA-

FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

Kulani Correctional Facility Wastewater Treatment Plant

TMK (3rd): 2-4-08:09 (por.)
Waiakea, South Hilo District, Hawai'i Island, State of Hawai'i

October 2002

Prepared for:

Hawai'i State Department of Accounting and General Services
Division of Public Works
1151 Punchbowl Street
Honolulu, Hawai'i 96813

FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT

Kulani Correctional Facility Wastewater Treatment Plant

TMK (3rd) 2-4-08:09 (por.)
Waiakea, South Hilo District, Island of Hawai'i, State of Hawai'i

PROPOSING AGENCY:

State of Hawai'i
Department of Accounting and General Services
Division of Public Works
1151 Punchbowl Street
Honolulu, Hawai'i 96813

CONSULTANTS:

Ron Terry, Ph.D.
HC 2 Box 9575
Keaau, Hawai'i 96749

and

DMT Consultant Engineers
677 Ala Moana Blvd., Suite 703
Honolulu, Hawai'i 96813

CLASS OF ACTION:

Use of State Land
Use of State Funds
Use Within Conservation District

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).

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SUMMARY OF THE PROPOSED ACTION
ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed project would build a wastewater treatment plant and associated facilities on the grounds of the Kulani Correctional Facility, located at 5,200 feet above sea level in an area of native forest. Use of water in dormitories, showers, a laundry facility, and a kitchen contribute to an average daily wastewater flow of 25-30,000 gallons per day.

Currently, the facility disposes of its wastewater in large-capacity cesspools, which the EPA has determined can contain elevated concentrations of contaminants that may endanger drinking water. In November of 1999, EPA announced new regulations that require operators to phase out existing large-capacity cesspools by April 2005. Similar State of Hawai'i regulations are also in effect. There is therefore a need to construct a wastewater treatment system in the interest of public health, in compliance with federal and State regulations.

The proposed wastewater treatment facility would consist of wastewater pipelines, an aerated pond, a blower building, and associated infrastructure. Wastewater from all existing buildings with plumbing at the main camp would be collected and delivered to the proposed aerated pond system via a new wastewater pipeline located beneath the existing access road. The blower building would be located adjacent to the aerated ponds. Electrical power, emergency electrical power and potable water would be provided to the blower building. A leaching field (disposal field) would be built on the existing pasture land to the east of the access road.

Although the general area contains a native forest ecosystem supporting endangered bird and plant species, the project site itself is already disturbed. Careful survey and construction mitigation measures will ensure that there are no adverse effects to any natural or cultural resources.

PART 1: PURPOSE AND NEED AND EA PROCESS

1.1 Project Overview and Location

The proposed project would build a wastewater treatment plant (WWTP) and associated facilities on the grounds of the Kulani Correctional Facility (KCF) (Figs. 1-2). The property on which the facilities would be located is identified as TMK 2-4-08:09 (por.). This isolated area, located at 5,200 feet in elevation, is owned by the State of Hawai'i and has been dedicated by Executive Orders 1124 and 1588 for use as a correctional institution.

1.2 Purpose and Need

Kulani Correctional Facility was established in the late 1940s to provide a medium-security facility with the goal of providing rehabilitative services to prisoners in order to assist in their reintegration into a productive and law-abiding lifestyle within society. Its operating mission is to protect the public, staff, inmates and State property by creating and maintaining a healthy, secure and reintegrative environment.

The normal capacity of KCF is 160 inmates, with an emergency capacity of up to 220 inmates; 90 staff work at the facility. Seven dormitories and various support facilities, including bathrooms, showers, a laundry facility, and a kitchen, contribute to an average daily wastewater flow of 25-30,000 gallons per day. Many of the buildings and much of the infrastructure date to the original construction of the facility in the late 1940s and early 1950s.

Currently, KCF disposes of its wastewater in large-capacity cesspools, which are classified as "Class V Injection Wells" under state and federal health and environmental regulations. KCF is located in a Critical Wastewater Disposal Area (CWDA) per 11-62-05 9b), Hawai'i Administrative Rules (HAR). In such areas, fluids released in cesspools have a high potential to contain elevated concentrations of contaminants that may endanger drinking water. In November of 1999, the federal Environmental Protection Agency (EPA) announced new regulations that prohibited new large-capacity cesspools as of April 2000. The rules also required operators to phase out existing large-capacity cesspools by April 2005.

There is therefore a need to construct a wastewater treatment system in the interest of public health, in compliance with federal and State regulations. The purpose of the proposed project is to accomplish this goal in an efficient and cost-effective manner, minimizing environmental degradation.

1.3 Summary of Regulatory Requirements

This Environmental Assessment (EA) process is being conducted in accordance with Chapter 343 of the Hawai'i Revised Statutes (HRS). This law and its implementing regulations, Title 11, Chapter 200, of the Hawai'i Administrative Rules (HAR), are the basis for the environmental impact process in the State of Hawaii. 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 that, based on the information in the Draft EA and comments received on the project, the State of Hawai'i Department of Accounting and General Services has determined that no significant impacts are expected to occur, and has accordingly made a Finding of No Significant Impact; Part 5 lists each criterion and presents the findings for each.

1.4 Public Involvement and Agency Coordination

The following agencies have been consulted during the planning process:

State:
Department of Health
Department of Land and Natural Resources, Historic Preservation Division
Department of Land and Natural Resources, Division of Forestry and Wildlife

Federal:
U.S. Geological Survey, Biological Resources Division
Hawai'i Volcanoes National Park

Interagency meetings concerning the project include the following:
May 16, 2000, at Kulani Correctional Facility
July 26, 2000, at Department of Health Wastewater Branch
May 2, 2001, at Kulani Correctional Facility

The Draft EA has been distributed to the agencies listed above, as well as the following agencies and organizations:

U.S. Fish and Wildlife Service	U.S. Army Corps of Engineers
U.S. Environmental Protection Agency	Office of Hawaiian Affairs
Hawai'i State DBEDT, Off. of Planning	Hawai'i State Land Manag. Div.
Hawai'i State Dept. of Transportation	Hawai'i County Planning Dept.
Hawai'i County Council	Hawai'i County Public Works Dept
Hawai'i County Police Department	Sierra Club

The Draft EA was published in the Environmental Notice of the Office of Environmental Quality Control on August 8, 2002. Eight comment letters were received. The letters and the responses to them by DAGS are reproduced in Appendix 4. Substantive changes to the EA based upon these comment letters are indicated in the Final EA by text in dotted underline, as in this paragraph.

PART 2: ALTERNATIVES

2.1 No Action

Under the No Action Alternative, the wastewater treatment system would not be upgraded, and the Hawai'i State Department of Public Safety would be in violation of State and federal laws and regulations. Thus, the No-Action Alternative is considered unacceptable.

2.2 Alternative Wastewater Treatment Strategies

In addition to the selected aerated-lagoon alternative (described in Section 2.3 below), two other alternatives were considered: packaged wastewater treatment works and non-aerated type lagoons.

Packaged wastewater treatment works are maintenance-intensive and require substantial electricity. Because of the isolated location of the KCF and the inherent difficulty of access, a key goal of the project has been to remain as simple as possible by limiting maintenance efforts and impacts to existing facilities and infrastructure. Packaged wastewater treatment works would require high maintenance and would necessitate upgrades to the existing electrical infrastructure, perhaps including increasing the electrical service to Kulani Correctional Facility and providing a new standby electrical generator system. For these reasons, this form of treatment was considered but rejected from further consideration

A non-aerated type lagoon was also eliminated from consideration from this project because of the large "footprint" such systems require. A non-aerated lagoon with the capacity to handle the wastewater flow at KCF would require about 180,000 square feet of lagoon, about six times the 30,000 square feet necessary for an aerated lagoon. Due to the limited disturbed land available, and the policy to avoid any further disturbance of the native forest, it was decided that non-aerated type lagoons would not be a feasible alternative.

2.3 Aerated Lagoon Alternative (Proposed Action) and Consideration of Alternative Sites

Because packaged wastewater plants and non-aerated lagoons were considered inappropriate for the setting at KCF, the aerated lagoon alternative was the only feasible technique to address the purpose and need of the project.

The selection of the proposed sites for the aerated pond and the leaching field was a coordinated effort among KCF officials, project engineers, and the U.S. Geological Survey's Biological Resource Division (BRD).

Criteria used to select the site included the following:

- Within a disturbed area, thus avoiding forest
- Down-gradient from the main camp to eliminate the need for any wastewater lift stations
- Already accessible by road, in order to avoid construction of new roads
- Within reasonable distance of main facility, to limit pipeline cost
- Within the secured area of Kulani

One area best met all of these criteria: a cleared area formerly used for a piggery and garden, located about 2,000 feet south of the main camp in (Figs. 1-3). Another site near the KCF entrance met most of the criteria, but was considered unsuitable because it was outside the secured area of Kulani. No other sites satisfied the site selection criteria, mainly because of the lack of disturbed areas down-gradient of the camp. The former piggery site was therefore selected, and design of the system was initiated.

2.4 Project Description

The proposed wastewater treatment facility would consist of a wastewater collection system, a system of aerated ponds, a blower building, and associated water and electrical infrastructure (Figs. 2 & 4). Based on calculations using existing flow and infiltration rates during wet weather, the system has been designed to handle average flows of 31,300 gpd and peak flows of about 92,000 gpd. Wastewater from all existing buildings with plumbing at the main camp would be collected and delivered to the proposed aerated pond via approximately 4,000 feet of new 8-inch wastewater pipeline. The line would be polyvinyl chloride (PVC) and would be buried 4.5 to 13 feet beneath the existing access road.

The aerated ponds would be 10 feet deep and would include a total of 45,000 square feet (sf) of lined pond area in four ponds, an outlet control box, a concrete spillway, aeration lines and fine bubble diffusers, three 5-horsepower blowers (one for backup), and one backup generator. The blowers, generator and electrical panel would be housed in a concrete masonry unit building adjacent to the ponds. Electrical power, emergency electrical power and potable water would be provided to this building. Diesel fuel would be stored for use by the emergency engine generator with provisions for double containment.

Once installed, operation and maintenance of the aerated pond treatment system are expected to be contracted to a certified operator, several of which are located on the island of Hawai'i and elsewhere in the State of Hawai'i. Operation and maintenance would include procedures such as maintaining proper dissolved oxygen levels, inspection, periodic cleaning and replacement of components, and effluent testing.

Disposal of accumulated sludge would require separate contracting at the time of removal, about every 10-15 years. The accumulated sludge would be pumped from the aeration pond and then transported and disposed of at a wastewater treatment plant.

A leaching field (disposal field) would be built on existing pasture land east of the access road. This disposal system has been designed to handle the peak flow as specified in DOH regulations. Percolation tests were conducted to determine absorption rates and thus the proper size for the leaching field. The total area required to provide subsurface disposal with 100 percent back-up is 114,750 sq. ft. Infiltrators would be used instead of drainpipe for ease of installation, efficiency and longer life cycle of the leaching field. Multiple leaching fields and control valves would be installed to rotate field use, minimizing maintenance. The substrate would be modified by addition of sand, coarse crushed rock, and geotextile fabric to promote proper infiltration. Grass would be planted in the leaching field area instead of trees, as tree roots might reduce percolation.

The ponds will be designed for a 25-year, 24-hour storm event, which in this location is equivalent to about 15 inches of rain. Such rainfall would deposit approximately 41,250 cubic feet of water in the surface area of the ponds, which the ponds have been designed to accommodate. If a rainfall event or events exceed both the leaching field discharge capacity and the aerated ponds' storage capacity, then there may be an overflow spill of liquid, mostly composed of rainwater. Although this would be an unusual occurrence, an overflow area with a riprap apron has been designed into the pond area's southeastern border (see. Fig. 4). The overflow area contains non-sensitive vegetation and would be capable of absorbing any overflow before it reached sensitive environmental areas.

The system has been designed by engineers to meet the wastewater system performance standards of the Hawai'i State Department of Health specified in Title 11, Chapter 62, Hawai'i Administrative Rules.

Also part of the project is the closure of the cesspools after the sewer collection system, aerated ponds, and leach field have been installed and are in operating condition. The closure of a cesspool involves pumping of the cesspool, plugging the pipes, and backfilling the cesspool with non-organic material (see Fig. 2 for locations of cesspools to be closed). For project components that may require glass, DAGS will give the contractors the option to utilize recycled glass on the project to the extent that such is appropriate, feasible and cost-effective.

Aside from modifications within and adjacent to existing buildings with KCF, the areas that would be modified would consist of:

- The WWTP, aerated pond and blower building, located on an approximately 1.4-acre pasture
- A 2.6-acre leach field located entirely within an approximately 4-acre pasture
- Corridors along existing access roads that would contain wastewater, water and electrical pipelines, conduits and other facilities.

These areas collectively are referred to throughout this EA as the *project site*. All facilities would be located in areas that have been previously disturbed, and no native forest would be directly or indirectly used or affected. The term *project area* is used to describe the general environs of KCF and adjacent forest.

The total construction cost of the project has been preliminarily estimated at $6.292 million. The project would be undertaken and completed during 2003-2004.

PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Basic Geographic Setting

Kulani Correctional Facility (KCF) encompasses 7,244 acres that extend between 4,600 and 6,220 feet above sea level along the slopes of Mauna Loa, in the southwest corner of the South Hilo District. The prison site itself takes up 45 acres centered at an elevation of 5,200 feet, and is accessed from State Highway 11 in Hilo via the 18-mile long, mostly substandard Stainback Highway. The complex consists of numerous structures, including the guardhouse, retail craft shop, administrative offices, program and social services, kitchen and food services, gymnasium, seven dormitories, a gas station, fire fighting equipment storage, and other functions.

A diverse and relatively pristine native forest dominated by ʻOhiʻa (*Metrosideros polymorpha*) surrounds the area (Fig. 3). The average maximum daily temperature is approximately 65 degrees F., with an average minimum of 55 degrees (U.H. Manoa 1983:64). Annual rainfall averages approximately 105 inches (U.H. Hilo-Geography 1998:57). Adjacent land is basically undeveloped, with much dedicated to forest reserve and conservation uses, including the Upper Waiakea Forest Reserve, the Olaʻa Forest Reserve, the Puʻu Makaʻala Natural Area Reserve, and Hawaiʻi Volcanoes National Park. Kulani Cone houses a number of television translator towers.

3.1 Physical Environment

3.1.1 Geology, Soils and Geologic Hazards

Environmental Setting

Geologically, KCF is located just south of the northeast flank of Mauna Loa, an active volcano (MacDonald et al 1983:350-351; Wolfe and Morris 1996). The topography of the project area and project site is irregular and hummocky but slopes steadily towards the east. The project site lies downgradient from the main camp. The project site is situated on lava flows dating from about 400 years ago and tephra deposits that are somewhat older. Kulani Cone, about 0.7 miles south, protrudes about 200 feet above its surroundings to an elevation of 5,518 feet. This prominent volcanic feature is visible from Hilo and dates from about 3,000 to 10,000 years before the present.

The aerated lagoon, leach field, and a portion of the access road have a soil type classified by the Soil Conservation Service as Kiloa extremely stony muck. This thin, well-drained extremely stony organic soil has a surface layer 10 inches thick, underlain by fragmental ʻaʻa, with slightly weathered ash and cinders in voids of lava. Permeability is rapid, runoff very slow, and erosion hazard slight. Its Capability Subclass is VIIs, which means that it has very severe limitations that make it unsuited to cultivation and restrict its use to pasture or range, woodland or wildlife. The remainder of the access

road has soil that is part of the Lalaau extremely stony muck series. This soil has a surface layer that is very dark brown extremely stony muck, about 3 inches thick, underlain by fragmental ʻaʻa. Permeability is rapid, runoff slow, and erosion hazard slight. Its Capability Subclass is also VIIs.

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. The project's location on the northeastern flank of Mauna Loa volcano leads to a rating of Lava Flow Hazard Zone 3 (on a scale of ascending risk 9 to 1). Zone 3 areas have had 15-20 percent of their surfaces covered by lava in the last 750 years (Heliker 1990). Several miles to the north is Zone 2, where lava flows in 1855, 1991, 1935, 1942 and 1984 have coursed northeast from the summit and upper northeast rift zone along a relatively narrow corridor towards Hilo, actually reaching the upper part of Hilo in 1881. According to the *Hawai'i State Prison Site Selection Study and Master Plan* (Hawai'i State DAGS 1994: p. VI-19). KCF's location near the ridge of the mountain does provide some protection to the facility, in that lava has had a tendency to divert off the ridge and down its sides prior to reaching the Kulani parcel. However, the high elevation location places the facility relatively close to the rift zone, and there is always the potential that the lava may reach the facility prior to diverting down the sides, if it diverts at all. Eleven eruptions in the past 2,000 years produced flows that approached within one mile of the Kulani parcel. The 1984 flow necessitated the preparation of evacuation plans, but no actual evacuation was necessary (Ibid.)

In terms of seismic risk, the entire Island of Hawai'i is rated Zone 4 Seismic Probability Rating (*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. The project site is not subject to subsidence, landslides or other forms of mass wasting.

Impacts and Mitigation Measures

In general, geologic conditions impose no overriding constraints on the proposed action, but lava flow hazard is an important consideration. The Lava Flow Hazard Zone 3 rating is no greater than most of the settled areas of Hilo, Puna and South Kona, which are primarily in Zones 2 and 3. However, the isolated location on Stainback Highway and the security procedures required for evacuation heighten the risk exposure in this area. Providing greater infrastructure in this area deepens the State's commitment to continued utilization of this site.

Essentially, as with many aspects of the KCF facility, there is a tradeoff between the advantages and disadvantages of an isolated site. KCF's evacuation program, which is coordinated with Hawai'i County Civil Defense Agency and Hawaiian Volcano Observatory, is capable of effectively responding to any volcanic or seismic emergency, which mitigates the hazard to an acceptable degree. Therefore, the proposed wastewater system is not imprudent to construct.

3.1.2 Drainage, Water Features and Water Quality

Existing Environment

As is common on young volcanic landscapes, no lakes or streams are present. Rainfall may briefly pond or run overland in sheet flows or small gullies during heavy rainfall but is quickly absorbed into the rocky substrate. Runoff infiltrating the soil percolates through many layers of rock and soil that clean the water before it reaches the aquifer. Groundwater is likely to be perched and/or basal. The project site is classified on Flood Insurance Rate Maps (FIRM) as within Zone X, outside of the 500-year floodplain, and no known flooding areas are present.

Impacts and Mitigation Measure

The limited scale of construction in this environmental setting involves negligible risks of flooding or impacts to water quality during construction. No drainage features would be affected in any way. However, the contractor shall perform all earthwork and grading in conformance with Chapter 10, *Erosion and Sediment Control*, Hawai'i County Code, and will develop and implement a plan to contain any sediment that might leave the site in runoff during construction. Furthermore, construction equipment shall be kept in good working condition to minimize the risk of fluid leaks that could enter runoff and groundwater. Significant leaks or spills shall be properly cleaned up and disposed of at an approved site.

Operationally, the project involves minimal use of substances that have the potential to impact water quality. No herbicide or chemical use is anticipated. The diesel fuel for use by the emergency engine generator will be stored with provisions for double containment, and leakage or spills would be minimal if they occurred at all. As discussed in Section 2.4, if an extreme rainfall event or events exceed both the leaching field discharge capacity and the aerated ponds' storage capacity, then there may be an overflow spill of liquid, mostly composed of rain water. The overflow area (see Fig. 4) would be capable of absorbing any overflow within a relatively small area and no substantial flooding would be expected.

Overall, the project is expected to have a beneficial effect to underground water resources through treatment of wastewater that currently lack treatments, and by prevention of adverse effects during construction and operation of the facility.

3.1.3 Flora, Fauna and Ecosystems

Approach and Methods

From the inception of the project, KCF officials have recognized the high biological value and sensitivity of the native forest at Kulani. Therefore, they have coordinated with the Hawai'i Volcanoes National Park, the Biological Resources Division of the U.S. Geological Survey (BRD), and the Hawai'i State Department of Land and Natural Resources to ensure that impacts to native species and ecosystems are minimized.

BRD prepared a report in 2000 entitled *Summary of Endangered Species of Plants and Animals in the Vicinity of the Proposed Wastewater System Improvements at the Kulani Correctional Facility*, which is excerpted below and reproduced as Appendix 2. The report summarized the populations of endangered species of plants and animals known or suspected to be in the vicinity of the proposed wastewater system improvements project area. The report considered plant communities and known rare species that occur within a two-kilometer radius from the approximate center of the proposed project site. Information was compiled from both the literature and from field surveys conducted during recent years in this area under the 'Ola'a-Kilauea Management Area Partnership. In addition to this work, after more detailed plans for the wastewater facility were developed in 2001, a biologist intensively surveyed the entire area proposed for disturbance along with a buffer varying from three to ten meters surrounding it.

Existing Environment: Surrounding Area

Most of the area surrounding the project site is covered by native 'Ohi'a (*Metrosideros polymorpha*) wet forest with a dense Hapu'u *(Cibotium* spp.) treefern understory. To the west and northwest of the KCF complex are 'Ohi'a woodland and forest on a relatively young lava flow (less than 500 years old). South of the project area is a Koa (*Acacia koa*)-'Ohi'a wet forest which continues both north and west into lands owned by Kamehameha Schools. Hapu'u, Pilo (*Coprosma ochracea*), Olapa (*Cheirodendron trigynum*), Ohelo (*Vaccinium calycinum*), and Kanawao (*Broussaisia arguta*) are common in the forest near the project site. Two species of endemic Lobelioideae were also identified – *Clermontia montis-loa* and *Clermontia parviflora*. Figure 2 of Appendix 2 illustrates the vegetation types of the area

The Koa-'Ohi'a forest and the 'Ohi'a-Hapu'u forests are found on the oldest substrates in this area and are where most of the endangered birds and plants are found. Figure 3 of Appendix 2 shows the known locations of rare and endangered birds and plants.

Four endangered native plant species were listed in the BRD report within two kilometers of the proposed project area (Table 1). Three (*Phyllostegia racemosa*, *Phyllostegia velutina*, and *Cyanea stictophylla*) generally occur in the mature Koa and 'Ohi'a forests adjacent to the project site, while the fourth species (*Plantago hawaiensis*) is found in open boggy areas on the younger lava flow substrate in the northwestern parts of KCF. A

fifth endangered species, *Clermontia lindseyana*, has also been observed in the surrounding lands (T. Rubenstein pers. comm.). Only one endangered plant species is known to occur in proximity to the project site. A group of *Phyllostegia velutina* is present within a very disturbed habitat on the northwest side of the junction of the Kulani Cone road and the road that heads west to the old Kulani piggery site (see Fig. 3 of Appendix 2). This small clump of plants is located just across the access road from the area proposed for the treated effluent subsurface disposal field. Given the disturbed nature of the site on which these plants are growing, BRD scientists stated that they did not expect a significant impact on these individuals from the proposed project activities given appropriate mitigation in the form of specific precautions (see below).

Table 1
Endangered Native Plant Species in Project Area

Scientific Name	Common Name	Life Form	Family
Cyanea stictophylla	haha	small tree	Campanulaceae
Phyllostegia velutina	kapana	shrub	Lamiaceae
Phyllostegia racemosa	kiponapona	shrub	Lamiaceae
Plantago hawaiensis	laukahi kuahiwi	herb	Plantaginaceae

Five endangered native bird species and the endangered ʻApeʻapeʻa or Hawaiian Hoary Bat are known or presumed to occur within two kilometers of the proposed project site (Table 2). The three forest birds (Hawaiʻi ʻAkepa, ʻAkiapolaʻau, and Hawaiʻi Creeper) are largely restricted to the mature native wet forest habitats located south and west of the project area. According to BRD, it is doubtful that any of these bird species would be found in the extremely disturbed project site. Similarly, although both the ʻIo (Hawaiian Hawk) and the ʻApeʻapeʻa will occasionally forage over the disturbed habitats of the proposed project site, their activities would not be impacted by the planned project as long as no large native trees which these species may roost or nest in are damaged or removed, as planned. Finally, the Nene primarily utilizes habitats dominated by native shrubs and grasses or short-stature alien grasslands, such as pastures or even golf courses. Currently none of the areas of the proposed project area have these types of plant communities and it is unlikely that Nene utilize this area.

Table 2
Endangered Native Bird and Bat Species in Project Area

Scientific Name	Common Name	Comments
Loxops c. coccinius	Hawai'i 'Akepa	Occasionally found in koa and 'Ohi'a rainforest southwest of proposed project area.
Hemignathus munroi	'Akiapola'au	Occasionally found in koa and 'Ohi'a rainforest southwest of proposed project area.
Oreomystis mana	Hawai'i Creeper	Expected to be in koa and 'Ohi'a rainforest southwest of proposed project area.
Buteo solitarius	'Io (Hawaiian Hawk)	Several pairs of 'Io are known from the Kulani area: forage over the forested and non-forested areas of KCF.
Branta sandvicensis	Nene (Hawaiian Goose)	Occasionally found in grazed pasture sections of KCF: probably not in proposed project area.
Lasiurus cinereus semotus	'Ape'ape'a (Hawaiian Hoary Bat)	Seen infrequently foraging over native forest and open habitats at dusk.

Existing Environment: Project Site

The project site itself is mostly active or abandoned pasture, agricultural facilities, or roadway, and as such, contains mostly weedy species.

The specific sites proposed for the wastewater treatment facility have been highly modified by agriculture and ranching activities. Almost all of the plants observed in this area have been introduced by humans (Table 3). Most striking are the numerous introduced species of large "forestry trees", including Coast Redwood (*Sequoia sempervirens*), Mexican Weeping Pine (*Pinus patula*), and Cypress (*Cupressus sp.*). Two species of shrubs – *Cotoneaster sp.* and *Hypericum kouytchense* – are of particular interest because they appear to be highly invasive. Both are the subject of ongoing eradication efforts. Portions of the pasture areas appear to have been recently used for vegetable gardens. Species such as Celery (*Apium graveolens*), Parsley (*Petroselinum crispum*), Spearmint (*Mentha sp.*), Grapes (*Vitis vinifera*), and Oats (*Avena sativa*) are found growing among numerous species of introduced pasture grasses. Horticultural flower species, including Hydrangea (*Hydrangea macrophylla*), Periwinkle (*Vinca major*), Common Calla (*Zantedeschia aethiopica*) and Fuchsia (*Fuchsia magellanica*) were abundant near the abandoned greenhouse in one of the pasture areas.

No endangered plant species were identified within the project site or study buffer areas. A single individual of *Phyllostegia velutina* (previously identified) was sighted again during the project survey. Approximately 20 feet northwest of the grassy corridor between the two pasture areas, a small, unidentifiable individual in the genus *Clermontia* was encountered. This plant was most likely *Clermontia parviflora*, as it exhibits characteristics of this species and an adult of this species was identified nearby. This individual is located well over 10 meters from any area that would experience disturbance.

Table 3
Project Site Plant Species

Scientific Name	Family	Common Name	Life Form	Status	Location
Agapanthus sp.	Liliaceae	Lily of the Nile	Herb	A	P
Alyxia oliviformis	Apocynaceae	Maile	Vine	E	B
Anthoxanthum odoratum	Poaceae	Sweet Vernal Grass	Grass	A	P
Apium graveolens	Apiaceae	Celery	Herb	A	P
Asplenium polyodon	Aspleniaceae	Spleenwort	Fern	E	B
Astelia menziesiana	Liliaceae	Kaluaha	Herb	E	B
Athyrium microphyllum	Athyriaceae	ʻAkolea	Fern	E	B
Avena sativa	Poaceae	Oat	Grass	A	P
Axonopus fissifilius	Poaceae	Carpet grass	Grass	A	P. B
Broussaisia arguta	Hydrangeaceae	Kanawao	Shrub	E	B
Cheirodendron trigynum	Araliaceae	Olapa	Tree	E	B
Cibotium glaucum	Dicksoniaceae	Hapuʻu	Fern	E	B
Clermontia montis-loa	Campanulaceae	ʻOha	Shrub	E	B
Clermontia parviflora	Campanulaceae	ʻOha	Shrub	E	B
Conyza bonariensis	Asteraceae	Hairy horseweed	Herb	A	P
Coprosma ernodeoides	Rubiaceae	Kukae Nene	Vine	E	B
Coprosma ochracea	Rubiaceae	Pilo	Tree	E	B
Coprosma rhyncocarpa	Rubiaceae	Pilo	Tree	E	B
Cotoneaster sp.	Rosaceae	Cotoneaster	Tree	A	P.B
Crocosmia x crocosmiiflora	Iridaceae	Montbretia	herb	A	P
Cupressus sp.	Cupressaceae	Cypress	Tree	A	P. B
Cyrtandra hysiosepala	Gesneriaceae	Haʻiwale	Shrub	E	B
Delairia odorata	Asteraceae	German ivy	Vine	A	B
Dicranopteris linearis	Gleicheniaceae	Uluhe	Fern	I	B
Dryopteris wallichiana	Aspidiaceae	Lau-kahi	Fern	I	B
Ehrharta stipoides	Poaceae	Meadow rice-grass	Grass	A	B
Elaphoglossum hirtum	Elaphoglossaceae	Hairy Stag's tongue	Fern	E	B
Elaphoglossum crassifolium.	Elaphoglossaceae	Stag's tongue fern	Fern	E	B
Epilobium billardierianum	Onagraceae	Willow herb	herb	A	P
Fragaria vesca	Rosaceae	Strawberry	Herb	A	B
Fuchsia magellanica	Onagraceae	Fuchsia	Shrub	A	P. B
Hedera helix	Araliaceae	English ivy	Vine	A	B
Hedychium flavescens	Zingiberaceae	Yellow ginger	Herb	A	B
Hedychium gardnerianum	Zingiberaceae	Kahili ginger	Herb	A	P
Hedyotis terminalis	Rubiaceae	Manono	Tree	E	B
Holcus lanatus	Poaceae	Velvet grass	Grass	A	P. B
Hydrangea macrophylla	Hydrangeaceae	Garden hydrangea	Shrub	A	P.B
Hypericum kouytchense	Clusiaceae	St. John's wort	Shrub	A	P.B
Hypochoeris radicata	Asteraceae	Hairy cat's-ear	Herb	A	P. B

Note: Endemic (E). Indigenous (I). and Alien (A) species of plants found in the pasture. roadside. or corridor area (P) or in the forested boundary area (B) of project site.

Table 3, (cont'd)
Project Site Plant Species

Scientific Name	Family	Common Name	Life Form	Status	Location
Ilex anomala	Aquifoliaceae	Kawa'u	Tree	I	B
Kyllinga brevifolia	Cyperaceae	No common name	Sedge	A	P
Lonicera japonica	Caprifoliaceae	Honeysuckle	Vine	A	P.B
Lotus subbiflorus	Fabaceae	No common name	Herb	A	P
Lotus uliginosus	Fabaceae	No common name	Herb	A	P
Luzula hawaiiensis	Juncaceae	Wood rush	Rush	E	B
Lycopodiella cernua	Lycopodiaceae	Wawae'iole	Shrub	I	B
Melicope clusiifolia	Rutaceae	'Alani	Tree	E	B
Melicope sp.	Rutaceae	'Alani	Tree	E	B
Mentha sp.	Lamiaceae	Garden mint	Herb	A	P
Metrosideros polymorpha	Myrtaceae	Ohia	Tree	E	B
Myoporum sandwicense	Myoporaceae	Naio	Tree	I	B
Myrsine lessertiana	Myrsinaceae	Kolea lau nui	Tree	E	B
Myrsine sandwicensis	Myrsinaceae	Kolea lau nui	Tree	E	B
Paspalum urvillei	Poaceae	Vasey grass	Grass	A	P
Pennisetum clandestinum	Poaceae	Kikuyu Grass	Grass	A	P
Peperomia macraeana	Piperaceae	'Ala 'ala wai nui	Herb	E	B
Persicaria capitata	Polygonaceae	Knotweed	Herb	A	P
Petroselinum crispum	Apiaceae	Parsley	Herb	A	P
Pinus patula	Pinaceae	Mexican Weeping Pine	Tree	A	P
Pleopeltis thunbergiana	Polypodiaceae	Pakaha	Fern	I	
Prunus sp.	Rosaceae	Plum	Tree	A	P
Rosa sp.	Rosaceae	Rose	Shrub	A	P.B
Rubus argutus	Rosaceae	Florida blackberry	Shrub	A	P.B
Rubus hawaiensis	Rosaceae	'Akala	Shrub	E	B
Rubus rosifolius	Rosaceae	Thimbleberry	Shrub	A	B
Rumex acetosella	Polygonaceae	Sheep sorrel	Herb	A	P
Rumex crispus	Polygonaceae	Curly dock	Herb	A	P
Sacciolepus indica	Poaceae	Glenwood grass	Grass	A	P
Sadleria cyatheoides	Blechnaceae	'Ama'u	Fern	E	B
Sambucus mexicana	Caprifoliaceae	Mexican elder	Shrub	A	P
Sequoia sempervirens	Taxodiaceae	Coast redwood	Tree	A	P
Smilax melastomifolia	Smilacaceae	Hoi kuahiwi	Vine	E	B
Spenomeris chinensis	Lindsaeaceae	Pala'a	Fern	I	B
Sporobolus africanus	Poaceae	African dropseed	Grass	A	P
Styphelia tameiameiae	Epacridaceae	Pukiawe	Shrub	I	B
Trifolium repens	Fabaceae	White clover	Herb	A	P
Uncinia uncinata	Cyperaceae	Uncinia	Sedge	I	B
Vaccinium calycinum	Ericaceae	'Ohelo kau la'au	Shrub	E	B
Verbena litoralis	Verbenaceae	Verbena	Herb	A	P
Vitis vinifera	Vitaceae	Grape	Vine	A	P
Zantedeschia aethiopica	Araceae	Common calla	Herb	A	P

Note: Endemic (E). Indigenous (I). and Alien (A) species of plants found in the pasture. roadside. or corridor area (P) or in the forested boundary area (B) of project site.

Impacts and Mitigation Measures

Construction may have a potential to affect short-term noise levels as well as air quality. through dust and engine exhaust. No adverse effects on vegetation would be expected. Native birds are expected to react to the short-term disturbance by temporarily abandoning forest immediately adjacent to the project site during construction and returning afterwards.

The siting of the facility in a disturbed area essentially avoids any substantial impact to native species or ecosystems. As discussed in Section 2.4. if an extreme rainfall event or events exceed both the leaching field discharge capacity and the aerated ponds' storage capacity, then there may be an overflow spill of liquid, mostly composed of rain water. The overflow area (see Fig. 4) contains non-sensitive vegetation and would be capable of absorbing any overflow before it reached sensitive environmental areas.

There is a possibility that Nene may be attracted to parts of the wastewater project area. particularly the treated leach field surface, if this area is maintained as a short-stature grass community. It is unknown at this point what effect, if any, grazing in this part of the facility might have on Nene. The following mitigation measures will be implemented to ensure that any biological impacts are minimal.

- The contractor and construction crews will be informed of the need to avoid any activities outside the approved area of construction and disturbance. KCF staff will periodically monitor the construction site to ensure compliance.
- Disturbance in the area containing the *Phyllostegia velutina* plants will be confined to the existing road corridor or kept at least 10 meters away from the plants. Before construction. BRD will mark this group of plants with yellow construction ribbon in order to minimize the potential for accidental disturbance.
- Although the area to be used for WWTP is already infested with a variety of weeds, construction has the potential to introduce other weed species that might prove deleterious to the adjacent native forest. Therefore. upon completion of the project, inspections of the site will be conducted monthly for six months by KCF staff. accompanied by NPS or BRD staff who have been trained to identify plants in order to ensure that alien plants do not spread into the forest as a result of construction.
- Planting of the leach field area and monitoring of the area for use by and effects to Nene will be coordinated with NPS, BRD, and DLNR.

Comment letters from the University of Hawai'i Environmental Center and the Hawai'i State Office of Environmental Quality expressed concern about the potential for the wastewater treatment ponds to attract endangered waterbirds, particularly the A'eo (Hawaiian Stilt, *Hymantopus mexicanus knudesni*), Koloa (Hawaiian Duck, *Anas wyvilliana*), 'Alae ke'oke'o (Hawaiian Coot, *Fulica alai*), and 'Alae'ula (Hawaiian Gallinule, *Gallinula chloropus*). The letters indicated that although use of the ponds might actually provide beneficial habitat for the birds, as similar ponds do in other locations, there also might be a potential for "take" in the context of the federal and State Endangered Species Acts. In order to determine the potential for use by these birds, further research involved discussions with experienced ornithologists from the Hawai'i State Division of Forestry and Wildlife (DOFAW), the USGS Biological Resources Division and the Audubon Society. These sources indicate that, at 5,280 feet in elevation on the slopes of Mauna Loa, Kulani Correctional Facility (KCF) appears to be outside the normal range of most endangered waterbirds. At the large water catchment ponds at Kulani, there are no records of Black-necked Stilt, Hawaiian Coot or Koloa (Gallinules do not inhabit the island of Hawai'i). The Black-necked Stilt is rarely found above 2,000 feet in elevation, and the Koloa does not seem to inhabit water bodies on this flank of Mauna Loa. It is considered possible, but unlikely, that Hawaiian Coots might wander into the region.

However, in order to account for the potential for attracting endangered waterbirds, KCF, in coordination with the Ola'a Kilauea Partnership, plans to: a) monitor the ponds for use by endangered waterbirds; and b) if use occurs, consult again with the U.S. Fish and Wildlife Service and DOFAW concerning the issue of potential take and mitigation (e.g., do nothing because no harm will occur, install pond covers, etc.). This monitoring will be part of the regular and frequent inspection of KCF property that is undertaken by KCF and the Ola'a Kilauea Partnership.

3.1.4 Air Quality, Noise, and Scenic Resources

Environmental Setting

Air pollution in East Hawai'i is minimal, and is mainly derived from volcanic emissions of sulfur dioxide, which convert into particulate sulfate and produce a volcanic haze (vog) that occasionally blankets parts of the island. The persistent tradewinds keep this area relatively free of vog for most of the year.

Noise on the site is low and derived mainly from distant sounds of prison activities, and nearby sounds from occasional ranching, farming and road maintenance activities.

The entire forested area of KCF has high scenic value. The site itself, with its clearings of pasture surrounded immediately by rows of forestry plantings of redwood and cedar, and beyond by native forest, is likewise scenic. However, it is important to note that no views open to the general public, from any vantage point, are present. No important viewplanes or scenic sites recognized in the Hawai'i County General Plan, which recognizes a number of important vistas and scenic landmarks in South Hilo, are present (Hawai'i County Planning Department 1989: Exh. C, p. 33-34).

Impacts and Mitigation Measures

Construction involving substantial earthmoving may have a potential to affect noise levels as well as air quality, through dust and engine exhaust. Short-term elevated noise levels and engine exhaust are likely, but no sensitive human receptors are nearby and thus no impacts are expected (see Section 3.1.3 for effects to native biota). Because of the hyper-humid conditions, dust generation is expected to be minimal; if any dust is generated, surrounding vegetation will act as a screen and contain it within a few hundred feet of the project site.

Operationally, the proposed action would not measurably affect air quality or noise levels except in the immediate vicinity of the WWTP. In terms of odor, the system is designed in conformance with EPA specifications for minimum oxygen concentrations, which would prevent odor problems during normal operation. No adverse air quality or noise impacts to or from the site would be expected, particularly considering the remote and isolated context.

Although the WWTP would affect the scenic value of the pastures on which it is located, these areas are not open to the general public and cannot be viewed from any public vantage point. No important viewplanes or scenic sites recognized in the Hawai'i County General Plan would be affected.

3.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions

Based on onsite inspection and information on file. it appears that the project site contains no hazardous or toxic substances and exhibits no other hazardous conditions. No permanent or temporary land use that would tend to result in these conditions appears to have ever occurred on the site. which is former pasture and agricultural land.

3.2 Socioeconomic and Cultural

3.2.1 Socioeconomic Characteristics

Existing Environment: Social and Land Use Characteristics

The mission of the Hawai'i State Department of Public Safety is to ensure the safety of the public through the administration of correctional facilities and services. the protection of the public and state personnel. and security of designated state facilities. lands. and waters by enforcing laws and preserving the peace. Furthermore, an important goal is to provide public protection by operating humane and secure facilities in a safe working environment. where the health and well-being of the committed are sustained. and opportunities are available for the committed to address issues related to their reintegration back into the community. Kulani Correctional Facility Prison fills an important role in the State's correctional system by providing rehabilitative services that assist prisoners in their reintegration into a productive and law-abiding lifestyle within society.

Impacts and Mitigation Measures

No adverse socioeconomic effects would result from the proposed action. which would simply upgrade wastewater treatment facilities to standards required by State and federal laws and regulations and allow the continuing operation of this important component of the State's correctional system. Beneficial economic impacts in the form of jobs. income. and local tax revenues will result from expenditures of the estimated $6.292 million construction cost during a two-year period.

3.2.2 Archaeology and Historic Sites

Existing Environment

An archaeological and cultural study of the area proposed for the wastewater treatment facilities was conducted by Rechtman Consulting. Inc. It is attached as Appendix 3 and summarized in this and the next section.

The purpose of the study was to document the presence of any historic properties or traditional cultural properties that might exist within the project area. to assess the significance of any such resources. and to provide a statement of impact to any such

resources as a result of the proposed construction of the wastewater facility. The study used a variety of archaeological and historical reports as well as discussion with informants. This information provided a context for the search for potential historic or traditional cultural properties.

During precontact times, KCF was almost entirely covered with *ʻōhiʻa-hapuʻu* forest with a variety of economically important tree and bird species. While in the remote forest, the birdcatchers might construct temporary structures to overnight in and might have built small shrines or alters to place offerings. As the birdcatchers followed the birds, which followed the tree blooms, predictable trails could not be maintained. It is likely that main trails such as the Puʻu ʻOʻo Trail were used to gain access to the forest; smaller paths were created and followed to trap the birds as they gathered nectar from the *ʻōhiʻa* blossoms. No known prehistoric or historic trails are located near the project site.

There was very little use of the project area from the early 19th century to the mid-20th century. The Kūlani Facility began with the laborious construction of the road to the prison, at first using Waiākea Prison Camp prisoners with hand tools. The road was finally completed in December of 1945; in March of 1946 the Waiākea Prison Camp was officially closed, and the prisoners were resettled at Kūlani. Employing tents and temporary buildings for housing, the prison camp at Kūlani had to be relatively self-sufficient in the early years. A plant nursery and pastures for cattle were established by the late 1950s. This coincided with the extension of Kūlani Road to Stainback Highway, which improved the access to the facility. With the development of the modern correctional facility, expanded prison population, and increased accessibility, the self-contained nature of Kūlani diminished. The independent food production activities were reduced, and the older agricultural facilities abandoned.

The project site itself consists of an existing well-used dirt road and two pastures connected by a corridor of disturbed forest. Along the perimeter of the northern pasture are a Quonset hut storage building and a semi-collapsed wooden frame nursery greenhouse structure. Neither building would be considered to be a historic property. Although the Quonset hut was likely originally manufactured in the 1930s or 1940s, it was placed in its present location within the last 50 years. In and around the project site, field investigators walked transects spaced 10-meters apart across the entire survey area, which had excellent ground visibility. No archaeological resources, either traditional (e.g., stone structures or trails) or late historic, were observed at the project site.

Impacts and Mitigation Measures

As no historic site resources are present, no adverse effect to historic sites would occur as a result of implementing the project. Accordingly, it is recommended that DLNR-SHPD require no further historic preservation work prior to construction. However, in the highly unlikely event that archaeological resources are encountered during land-altering activities associated with construction, work in the immediate area of the discovery should be halted and DLNR-SHPD contacted as outlined in Hawaiʻi Administrative Rules 13§13-280.

3.2.3 Cultural Setting

Existing Environment

As discussed above, the area now occupied by Kulani Correctional Facility supported *ʻōhiʻa-hapuʻu* forest that contained a variety of economically important tree and bird species. However, the remoteness of the current study area precluded the harvesting of trees for canoes and building materials. It is likely that the project area was visited by individuals engaged in bird catching. The collection of feathers was an important cultural practice that was performed by specialists.

In 1862, the Boundary Commission was established to set the legal boundaries of the *ahupuaʻa* that were awarded during the *Mahele*. The commissioners were authorized to certify the boundaries in 1874. The primary informants for the boundary descriptions were older native residents of the specific areas in question. Many times the boundaries of particular *ahupuaʻa* were established through the testimony regarding neighboring *ahupuaʻa*. Such was the case for Waiākea; informants, many of whom were born in the late 1700s, provided boundary data for Keaʻau in Puna, Keauhou in Kaʻu, Kukuau in South Hilo, and Humuʻula in North Hilo, all of which border Waiākea. In describing the *ahupuaʻa* boundaries, references are made to planting areas (none extending above about 2,000 feet), locations of woods where trees for canoes were acquired (above Hilo at a place called Nehuiki), and areas deep in the forest for bird catching. A point at the summit of Puʻu Kūlani marks the southwestern corner of Waiākea Ahupuaʻa. Puʻu Kūlani, as a named prominent landscape feature that is referenced in legend and chant, would no doubt be considered a traditional cultural property. Its location 0.7 miles distant from the project site precludes its consideration as part of the current investigation.

As part of the current study, Ululani Sherlock (Office of Hawaiian Affairs) and Kepā Maly (Kumu Pono Associates) were contacted in an effort to obtain information about any potential traditional cultural properties that might be present in upper Waiākea. Aside from the potential traditional cultural nature of Puʻu Kūlani, neither had any information relative to the existence of traditional cultural properties in the immediate vicinity of the current project area.

Impacts and Mitigation Measures

No resources of a potential traditional cultural nature (i.e., landform, vegetation, etc.) appear to be present on or near the project site. Because the tradition of bird catching was not carried into the twentieth century, and the study area was essentially inaccessible until after 1950, after which time it was off-limits to the general public because of its use as a correctional facility, it is also logical to conclude that the proposed construction would not impact any culturally valued resources or cultural practices.

3.3 Infrastructure

3.3.1 Electrical Supply

Existing Facilities and Services

Electrical power to the facility is provided by Hawai'i Electric Light Company (HELCO), a privately owned utility company regulated by the State Public Utilities Commission, via its island-wide distribution network. As of 2000, HELCO had a total of 52,277 residential customers and an additional 10,201 General Load, Commercial Cooking and Heating, Large Power Service, and Street Lighting accounts (Hawai'i County R&D: 2000). HELCO's distribution system principally of overhead (with limited underground) transmission lines. Overhead lines typically consist of 46 kilovolt (kV) or 12.47 kV primary circuits routed largely along highways and roadways.

Impacts and Mitigation Measures

The proposed improvements would provide a new service connection from the existing HELCO overhead lines and also provide an on-site standby power generator, rated at approximately 60 KW. The proposed action would not have any substantial on existing electrical facilities or HELCO's ability to provide electricity. Appropriate coordination with HELCO would be conducted during the design and construction of the improvements.

3.3.2 Water Supply

Existing Facilities and Impacts

Currently, water consumption at KCF is between 25-30 thousand gallons per day (tgd). The existing water supply system consists of a 5-million gallon earth and wood-barricade reservoir, a treatment facility, and a 300,000-gallon storage facility for treated water. The lack of a sufficiently-sized treated water system has necessitated water hauling during most years, totaling as much five million gallons in severe drought years. In order to address this problem, a separate water system improvements project that added a storage tank and raised the treated water capacity to 1,000,000 gallons, as well as provided a floating cover for the existing water reservoir, completed in late 2001.

Design of the proposed WWTP project also includes installation of a 1-inch waterline below the access road from the main camp to provide for the water needs of the WWTP. There should be no substantial impacts upon the water supply at KCF.

3.3.3 Wastewater

Existing Facilities and Impacts

The need for a new wastewater system is described in Section 1.2. and Section 2.4 describes the proposed improvements.

3.3.4 Roadways

Existing Facilities

Stainback Highway is the paved access to KCF. This sub-standard, two-lane road, first built in 1945. has a grade of 2-4 percent and some areas with less than 10-foot wide lanes. There is poor sight distance and severe vertical curves, and there is no roadway striping or shoulders for emergency parking.

Impacts and Mitigation Measures

The proposed action would require additional use of Stainback Highway during construction, a short period during which as many as 30-50 trucks per day for construction equipment and especially fill material might use the road. As traffic is generally light and mostly KCF-related on Stainback Highway. no substantial impacts are expected, and there is no anticipated need for mitigation.

3.4 Secondary and Cumulative Impacts

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. It is important to frame cumulative impacts by first reviewing those areas in which adverse impacts may occur.

No substantial impacts to water quality, air quality, noise, scenic resources, historic sites. cultural sites or practices, or socioeconomic resources are expected. The project has at least a small potential to induce some adverse impacts to only one category of resources: flora, fauna and ecosystems. Therefore, other projects at or near KCF that also have at least some potential to impact endangered species or introduce alien species are relevant.

Several infrastructure projects have recently been completed or are in progress at KCF. The most relevant is a water systems improvement project discussed in Section 3.3.2. Similar to the WWTP project, siting of the water improvements involved consultation with biological resource agencies, intensive survey for endangered species, and mitigation measures to prevent alien species spread. As a result of this planning, there appears to have been no adverse biological impacts from the project.

There are no other projects in progress or in planning in the KCF area that would have the potential to combine with impacts from the proposed project to produce more severe impacts. The project is thus not related to other activities in the region in such a way as to produce adverse cumulative effects or involve a commitment for larger actions.

The proposed project would not involve any secondary impacts, such as population changes or effects on public facilities. The proposed project does not increase the inmate capacity of the prison. The proposed project does not involve an increase in housing units or jobs that could increase the existing resident population in the region. Although the project would provide some short-term construction jobs and a few long-term operational jobs, these would almost certainly be filled by local residents and would not induce in-migration.

3.5 Required Permits and Approvals

The following permits and approvals would be required:

- Hawai'i State Department of Health Wastewater Branch Approval
- Hawai'i State Department of Health (DOH) National Pollutant Discharge Elimination System Permit (NPDES)
- Hawai'i State DOH Underground Injection Control Permit
- Hawai'i State DOH Injection Well Abandonment Application
- Hawai'i State Department of Land and Natural Resources Conservation District Use Permit
- Hawai'i County Department of Water Supply Approval
- Hawai'i County Building Division Approval
- ~~Hawai'i County Planning Department Approval~~
- Hawai'i County Public Works Department Grading Permit

3.6 Consistency With Government Plans and Policies

The 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 proposed project would promote these goals by modernizing the infrastructure of a correctional facility to better promote the public health and safety.

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 site is Conservation. Subzone General (the subzone boundary will be verified in the process of application for a CDUP). The proposed project may be considered an identified land use in any subzone.

as it consists of an accessory improvement to an existing public facility being undertaken by the State of Hawai'i, in the General Subzone of the Conservation District. The action is therefore a *Public Purpose Use* as defined in Section 13-5-22 (P-6, D-1): "Land uses undertaken by the State of Hawai'i or the counties to fulfill a mandated governmental function, activity, or service for public benefit and in accordance with public policy and the purpose of the conservation district." A Conservation District Use Permit (CDUP) would be required for the action, which would be sought by the proposing agencies at the appropriate time.

Hawai'i County General Plan. 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. 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 Goal and Standards:

Goal: Maintain, and if feasible, improve the existing environmental quality of the island.

Standard: Pollution shall be prevented, abated, and controlled at levels which will protect and preserve the public health and well-being, through the enforcement of appropriate Federal, State and County standards.

Standard: Federal and State environmental regulations shall be adhered to.

The proposed project is consistent with these goals and standards of the General Plan, and is not inconsistent with any other policy statement in the General Plan. It should be noted that the *Hawai'i County General Plan* is currently in the final stages of a periodic update. The proposed action is unlikely to be inconsistent with any aspect of the update. According to a comment letter from the Hawai'i County Planning Department (see App. 4), the project is also consistent with the GP Public Facilities goal for better and more functional facilities in keeping with the environmental and aesthetic concerns of the community.

The *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. KCF is classified as OPEN in the LUPAG. The proposed project is consistent with this designation.

Kulani Correctional Facility is not within the County's Special Management Area (SMA), and is thus not subject to any County SMA Rule 9 regulatory criteria or permit requirements.

PART 4: DETERMINATION

The Hawai'i State Department of Accounting and General Services has determined that the proposed action would not alter the environment and impacts would be minimal. Therefore, it has issued a Finding of No Significant Impact (FONSI, meaning that an Environmental Impact Statement is not warranted.

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.

2. *The proposed project will not curtail the range of beneficial uses of the environment.* No restriction of beneficial uses would occur.

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 environmentally beneficial and fulfills aspects of these policies calling for an improved social 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 would not have any substantial adverse effect on the economic or social welfare of the County or State, and would improve the infrastructure at a correctional facility.

5. *The proposed project does not substantially affect public health in any detrimental way.* The project would affect public health and safety in only beneficial ways.

6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* No secondary effects are expected to result from the proposed action, which would simply improve wastewater facilities sufficient for the existing population of inmates and staff.

7. *The proposed project will not involve a substantial degradation of environmental quality.* The project minor and environmentally benign, and it would thus not contribute to environmental degradation.

8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* The project site, where all disturbance would be

limited, supports overwhelmingly alien vegetation. Impacts to rare, threatened or endangered species of flora or fauna, which are present in the surrounding areas, have been avoided by careful biological survey and coordination, resulting in appropriate planning and design, as well as plans for future monitoring in coordination with resource agencies.

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 other 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.

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 lava flow hazard and seismic risk, KCF is capable of effectively responding to any volcanic or seismic emergency, which mitigates the hazard to an acceptable degree, and the project is not imprudent to construct.

12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No County or State plan, including the Hawai'i County General Plan, identifies important views in this area.

13. *The project will not require substantial energy consumption.* The construction and operation of the facility would require minimal consumption of energy. No adverse effects would be expected.

For the reasons above, the proposed Action would not have any significant effect in the context of Chapter 343, Hawai'i Revised Statues and section 11-200-12 of the State Administrative Rules.

REFERENCES

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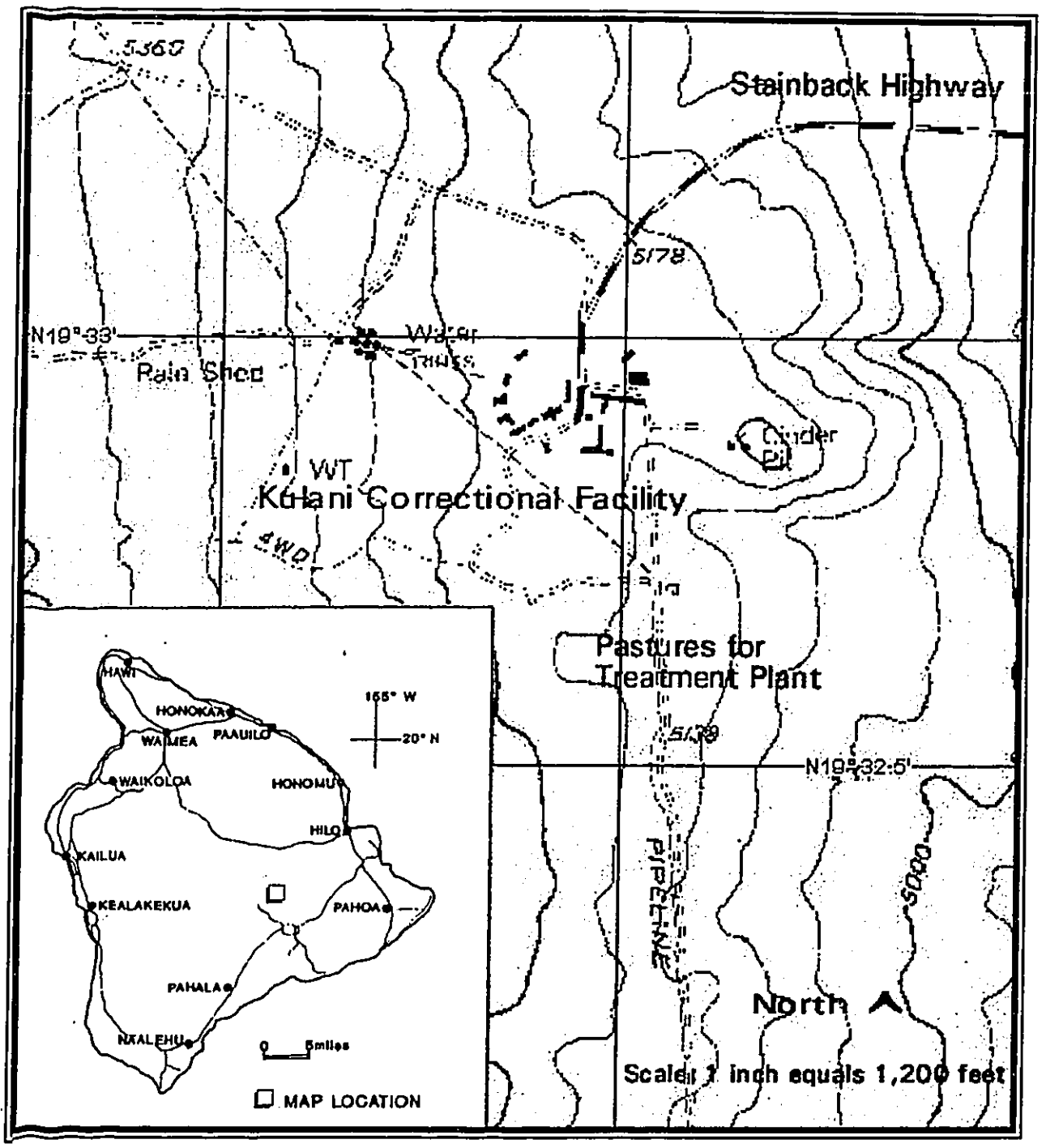
APPENDIX 1

FIGURES

Figure 1a
Location Map, Kulani Correctional Facility



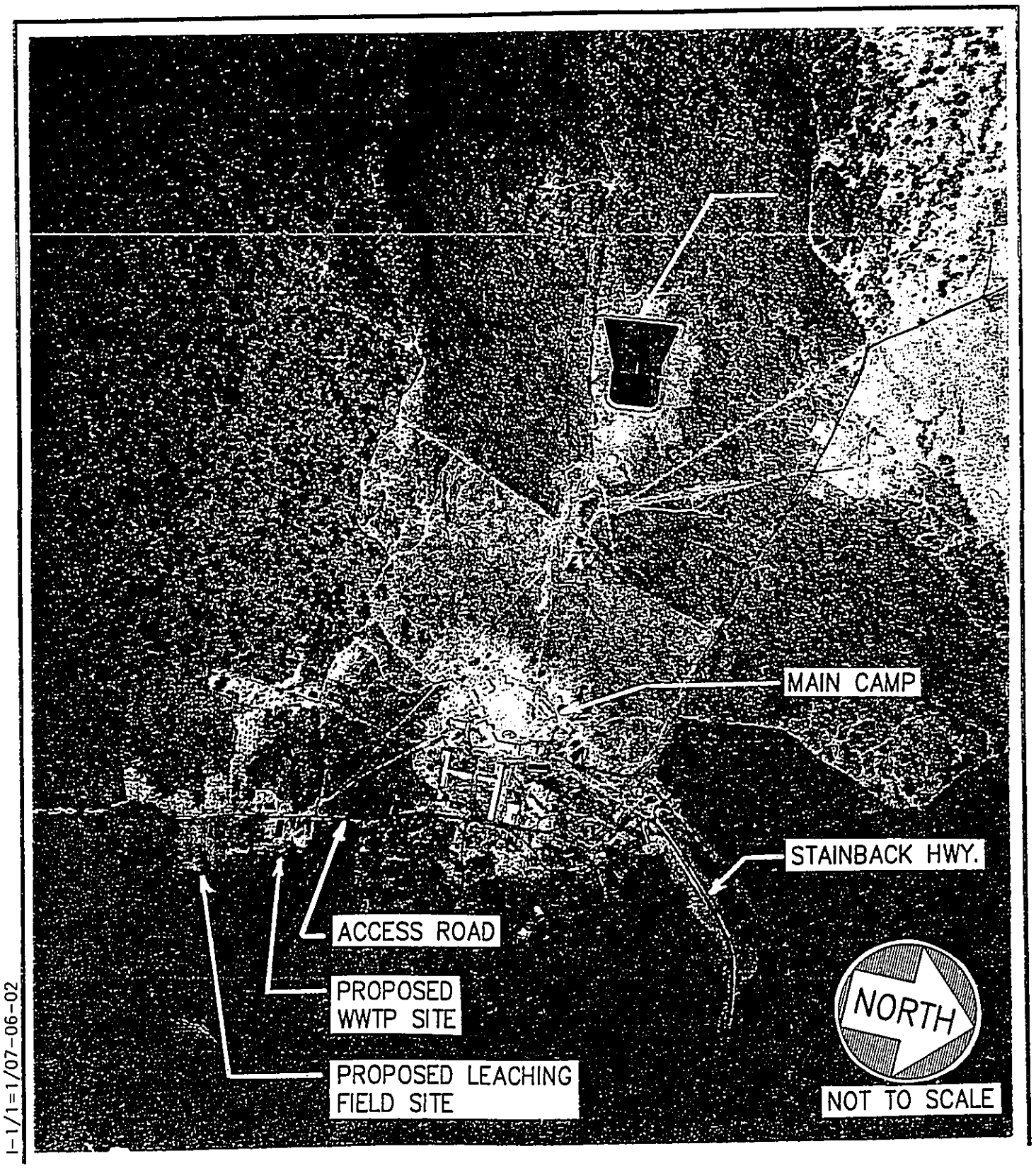


Figure 1b Infrared Air Photograph, Kulani Correctional Facility

Source: DMT Consultant Engineers

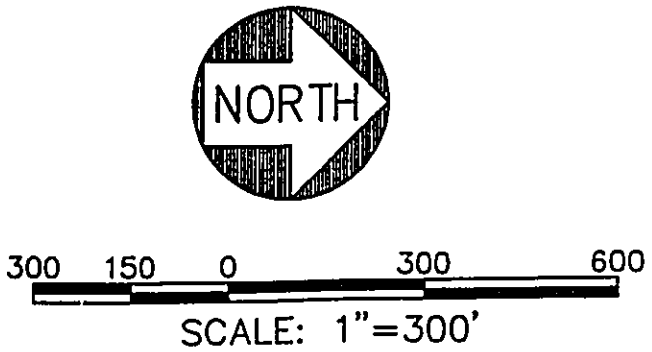
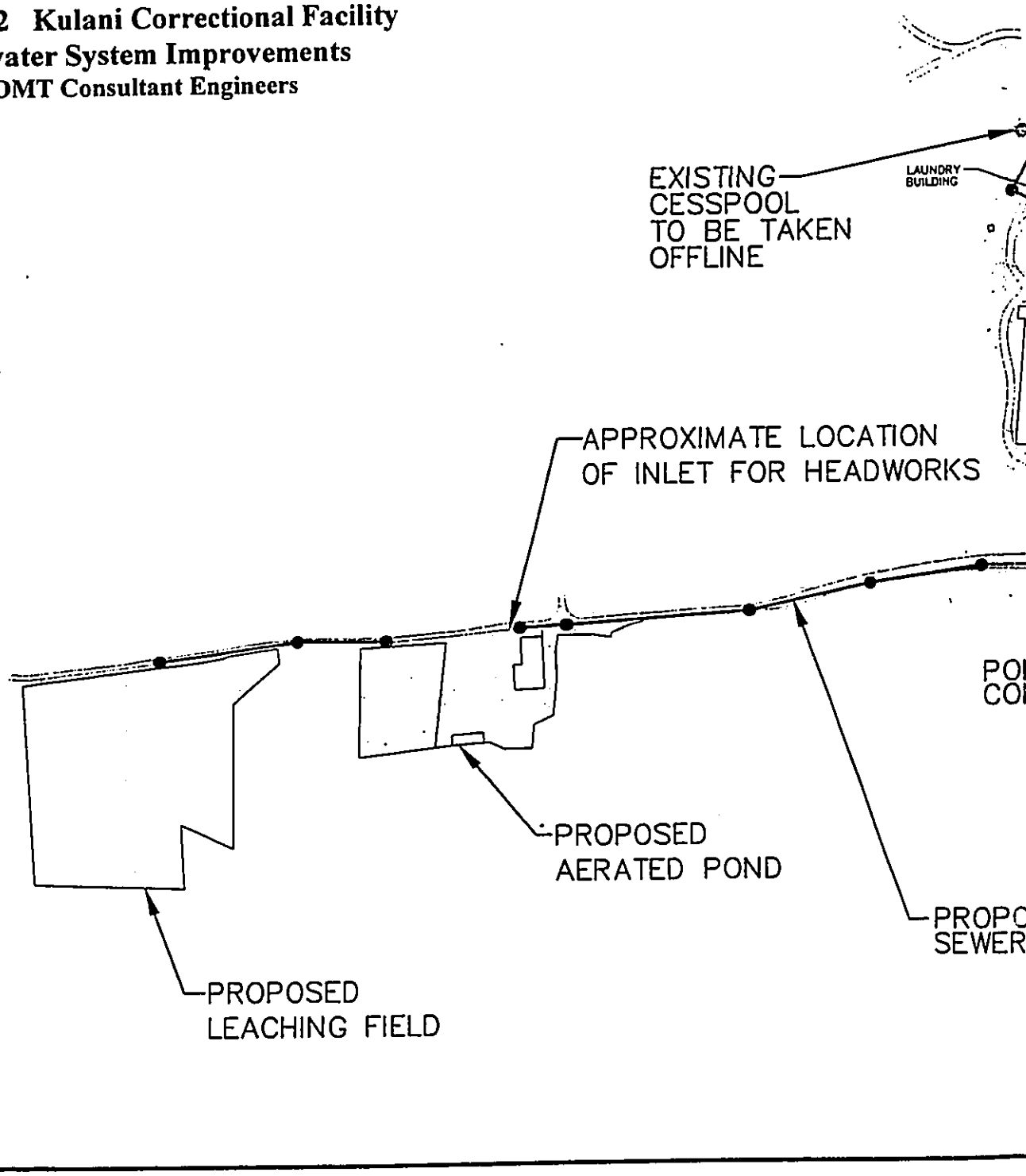


Figure 2 Kulani Correctional Facility
Wastewater System Improvements
Source: DMT Consultant Engineers



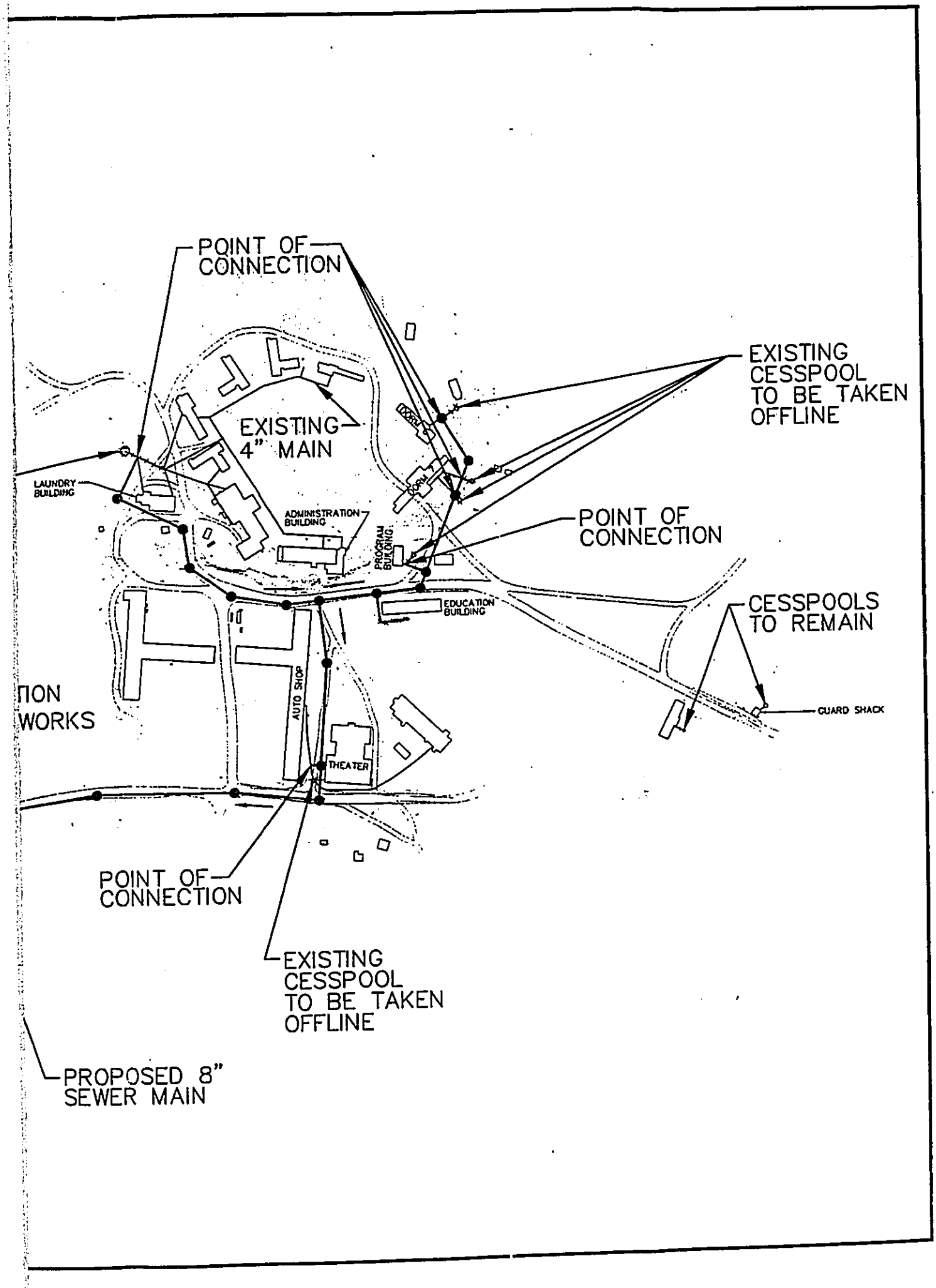
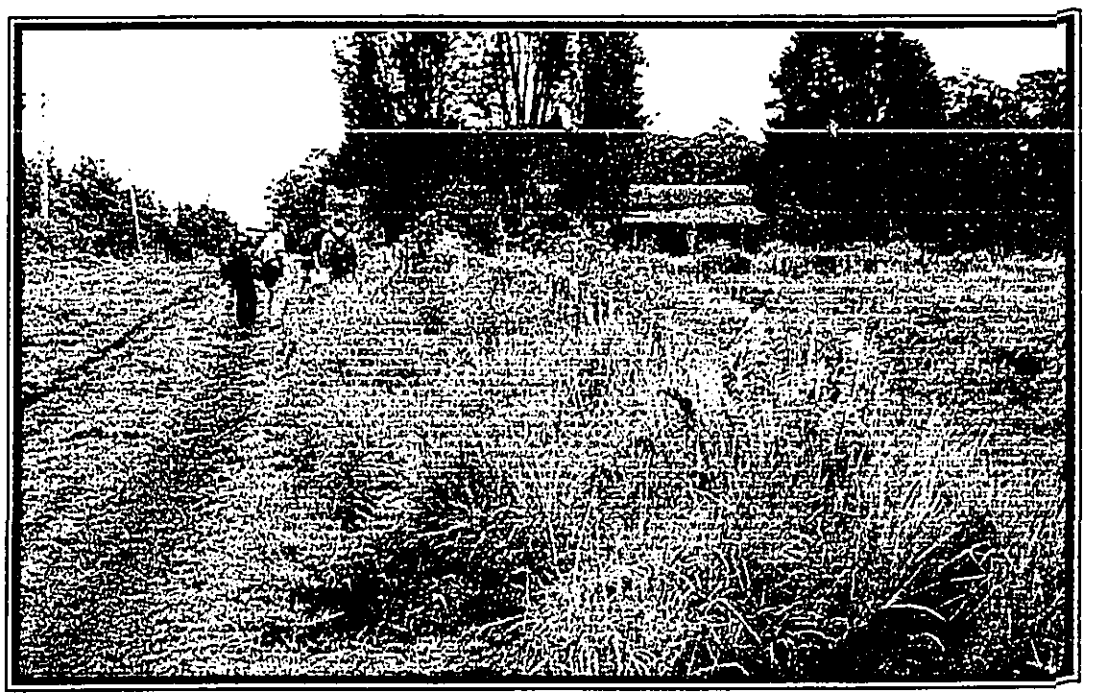

POINT OF CONNECTION
EXISTING 4" MAIN
EXISTING CESSPOOL TO BE TAKEN OFFLINE
LAUNDRY BUILDING
ADMINISTRATION BUILDING
PROGRAM BUILDING
POINT OF CONNECTION
EDUCATION BUILDING
CESSPOOLS TO REMAIN
GUARD SHACK
TION WORKS
AUTO SHOP
THEATER
POINT OF CONNECTION
EXISTING CESSPOOL TO BE TAKEN OFFLINE
PROPOSED 8" SEWER MAIN

Figure 3 Existing Site Photographs



Access road to Kulani Camp, aerated pond area and old structures to right

Access road towards Kulani Camp, leaching field to right

APPENDIX 2

Summary of Endangered Species of Plants and Animals
in the Vicinity of the Proposed Wastewater System Improvements
at the Kulani Correctional Facility
(USGS-BRD 2000)

USGS
science for a changing world
Biological Resources

Summary of Endangered Species of Plants and Animals in the Vicinity of the Proposed Wastewater System Improvements at the Kulani Correctional Facility

James D. Jacobi, Ph.D.

U.S. Geological Survey
Biological Resources Division
Pacific Island Ecosystems Research Center
Kilauea Field Station
Hawai'i National Park, HI 96718

October 20, 2000

INTRODUCTION

This report summarizes the populations of endangered species of plants and animals known or suspected to be in the vicinity of the proposed wastewater system improvements project area at the Kulani Correctional Facility on the island of Hawai'i. For this report we considered plant communities and rare species that are currently, or have recently been known from an area extending in a circle out to 2 kilometers from the approximate center of the proposed project area. Information was compiled from both the literature and from field surveys conducted during recent years in this area under the `Ola`a-Kilauea Management Area Partnership.

DESCRIPTION OF THE PROJECT AREA

The Kulani Correctional Facility is located approximately 32 kilometers (20 miles) southwest of Hilo on the island of Hawai'i (Figure 1). The proposed site for the Facility's wastewater improvement project is at 1,570 meters (5,150 feet) elevation in an area that receives approximately 2,700 mm (105 inches) of annual rainfall (Giambelluca, *et al.* 1986). The project area and surrounding lands are located on variously aged lava flows and/or ash deposits ranging in age from 200 years old for the youngest to 10,000 years for the oldest (Wolfe and Morris 1996).

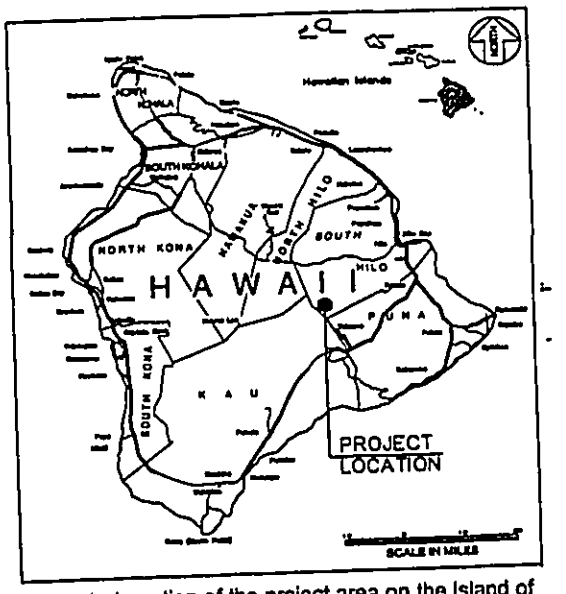


Figure 1. Location of the project area on the Island of Hawai'i.

PLANT COMMUNITIES

The specific sites proposed for the wastewater improvement project are highly modified plant communities, including former pasture and orchard areas dominated by alien species, as well as within the cleared compound area and along existing road corridors. However, immediately adjacent to the project area are native wet forest habitats which do contain endangered species of Hawaiian plants and animals (Jacobi 1990), (Figures 2 and 3).

Most of the area surrounding the project area is covered by native `Ohi`a wet forest with a dense hapu`u treefern understory. To the west and northwest of the Facility complex are `Ohi`a woodland and forest on a relatively young lava flow (less than 500 years old). South of the project area is a Koa-`Ohi`a wet forest which continues both north and west into lands owned by Kamehameha Schools. The Koa-`Ohi`a forest and the `Ohi`a-hapu`u forests are found on the oldest substrates in this area and are where most of the endangered birds and plants are found.

ENDANGERED ANIMAL SPECIES

Five endangered native bird species and the endangered `Ape`ape`a or Hawaiian Hoary Bat are known or presumed to occur within two kilometers of the proposed project site (Table 1). The three forest birds (Hawai'i `Akepa, `Akiapola`au, and Hawai'i Creeper) are pretty much restricted to the mature native wet forest habitats located south and west of the project area. It is very doubtful that any of these bird species would be found in the extremely disturbed

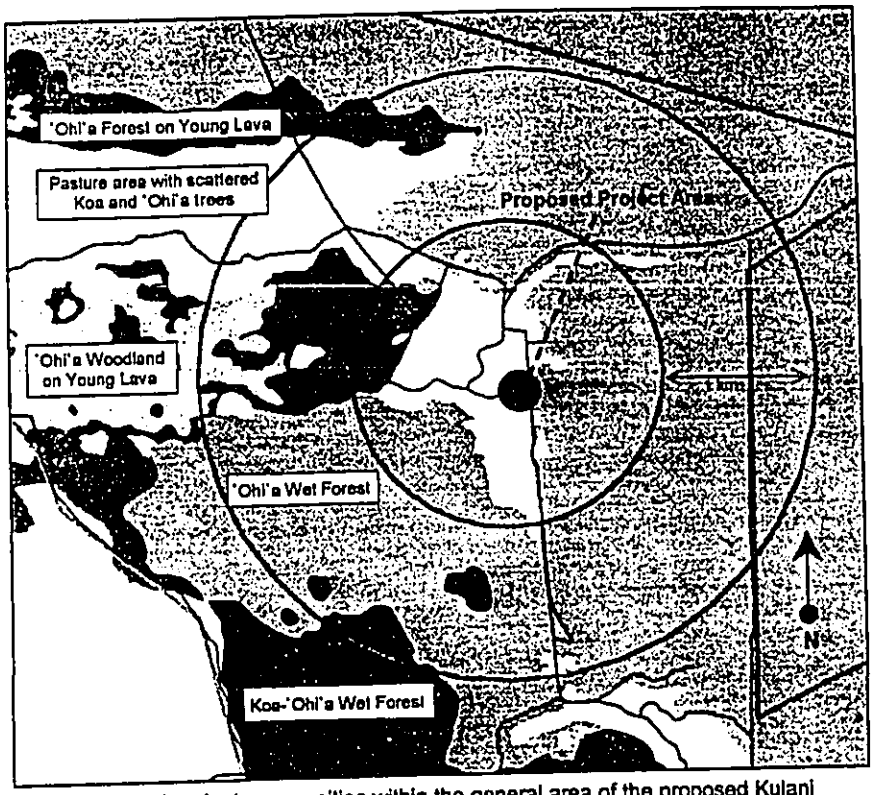


Figure 2. Major plant communities within the general area of the proposed Kulani wastewater improvements project area. Data from Jacobi (1990).

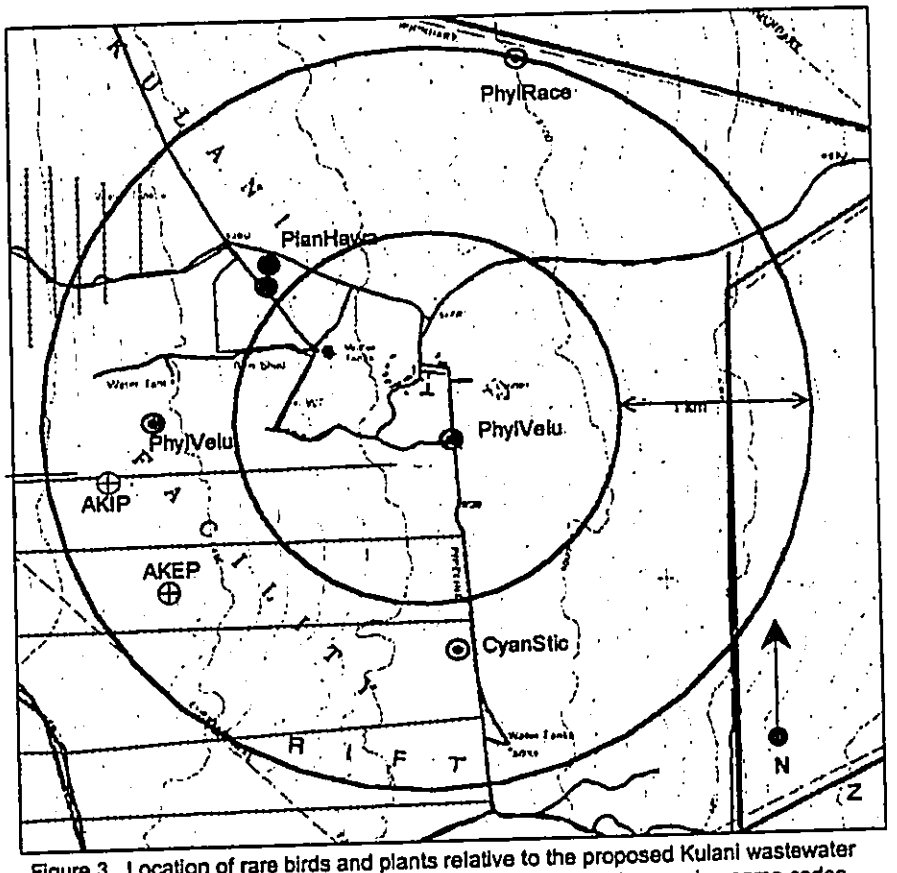


Figure 3. Location of rare birds and plants relative to the proposed Kulani wastewater improvements project area. See Tables 1 and 2 to interpret the species name codes.

habitats identified for the wastewater improvements Project. Similarly, although both the `Io (Hawaiian Hawk) and the `Ape`ape`a (Hawaiian Hoary Bat) will occasionally forage over the disturbed habitats of the proposed project site, their activities will not be impacted by the planned project as long as no large native trees which these species may roost or nest in are damaged or removed. Finally, the Nene primarily utilizes habitats dominated by native shrubs and grasses or short-stature alien grasslands, such as pastures or even golf courses. Currently none of the areas of the proposed project area have these types of plant communities and it is unlikely that Nene are utilizing this area. However, there is a concern that Nene may be attracted to parts of the wastewater project area, such as the treated effluent sub-surface disposal field, if this area is maintained as a short-stature grass community. It is unknown at this point what, if any, effect grazing in this part of the wastewater treatment facility might have on Nene.

Table 1. Endangered animal species found in the native forests within the vicinity of the proposed Kulani Correctional Facility wastewater improvements project. Information compiled from the Hawai'i Forest Bird Survey (Scott, et al. 1986) and surveys conducted by US Geological Survey's Biological Resources Division staff as part of the `Ola`a-Kilauea Management Project (Jacobi, et al. unpublished data).

Map Code	Scientific Name	Common Name	Distribution Near Project Area
AKEP	*Loxops c. coccinius*	Hawai'i `Akepa	Occasionally found in koa and `ohi`a rainforest southwest of proposed project area.
AKIP	*Hemignathus munroi*	`Akiapola`au	Occasionally found in koa and `ohi`a rainforest southwest of proposed project area.
Not shown on map	*Oreomystis mana*	Hawai'i Creeper	Expected to be in koa and `ohi`a rainforest southwest of proposed project area.
Not shown on map	*Buteo solitarius*	`Io (Hawaiian Hawk)	Several pairs of `Io are known from the Kulani area; forage over the forested and non-forested areas of the Facility.
Not shown on map	*Branta sandvicensis*	Nene (Hawaiian Goose)	Occasionally found in grazed pasture sections of the Facility; probably not in proposed project area.
Not shown on map	*Lasiurus cinereus semotus* ——	`Ape`ape`a (Hawaiian Hoary Bat)	Seen infrequently foraging over native forest and open habitats at dusk.

ENDANGERED PLANT SPECIES

Four endangered native plant species are found within two kilometers of the proposed project area (Table 2). Three of these species (*Phyllostegia racemosa, Phyllostegia velutina*, and *Cyanea stictophylla*) generally occur in the mature Koa and `Ohi`a forests adjacent to the project site, while the fourth species (*Plantago hawaiensis*) is found in open boggy areas on the younger lava flow substrate to the northwest of the Kulani facilities.

Table 2. Endangered plant species found in the native forests within the vicinity of the proposed Kulani Correctional Facility wastewater improvements project. Information from surveys conducted by US Geological Survey's Biological Resources Division staff as part of the ʻOlaʻa-Kilauea Management Project (Jacobi, et al. unpublished data). Nomenclature follows Wagner, et al. (1999).

Map Code	Scientific Name	Common Name	Life Form	Family
CyanStic	*Cyanea stictophylla*	haha	small tree	Campanulaceae
PhylVelu	*Phyllostegia velutina*	kapana	shrub	Lamiaceae
PhylRace	*Phyllostegia racemosa*	kiponapona	shrub	Lamiaceae
PlanHawa	*Plantago hawaiensis*	laukahi kuahiwi	herb	Plantaginaceae

We have found one group of *Phyllostegia velutina* in a very disturbed habitat on the northwest side of the junction of the Kulani Cone road and the road that heads west to the old Kulani piggery site. This small clump of plants is located just across the road from the site of one of the proposed areas for the treated effluent subsurface disposal field. Given the disturbed nature of the site these plants are growing, we do not expect a significant impact on these individuals from the proposed project activities as long as all disturbance is confined to the existing road corridor in this area or kept at least 10 meters away from the plants. If the proposed project proceeds, this group of plants must be specifically located in the field and disturbance must be kept away from the immediate vicinity of this small population.

INVASIVE ALIEN PLANT SPECIES

Currently there are a large number of alien plant species found in the general vicinity of the proposed project site, some of which are listed in Table 3. The greatest concern in evaluating the potential impacts of the proposed project relate to the possible direct harm to listed endangered plant and animal species found in or adjacent to the project sites. However, we are equally concerned that construction activities or long-term maintenance of the wastewater treatment facility and its components must not lead to the introduction of any new highly invasive alien weed species or foster the spread of any of the problem weed species currently found in this area, causing additional impacts on the listed or otherwise rare plants and animals in the adjacent native forest habitats.

DISCUSSION AND RECOMMENDATIONS

Overall we foresee no serious consequences to the endangered native species of plants and animals and native plant communities that are found on or adjacent to the proposed Kulani wastewater system improvements project site if construction and long-term maintenance activities are confined to areas that are already highly degraded and outside of native forest habitats. As indicated previously, construction activities must be kept at least 10 meters away from the small clump of *Phyllostegia velutina* located near one of the proposed treated effluent subsurface disposal sites.

Additionally, care must be taken that several invasive alien species that are currently found on the site do not proliferate and become more established in the adjacent native wet forest communities. Finally, it would be best if any gravel needed for the construction or leveling of the site of the new water tank should not be brought in from outside the Kulani complex. Gravel from off-site may contain new species of invasive weeds that are not currently found in the area. If it is not logistically possible to obtain base rock materials from the site, it is imperative that a

detailed weed monitoring plan be implemented during and following construction to detect and remove any new alien plants that may become introduced as a result of the construction.

Table 3. List of introduced species of vascular plants found in or adjacent to proposed Kulani Correctional Facility wastewater improvements project area. Species with names in bold type are considered to be highly invasive. Information from surveys conducted by US Geological Survey's Biological Resources Division staff as part of the `Ola`a-Kilauea Management Project (Jacobi, et al. unpublished data). Nomenclature follows Wagner, et al. (1999).

Scientific Name	Family	Common Name	Life Form
Andropogon virginicus	Poaceae	broomsedge	grass
Anemone hupehensis	Ranunculaceae	Japanese anemone	herb
Anthoxanthum odoratum	Poaceae	sweet vernalgrass	grass
Axonopus fissifilius	Poaceae	narrow-leaved carpetgrass	grass
Buddleia asiatica	Buddlejaceae	dogtail, butterflybush	shrub
Cirsium vulgare	Asteraceae	bull thistle	herb
***Cotoneaster* sp.**	Rosaceae	cotoneaster	sm. tree
Conyza bonariensis	Asteraceae	hairy horseweed	herb
Crocosmia x crocosmiiflora	Iridaceae	tritonia, montbretia	herb
Ehrharta stipoides	Poaceae	meadow ricegrass	grass
Epilobium billardierianum	Onagraceae	*no common name*	herb
Fragaria vesca	Rosaceae	European strawberry	herb
Gnaphalium japonicum	Asteraceae	cudweed	herb
Hedychium gardnerianum	Zingiberaceae	kahili ginger	lg. herb
Holcus lanatus	Poaceae	velvet grass, yorkshire fog	grass
Hypericum parvulum	Clusiaceae	St John's Wort	herb
Hypochoeris radicata	Asteraceae	hairy cat's ear	herb
Kyllinga brevifolia	Cyperaceae	no common name	sedge
Lotus subbiflorus	Fabaceae	no common name	herb
Lotus uliginosus	Fabaceae	no common name	herb
Paspalum urvillei	Poaceae	vasey grass	grass
Passiflora mollissima	Passifloraceae	banana poka	vine
Pennisetum clandestinum	Poaceae	kikuyu grass	grass
Persicaria capitata	Polygonaceae	knotweed, smartweed	herb
Pluchea indica	Asteraceae	fleabane	shrub
Rubus argutus	Rosaceae	Florida blackberry	shrub
Rubus ellipticus	Rosaceae	yellow Himalayan raspberry	shrub
Rubus rosifolius	Rosaceae	thimbleberry	shrub
***Rubus* sp. (undetermined)**	Rosaceae		shrub
Rumex acetosella	Polygonaceae	sheep sorrel	herb
Sacciolepis indica	Poaceae	Glenwood grass	grass
Setaria gracilis	Poaceae	yellow foxtail	grass
Setaria palmifolia	Poaceae	palmgrass	grass
Sonchus oleraceus	Asteraceae	sow thistle	herb
Sporobolus africanus	Poaceae	African dropseed	grass

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APPENDIX 3

ARCHAEOLOGICAL AND CULTURAL ASSESSMENT

RC-0078

Archaeological Inventory Survey and Limited Cultural Assessment for the Proposed Wastewater Treatment Facility at Kūlani Correctional Facility (TMK:3-2-4-08:9)

Waiākea Ahupua'a
South Hilo District
Island of Hawai'i

PREPARED BY:

Robert B. Rechtman, Ph.D.

PREPARED FOR:

Ron Terry, Ph.D.
Geometrician
HCR 2 Box 9575
Kea'au, HI 96749

July 2001

RECHTMAN CONSULTING
HC 1 Box 4149 • Kea'au, Hawai'i 96749
phone: (808) 966-7636 • FAX (800)406-2665
e-mail: rechtmanconsult@aol.com

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INTRODUCTION

At the request of Ron Terry, Ph.D., Rechtman Consulting performed an archaeological inventory survey and limited cultural impact assessment for a proposed wastewater treatment facility at Kūlani Prison in Waiākea Ahupua'a, South Hilo District, Island of Hawai'i (TMK 3-2-4-08:9) (Figures 1 and 2). The purpose of this study is to document the presence of any historic properties (including traditional cultural properties) that might exist within the project area, assess the significance of any such resources, and provide a statement of impact to any such resources as a result of the proposed construction of the wastewater facility.

This report is intended to accompany an Environmental Assessment (EA) being prepared in compliance with Chapter 343 Hawai'i Revised Statues, as well as fulfilling the requirements of the County of Hawai'i Planning Department and the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) with respect to permit approvals for land-altering and development activities.

In the *draft* Hawai'i Administrative Rules (draft HAR 13§13-275-2) that would govern the regulatory activities of the State Historic Preservation Division, a definition of historic property is provided.

> "Historic property" means any building, structure, object, district, area, or site, including *heiau* and underwater site, which is over 50 years old.

This definition should not be confused with the definition of Historic Property contained in the Federal legislation and its implementing regulation (Section 106 of the National Historic Preservation Act and 36 CFR 800, respectively), where Historic Property is defined as a resource "listed or eligible for listing in the National Register of Historic Places." The difference being that in the state-used definition ALL buildings, structures, objects, districts, areas, or sites older than fifty years are historic properties and need to be assessed as such. In the Federally-used definition, ONLY those buildings, structures, objects, districts, areas, or sites that are determined to be significant are considered Historic Properties.

The criteria for the evaluation of significance contained in the draft Hawai'i Administrative Rules generally follows that which was promulgated by the Federal government, with the addition of Significance Criterion E, which is not contained in the Federal evaluation criteria. To be significant the resource must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

A Be associated with events that have made an important contribution to the broad patterns of our history;

B Be associated with the lives of persons important in our past;

C Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

D Have yielded, or is likely to yield, information important for research on prehistory or history;

E Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

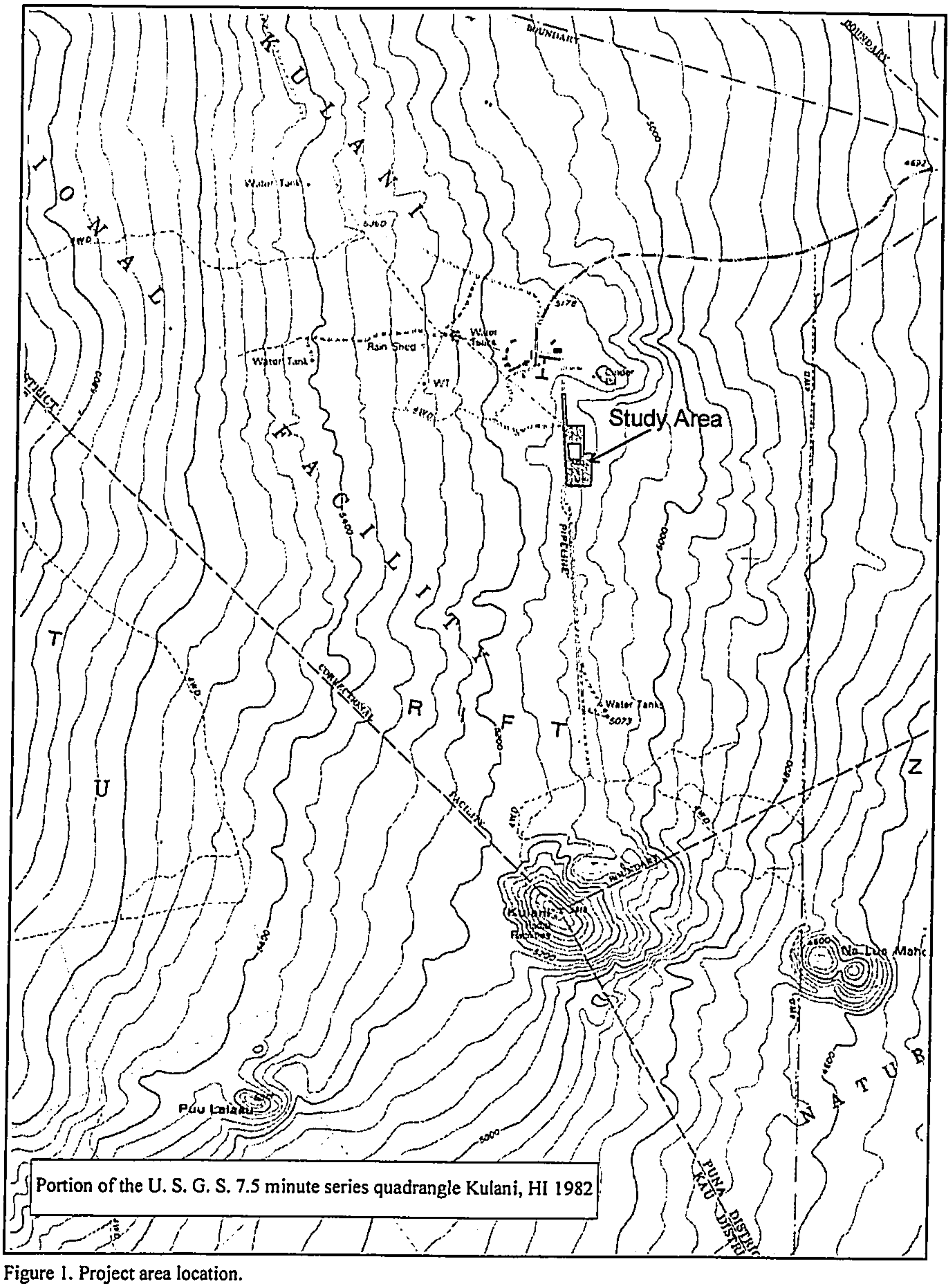

Figure 1. Project area location.

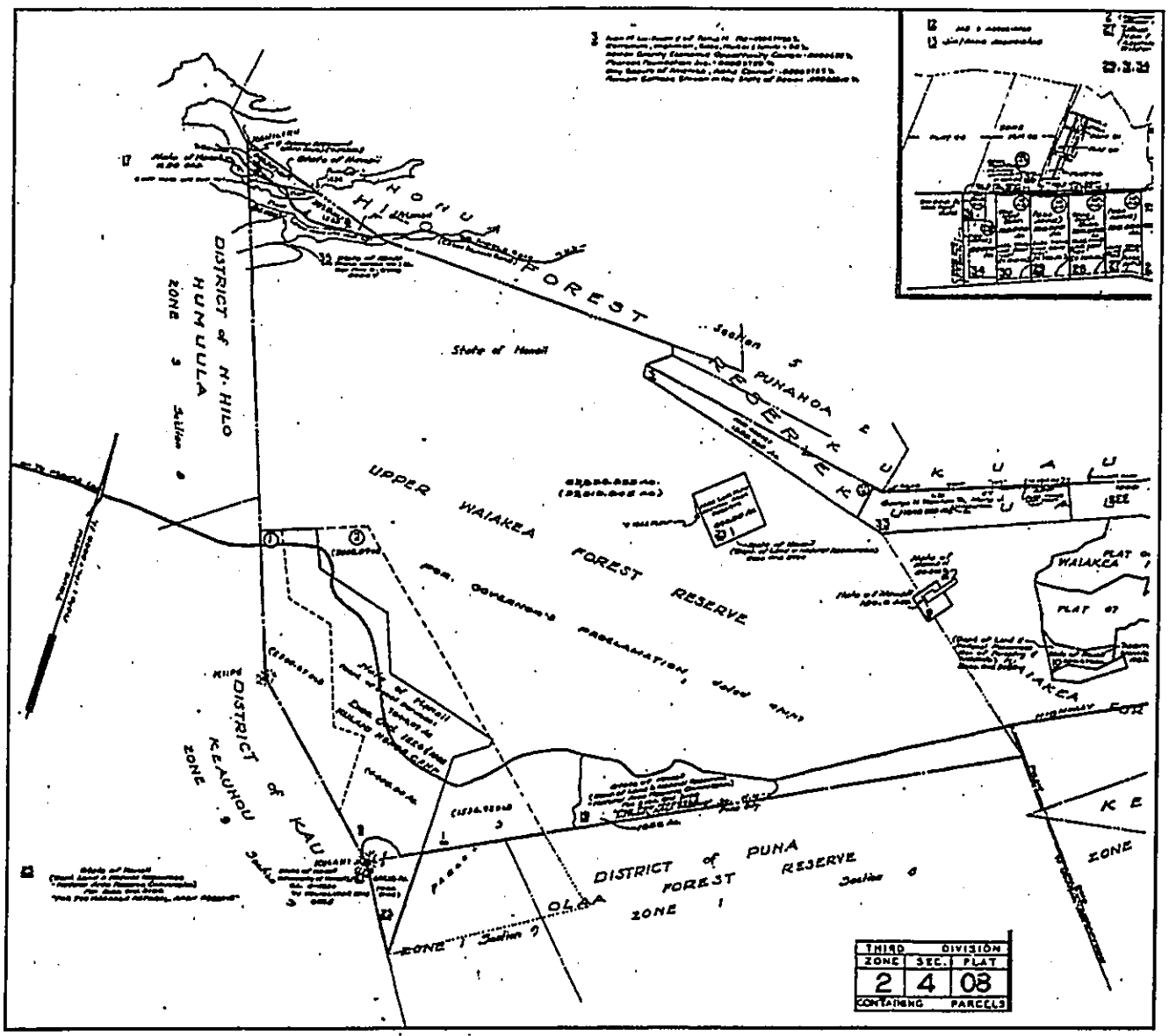

Figure 2. Portion of TMK map showing project area.

In the Hawai'i Revised Statutes–Chapter 6E, and in the draft Hawai'i Administrative Rules (draft HAR 13§13-275-2), a definition of Traditional Cultural Property is provided.

> "Traditional cultural property" means any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in an ethnic community's history and contribute to maintaining the ethnic community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both.

The origin of the concept of Traditional Cultural Property is found in National Register Bulletin 38 published by the U.S. Department of Interior-National Park Service. "Traditional" as it is used, implies a time depth of at least 50 years, and a generalized mode of transmission of information from one generation to the next, either orally or by act. "Cultural" refers to the beliefs, practices, lifeways, and social institutions of a given community. The use of the term "Property" defines this category of resource as an identifiable place. Traditional Cultural Properties are not intangible, they must have some kind of boundary; and are subject to the same kind of evaluation as any other historic resource, with one very important exception. By definition, the significance of Traditional Cultural Properties should be determined by the community that values them.

PROJECT AREA DESCRIPTION

The current project area is located within the boundary of the Kūlani Correctional Facility at an elevation of about 5,100 feet above sea level. The survey area (roughly 6 acres) consists of an existing well-used dirt road and two grassed pastures connected by a corridor of disturbed forest (Figure 3). Along the perimeter of the northern pasture are a Quonset hut storage building and a semi-collapsed wooden frame nursery greenhouse structure. Neither building was considered to be a historic property. Although the Quonset hut was likely originally manufactured in the 1930s or 1940s, it was placed in its present location within the last 50 years. The pasture area is over 2.5 kilometers (1.5 miles) due south of Pu'u Kūlani. The summit of Pu'u Kūlani marks the traditional land divisions of South Hilo, Puna, and Ka'u (see Figure 2).

The soils in the study area are classified as Kiloa extremely stony muck and Lalaau extremely stony muck, both are thin rocky soils that overlay fragmented *'a'ā* (Sato et al. 1973). The vegetation in the immediate study area consists of weeds and grasses in the pastures, which are bounded by a variety of exotic trees and shrubs. The native forest, which once covered the area is characterized by *'ōhi'a* (*Metrosideros polymoropha*) with an understory of *hapu'u* (*Cibotium spp.*).

BACKGROUND STUDIES

Moniz (n.d) prepared a historical and archaeological synthesis of land use and settlement patterns for Waiākea Ahupua'a; and McEldowney (1979) authored an archaeological and historical literature review and research design for the greater Hilo area, of which Waiākea is central. The information contained in these two manuscripts is relied upon for developing a generalized precontact and early historic model of settlement and land use for Waiākea. Supplemental to this are the Boundary Commission records dating between 1873-1914, which provide limited information concerning significant places and cultural activities that may have occurred within the high elevation interior forest zone. Specific information relative to the establishment of the prison and subsequent land use is derived from two sources: a recent series of newspaper articles by Kent Warshauer (and oral discussion with the author) and oral information from Mr. Ryan Okimoto, the current ranch lands manager at the Kūlani Correctional Facility.

Aside from a limited amount of reconnaissance survey work (McEldowney 1979) in the upper forest area of Waiākea, most of the major previous archaeological studies in the *ahupua'a* were conducted within the vicinity of Hilo town (Borthwick et al. 1993; Hunt and McDermott 1993; Jennings 1991; Maly et al. 1994; Rechtman and Henry 1998; M. Rosendahl 1988; Walker 1994). Collectively these studies document the ravages that Historic Period land use associated with ranching, sugarcane cultivation, and modern development had on the Precontact archaeological record. Lower Waiākea was a center for Hawai'i's sugarcane industry from the late nineteenth century through the 1970s.

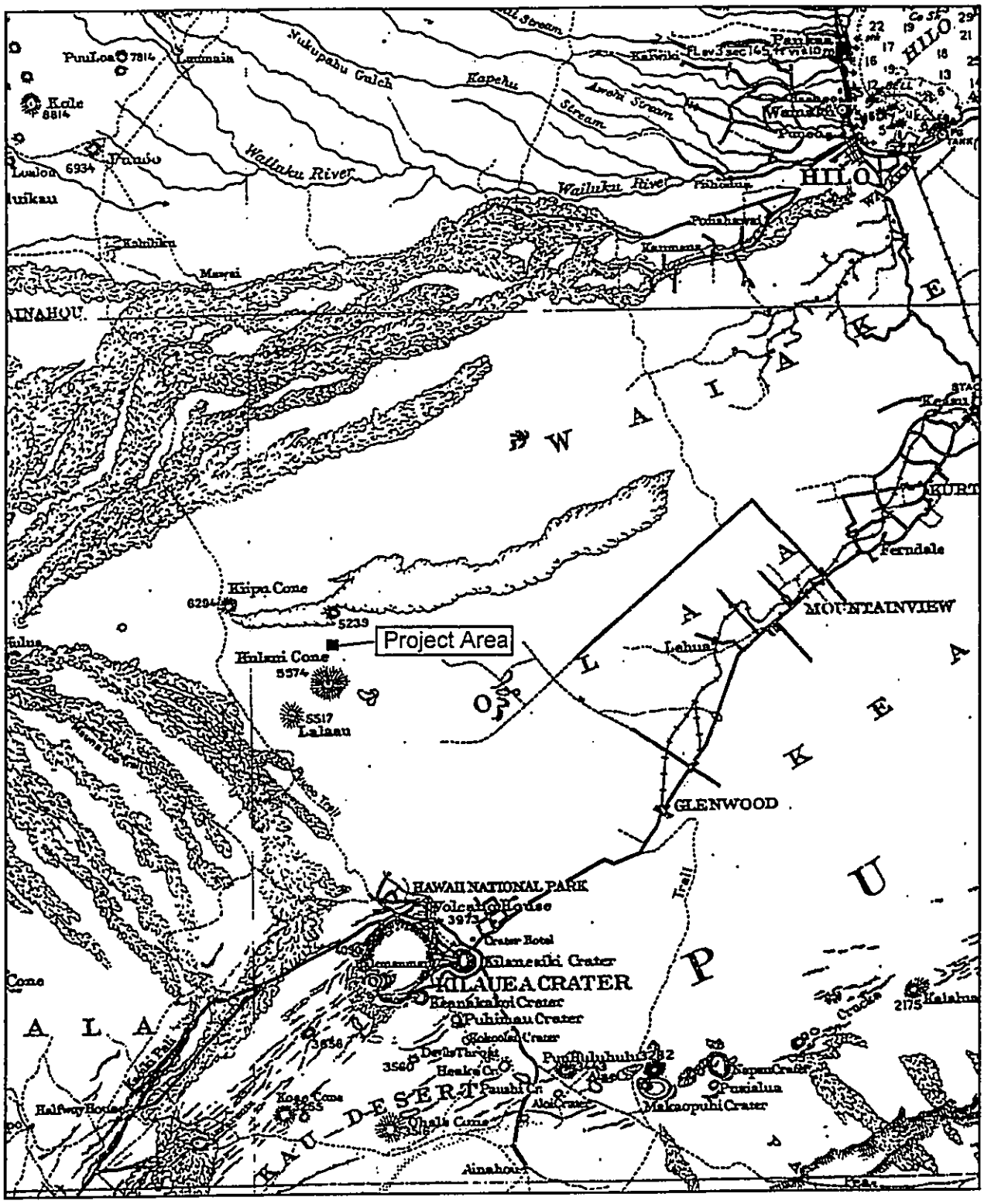

Figure 3. Portion of 1932 U.S. Army map showing trails in the region.

During precontact times, the upper elevations of the project area supported *'ōhi'a-hapu'u* forest that contained a variety of economically important tree and bird species. However, the remoteness of the current study area precluded the harvesting of trees for canoes and building materials, rather it is likely that the study area was visited by individuals engaged in bird catching. The collection of feathers was an important cultural practice that was performed by specialists. While in the remote forest, the birdcatchers might construct temporary structures to overnight in and might have built small shrines or alters to place offerings. As the birdcathers followed the birds, which followed the tree blooms, predictable trails could not be maintained. It is likely that main trails such as the Pu'u'o'o Trail were used to gain access to the forest, then smaller paths were created and followed to trap the birds as they gathered nectar from the *'ōhi'a* blossoms. A limited amount of ethnohistorical information concerning the interior forests of Waiākea can be gleaned from the proceedings of the Boundary Commission.

In 1862, the Boundary Commission was established to set the legal boundaries of the *ahupua'a* that were awarded during the *Mahele*. The commissioners were authorized to certify the boundaries in 1874. The primary informants for the boundary descriptions were older native residents of the specific areas in question. Many times the boundaries of particular *ahupua'a* were established through the testimony regarding neighboring *ahupua'a*. Such was the case for Waiākea; informants, many of whom were born in the late 1700s, provided boundary data for Kea'au in Puna, Keauhou in Ka'u, Kukuau in South Hilo, and Humu'ula in North Hilo, all of which border Waiākea. In describing the *ahupua'a* boundaries, references are made to planting areas (none extending above about 2000 feet), locations of woods where trees for canoes were acquired (above Hilo at a place called Nehuiki), and areas deep in the forest for bird catching. A point at the summit of Pu'u Kūlani marks the southwestern corner of Waiākea Ahupua'a. Pu'u Kūlani, as a named prominent landscape feature that is referenced in legend and chant (Maly personal communication 2001) would no doubt be considered a traditional cultural property. Its location (well distant from the current study area) precludes its consideration as part of the current investigation.

As part of the current study the Office of Hawaiian Affairs (Ululani Sherlock) and Kepā Maly (Kumu Pono Associates) were contacted in an effort to obtain information about any potential traditional cultural properties that might be present in upper Waiākea Ahupua'a. Aside from the potential traditional cultural nature of Pu'u Kūlani, neither of the organizations/individuals contacted had any information relative to the existence of traditional cultural properties in the immediate vicinity of the current project area.

In a series of recent newspaper articles (*Hawaii Tribune Herald* June 24 and July 1, 2001), Kent Warshauer describes the construction of Kūlani Road and the beginnings of the Kūlani facility. The road was completed in December of 1945 using prison labor (from the Waiākea Prison Camp) and a few skilled workers. Construction was done by hand, bulldozer, and explosives. In March of 1946 the Waiākea Prison Camp was officially closed, and the prisoners were resettled at Kūlani. Housed in tents and temporary buildings the prison camp at Kūlani had to be relatively self-sufficient in the early years. According to Mr. Ryan Okimoto, the current ranch lands manager for the Kūlani Correctional Facility, a plant nursery and pastures for cattle were established by the late 1950s. This coincides with the extension of Kūlani Road to Stainback Highway, which improved the access to the facility. With the development of the modern correctional facility, expanded prison population, and increased accessibility the self-contained nature of Kūlani diminished. The independent food production activities were reduced, and the older agricultural facilities abandoned.

CURRENT PROJECT EXPECTATIONS

The current project area falls within the Rainforest Zone (Zone IV) as defined by McEldowney (1979), which corresponds environmentally to the Montane Moist Forest (Cuddihy and Stone 1990). This region is dominated by *'ōhi'a* with an understory of *hapu'u* and *'uluhe*. The archaeological expectations for the general project area are very limited. McEldowney (1979) relates the possibility that Precontact Period birdcatchers may have seasonally ventured into these upper forests in pursuit of birds that followed the fluctuating *'ōhi'a* bloom. During such times (March–April and August–October) temporary residences may have been established in the forest (Emerson 1894). The testimonies of traditional birdcatchers during the Boundary Commission hearings support this possibility (Lyman 1906; Lyons 1875). However, any such sites would likely have been constructed of perishable materials, and the rain forest environment would likely have reclaimed the building materials.

Similarly, the potential for identifying any traditional cultural resources within the study area is low. There are no precontact trails described for the area (Figure 4), and as Warshauer (*Hawaii Tribune Herald*, July 1, 2001:28) describes, the current Kūlani Correctional Faciltiy location was inaccessible until the roadway was completed in 1950. Further, the oral information gathered from Mr. Ryan Okimoto indicates that it was not until the late 1950s that the plant nursery and pastures were established.

RC-0078

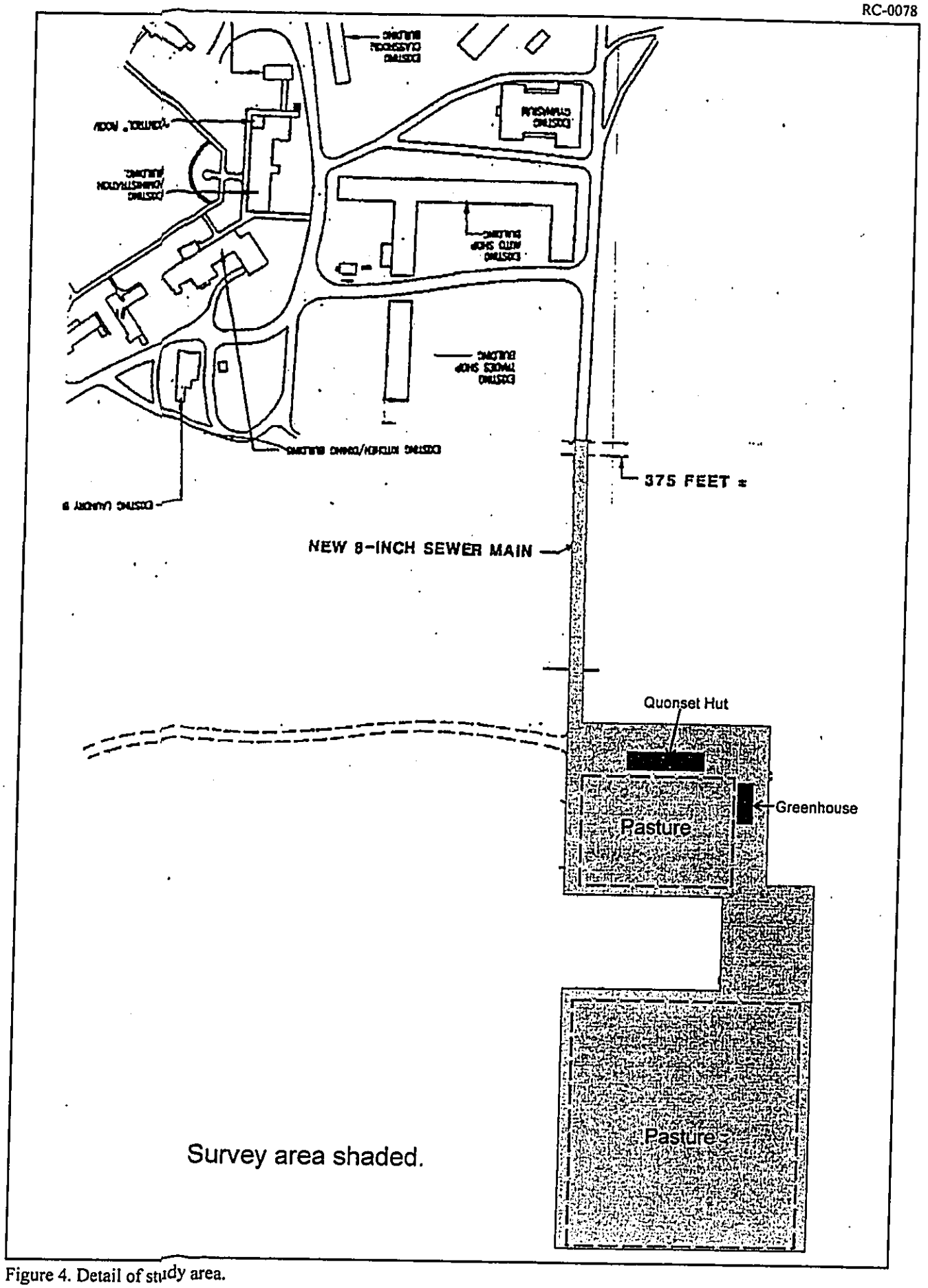

Figure 4. Detail of study area.

FIELDWORK

On May 11, 2001, Robert B. Rechtman, Ph.D. and Matthew R. Clark, B.A. performed a field survey of the entire project area, the limits of which were pointed out in the field by Dr. Terry. The field investigators walked transects across the entire survey area at a 10-meter spacing interval; ground visibility was excellent. No archaeological resources were observed within the project area. Also, no resources of a potential traditional cultural nature (i.e., landform, vegetation, etc.) were observed.

CONCLUSION AND RECOMMENDATION

It is concluded that construction of the wastewater treatment facility will not adversely affect any historic properties (including traditional cultural properties). Because the tradition of bird catching was not carried into the twentieth century, and the study area was essentially inaccessible until after 1950, after which time it was off-limits to the general public, it is also logical to conclude that the proposed construction will not impact any culturally valued resources or cultural practices. Accordingly, it is recommended that DLNR-SHPD require no further historic preservation work prior to construction. However, in the highly unlikely event that archaeological resources are encountered during land-altering activities associated with construction, work in the immediate area of the discovery should be halted and DLNR-SHPD contacted as outlined in *draft* Hawaii Administrative Rules 13§13-280.

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APPENDIX 4

COMMENTS AND RESPONSES TO DRAFT EA

Harry Kim
Mayor

Dennis K. W. Lee
Director

Ronald Ueoka
Deputy Director

County of Hawaii
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawaii 96720-3043
(808) 961-8321 · Fax (808) 961-8630

September 9, 2002

Mr. Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
Kulani Correctional Facility Wastewater Treatment Plant
TMK: 2-4-08: 009 (Portion)

We have reviewed the subject DEA forwarded by your memo received August 8, 2002 and have the following comments.

1. All new building construction shall comply with current code requirements.

2. The subject parcel is in an area designated as Zone X by the Federal Emergency Management Agency (FEMA). Zone X is an area determined to be outside the 500-year floodplain.

3. Any earthwork activity shall conform to Chapter 10, Erosion & Sedimentation Control, of the Hawaii County Code.

Questions may be referred to Mr. Kelly Gomes of our Engineering Division at 961-8327.

for GALEN KUBA, Division Chief
Engineering Division

KG

c: Office of Environmental Control
DAGS, Division of Public Works

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1106

OCT 11 2002

Mr. Galen Kuba
Engineering Division Chief
Department of Public Works
101 Pauahi Street, Suite 7
Hilo, Hawaii 96720

Dear Mr. Kuba:

Subject: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter dated September 9, 2002, on the Draft EA. In answer to your specific comments:

1. *Construction to comply with current code*. All new building construction will comply with all applicable code requirements.

2. *Area designated Zone X on FIRM maps*. This information will be added to the Final EA.

3. *Earthwork Activity shall conform to Chapter 10, Hawai'i County Code*. All earthwork activity shall so conform.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

Very truly yours,

HAROLD SONOMURA
Acting Public Works Administrator

GT/si

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:
02-205/epo

September 12, 2002

Mr. Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Draft Environmental Assessment (DEA)
Kulani Correctional Facility Wastewater Treatment Plant
Tax Map Key: (3) 2-4-008:009

Thank you for the opportunity to review and comment on the subject proposal. The DEA was routed to the various branches of the Environmental Health Administration. We have the following comments:

Clean Water Branch (CWB)

1. The Army Corps of Engineers should be contacted t identify whether a Federal permit (including a Department of Army permit) is required for this project. If it is determined that a Federal permit is required for the subject project, then a Section 401 Water Quality Certification would also be required from our office;

2. If the construction project involves any of the following discharges into State waters, a National Pollutant Discharge Elimination System (NPDES) permit coverage is required for each discharge:

   a. Storm water runoff associated with construction activities, including clearing, grading, and excavation that result in the disturbance of equal to or greater than five (5) acres of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale;

   (Note: After march 10, 2003, an NPDES permit will be required for discharges of storm water associated with construction activities, including clearing, grading, and excavation that result in the disturbance of one (1) acre or more. In addition,

the proposed amendments to Hawaii Administrative Rules (HAR), Chapter 11-55, require NPDES permit coverage for all construction activities that meet the disturbance area requirements, regardless if discharge is unanticipated.)

b. Hydro-testing water;

c. Construction dewatering effluent.

The CWB requires that Notices of Intent (NOI) for DPDES general permits be submitted 30 days before the commencement of the respective activities. The proposed amendments to HAR, Chapter 11-55, also require a copy of the NOI or NPDES permit application to be submitted to the State Department of Land and Natural Resources, Tate Historic Preservation Division. NOI forms can be picked up at our office or downloaded from our website at http://www.state/hi.us/doh/eh/cwb/forms/index/html.

If you have any questions please contact the Clean Water Branch at (808) 586-4309.

Safe Drinking Water Branch (SDWB)

1. The project site is situated 'mauka' or above the UIC line; therefore, it overlies a drinking water aquifer (also referred to as an underground source of drinking water, or USDW);

2. Section 11-23-07 of Chapter 11-32 (the UIC rules) prohibits the construction or operation of any new Class V, Subsclass A injection well in USDW areas. Subclass A injection wells include sewage injection wells and industrial wastewater disposal injection wells;

3. Kulani Correctional Facility (KCF) is currently operating existing sewage injection wells without a required UIC permit. The facility may be subject to enforcement action, which may include fines and corrective action;

4. Federal, Class V injection well regulations impose a ban on existing large-capacity cesspools (injection wells) by April 5, 2005. such large-capacity cesspools must be properly abandoned, or upgraded, by the deadline. Certain KCF cesspools are large-capacity cesspools; and

5. Proper abandonment of large-capacity cesspools (injection wells) must be under the instructions of the State's UIC program. An injection well abandonment application must be filed by the facility 180 days prior to injection well abandonment work.

If you have any questions please contact the Safe Drinking Water Branch at (808) 586-4258.

Wastewater Branch (WWB)

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems". We reserve the right to review the detailed wastewater plans for conformance to applicable rules.

If you have any questions, please contact the Wastewater Branch at (808) 586-4294.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration

c: CWB
SDWB
WWB
Maui DHO

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO: PWD02.M109

OCT 11 2002

MEMORANDUM

TO: Mr. Gary Gill
Deputy Director, Environmental Health Adminstration
Department of Health

FROM: Harold Sonomura
Acting Public Works Administrator

SUBJECT: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter dated September 12, 2002, on the Draft EA. In answer to your specific comments:

A. Clean Water Branch

1. *Coordination with U.S. Army Corps of Engineers.* The Final EA will contain a letter from the U.S. Army Corps of Engineers (see attachment) stating that the agency has determined that, based on information provided in the Draft EA, no Department of the Army permit appears to be necessary for the project.

2. *NPDES Permit.* As stated on Page 22 of the Draft EA, an NPDES permit will be required for the project. The Department of Accounting and General Services (DAGS) intends to comply with all requirements of the permit process.

B. Safe Drinking Water Branch

1. *Relation of project to drinking water aquifers.* We acknowledge that the project site is situated 'mauka' or above the UIC line.

2. *UIC rules regarding construction and operation of Class V injection wells.* We acknowledge that Section 11-23-07 of Chapter 11-32 (the UIC rules) prohibit the construction or operation of any new Class V, Subclass A injection well in USDW areas.

3. *UIC Permit.* The Department of Public Safety is currently in the process of registering the existing cesspools serving Kulani Correctional Facility. Incidentally, some of the cesspools and septic tanks serving Kulani Correctional Facility existed before the UIC policies went into effect.

4. *Relation of project to state and federal regulations.* As stated on Page 1 of the Draft EA, "KCF is located in a Critical Wastewater Disposal Area (CWDA) per 11-62-05 9b), Hawai'i Administrative Rules (HAR). In such areas, fluids released in cesspools have a high potential to contain elevated concentrations of contaminants that may endanger drinking water.....In November of 1999, the federal Environmental Protection Agency (EPA) announced new regulations that prohibited new large-capacity cesspools as of April 2000. The rules also required operators to phase out existing large-capacity cesspools by April 2005. There is therefore a need to construct a wastewater treatment system in the interest of public health, in compliance with federal and State regulations."

5. *Abandonment of cesspools.* Page 5 of the Draft EA states the need to properly close the cesspools. A statement concerning the need for an injection well abandonment application has been added to the Final EA.

C. Wastewater Branch

1. *Need for conformance with Chapter 11-62.* The Department of Accounting and General Services understands the need to conform with this Chapter and for your branch's review of plans.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

GT/si
Attachment

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

August 12, 2002

Civil Works Technical Branch

Mr. Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Kulani Correctional Facility Wastewater Treatment Plant, South Hilo, Hawaii (TMK 2-4-8: 9). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit will not be required for the project.

b. The flood hazard information provided on page 9 of the DEA is correct.

A copy of this letter is also being furnished to Mr. Gregory Tanaka, Hawaii State Department of Accounting and General Services, Division of Public Works, 1151 Punchbowl Street, Honolulu, Hawaii 96813. Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

James Pennaz

James Pennaz, P.E.
Chief, Civil Works
Technical Branch

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

August 12, 2002

Civil Works Technical Branch

Mr. Ron Terry
GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Kulani Correctional Facility Wastewater Treatment Plant, South Hilo, Hawaii (TMK 2-4-8: 9). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit will not be required for the project.

b. The flood hazard information provided on page 9 of the DEA is correct.

A copy of this letter is also being furnished to Mr. Gregory Tanaka, Hawaii State Department of Accounting and General Services, Division of Public Works, 1151 Punchbowl Street, Honolulu, Hawaii 96813. Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

James Pennaz

James Pennaz, P.E.
Chief, Civil Works
Technical Branch

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO: PWD02.M110?

OCT 1 2002

Mr. James Pennaz, P.E.
Chief, Civil Works Technical Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Dear Mr. Pennaz:

Subject: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter of August 12, 2002, in which you stated that the flood hazard information provided in the Draft EA was correct, and that, based on the information provided in the Draft EA, a Department of the Army permit would not be required for the project.

If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

Very truly yours,

HAROLD SONOMURA
Acting Public Works Administrator

GT/si

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
JEAN L. OSHITA
JADINE Y. URASAKI

IN REPLY REFER TO:

HWY-PS
2.7609

AUG 2 2 2002

GeoMetrician Associates
HC 2 Box 9575
Keaau, Hawaii 96749

Gentlemen:

Subject: Draft Environmental Assessment (EA) for Kulani Correctional Facility Wastewater Treatment Plant, Waiakea, TMK: 2-4-08: por. 09

Thank you for requesting our comments on the Draft EA. The proposed improvements will not affect State highways.

If you have any questions, please contact Ronald Tsuzuki, Head Planning Engineer, Highways Division, at (808) 587-1830.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

DM:th

c: Office of Environmental Quality Control, Director

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1102

OCT 4 2002

MEMORANDUM

TO: The Honorable Brian K. Minaai
Director, Department of Transportation

FROM: Mary Alice Evans
State Comptroller

SUBJECT: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter of August 22, 2002, in which you stated that the proposed improvements would not affect State highways. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

August 28, 2002

LD-NAV
KULANIWWTP.RCM
L-956/1299/1375/1377/956/HA-03-27

Geometrician Associates
Ron Terry
HC 2 Box 9575
Keaau, Hawaii 96749

Dear Mr. Terry:

Subject: Draft Environmental Assessment (DEA) Covering the Kulani Correctional Facility Wastewater Treatment Plant, Waiakea, South Hilo, Island of Hawaii, Hawaii - TMK: 3rd/ 2-4-008: portion of 009 (August 2002)

Thank you for the opportunity to review and comment on the subject Draft Environment Assessment.

The Land Division distributed a copy of the document covering the Kulani Correctional Wastewater Treatment Plant to the following Department of Land and Natural Resources' Divisions for their review and comment:

- Division of Forestry and Wildlife
- Commission on Water Resource Management
- Land Division Planning and Technical Services
- Land Division Engineering Branch
- Land Division Hawaii District Land Office

Attached herewith is a copy of the Land Division Engineering Branch comment.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter.

If the Land Division receives additional comments, they will be forwarded to your office at that time.

Should you have any question, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

Charlene E. Unoki

for DIERDRE S. MAMIYA
Administrator

C: Hawaii District Land Office

BENJAMIN J. CAYETANO
GOVERNOR

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
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THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

August 9, 2002

LD/NAV
Ref.: KULANIWWTP.CMT

L-956/859
Suspense Date: 8/26/02

MEMORANDUM:

TO:
- Division of Aquatic Resources
- OOO Division of Forestry & Wildlife (RD)
- Division of State Parks
- Division of Boating and Ocean Recreation
- OOO Historic Preservation Division (RD)
- XXX Commission on Water Resource Management
- **Land Division Branches of:**
- OOO Planning and Technical Services (RD)
- **XXX Engineering Branch**
- XXX Hawaii District Land Office

FROM: for Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment (DEA) Covering the Kulani Correctional Facility Wastewater Treatment Plant, Waiakea, South Hilo, Island of Hawaii, Hawaii

Please review the attached DEA and submit your comments (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nicholas A. Vaccaro at ext.: 7-0384.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments.

(X) Comments attached.

Signed: Eric T. Yuasa

Date: _____

DLNR-LAND DIVISION
ENGINEERING BRANCH

COMMENTS

For your information, the proposed project site, according to FEMA Community-Panel No. 155166 1075 C, is located in Zone X. This is an area determined to be outside the 500-year flood plain.

Should you have any questions, please call Eric Yuasa of the Project Planning Section at 587-0229.

Signed: Eric T. Yuasa
for ANDREW M. MONDEN, CHIEF ENGINEER

Date: 8/22/02

N:\WLD\MAKAI\DENNIS\WORD\KULANI_WWTrtmntPlant_DEA_com_H6.doc

BENJAMIN J. CAYETANO
GOVERNOR

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

August 9, 2002

LD/NAV
Ref.: KULANIWWTP.CMT

L-956/859
Suspense Date: 8/26/02

MEMORANDUM:

TO:
- Division of Aquatic Resources
- OOO Division of Forestry & Wildlife (RD)
- Division of State Parks
- Division of Boating and Ocean Recreation
- OOO Historic Preservation Division (RD)
- XXX Commission on Water Resource Management
- **Land Division Branches of:**
- ✓ OOO Planning and Technical Services (~~RD~~)
- XXX Engineering Branch
- XXX Hawaii District Land Office

FROM: for Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment (DEA) Covering the Kulani Correctional Facility Wastewater Treatment Plant, Waiakea, South Hilo, Island of Hawaii, Hawaii

Please review the attached DEA and submit your comments (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nicholas A. Vaccaro at ext.: 7-0384.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(X) We have no comments.

( ) Comments ~~attached~~.

Signed:

Date: 8-26-02

BENJAMIN J. CAYETANO
GOVERNOR

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BC OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

LINNEL T. NISHIOKA
DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
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(X) We have no comments.

( ) Comments attached.

Signed: _____

Date: 8/22/02

BENJAMIN J. CAYETANO
GOVERNOR

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BC OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

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August 9, 2002

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To

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(X) We have no comments.

( ) Comments attached.

Signed:

Date: 8/22/02

LAND/TRANS. DIV.
DEPARTMENT OF
ATTORNEY GENERAL

2002 AUG 22 P 1:44

BENJAMIN J. CAYETANO
GOVERNOR

GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BOAR OF LAND AND NATURAL RESOURCES

ERIC T. HIRANO
DEPUTY DIRECTOR

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August 9, 2002

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FROM: for Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Draft Environmental Assessment (DEA) Covering the Kulani Correctional Facility Wastewater Treatment Plant, Waiakea, South Hilo, Island of Hawaii, Hawaii

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If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(✓) We have no comments.

( ) Comments attached.

Signed:

Date: 8/20/02

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1101

OCT 1 2002

MEMORANDUM

TO: Ms. Dierdre S. Mamiya
Administrator, Land Division
Department of Land and Natural Resources

FROM: Harold Sonomura
Acting Public Works Administrator

SUBJECT: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter of August 28, 2002, which included comments from DLNR agencies to whom you circulated the Draft EA. We note your conclusion that based on "no-comment" responses from all agencies other than Land Division Engineering, DLNR has no other comment to offer on the subject matter. In response to the Land Division Engineering's comment that the project is located in Zone X, we would like to note that this information will be added to the Final EA.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

GT/si

UNIVERSITY OF HAWAI'I
ENVIRONMENTAL CENTER

A UNIT OF THE WATER RESOURCES RESEARCH CENTER

September 6, 2002
EA: 0292

Gregory Tanaka
Dept. of Accounting General Services
1151 Punchbowl Street, Room 437
Honolulu, HI 96813

Dear Mr. Tanaka:

Draft Environmental Assessment
Kulani Correctional Facility Wastewater Treatment Plant
South Hilo, Hawai'i

The proposed project would construct a wastewater treatment plant and associated facilities on the grounds of the Kulani Correctional Facility, located at 5,200 feet above sea level in an area of native forest. Currently, the facility disposes of its wastewater in large-capacity cesspools. In November of 1999, EPA announced new regulations that require operators to phase out existing large-capacity cesspools by April 2005. Similar State of Hawaiĉi regulations are also in effect. The proposed wastewater treatment facility would consist of wastewater pipelines, an aerated pond, a blower building, and associated infrastructure. Wastewater from all existing buildings with plumbing at the main camp would be collected and delivered to the proposed aerated pond system via a new wastewater pipeline located beneath the existing access road. A leaching field (disposal field) would be built on the existing pastureland to the east of the access road.

This review was conducted with the assistance of Dave Sims, Environmental Center.

General Comments

We understand the need to construct a wastewater treatment plant at Kulani Correctional Facility to comply with federal and State regulations and in the interest of public health. However we note that aquatic areas such as aeration ponds with an abundance of organic material comprise attractive water bird habitats. Water birds, including some endangered species, will certainly be attracted to these large pond habitats. Endangered water birds, including A'eo (Hawaiian Stilt, *Hymantopus mexicanus knudseni*), Koloa (Hawaiian Duck, *Anas wyvilliana*), 'Alae ke'oke'o (Hawaiian Coot, *Fulica alai*), and 'Alae'ula (Hawaiian Gallinule, *Gallinula chloropus sandvicensis*) are known to colonize artificial aquatic systems (e.g., the Kealakehe wastewater Treatment Plant and the Cyanotech algal raceways at Ke'ahole). As historically natural wetlands and other aquatic systems have diminished, opportunistic colonization of artificial systems by endangered birds has offered opportunities for offsite mitigation of proposed development. Under terms of Habitat Conservation Plans (HCP) providing for incidental take of

these species at areas of proposed development, agencies and individuals may offset potential take of an endangered species due to a development activity by providing alternative habitat at an offsite location. The proposed aeration ponds at the Kulani facility may provide such an offsite mitigation opportunity for other proposed development in the region. However, in the event that endangered water birds colonize the facility, the potential for liability due to take, intentional or otherwise, of birds at the site will require consultation with the U.S. Fish and Wildlife Service and the Hawai'i Department of Land and Natural Resources Division of Forestry and Wildlife.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

c: Ron Terry
OEQC
James Moncur
Dave Sims

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO: PWD02.M110

OCT 1 2002

Mr. John T. Harrison, Ph.D.
Director
University of Hawai'i Environmental Center
Krauss Annex 19
2500 Dole Street
Honolulu, Hawaii 96822

Dear Dr. Harrison:

Subject: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter dated September 6, 2002, on the Draft EA.

In answer to your specific comments about the potential to attract endangered waterbirds, discussions with experienced ornithologists from the Hawai'i State Division of Forestry and Wildlife (DOFAW), the USGS Biological Resources Division and the Audubon Society indicate that, at 5,280 feet in elevation on the slopes of Mauna Loa, Kulani Correctional Facility (KCF) appears to be outside the normal range of the endangered waterbirds you mention. At the large water catchment ponds at Kulani, there are no records of Black-necked Stilt, Hawaiian Coot or Koloa. (It is important to note that the Common Moorhen does not exist on the island of Hawai'i). The Black-necked Stilt is rarely found above 2,000 feet in elevation, and the Koloa does not seem to inhabit water bodies on this flank of Mauna Loa. It is considered possible, but unlikely, that Hawaiian Coots might wander into the region. As discussed in the Draft EA, Nene are present. Biologists feel that it they are more likely to graze on the grass overlying the leaching field than swim in the wastewater ponds. In order to prevent large-scale attraction, KCF officials plan to plant a grass that is unpalatable to Nene.

However, in order to account for the potential for attracting endangered waterbirds, KCF, in coordination with the Ola'a Kilauea Partnership, plans to: a) monitor the ponds for use by endangered waterbirds; and b) if use occurs, consult again with the U.S. Fish and Wildlife

Service and DOFAW concerning the issue of potential take and mitigation (e.g., do nothing because no harm will occur, install pond covers, etc.).

Finally, we would like to note that the project has been planned in close consultation with all applicable resource agencies through the Ola'a-Kilauea Partnership, a consortium of agencies focused on the montane rainforest ecosystem of Mauna Loa. Each received a copy of the Draft EA for review.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

Very truly yours,

HAROLD SONOMURA
Acting Public Works Administrator

GT/si

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

September 6, 2002

Mr. Gregory Tanaka
Department of Accounting and General Services, State of Hawai'i
1151 Punchbowl Street, Room 437
Honolulu, Hawai'i 96813

Ron Terry, Ph.D.
H.C. 2 Box 9575
Keaau, Hawai'i 96749

Dear Messrs. Tanaka and Terry:

The Office of Environmental Quality Control has reviewed the draft environmental assessment for the Kulani Correctional Facility Wastewater Treatment Plant, Tax Map Key (3rd): 2-4-08, portion 09, in the judicial district of Waiakea, and offers the following additional comments for your consideration and response:

1. *GENERAL COMMENTS:* The project environmental assessment is well prepared and the office understand supports the change cesspools to a wastewater treatment system.
2. *SECONDARY IMPACT OF WASTEWATER POND AS ATTRACTANT FOR ENDANGERED SPECIES*: The Office recommends that the Department consult with the U.S. Fish and Wildlife Service as well as the Department of Land and Natural Resources, Division of Forestry and Wildlife as the potential for endangered birds being attracted to the wastewater treatment pond.
3. *USE OF RECYCLED GLASS IN CONSTRUCTION PROJECTS.* To promote the use of recycled materials in-state, section 103D-407, Hawai'i Revised Statutes recommends that State/county agencies purchase materials with minimum recycled glass content. We ask that you consider this in the design of your station.
4. *NATIVE, INDIGENOUS AND POLYNESIAN INTRODUCED PLANTS FOR USE IN PUBLIC LANDSCAPING*: We ask that you consider the use of xerophagic native, indigenous and polynesian introduced plants in your landscaping.

If there are any questions, please call Leslie Segundo, Environmental Health Specialist, at (808) 586-4185. Thank you for the opportunity to comment.

Sincerely,

GENEVIEVE SALMONSON
Director

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1100

OCT 1 2002

MEMORANDUM

TO: Ms. Genevieve Salmonson
Director, Office of Environmental Quality Control

FROM: Harold Sonomura
Acting Public Works Administrator

SUBJECT: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter dated September 6, 2002, on the Draft EA. In answer to your specific comments:

1. *General Comments*. Thank you for your support of the goals of the project.

2. *Attractant for Endangered Waterbirds*. Discussions with experienced ornithologists from the Hawai'i State Division of Forestry and Wildlife (DOFAW), the USGS Biological Resources Division and the Audubon Society indicate that, at 5,280 feet in elevation on the slopes of Mauna Loa, Kulani Correctional Facility (KCF) appears to be outside the normal range of most endangered waterbirds. At the large water catchment ponds at Kulani, there are no records of Black-necked Stilt, Hawaiian Coot or Koloa. The Black-necked Stilt is rarely found above 2,000 feet in elevation, and the Koloa does not seem to inhabit water bodies on this flank of Mauna Loa. It is considered possible, but unlikely, that Hawaiian Coots might wander into the region. As discussed in the Draft EA, Nene are present. Biologists feel that they are more likely to graze on the grass overlying the leaching field than swim in the wastewater ponds. In order to prevent large-scale attraction, KCF officials plan to plant a grass that is unpalatable to Nene.

However, in order to account for the potential for attracting endangered waterbirds, KCF, in coordination with the Ola'a Kilauea Partnership, plans to: a) monitor the ponds for use by endangered waterbirds; and b) if use occurs, consult again with the U.S. Fish and Wildlife Service and DOFAW concerning the issue of potential take and mitigation (e.g., do nothing because no harm will occur, install pond covers, etc.).

Finally, we would like to note that the project has been planned in close consultation with all applicable resource agencies through the Ola'a-Kilauea Partnership, a consortium of agencies focused on the montane rainforest ecosystem of Mauna Loa. Each received a copy of the Draft EA for review.

3. *Use of Recycled Glass*. The Department of Accounting and General Services will give the contractors the option to utilize recycled glass on the project to the extent that such is appropriate, feasible and cost-effective.

4. *Use of Native Plants*. Aside from possibly grass above the leachfield, the species of which will be chosen so as not to attract Nene, no non-native plants will be used in landscaping.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

GT/si

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-8742

September 17, 2002

Mr. Ron Terry, GeoMetrician Associates
HC 2 Box 9575
Keaau, HI 96749

Dear Mr. Terry

Request for Comments re:
Draft Environmental Assessment (DEA):
Kulani Correctional Facility (KCF) Wastewater Treatment Plant
Por. Panaewa, Upper Waiakea & Waiakea, S. Hilo, Hawaii Island
TMK: 2-4-008:009

Thank you for requesting our review and comments for the above DEA. We reviewed the DEA and attention was addressed to the discussions presented in the DEA at (pages) 21 and 22, part 3.5, required permits and approvals and part 3.6, consistency with government plans and policies. Generally, we have no issues or disagreements with the information presented in the DEA. The remainder of this letter will provide a few comments on this project.

Zoning & Land Use. Parcel 09 is a mauka lot and it is not in the County's Special Management Area (SMA) zone; and therefore, it is not subject to any County SMA Rule 9 regulatory criteria or permit requirements. However, this parcel is in the State Conservation district where primary land use and regulatory jurisdiction is with the State of Hawaii, the County has no land use or zoning authority in this district.

County General Plan (GP) Discussion. The DEA's discussion is accurate on the County General Plan's Open area land use designation of parcel 09. And we also agree with the DEA discussion citing the GP's environmental quality goals and standards. For this project, the GP's environmental quality element is the most germane for the subject matter. In addition, the GP Support Document at 54 includes correctional facilities as a component of protective services public facilities. In that light, we wish to add that this project is also consistent with the GP public facilities goal for better and more functional facilities in keeping with the environmental and aesthetic concerns of the community. GP at 7.

Required Permits & Approvals. The DEA at part 3.5, lists the permits and approvals that would be required for this project. And it specifies approval would be needed from the Hawaii County Planning Department. Since the County Planning Department does not have, in this case, SMA and land use regulatory authority in the State Conservation district where KCF is located – there is no approval needed from this department for this project. You may want to amend the DEA's permit and approval list by deleting the Planning Department from it.

For any other information on this topic, please contact Earl Lucero of my staff at 961-8288.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

EML:cps
p:\wpwin60\CZM\Letters\LDEAKulaniWastewater

cc: Long Range Division

Director – Office of Environmental Quality Control
235 South Beretania St., Suite 701
Honolulu, HI 96813

Mr. Gregory Tanaka
State of Hawaii
Department of Accounting & General Services
Division of Public Works
1151 Punchbowl Street
Honolulu, HI 96813

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

MARY ALICE EVANS
Comptroller

DEAN H. SEKI
Acting Deputy Comptroller

LETTER NO. PWD02.M1104

OCT 1 2002

Mr. Christopher Yuen
Director
Hawai'i County Planning Department
101 Pauahi Street
Hilo, Hawaii 96720

Dear Mr. Yuen:

Subject: Draft Environmental Assessment for
Kulani Correctional Facility
Wastewater System Improvements
D.A.G.S. Job No. 11-27-5540
TMK 2-4-08:009 (por.)

Thank you for your comment letter dated September 19, 2002, on the Draft EA. In answer to your specific comments:

1. *Zoning and Land Use.* The information concerning the fact that the project is not within the SMA will be added to the Final EA. The EA already discusses the necessity to comply with the State Conservation District rules.

2. *County General Plan.* We acknowledge your agreement on the general accuracy of the discussion of General Plan consistency. The statement that "the project is also consistent with the GP public facilities goal for better and more functional facilities in keeping with the environmental and aesthetic concerns of the community" will be added to the Final EA.

3. *Required Permits and Approvals.* Thank you for pointing out that Planning Department approval is not required in this case. The Final EA has been amended to delete this approval.

Again, thank you for your comment. If you have any questions about the project, please contact Mr. Gregory Tanaka, Project Management Branch, at 586-0721.

Very truly yours,

HAROLD SONOMURA
Acting Public Works Administrator

GT/si