

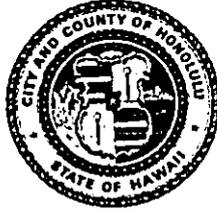
Dewatering facilities for storm drain equipment

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4341 • FAX: (808) 527-5857

RECEIVED

JEREMY HARRIS
MAYOR



'96 FEB 12 P3:21

KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER

DARWIN J. HAMAMOTO
DEPUTY DIRECTOR

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

ENV 96-037

February 12, 1996

Mr. Gary Gill, Director
Office of Environmental Quality Control
220 South King Street, 4/F
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Negative Declaration for
Dewatering Facilities for Storm Drain Equipment
TMK: Various

The Department of Public Works, City and County of Honolulu, has reviewed the comments received during the 30-day public comment period which began on December 23, 1995. The agency has determined that this project will not have significant environmental effect and has issued a negative declaration. Please publish this notice in the February 23, 1996, Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form and four (4) copies of the final EA. Please contact Mr. Alex Ho at 523-4150 if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ken Sprague".

KENNETH E. SPRAGUE
Director and Chief Engineer

Enclosures

cc: R.M. Towill Corp. (Richard Wakida) w/o enclosures

1996-02-23-0A-*FEA*-Dewatering facilities for
Storm drain equipment ^{Feb 23 1996} FILE COPY

ENVIRONMENTAL ASSESSMENT

DEWATERING FACILITIES FOR STORM
DRAIN EQUIPMENT

Various Locations, Oahu, Hawaii

FEBRUARY 1996

PREPARED FOR:
CITY & COUNTY OF HONOLULU
Department of Public Works
Road Maintenance Division

PREPARED BY:
R. M. TOWILL CORPORATION
420 Waiakamilo Road, Suite 411
Honolulu, HI 96817-4941

ENVIRONMENTAL ASSESSMENT

DEWATERING FACILITIES FOR
STORM DRAIN EQUIPMENT
Various Locations, Oahu, Hawaii

February 1996

Proposing Agency:

Road Maintenance Division
Department of Public Works
City & County of Honolulu

Prepared By:

R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

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CHAPTER 1 - PROJECT SUMMARY

Proposing Agency: Road Maintenance Division
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Landowners: Sand Island WWTP: State of Hawaii
Pearl City WWTP: City & County of Honolulu
Kaneohe WWTP: City & County of Honolulu
Waimanalo WWTP: State of Hawaii

Proposed Project: Construction of dewatering facilities at four (4) existing wastewater treatment plants. The dewatering facilities will be for the exclusive use by the Road Maintenance Division of the Department of Public Works, City & County of Honolulu

Project Location: Sand Island WWTP: Honolulu
Pearl City WWTP: Pearl City
Kaneohe WWTP: Kaneohe
Waimanalo WWTP: Waimanalo

Project Area: Sand Island WWTP: 0.50 acre
Pearl City WWTP: 0.20 acre (on existing beds)
Kaneohe WWTP: 0.30 acre
Waimanalo WWTP: 0.30 acre

Tax Map Keys: Sand Island WWTP: 1-5-41:5
Pearl City WWTP: 9-6-01:10
Kaneohe WWTP: 4-5-30:36
Waimanalo WWTP: 4-1-09:270

Existing Zoning:	Sand Island WWTP: Pearl City WWTP: Kaneohe WWTP: Waimanalo WWTP:	I-3, Waterfront Industrial AG-2, General Agriculture I-2, Intensive Industrial AG-1, Restricted Agricultural
Development Plan Designation:	Sand Island WWTP: Pearl City WWTP: Kaneohe WWTP: Waimanalo WWTP:	Industrial Agricultural Industrial Agricultural
Surrounding Land Uses:	Sand Island WWTP: Pearl City WWTP: Kaneohe WWTP: Waimanalo WWTP:	Industrial, Park Preservation, Military and Federal Preservation, General Agriculture

CHAPTER 2 - INTRODUCTION AND BACKGROUND

2.1 OVERVIEW:

2.1.1 RESPONSIBILITY:

The City & County of Honolulu's Department of Public Works, Road Maintenance Division is responsible for cleaning the municipal storm drain system. The storm drain system consists of drainage channels/ditches, catch basins, manholes, inlet boxes, drain pipes, and roadway gutters.

2.1.2 CURRENT CLEANING PROCEDURE:

To facilitate cleaning, the Road Maintenance Division utilizes a special truck designed for this type of work. The main components of the trucks are a water storage tank, high pressure hose, vacuum system, and waste storage tank.

First, water from the high pressure hose is used to soften and loosen the debris. The cleaning crew then uses the vacuum system to remove the debris and load it into the waste storage tank. The liquid in the waste tank is defined as washwater since it now consists of rubbish, inorganic materials, organic materials, and other debris. Typically, the high pressure hose and vacuum hose are used alternately for storm systems with hard packed debris. The vacuum system utilizes an 8 inch diameter hose to remove the debris. Anything larger than 8 inches or too heavy for the vacuum system is removed manually and loaded onto an accompanying dump truck.

After completion of the cleaning operation, the majority of the debris is retained in the waste storage tank. The truck is then driven to a designated site to empty its load. The load is removed through a large hatch at the back of the cylindrical waste tank, which when opened, allows the contents to empty by gravity. Any residual debris within the waste storage tank is washed out with potable water using the high pressure hose.

2.1.3 DESIGNATED SITE:

The debris is unloaded at a designated site and not taken directly to the landfill due to current disposal restrictions. These intermediate sites provide time for the washwater to separate from the solids and allow the remaining solids to air dry. The designated sites are located at the base yards of the Road Maintenance Division. An earthen basin is constructed over an impermeable surface in which the debris is dumped. The liquid is then absorbed by the dirt. This practice is an interim measure until permanent dewatering facilities are in place.

2.1.4 SOLIDS DISPOSAL:

After draining to a point where no free liquids remain, the solids are taken to the nearest landfill for disposal. Currently, it takes about two weeks for sufficient drying to occur. There is no roof covering over the debris so if rain occurs, the time for drying is extended.

2.1.5 LIQUIDS DISPOSAL:

The washwater is absorbed by the dirt and allowed to dry. After drying, the dirt is transported to the landfill.

2.2 COMPLIANCE WITH HAWAII EIS LAW:

This Environmental Assessment (EA) for Dewatering Facilities complies with Chapter 343, HRS, and Title 11, Department of Health, Chapter 200, rules and regulations. Consultation with various public agencies and private organizations was conducted to obtain their input on the planned facilities and their locations.

2.3 OBJECTIVE:

The objective of the dewatering facilities is to provide a system that will allow washwater to separate from debris removed from the storm drain system.

2.4 APPLICANT:

The applicant is the City & County of Honolulu, Department of Public Works.

2.5 GOVERNMENT REGULATIONS AND POLICIES:

2.5.1 LANDFILL DISPOSAL REQUIREMENTS:

According to Hawaii Administrative Rules, Title 11, Chapter 58.1 Solid Waste Management Control, bulk or non-containerized liquid waste may not be placed in municipal solid waste land fill (MSWLF) units. Liquid waste is defined as waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Pub. No. SW-846.

The washwater is still liquid waste when unloaded from the waste storage tank. It cannot be taken directly to the landfill for disposal. The washwater needs to be separated from the solids before the solids can be transported to the landfill.

2.5.2 FILTRATE DISPOSAL REQUIREMENTS:

Filtrate is defined in this EA as the liquid waste after it has been treated by the earthen filter.

The discharge of industrial wastewater into a public sewer system is governed by the Revised Ordinances of Honolulu, April 1995, section 14-1.9. These ordinances are administered by the Department of Wastewater Management of the City & County of Honolulu. The washwater generated from the cleaning operation is classified as *industrial wastewater and must comply with the ordinances before discharge can occur*. The entire section of the ordinance listing those restrictions are included in Appendix A, some of the notable restrictions of the ordinances are listed herein:

- Water or waste which may contain more than 100 mg/l concentration of fats, oils, or grease.
- Gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas.
- Garbage that has not been properly shredded to a size of 1/4" or less so that all particles will be carried freely under normal flow conditions in the public sewers.
- Ashes, cinders, sand, mud, straw shaving, metal, glass, rags, feathers, tar, plastic, wood, paunch, manure, paper ware either whole or ground or any other solid or viscous substances normally dry, solid wastes capable of causing obstruction to the flow in or damage to sewers or other interference with the proper operation of the sewerage works.
- Water or waste having a pH lower than 5.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel or the sewerage works.
- Water or waste containing suspended solids of such character or quantity that unusual attention or expense is required to handle such materials at a sewage treatment plant.
- Water added for the purpose of diluting wastes which would otherwise exceed applicable maximum concentration limitations.

The filtrate must be tested for its contents before disposal into the wastewater system. If all conditions are met and none of the limits are exceeded, then the filtrate is directed to the nearest municipal sewer system. If conditions are not met or maximum limits exceeded, then the washwater must undergo further treatment before discharge into the municipal sewer system.

2.6 PERMITS:

2.6.1 INDUSTRIAL WASTEWATER DISCHARGE PERMIT:

Administered by the Department of Wastewater Management, City & County of Honolulu. A permit to connect shall be obtained before any connection may be made to the public sewer. Said permit will be issued only after an application for a building permit has been filed. All connections for industrial wastewater shall require an Industrial Wastewater Discharge Certificate before a permit to connect is issued.

2.6.2 SPECIAL MANAGEMENT AREA PERMIT (SMP):

Administered by the Department of Land Utilization, City & County of Honolulu. An SMA is required for construction within SMA boundaries as defined by the City & County of Honolulu's Ordinance No. 85-105, December 2, 1985. A review of the boundary maps indicate an SMA is required for Sand Island WWTP, Pearl City WWTP, and Kaneohe WWTP. The individual facilities may qualify for a minor SMP under the following conditions:

- A separate SMP application is submitted for each site.
- The project cost for the facility at each site is under \$125,000.
- There are no adverse environmental or ecological effects; taking into account potential cumulative effects.

The projected costs for the dewatering facility is above \$125,000 per site. Applications for an SMP will be submitted for Sand Island WWTP, Pearl City WWTP, and Kaneohe WWTP.

2.6.3 DEPARTMENT OF ARMY PERMIT:

Administered by the U. S. Army Corps of Engineers, a Department of Army (DA) permit is required for the operation of facilities which may result in a discharge to navigable waters. A DA permit may be required for the Kaneohe WWTP. A determination will be made by the Regulatory Section, Planning and Operations Division at the design stage of this project.

2.6.4 COASTAL ZONE MANAGEMENT PERMIT:

Administered by the U. S. Coast Guard and is directly related to the Department of Army permit. Since the Department of Army permit may be required, the Coastal Zone Management permit may also be required pending the determination of the DA permit.

2.6.5 LAND USE ORDINANCES:

Applicable land use ordinances as administered by the Department of Land Utilization, City & County of Honolulu.

2.6.5.1 EXISTING USE (EU) PERMIT:

An Existing Use (EU) permit is required to recognize the hardship imposed upon uses that were legally established but may not comply with current zoning standards. The EU is not required for Sand Island WWTP, Pearl City WWTP, Kaneohe WWTP but would normally be required of the Waimanalo WWTP. The Department of Land Utilization recognizes a letter from the Department of Land and Natural Resources dated October 5, 1994, which stated the Waimanalo WWTP is exempt from obtaining an EU permit.

2.6.5.2 CONDITIONAL USE PERMIT (CUP):

Wastewater treatment facilities are classified as Utility Installations, Type B and are permitted in all zoning districts with an approved CUP, Type 1 permit. A Conditional Use Permit, Type 1, is required for the Sand Island WWTP, Pearl City WWTP, and Kaneohe WWTP.

For Sand Island WWTP, a CUP, Type 1 was approved by the Department of Land Utilization on August 22, 1989 (file no. 89/CUP1-50). However, a new CUP is required because the proposed facility is situated outside the boundary of the Sand Island wastewater treatment plant.

2.7 LOCATIONS FOR DEWATERING FACILITIES:

Dewatering facilities are proposed at the four (4) designated sites listed below. Each facility will have its own settling basins, drying beds, earthen filter, solids storage, and site improvements. See Figure 2-1 for the locations around Oahu.

- Adjacent to Sand Island Wastewater Treatment Plant
- Pearl City Wastewater Treatment Plant

- Kaneohe Wastewater Treatment Plant
- Waimanalo Wastewater Treatment Plant

The dewatering facilities will be contained entirely within the existing wastewater treatment plant's site except at Sand Island. At Sand Island, the dewatering facility will be located on the same land parcel but not within the existing treatment plant proper.

Based on initial planning, the sand island site intends to serve the Honolulu District, the pearl city site the Leeward District, the kaneohe site the Windward District, and the waimanalo site the East Honolulu District.

All treatment plants are in operation except for the Pearl City WWTP. The Pearl City WWTP has no active utilities including sewer, water, and electricity. At present, there are no future plans to revitalize Pearl City WWTP as a treatment plant nor other facility.

The basic dewatering facility described below applies to three of the four locations. The dewatering facility at Pearl City WWTP will have the same system but the existing drying beds will be modified for use in lieu of completely new construction. All four locations will have differences in fencing, drain lines, and roadway to suit local conditions. The differences between sites are further detailed in individual sections of this assessment.

2.8 PROPOSED DEWATERING FACILITY:

2.8.1 HANDLING WASHWATER:

The vacuum trucks will remove debris from storm drain systems and then unload the waste in the settling basins. From the settling basins the washwater flows to the drying beds which also contains an earthen filter. After passing the earthen filter, the washwater becomes filtrate. The filtrate flows to a final pretreatment unit before discharge into the municipal sewer system.

The following descriptions do not apply to the Pearl City WWTP which has existing drying beds. For Pearl City, the intent is to utilize the existing drying beds and incorporate as many of these features as reasonably possible. For the proposed dewatering facility, see Figure 2-2 for the plan view, Figures 2-3 and 2-4 for section views, and Figure 2-5 for the sampling station.

2.8.2 SETTLING BASIN:

2.8.2.1 CAPACITY:

The minimum capacity of each settling basin is 4,000 gallons which is the expected volume for a typical day. Two settling basins are provided to allow cleaning and/or maintenance of one basin. The capacity of a settling basin is therefore:

$$4,000 \text{ gallons} = 534.7 \text{ CF each}$$

2.8.2.2 MINIMUM DIMENSIONS:

The depth of the settling basin should be kept as high as possible to keep the collection drain pipe and pretreatment unit at a higher elevation. A reasonable depth for the containment volume is 2 feet below finish grade. The minimum area for 534.7 CF is then:

$$\text{Area} = (534.7 \text{ CF}) / (2 \text{ FT}) = 267.4 \text{ SF}$$

A reasonable width for the drying bed is 25 feet because this allows the vacuum truck to reverse at two locations per bed avoiding blockage by the accumulation of solids. The increased width also provides room for a large loader to maneuver within the basin. If the width is 25 feet, the minimum required length is:

$$\text{Length} = (267 \text{ SF}) / (25 \text{ FT}) = 10.7 \text{ ft}$$

Say 11 ft long minimum

The volume of 25 ft x 11 ft x 2 ft includes the minimum volume only for one day. By request of the Road Maintenance Division, increase the capacity of the basin by extending the length to 30 ft. +/- The volume is now 1,500 CF or 11,222 gallons.

2.8.2.3 SUBSTRUCTURE:

Below grade, concrete settling basin, water tight, sloped to drain towards the stop logs. The substructure walls will protrude above grade to ensure the surging from the unloading process does not overflow the bed.

A ramp is provided from the road into the settling basin. This feature allows the vacuum truck to reverse in for unloading. The ramp also allows the loader to be driven into and out of the basin for removal of solids.

A wheel stop is provided in front of the basin to preclude intrusion of rainwater by sheet flow. The wheel stop is high enough to keep the rainwater out yet low enough to allow the vacuum truck and loader to traverse it.

2.8.2.4 SUPERSTRUCTURE:

The roof shall be fabricated metal type mounted on steel posts or steel pipe. Installation of near transparent roof panels will be considered to allow sunlight onto the debris.

The roof must be high enough to allow the waste storage tank to be inclined without interference. The height must also accommodate the bucket of the loader. The roof may be lower towards the back of the basin.

The settling basins will not have full height walls on any of the sides.

2.8.2.5 STOP LOGS:

Stop logs are provided to control the flow of liquids out of the settling basin and into the drying beds. The stop logs will be manually removed from top down to lessen the migration of silt along the bottom of the basin.

2.8.3 DRYING BED:

2.8.3.1 CAPACITY:

There is no minimum capacity for each drying bed since the rate of washwater through the earthen filter cannot be determined. The rate of flow into the drying bed may be controlled with the stop logs. Multiple drying beds are provided to contain consecutive days of cleaning and/or if another bed is down for maintenance.

2.8.3.2 MINIMUM DIMENSIONS:

The dimensions of the drying beds are estimated only and is sized for convenience in relation to the settling basins.

2.8.3.3 SUBSTRUCTURE:

Below grade, concrete drying bed, water tight, sloped to drain towards the collection pipes. The substructure walls will protrude above grade and to match the settling basin walls. Minimal surging is anticipated as the washwater enters the drying bed. A ramp is provided for entry into the drying bed by the loader.

The washwater will be treated by the following earthen filter within the drying bed:

- The top surface will be a steel plate, 3/4 inch thick, and perforated with 2 1/8 inch diameter holes. The steel plate is used for two reasons, 1)

to protect the sand surface against erosion by water flow, and 2) to provide a firm surface that will allow the loader to scoop up the solid debris.

- A 6 inch layer of coarse sand. Coarse sand is adequate for filtration and will prolong the useful life of the sand layer.
- A layer of geotextile to prevent the sand from migrating downward into the fine rock structure. The geotextile must be adequate to allow the flow of water by gravity.
- An 6 inch thick layer of fine rock.
- A 2 feet layer of coarse rock. The rock size shall be large enough so that the perforated collection pipe does not become clogged with rock.

A wheel stop is provided in front of bed to preclude intrusion of rainwater by sheet flow.

2.8.3.4 SUPERSTRUCTURE:

The drying beds will be under the same superstructure as the settling basins.

2.8.3.5 COLLECTION DRAIN PIPES:

At the bottom of the drying beds will be a system of collection drain pipes. These pipes will be located at the lowest points of the bed to ensure capture of all filtrate. A series of pipes will be placed across the length of the bed to facilitate draining. The flows for individual outlets is variable and is not a factor in sizing the pipe. To be conservative, use 6-inch diameter collection pipes. The pipe material may be PVC or vitreous clay (VC).

2.8.4 SOLIDS STORAGE AREA:

A storage area for solids will be provided adjacent to the settling basin. The area will be approximately 150 square feet and will also be covered with the same roof structure. The storage area will act as a temporary site for dewatered solids and will be used whenever scheduling and manpower requirements prohibit the immediate removal of debris. The storage area will not be used unless absolutely necessary.

2.8.5 FILTRATE PROCESSING:

The dewatering process will produce variable flows since the rate of dewatering is dependent on the type of solids mixed within the washwater. For example, the

dewatering rate is higher for solids such as bricks, rocks, or stones and slower for pebbles, grit, and sand. The higher flow rates are anticipated to have less of a need for solids separation whereas the slower flow rate will require adequate solids separation. The estimated peak flow from dewatering is say 50 gpm.

2.8.5.1 PRETREATMENT UNIT:

After collection in the drain pipes, the filtrate will be directed to a combination solids separator and oil interceptor. This pre-treatment unit will remove any fine particles that may get past the earthen filter. The solids separator and oil interceptor may be one integral unit.

2.8.5.2 SEPARATED FINES:

The separated fines are defined as those solids removed from the filtrate by the solids separator. The separated fines are stored within the pretreatment unit and will need to be manually removed. Upon removal, the fines should also be taken to the landfill for disposal.

2.8.5.3 INTERCEPTED OILS:

No oils are anticipated except for inadvertent or illegal spills. Oil will be stored in a separate compartment from the separated fines. When necessary, the oil will require manual removal into approved containers for specialized disposal.

2.8.6 SOLIDS PROCESSING:

After the washwater is drained off, the large solids will remain in the settling basin and drying beds and will be allowed to dry. After drying to a point where no free liquids remain, a large loader is used to transfer the solids onto dump trucks. To facilitate the transfer operation, the settling basins and drying beds are provided with ramps to allow the loader to drive into and out of the structure. The dump trucks then transport the solids to the local landfill.

2.8.7 SITEWORK:

2.8.7.1 ROAD:

The road fronting the dewatering facility will be concrete and designed for the weight of the fully loaded vacuum truck. The geometrics of the road will also consider the turning radii of the truck such that adequate room for maneuvering is provided.

For the facility at Sand Island, an access road of approximately 800 feet will be required to reach the site. The access road will consist of compacted gravel or coral

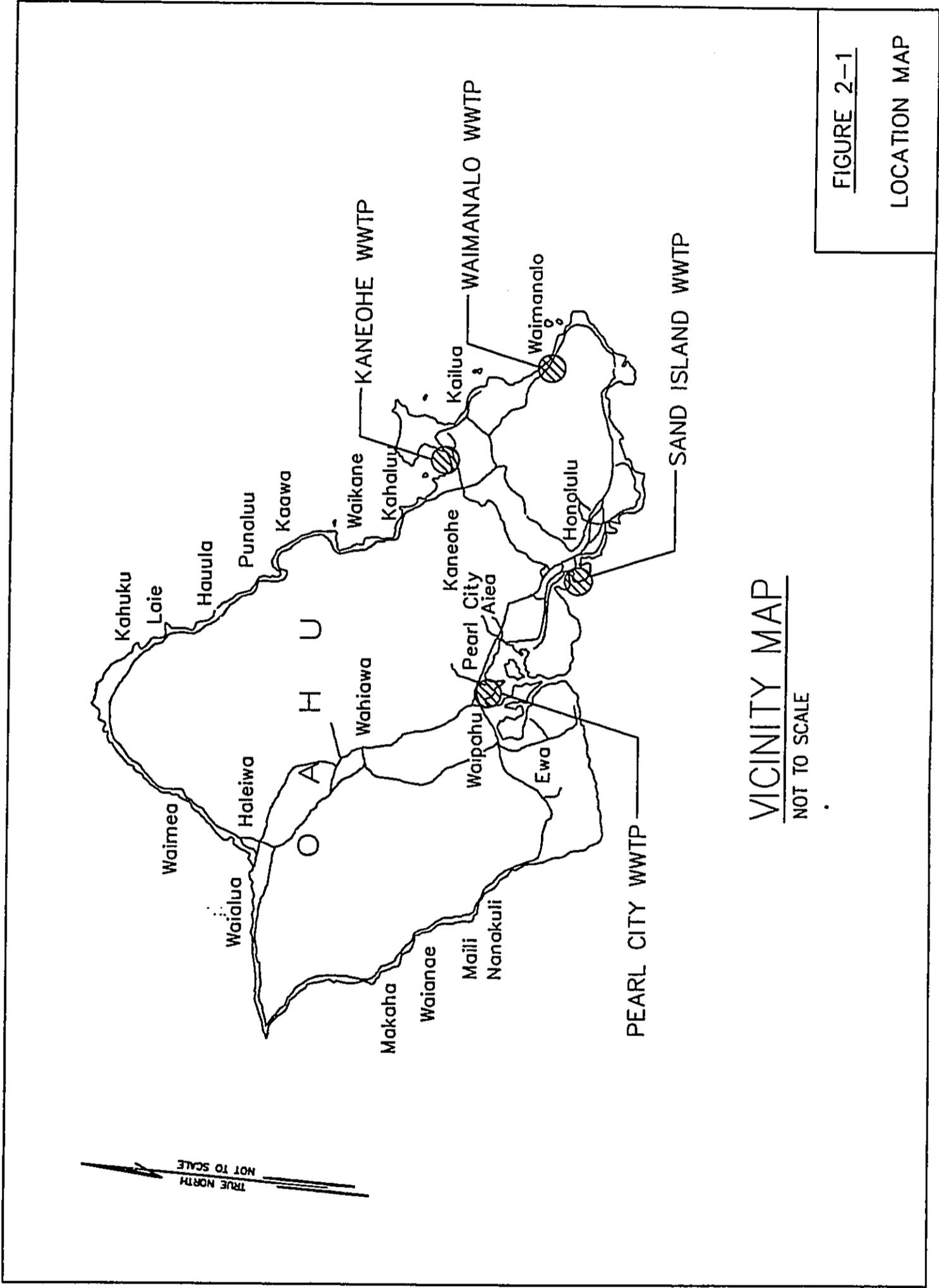
material.

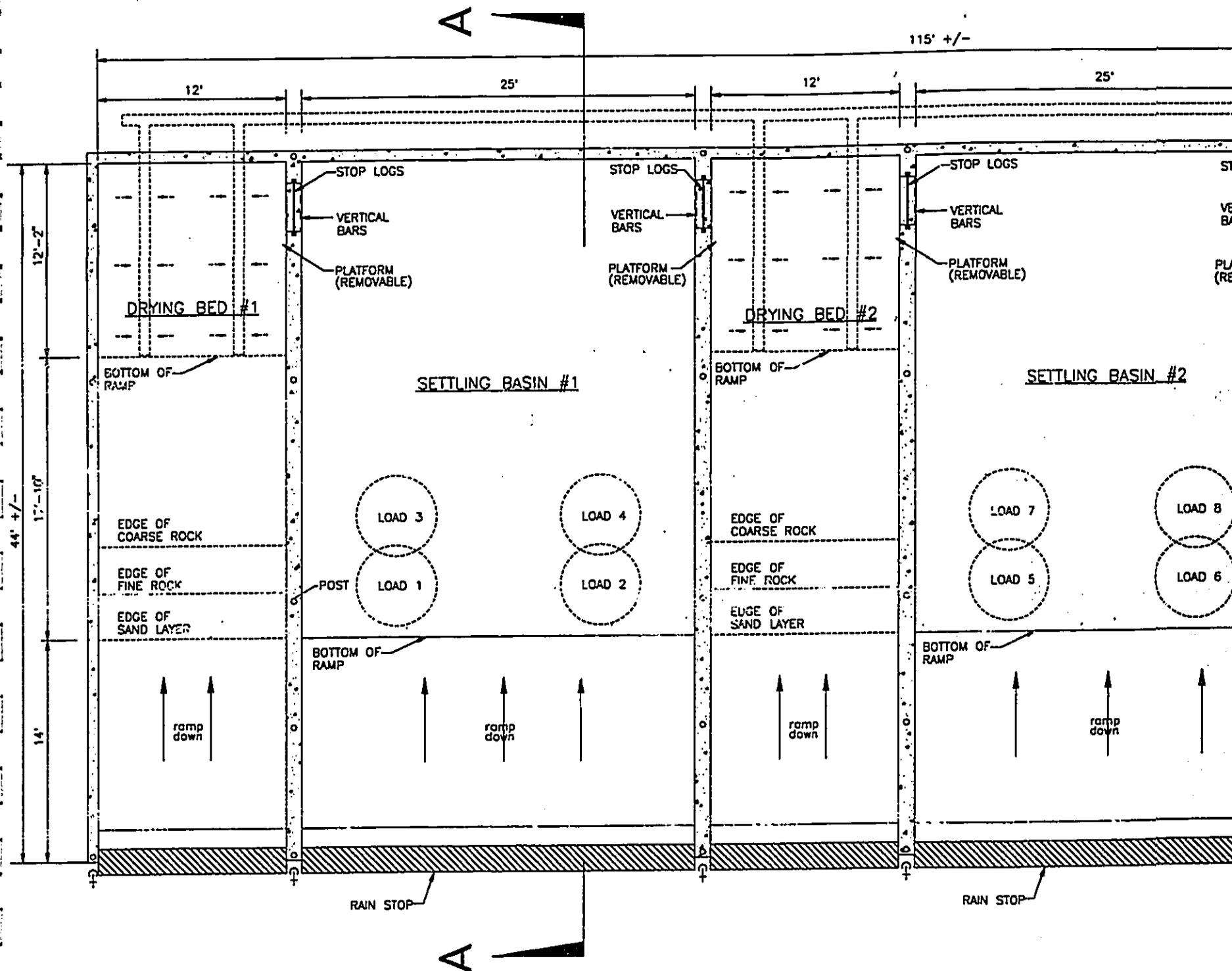
2.8.7.2 POTABLE WATER:

Except for Pearl City WWTP, a potable water line will be extended to the dewatering facility. Pearl City WWTP is abandoned and does not have any active water lines. The other three treatment plants have adequate water mains near the proposed facility. The potable water provides a means of washing the waste storage tank, vacuum truck, settling basins, and drying beds. The water outlet may also be used to refill the water tank of the vacuum truck.

2.8.7.3 CHAIN-LINK FENCE:

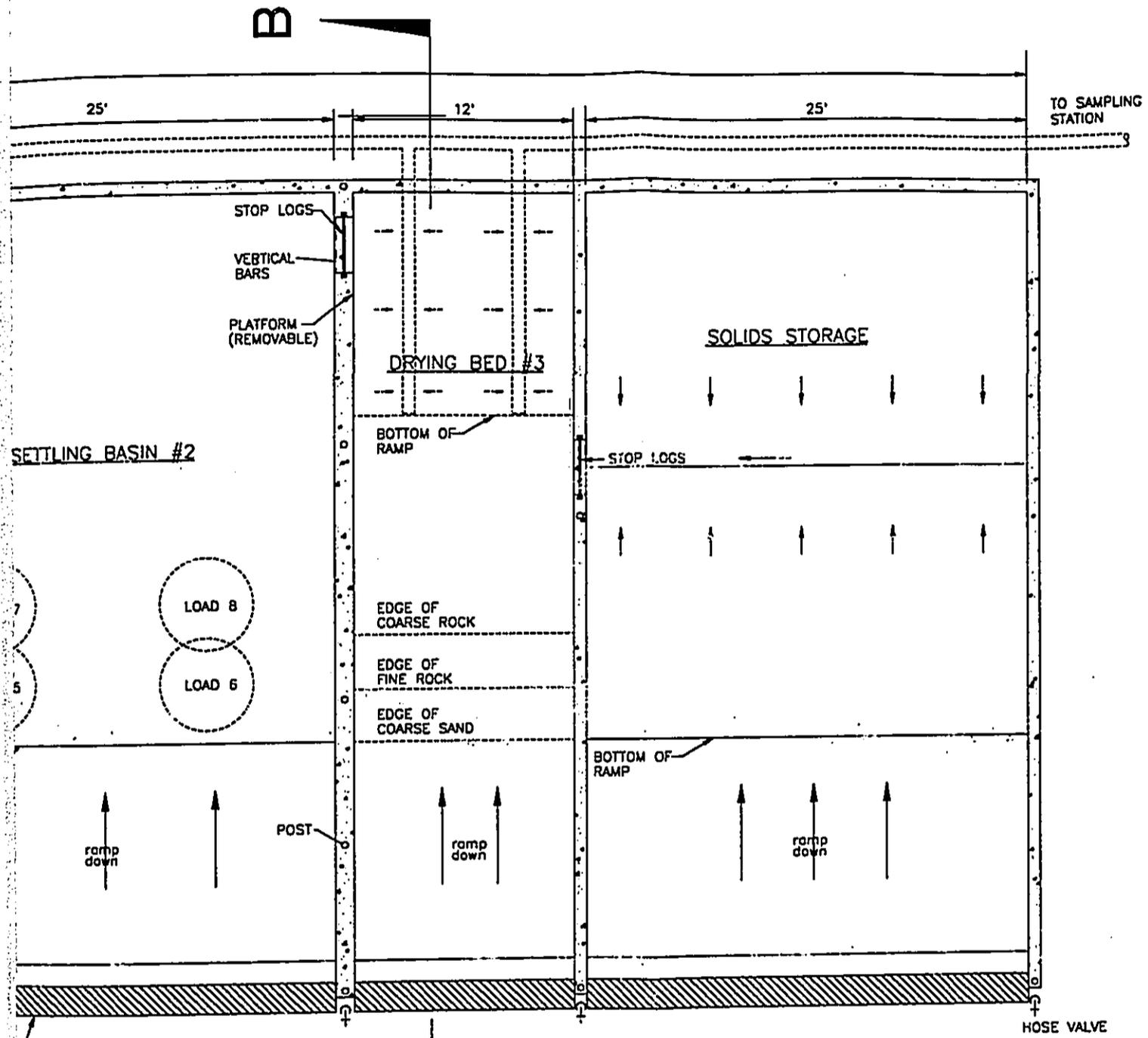
To secure the drying beds against vandalism, a chain-link fence shall be provided completely around the facility. The fence will have barbed wire and provided with swing gates for vehicle and personal access.





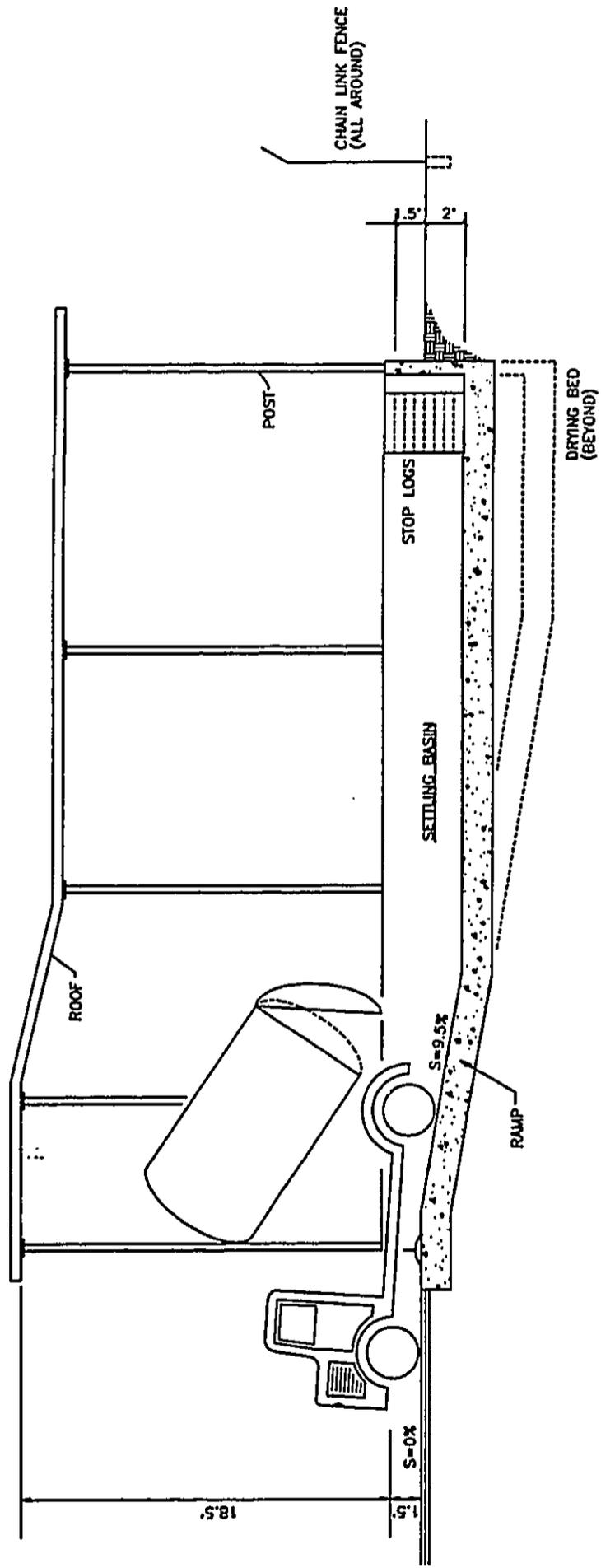
DEWATERING FACILITY PLAN
 SCALE: 1/8" = 1'-0"

FIGURE 2.2
 DEWATERING FACILITY PLAN



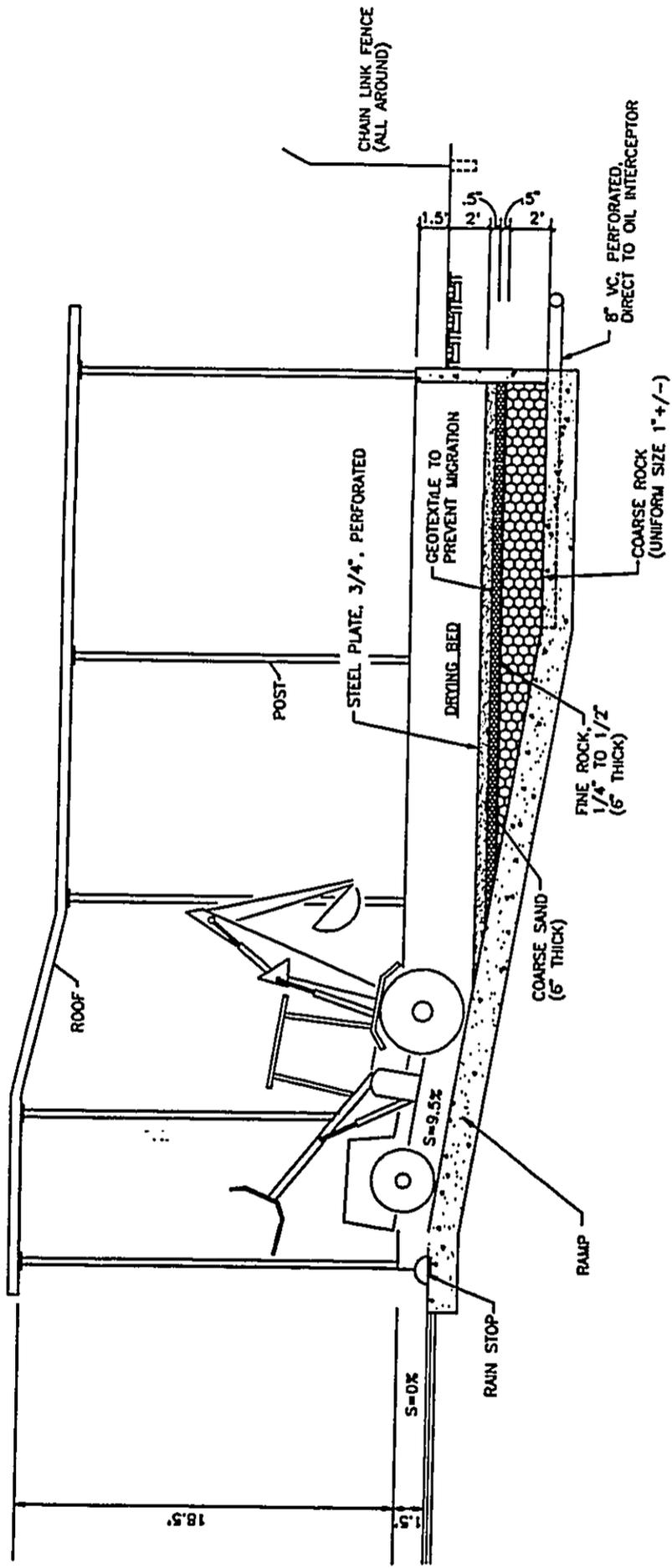
FACILITY PLAN





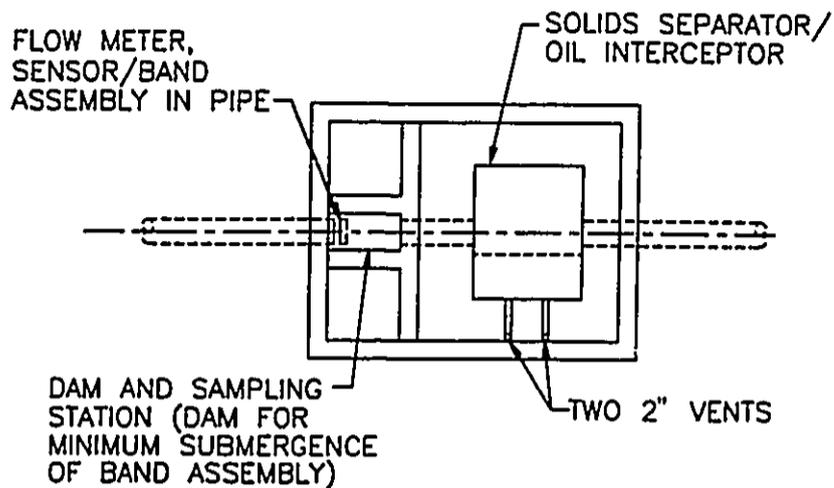
SECTION A - A
 SCALE: 1/8" = 1'-0"

FIGURE 2-3
 SETTLING BASIN - SECTION VIEW

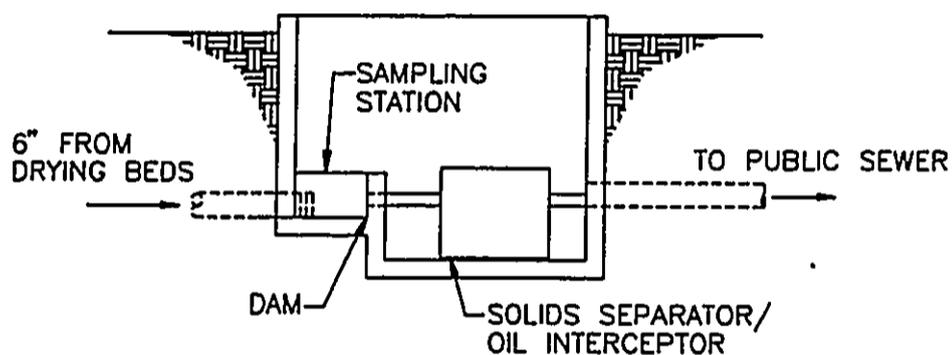


SECTION B - B
SCALE: 1/8" = 1'-0"

FIGURE 2-4
DRYING BED - SECTION VIEW



BOTTOM PLAN



ELEVATION

SAMPLING STATION

SCALE: $3/16" = 1'-0"$

FIGURE 2-5

SAMPLING STATION

CHAPTER 3 - SAND ISLAND WASTEWATER TREATMENT PLANT

3.1 PROJECT SITE AND LAND USE:

3.1.1 LAND OWNER AND LAND USE:

Tax Map Key 1-5-41:5 and owned by the State of Hawaii, see Figure 3-1. The project site is located in the central portion of sand island and is zoned I-3, Waterfront Industrial, by Ordinance No. 86-108, October 22, 1986.

This is the only location where the land parcel is larger than the treatment plant and also the only location where the proposed dewatering facilities is outside the boundaries of the treatment plant. Approximately half of the parcel, the East side, is occupied by the Sand Island WWTP. A smaller portion, about center of parcel, is used for a State managed halfway house. A junkyard for cars is adjacent to the halfway house and fronting Sand Island Parkway. The remainder of the parcel on the West is "open land" because there are no significant structures.

There are three (3) sewer easements and one (1) water easement cutting across the parcel. All three easements are part of the treatment plant's operation.

The Department of Wastewater Management, City & County of Honolulu is the operator of the treatment plant and controls that portion of the parcel on which the plant sits.

3.1.2 SURROUNDING LAND USE:

The USGS topographic map is used to indicate the surrounding areas, see Figure 3-2. Adjacent land use include shipping facilities to the North, the Sand Island Industrial Park to the East, Sand Island State Recreation Park to the South, and harbor facilities to the East.

3.1.3 SURROUNDING ROADS:

The main thoroughfare to the Sand Island Treatment Plant is the Sand Island Parkway, a four lane roadway running along the North side of the parcel. The proposed access road to the dewatering facilities will start at the Sand Island Parkway and enter the East side of the parcel. This proposed access is separate from the driveway into the Sand Island Treatment Plant.

The Road Maintenance Division is expected to have four vacuum trucks, one dump truck and one large loader available for use. The equipment will be dispatched from

the maintenance yard when required. The vacuum trucks and dump trucks will travel to and from on the roadways whereas the loader may remain at the dewatering site.

3.2 PHYSICAL ENVIRONMENT:

3.2.1 HYDROLOGY AND DRAINAGE:

The soils are part of Lualualei-Fill land-Ewa Association, well drained soils that have a fine textured or moderately fine textured subsoil or underlying material, and areas of fill land; on coastal plains. The soils are categorized as series FL, fill land, mixed. The area appears to be well drained with little evidence of ponding.

3.2.2 TOPOGRAPHY:

The parcel is relatively level throughout and neither dips or mounds are seen. For excessive rain, the run-off is by sheet flow towards the Pacific Ocean.

3.2.3 FLOOD HAZARD:

In accordance with the FEMA Flood Insurance Rate Map, dated September 10, the parcel is located in Zone X - Areas determined to be outside the 500 year flood plain. See Figure 3-3. At this designation, flooding should not affect the dewatering facilities.

3.2.4 FLORA AND FAUNA:

With the historic, extensive filling of sand island, indigenous species are limited within the area. Existing koa, kiawe, grasses, etc. are not threatened nor endangered.

3.2.5 AMBIENT NOISE:

The major source of noise in the area is the traffic along Sand Island Parkway. Other noise contributors include shipping operations, overhead aircraft, and commercial operations in the adjacent Sand Island Business Park.

3.2.6 AMBIENT AIR QUALITY:

The air quality is dominated by the effects of tradewinds which may carry ocean spray over the proposed site. Under certain wind conditions, such as "Kona" winds, odor from the sand island treatment plant may be noticeable.

3.3 INFRASTRUCTURE SYSTEMS IN THE VICINITY:

3.3.1 WASTEWATER:

The nearest sewer system is across the property line and in the Sand Island Business Park area. On the West end of Hookela Street is a shallow drop manhole with an invert of 1.35 and a gravity sewer of 8 inches. The 8 inch gravity sewer continues into the collection system within the Sand Island Business Park.

3.3.2 WATER:

The nearest water system is also across the property line and in the Sand Island Business Park area. On the West side of Hookela Street is a 12 inch water main at invert 3.80.

3.3.3 TRAFFIC:

The traffic along Sand Island Parkway is heavy with a mixture of both large trucks and private vehicles. The large trucks and heavy equipment are due to the surrounding shipping, commercial, and industrial operations. There are numerous tractor trailers going to and from the adjacent shipping terminals. Private vehicles for local traffic is also bolstered by the traffic heading to the Sand Island State Park.

3.4 SOCIO-ECONOMIC ENVIRONMENT:

3.4.1 ARCHEOLOGICAL AND HISTORICAL RESOURCES:

Because the land in the project area is primarily fill, there are no identified archeological or historical sites of concern.

3.4.2 VISUAL AND AESTHETIC CONSIDERATIONS:

The proposed location of the dewatering facility is set back from the Sand Island Parkway approximately 800 feet. The roof of the dewatering facility is expected to reach 20 feet high. Combining the setback with the projected height, the visual impact as seen from the Parkway will be minimal.

3.5 PROJECT DESCRIPTION:

3.5.1 SITE AND ACCESSIBILITY:

The facilities will be located at the North-East corner of the parcel adjacent to the

Sand Island Business Park, see Figure 3-4. This location is East of the WWTP and halfway house on what is currently an open area. An improved access road will need to be provided beginning at the Sand Island Parkway and extending approximately 800 feet to the proposed facilities. The new access road will be constructed of gravel or coral and will be designed for two way traffic.

3.5.2 FILTRATE TO MUNICIPAL SEWER SYSTEM:

Since the Sand Island Business Park will be adjacent to the facilities whereas the plant is across the parcel, the filtrate will enter the municipal sewer system within the business park area. A gravity sewer line across the parcel will not be economical nor practical.

3.5.3 SOLIDS DISPOSAL:

After sufficient drying within the beds, all solids will be loaded onto dump trucks by the loader and transported to the Waimanalo Gulch Landfill. Fines from within the solids separator will also be disposed of in the landfill.

3.6 POTENTIAL IMPACTS AND MITIGATION MEASURES:

3.6.1 IMPACT ON LAND USE:

The estimated land usage is 0.50 acres and will be adjacent to the treatment plant. The dewatering facility is compatible with the surrounding land use (shipping, industrial, and commercial) and therefore will not adversely impact the land usage. For the sewer connection into the Sand Island Business Park, a sewer easement in favor of the City & County of Honolulu will be required.

3.6.2 IMPACT ON HYDROLOGY:

The dewatering facilities will not affect the environment by flooding since the occurrence of a flood is almost negligible.

3.6.3 IMPACT ON TOPOGRAPHY:

There will be no fills nor embankments to the existing grades. There will however, be excavation in order to construct the facility lower than finish grade. The drying beds will be constructed below grade to an approximate depth of 6.5 feet. The limit of the excavation is nearly 115 feet by 44 feet for an area of 5,060 SF.

There are existing stockpiles of dirt and sand around the proposed site of the facility. These stockpiles appear temporary and is not considered an impact to the topography.

3.6.4 IMPACT ON FLORA AND FAUNA:

The dewatering facilities will not impact the flora and fauna.

3.6.5 IMPACT ON AMBIENT NOISE:

The dewatering facility does not have process equipment such as pumps or blowers and therefore will not be generating noise. Noise however, will be expected from the loader during loading operations and the vacuum and dump truck during transport operations. The impact of the heavy equipment will not be a significant contributor to the existing ambient noise from Sand Island Parkway and the Sand Island Business Park.

3.6.6 IMPACT ON AIR QUALITY:

The addition of the dewatering facilities will not generate odors because the filtrate is expected to drain readily. The filtrate goes directly into collector pipes and is immediately pre-treated. After pre-treatment the filtrate is directed to the sewer system for final treatment. The remaining solids are left to dry and will be regularly transported to the landfill.

3.6.7 IMPACT ON THE INFRASTRUCTURE:

The quantity of filtrate leaving the dewatering facility will not be high enough to impact the sewer system. The existing 8 inch gravity sewer is adequately sized to handle the additional load.

The impact to the water system will be minimal. At most, the dewatering facility will utilize a 2 inch water line tapped off of the existing 12 inch water main.

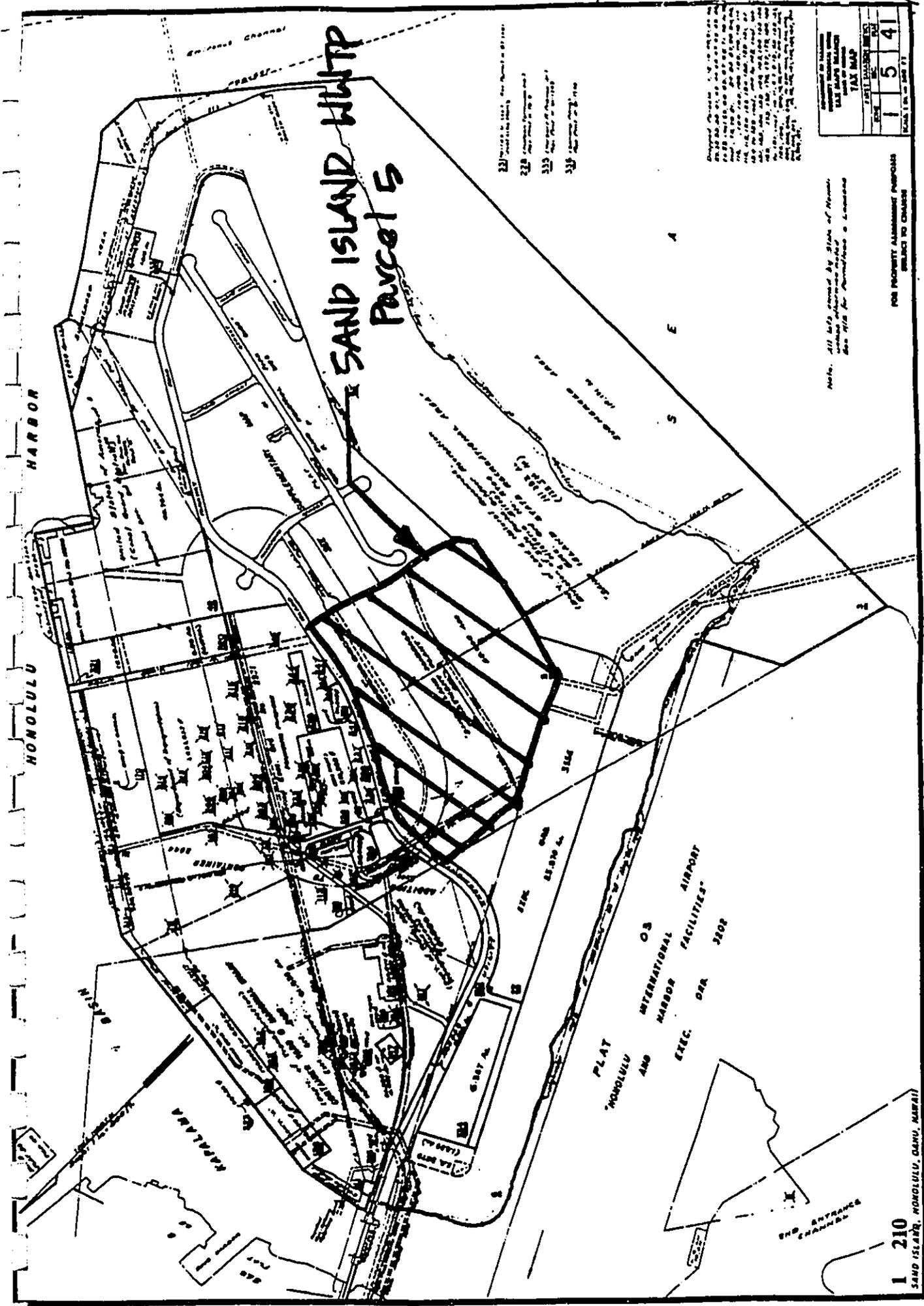


FIGURE 3-1
TAX MAP KEY

SAND ISLAND WWTP

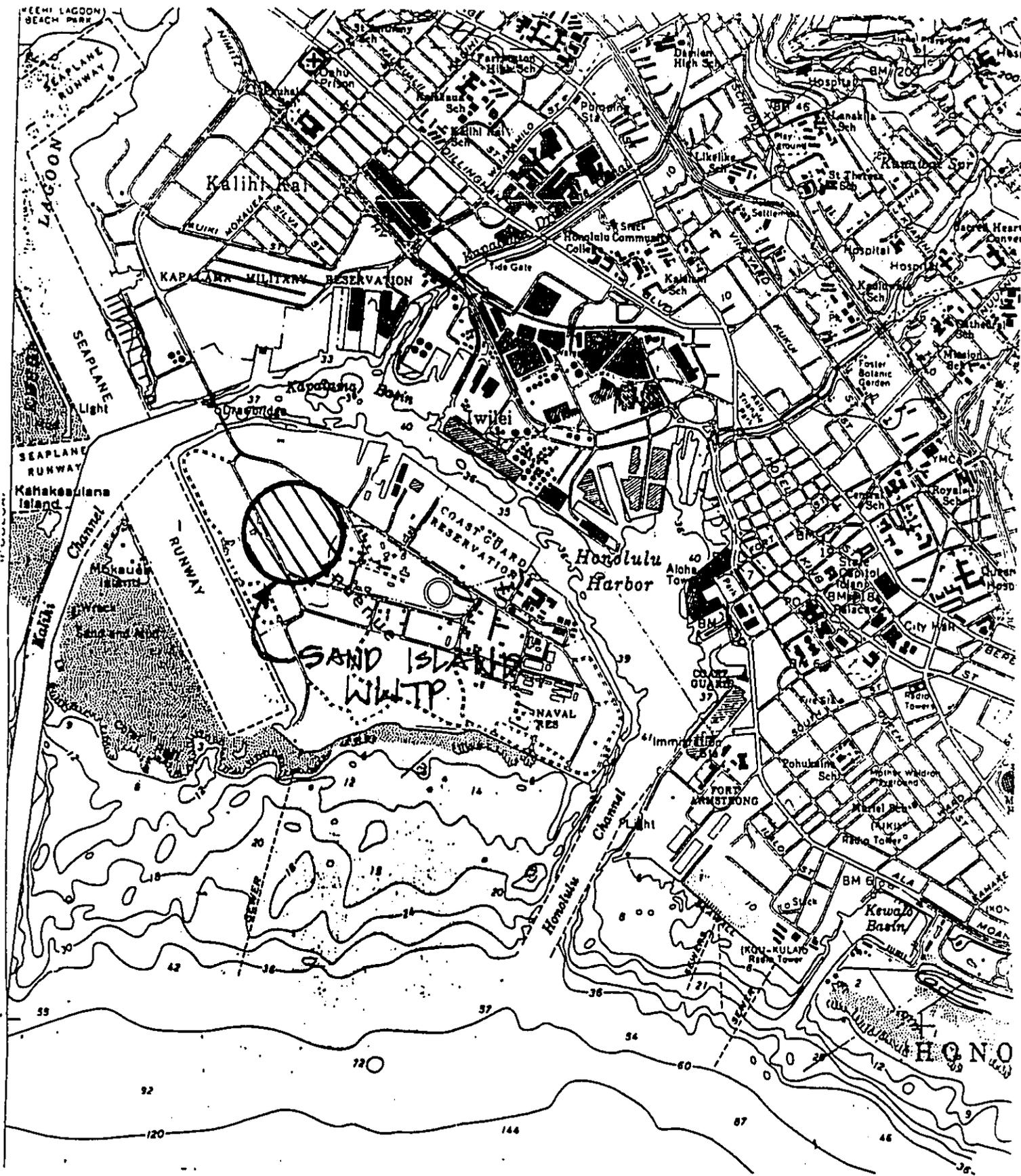


FIGURE 3-2
USGS TOPOGRAPHIC MAP **SAND ISLAND WWTTP**

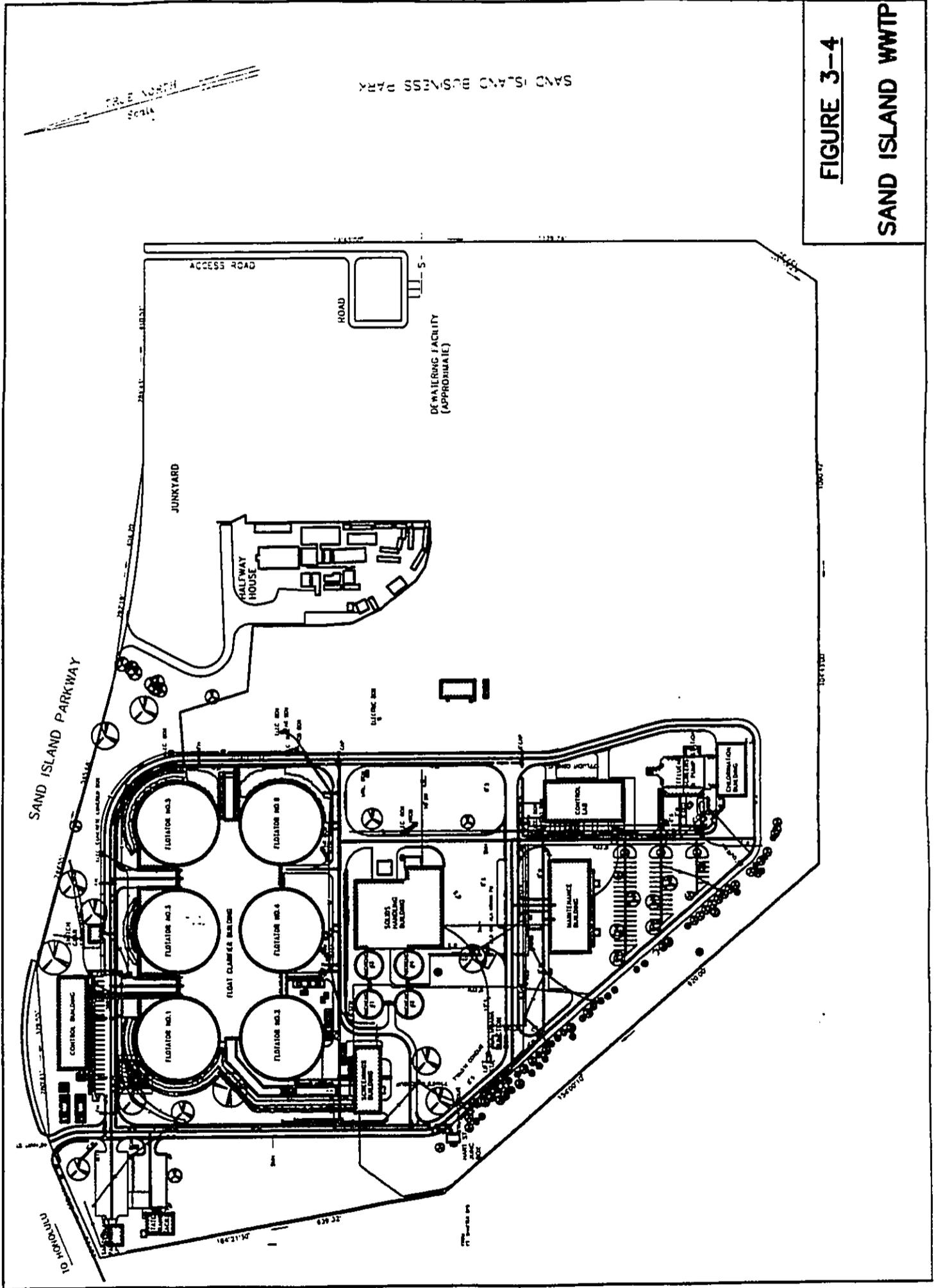


FIGURE 3-4

SAND ISLAND WWTTP

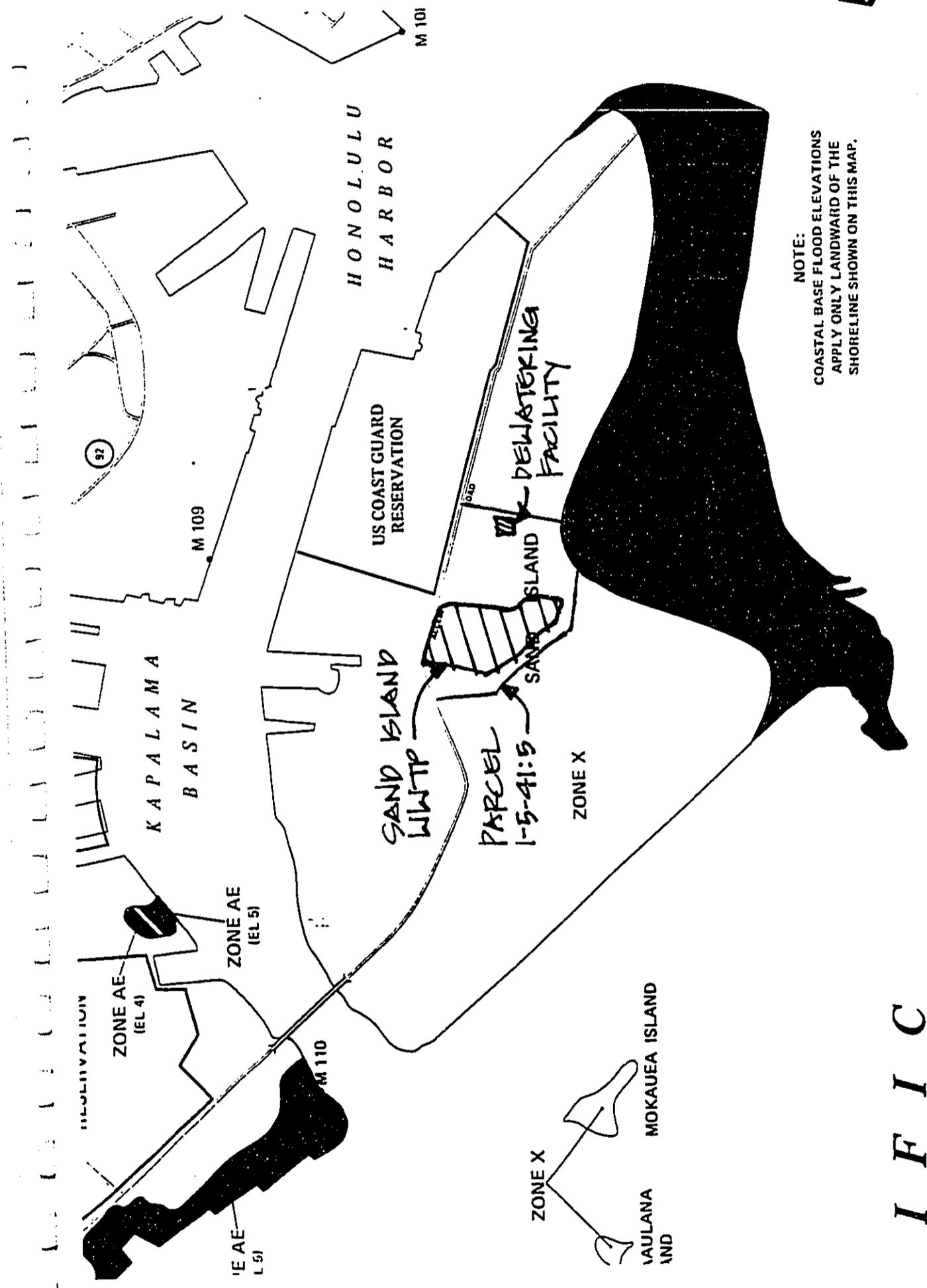


FIGURE 3-3
 FEMA - FLOOD INSURANCE RATE MAP
 SAND ISLAND WWTP

CHAPTER 4 - PEARL CITY WASTEWATER TREATMENT PLANT

4.1 PROJECT SITE AND LAND USE:

4.1.1 LAND OWNER AND LAND USE:

Tax Map Key 9-6-01:10 and owned by the City & County of Honolulu, see Figure 4-1. The land parcel is taken entirely by the treatment plant and the proposed dewatering facilities will be adjacent to and including the existing sludge drying bed. The Pearl City WWTP is abandoned.

4.1.2 SURROUNDING LAND USE:

The USGS topographic map is used to indicate the surrounding areas, see Figure 3-2. Adjacent land use include a naval reservation to the North and East; and the middle loch of pearl harbor to the South and West.

4.1.3 SURROUNDING ROADS:

The access road to the Pearl City WWTP starts at Lehua Avenue and turns into Waipuna Avenue. After Waipuna Avenue the road crosses Waiawa Stream before reaching the treatment plant. Due to severe damage to the existing bridge, the route over Waiawa Stream is no longer used.

4.2 PHYSICAL ENVIRONMENT:

4.2.1 HYDROLOGY AND DRAINAGE:

The soils are part of Lualualei-Fill land-Ewa Association, well drained soils that have a fine textured or moderately fine textured subsoil or underlying material, on coastal plains. Soil series Ph, Pearl Harbor clay.

4.2.2 TOPOGRAPHY:

The parcel is situated on the Waiawa Peninsula and is bounded by farmland to the North, a naval reservation to the East, pearl harbor to the South, and fish ponds to the West. Outside the parcel's boundary, on the East side, is the Waiawa Stream.

The area is relatively level with no dips or mounds.

4.2.3 FLOOD HAZARD:

In accordance with the FEMA Flood Insurance Rate Map, dated September 1990, the Pearl City Wastewater Treatment Plant is located in Zone D - Area of undetermined, but possible, flood hazard. See Figure 4-3.

4.2.4 FLORA AND FAUNA:

The plant is abandoned and overgrown with bushes, grasses, and trees throughout the site. During the site visit no fauna were observed however due to the abandoned nature of the plant, likely fauna may include mice, mongoose, and other small rodents.

4.2.5 AMBIENT NOISE:

There is no equipment nor traffic in the area to generate noise. Traffic noise is negligible because of the distance from the main highway.

4.2.6 AMBIENT AIR QUALITY:

The air quality is dominated by the effects of tradewinds blowing across the site. No odors are emitted from the abandoned treatment plant.

4.3 INFRASTRUCTURE SYSTEMS IN THE VICINITY:

4.3.1 WASTEWATER:

The Pearl City WWTP is completely abandoned and there is no facility to accept wastewater.

4.3.2 WATER:

There is no active water lines in the Pearl City WWTP. The nearest active water system is on Lehua Avenue.

4.3.3 TRAFFIC:

There is no traffic because the plant is completely abandoned.

4.4 SOCIO-ECONOMIC ENVIRONMENT:

4.4.1 ARCHEOLOGICAL AND HISTORICAL RESOURCES:

There are no known archeological nor historical resources.

4.4.2 VISUAL AND AESTHETIC CONSIDERATIONS:

The Pearl City WWTP is located in an area remote from public view.

4.5 PROJECT DESCRIPTION:

4.5.1 SITE AND ACCESSIBILITY:

The facilities will be located next to the existing sludge drying beds at the West side of the parcel. The existing beds will be utilized if possible including a roof structure and piping connections. Although the existing road is paved, potholes and cracks are evident. Since the road is still usable, no improvements will be made under this project.

The newly proposed access road begins at the end of Waiawa Road, behind Leeward Community College, and runs South through the property of Watercress of Hawaii Inc.. The route meets the Navy's Energy Corridor and runs East along the corridor to Waiawa Stream. At Waiawa Stream, the route turns South and runs along the stream and into the Pearl City WWTP (see Appendix B). The road between Waiawa Road and the treatment plant is not improved.

An existing fence runs along the energy corridor to delineate the energy corridor from the Waiawa Peninsula. A swing gate will be provided on the existing fence to allow access onto the Waiawa Peninsula. The gate shall be secured during non-business hours.

4.5.2 FILTRATE TO MUNICIPAL SEWER SYSTEM:

The treatment plant is abandoned and therefore has no active sewer lines. In lieu of a gravity line, filtrate will flow out of the drying beds and into the existing containment sump. The containment sump is already connected to the drying beds with collection piping. The filtrate will be vacuumed up and into a water truck for transport to either the Pearl City Sewage Pump Station or to the nearest gravity sewer on Lehua Avenue. The Department of Wastewater Management will be consulted to determine the best discharge point into the public sewer.

4.5.3 SOLIDS DISPOSAL:

Debris will be loaded onto dump trucks and disposed in the Waimanalo Gulch Landfill. Fines from the solids separator will also be disposed of along with the debris.

4.6 POTENTIAL IMPACTS AND MITIGATION MEASURES:

4.6.1 IMPACT ON LAND USE:

The dewatering facilities will utilize the drying beds from the abandoned treatment plant. The dewatering facilities does not require new land. All debris brought to the dewatering facilities will be contained in watertight drying beds. The debris will not be allowed to pollute the land.

The treatment plant is not visible to the public and does not impact the visual and aesthetics of the vicinity.

The proposed access road is not improved however it is adequate to allow the vacuum truck and dump truck to pass through. The frequency of use is expected to be intermittent and is not a significant contributor to local traffic.

4.6.2 IMPACT ON HYDROLOGY:

The existing drying beds are designed to ensure the containment walls are higher than the finish grade. The ramp entering the settling basin and drying beds are protected against sheet flow run-off and other flooding conditions.

4.6.3 IMPACT ON TOPOGRAPHY:

The existing drying beds will be utilized for this project and thereby requiring no fills, embankment, nor excavation.

4.6.4 IMPACT ON FLORA AND FAUNA:

The dewatering facilities will not affect the flora and fauna.

4.6.5 IMPACT ON AMBIENT NOISE:

Because the dewatering facilities will not have any powered equipment, no additional noise will be generated. Noise will however, be generated by the dump truck and loader which are required to transport and load the solid waste. That noise will be intermittent.

4.6.6 IMPACT ON AIR QUALITY:

The addition of the dewatering facilities will not generate odors because the filtrate is expected to drain readily. The filtrate goes directly into collector pipes and is immediately pre-treated, filtrate is not exposed to atmosphere. After pre-treatment the filtrate is directed to the municipal sewer system for final treatment. The

remaining solids are left to dry and will be regularly transported to the landfill.

4.6.7 IMPACT ON THE INFRASTRUCTURE:

The proposed dewatering facility cannot impact the sewer or water systems because both are inactive. The existing drainage sump will be reused however only in the same capacity as it was originally designed.

The proposed route into the Pearl City WWTP crosses the Navy's energy corridor. The energy corridor contains a Navy jet fuel pipeline, three Chevron USA fuel lines, two City & County of Honolulu sewer lines, and is in itself a City & County of Honolulu bikeway. Proposed actions include:

- The Navy's 8-inch jet fuel pipeline (steel) will be protected by adding a gel filled encasement pipe sleeve over the length of the proposed route.
- All three (3) Chevron USA fuel lines have adequate ground cover and will not be affected by traffic.
- The City & County of Honolulu's 36-inch and 39-inch sewer lines (both concrete force mains) have adequate ground cover and will not be affected by traffic.
- The Department of Transportation Services, City & County of Honolulu will be consulted during the design process to ensure adequate safety measures for bikers and joggers.

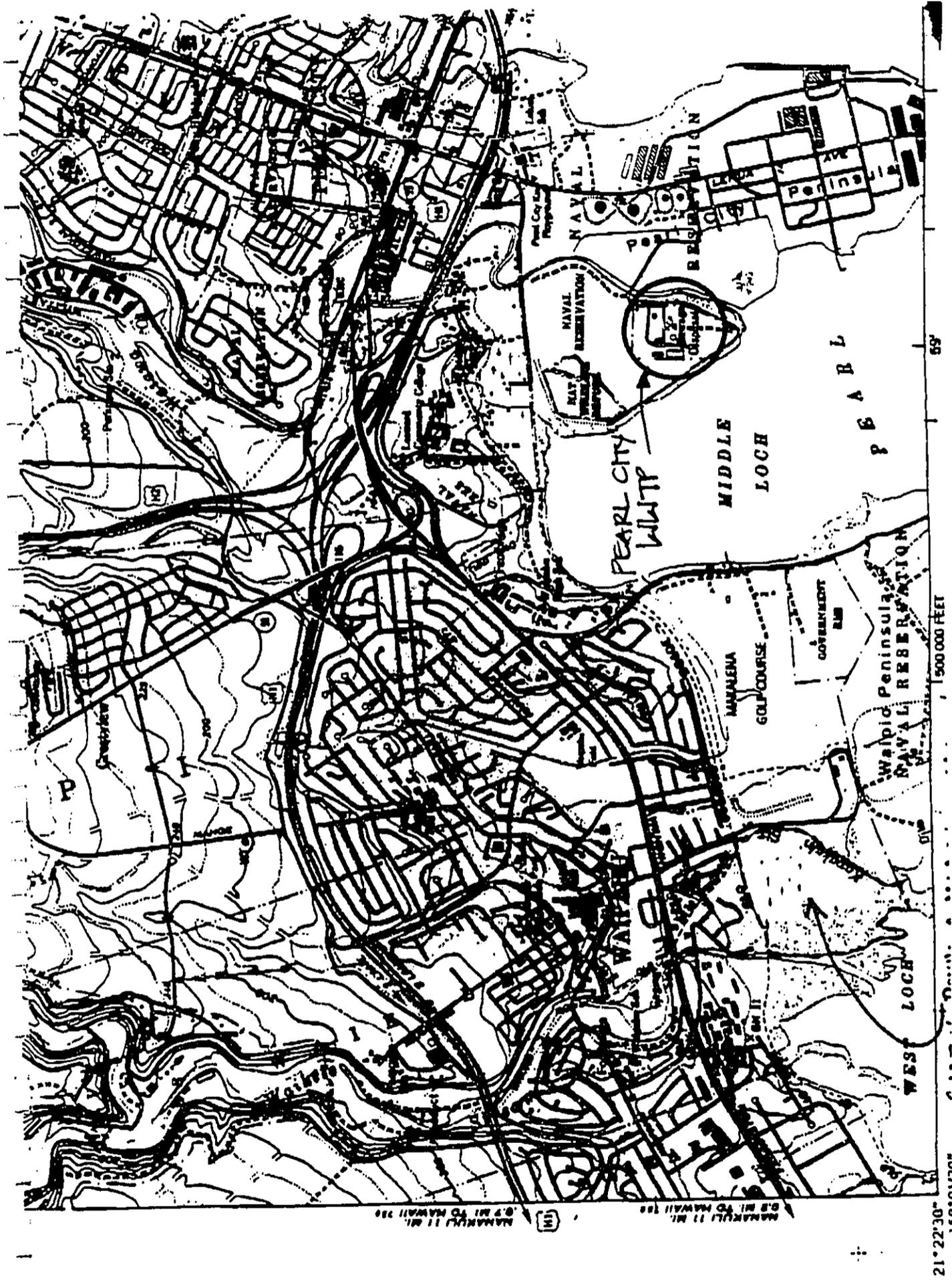


FIGURE 4-2
USGS TOPOGRAPHIC MAP
PEARL CITY WWTP

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

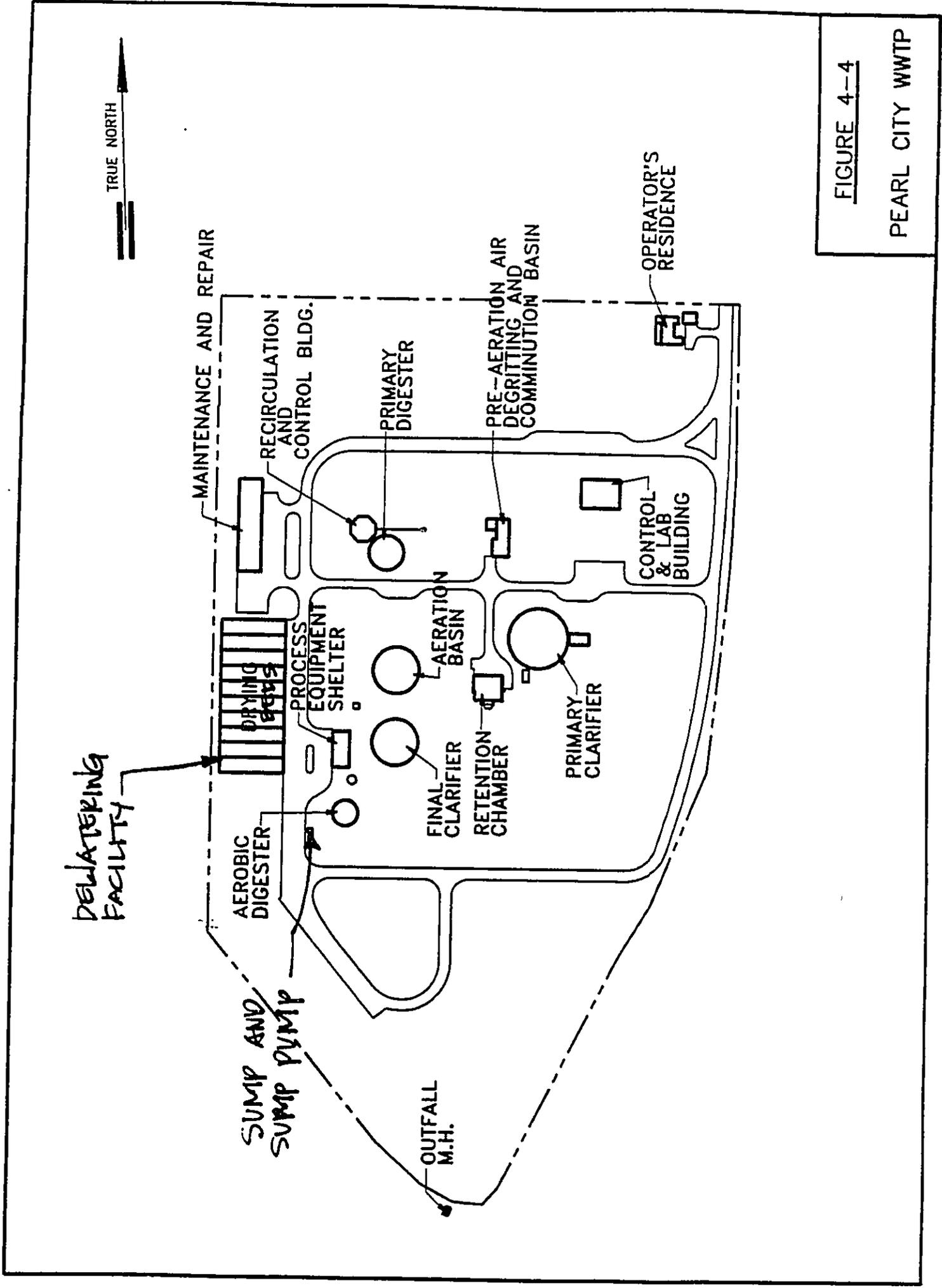


FIGURE 4-4
PEARL CITY WWTP

CHAPTER 5 - KANEOHE WASTEWATER TREATMENT PLANT

5.1 PROJECT SITE AND LAND USE:

5.1.1 LAND OWNER AND LAND USE:

Tax Map Key 4-5-30:36 owned and operated by the Department of Wastewater Management, City & County of Honolulu, see Figure 5-1. The land parcel is taken entirely by the treatment plant and the proposed dewatering facilities lies completely within the parcel. There are no easements within the parcel.

The plant was downgraded from a treatment plant to a primary treatment facility (PTF) and pumping station on October 17, 1994. However, to simplify the designations in this EA, the Kaneohe PTF will continue to be referred to as the Kaneohe WWTP.

5.1.2 SURROUNDING LAND USE:

The USGS topographic map is used to indicate the surrounding areas, see Figure 5-2. The parcel is bounded by Kaneohe Stream to the North, Waikalua-Loko Fish Pond to the East, the Bay View Golf Course to the South and empty land to the West.

5.1.3 SURROUNDING ROADS:

Access to the plant is through a 44 feet wide easement at the end of Kulauli Street and entering the West side of the plant. The entire street is paved all the way into the treatment plant.

5.2 PHYSICAL ENVIRONMENT:

5.2.1 HYDROLOGY AND DRAINAGE:

The area is relatively level with no dips or mounds. Except for some landscaping, there are no trees or plants on the parcel.

The soils are part of Kaena-Waialua Association, poorly drained to excessively drained soils that have a fine textured to coarse textured subsoil or underlying material, on coastal plain and in drainageways. Soil series HnA, Hanalei silty clay.

5.2.2 TOPOGRAPHY:

The area is relatively level throughout with neither dips nor mounds. For excessive rain, the run-off is by sheet flow towards Kawa Stream. Kawa stream runs into Kaneohe Bay.

5.2.3 FLOOD HAZARD:

In accordance with the FEMA Flood Insurance Rate Map, dated September 1990, the Kaneohe Wastewater Treatment Plant is located in Zone AE - Base flood elevations determined, special flood hazard areas inundated by 100 year flood. See Figure 5-3.

5.2.4 FLORA AND FAUNA:

The Kaneohe Wastewater Treatment Plant is an industrial area and has little flora and fauna. In the area of the proposed dewatering facility there is only grass.

5.2.5 AMBIENT NOISE:

The ambient noise is generated by equipment in the treatment plant. Traffic noise is negligible because of separation from the main highway.

5.2.6 AMBIENT AIR QUALITY:

The air quality is consistent with that of a treatment plant.

5.3 INFRASTRUCTURE SYSTEMS IN THE VICINITY:

5.3.1 WASTEWATER:

The Kaneohe WWTP is in operation and is still treating raw sewage and other wastewater. The plant is scheduled to become a pretreatment and pumping station within a few years. The filtrate which is generated from the dewatering operation can still be directed into the Kaneohe WWTP influent stream whether or not the plant becomes a pumping station.

5.3.2 WATER:

There is active water lines in the Kaneohe WWTP. There is a 6-inch water line near the proposed location for the dewatering facility.

5.3.3 TRAFFIC:

Traffic to and from the plant is light.

5.4 SOCIO-ECONOMIC ENVIRONMENT:

5.4.1 ARCHEOLOGICAL AND HISTORICAL RESOURCES:

There are no known archeological or historical resources.

5.4.2 VISUAL AND AESTHETIC CONSIDERATIONS:

The dewatering facility is generally located away from public view. Adjacent to the area is the Bay View Golf Course and from there, patrons will be able to see the roof of the dewatering facility.

5.5 PROJECT DESCRIPTION:

5.5.1 SITE AND ACCESSIBILITY:

The facilities will be located at the South side of the parcel in an existing open area. There is an improved road within 20 feet of the proposed location, see Figure 5-3.

5.5.2 FILTRATE TO MUNICIPAL SEWER SYSTEM:

The processed filtrate will enter the treatment plant's sewer system. The connection will be made with piping and will remain within the boundaries of the parcel.

5.5.3 SOLIDS DISPOSAL:

Debris will be loaded onto dump trucks and disposed in the Kapaa Landfill. Fines from the solids separator will also be loaded along with the debris for transport to Kapaa Landfill.

5.6 POTENTIAL IMPACTS AND MITIGATION MEASURES:

5.6.1 IMPACT ON LAND USE:

The estimated land usage is 0.30 acres and will be within the treatment plants parcel. The dewatering facilities will not impact the operation of the treatment plant except to share the roadway. The dewatering facility is compatible with the surrounding land use and therefore does not adversely impact the land.

Kulauli Street is improved and adequate for passage of the vacuum truck and dump

truck. The frequency of use is expected to be intermittent and is not a significant contributor to local traffic.

5.6.2 IMPACT ON HYDROLOGY:

The dewatering facilities may be affected by 100 year flooding and will be designed to ensure the containment walls are higher than the flood elevation level.

The ramp entering the beds are protected against sheet flow run-off and flooding conditions.

5.6.3 IMPACT ON TOPOGRAPHY:

The drying beds will be constructed below grade to an approximate depth of 6.5 feet. The limit of the excavation is nearly 115 feet by 44 feet for an area of 5,060 SF. No mounds are required.

5.6.4 IMPACT ON FLORA AND FAUNA:

The dewatering facilities will not affect the flora and fauna.

5.6.5 IMPACT ON AMBIENT NOISE:

Because the dewatering facilities will not have any powered equipment, no additional noise will be generated. Noise will however, be generated by the dump truck and loader which are required to transport and load the solid waste. That noise will be intermittent.

5.6.6 IMPACT ON AIR QUALITY:

The addition of the dewatering facilities will not generate odors because the filtrate is expected to drain readily. The filtrate goes directly into collector pipes and is immediately pre-treated, filtrate is not exposed to atmosphere. After pre-treatment the filtrate is directed to the sewer system for final treatment. The remaining solids are left to dry and will be regularly transported to the landfill.

5.6.7 IMPACT ON THE INFRASTRUCTURE:

The quantity of filtrate leaving the dewatering facility will not be high enough to impact the treatment plant. The existing sewer manhole where the connection is proposed, is adequate for the additional load.

The impact to the water system will be minimal. At most, the dewatering facility will utilize a 2 inch water line tapped off of the existing 6 inch water main.

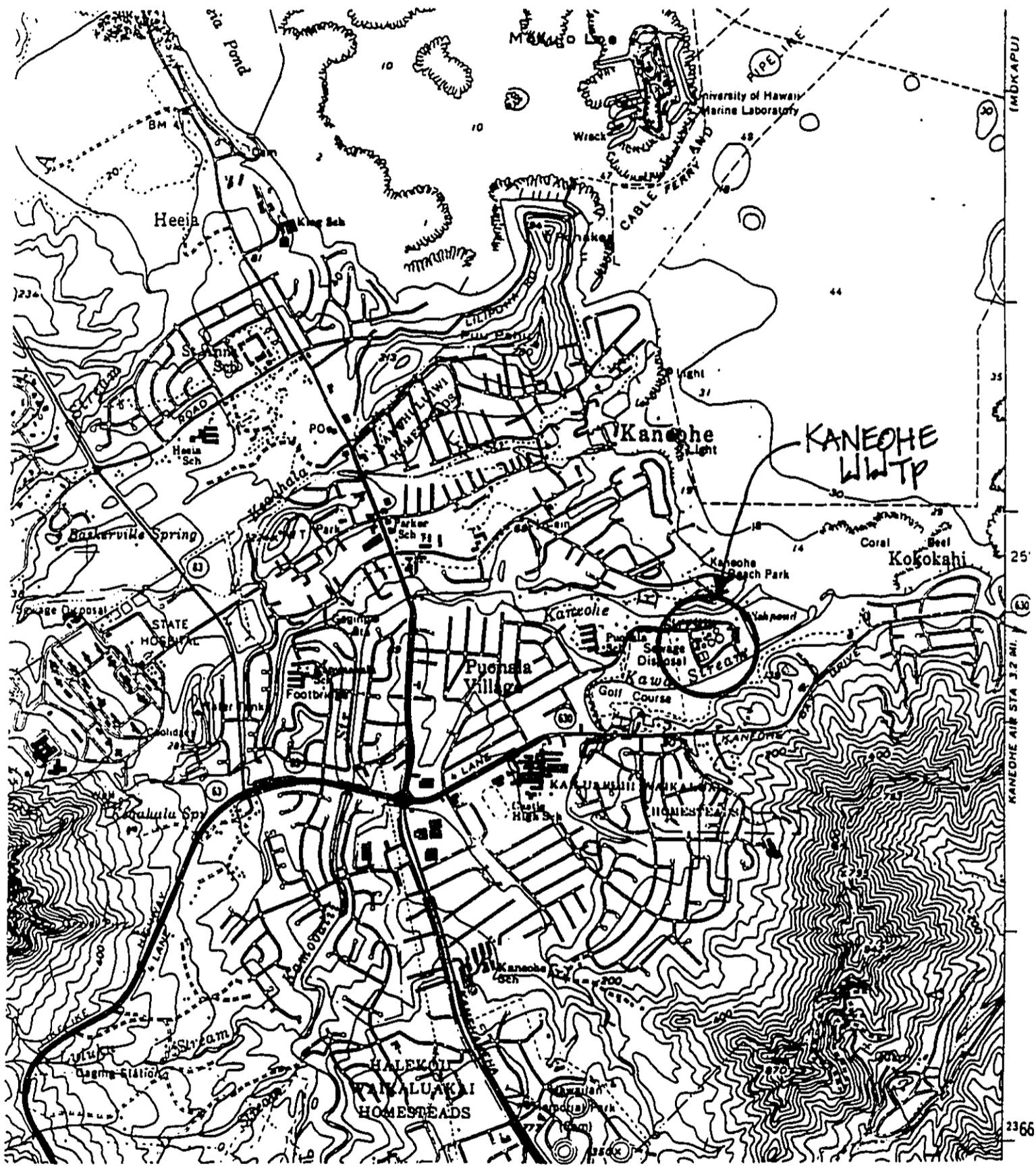


FIGURE 5-2
USGS TOPOGRAPHIC MAP **KANEOHE WWTP**

CHAPTER 6 - WAIMANALO WASTEWATER TREATMENT PLANT

6.1 PROJECT SITE AND LAND USE:

6.1.1 LAND OWNER AND LAND USE:

Tax Map Key 4-1-09:270 and owned by the State of Hawaii, see Figure 6-1. The land parcel is taken entirely by the treatment plant and the proposed dewatering facilities lies completely within the parcel. There are no easements within the parcel.

The subject property was set aside by Executive Order No. 3434 (October 24, 1989) for a wastewater treatment plant. The Waimanalo WWTP is exempt from obtaining an Existing Use (EU) permit.

The Department of Wastewater Management, City & County of Honolulu operates the plant and controls all the land on which the plant sits.

6.1.2 SURROUNDING LAND USE:

The USGS topographic map is used to indicate the surrounding areas, see Figure 6-2. The parcel is bounded by empty land to the North, a church and resident homes to the East, farmland to the South and a polo field to the West.

6.1.3 SURROUNDING ROADS:

Access to the plant is through Aloiloi Street which is a cross street of Kalaniana'ole Highway. The access road is improved.

6.2 PHYSICAL ENVIRONMENT:

6.2.1 HYDROLOGY AND DRAINAGE:

The soils are part of Kaena-Waialua Association, poorly drained to excessively drained soils that have a fine textured to coarse textured subsoil or underlying material, on coastal plain and in drainageways. Soil series HeA, Haleiwa silty clay.

6.2.2 TOPOGRAPHY:

The area is relatively level with no dips or mounds. Except for some landscaping there are no large trees or plants.

6.2.3 FLOOD HAZARD:

In accordance with the FEMA Flood Insurance Rate Map, dated September 1990, the Waimanalo Wastewater Treatment Plant is located in Zone AO - Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined; special flood hazard areas inundated by 100 year flood. See Figure 6-3.

6.2.4 FLORA AND FAUNA:

The Waimanalo Wastewater Treatment Plant is basically an industrial area however there are a few trees within the plant site. There is no fauna within the treatment plant site.

6.2.5 AMBIENT NOISE:

The dewatering facilities does not have any equipment that will generate noise. Processing is by gravity flow only. The only noise anticipated will be generated by the loader as it removes solids from the drying beds.

6.2.6 AMBIENT AIR QUALITY:

The air quality is natural and consists of tradewinds blowing through the area. Under certain wind conditions, such as "Kona" winds, the smell of the local dairy is noticeable.

6.3 INFRASTRUCTURE SYSTEMS IN THE VICINITY:

6.3.1 WASTEWATER:

The Waimanalo WWTP is in operation and can accept filtrate from the dewatering facility. Near the influent pump station is a special manhole where a drain pipe can be connected.

6.3.2 WATER:

There is active water system around the Waimanalo WWTP. The nearest water pipe is a 4-inch water main approximately 1,000 feet away.

6.3.3 TRAFFIC:

Traffic to and from the plant is light.

6.4 SOCIO-ECONOMIC ENVIRONMENT:

6.4.1 ARCHEOLOGICAL AND HISTORICAL RESOURCES:

There are no known archeological or historical resources.

6.4.2 VISUAL AND AESTHETIC CONSIDERATIONS:

The dewatering facility is generally located away from public view. From Hihimanu Street, the dewatering facility may be seen through the treatment plants chain-link fence however, it will not appear out of place next to the treatment plant facilities.

6.5 PROJECT DESCRIPTION:

6.5.1 SITE AND ACCESSIBILITY:

The facilities will be located in an open area on the South side of the parcel. see Figure 6-4. There is an improved road within 50 feet of the proposed location.

6.5.2 FILTRATE TO MUNICIPAL SEWER SYSTEM:

The filtrate will enter the treatment plant's sewer system. The connection will be made with piping and will remain within the boundaries of the parcel.

6.5.3 SOLIDS DISPOSAL:

Debris will be loaded onto dump trucks and disposed in the Kapaa Landfill. Fines from the solids separator will also be loaded along with the debris for transport to Kapaa Landfill.

6.6 POTENTIAL IMPACTS AND MITIGATION MEASURES:

6.6.1 IMPACT ON LAND USE:

The estimated land usage is 0.30 acres and will be within the treatment plants parcel. The dewatering facilities will not impact the operation of the treatment plant except to share the roadway. The dewatering facility is compatible with the surrounding land use and therefore will not adversely impact the land.

Aloiloi Street is improved and adequate for passage of the vacuum truck and dump truck. This portion of Aloiloi Street is not used by anyone else except the Operators of the treatment plant. The use by the Road Maintenance Division is not expected to

be a significant contributor to local traffic.

6.6.2 IMPACT ON HYDROLOGY:

The dewatering facilities may be affected by 100 year flooding and will be designed to ensure the containment walls are higher than the flood elevation level.

The ramp entering the beds is also sloped to protect against sheet flow run-off and flooding conditions.

6.6.3 IMPACT ON TOPOGRAPHY:

The drying beds will be constructed below grade to an approximate depth of 6.5 feet. The limit of the excavation is nearly 115 feet by 44 feet for an area of 5,060 SF. No mounds are required.

6.6.4 IMPACT ON FLORA AND FAUNA:

The dewatering facilities will not affect the flora and fauna.

6.6.5 IMPACT ON AMBIENT NOISE:

Because the dewatering facilities will not have any powered equipment, no additional noise will be generated. Noise will however, be generated by the dump truck and loader which are required to transport and load the solid waste. That noise will be intermittent.

6.6.6 IMPACT ON AIR QUALITY:

The addition of the dewatering facilities will not generate odors because the filtrate is expected to drain readily. The filtrate goes directly into collector pipes and is immediately pre-treated. After pre-treatment the filtrate is directed to the sewer system for final treatment. The remaining solids are left to dry and will be regularly transported to the landfill.

6.6.7 IMPACT ON THE INFRASTRUCTURE:

The filtrate leaving the dewatering facility will not be high enough to impact to the sewer system. The existing sewer manhole where the connection is proposed, is adequate for the additional load.

The impact to the water system will be minimal. At most, the dewatering facility will utilize a 2 inch water line tapped off of the existing 6 inch water main.

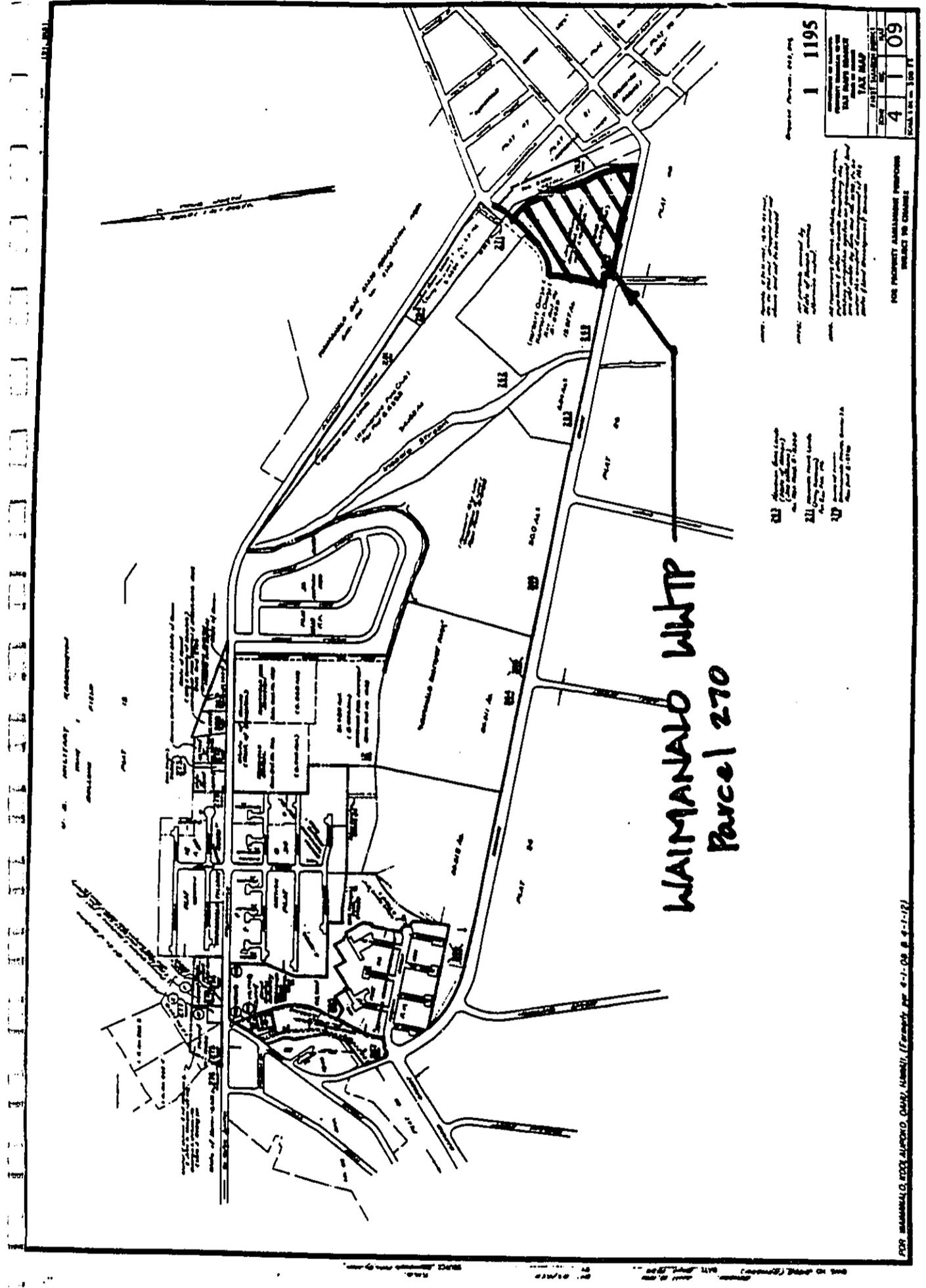


FIGURE 6-1
TAX MAP KEY
WAIMANALO WWTP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

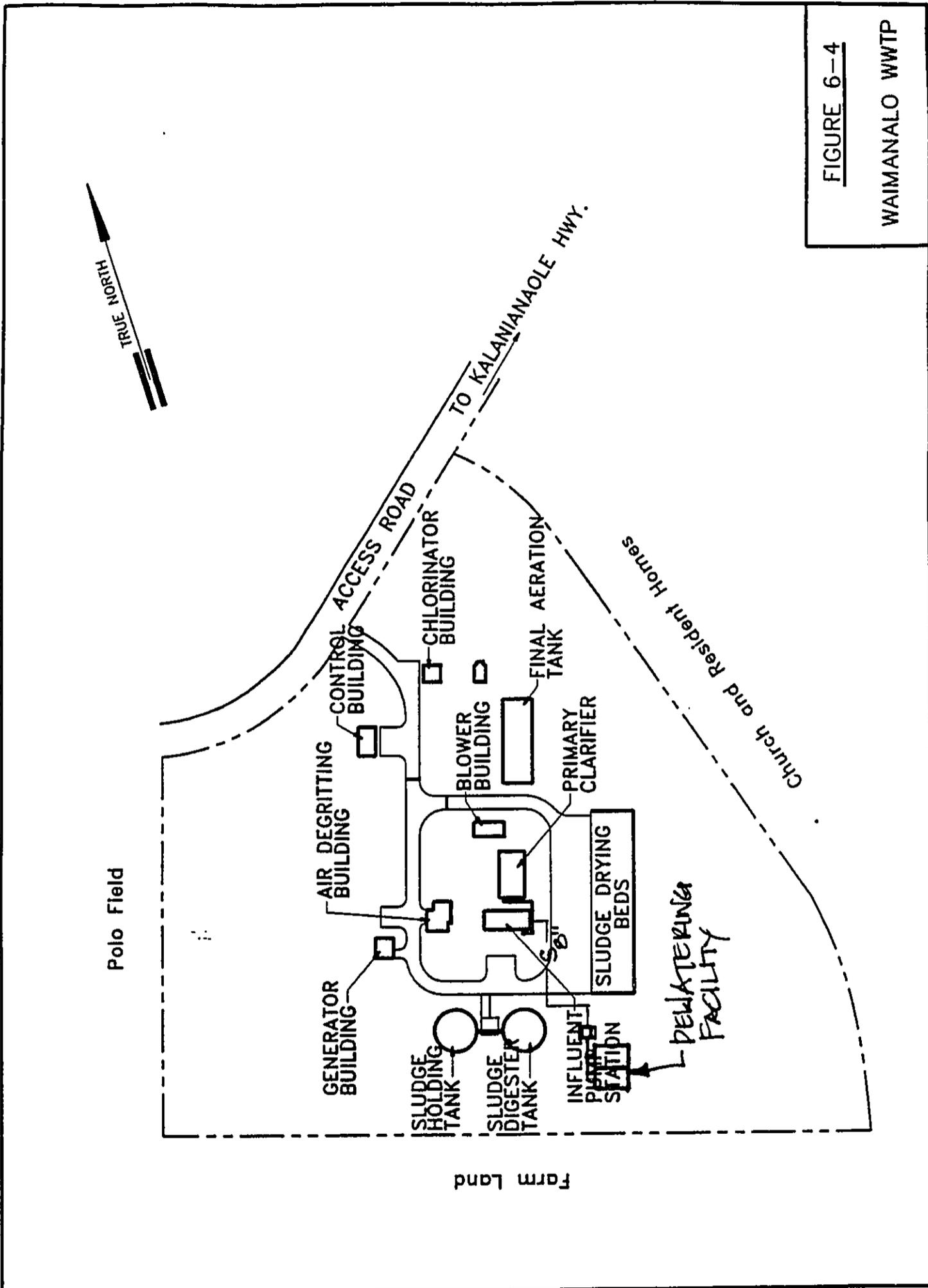


FIGURE 6-4
WAIMANALO WWTP

CHAPTER 7 - ALTERNATIVES

7.1 NO ACTION:

The "No Action" alternative cannot be considered because the existing dewatering operation is in constant jeopardy of violating the no "free liquids" statute of Chapter 58.1. Free liquids are not permitted in municipal landfills.

7.2 DO NOT USE WATER FOR CLEANING:

If water is not used to clean the storm drain equipment, the debris may be dry enough to be taken directly to a landfill. Dry enough would depend on the "free liquids" criteria and each situation will be unique.

If the cleaning crews do not use water, the cleaning operation would be extremely difficult in cases where the storm drain system has dried and caked dirt, sand, mud, etc.. This condition was recently observed in the field. At one catch basin in particular, the effort would have been much higher and the result less satisfactory if water had not been used.

7.3 EVAPORATION OF FILTRATE:

Place the debris in a covered containment area and allow free liquids to evaporate. This eliminates dewatering the debris, pretreat the washwater, and directing the filtrate into the municipal sewer system.

The evaporation of free liquids requires a long time. The drying beds remain unusable and more units would be required to allow continual cleaning of storm drainage equipment. To enhance evaporation and limit stagnation, the settling basins and drying beds would have to be designed with more land area and less depth. Mechanical blowers could be used to enhance evaporation, however, the electrical and maintenance costs are prohibitive.

CHAPTER 8 - RELATIONSHIP OF PROPOSED ACTION TO LAND USE PLANS

8.1 HAWAII STATE PLAN

In general, the development of the dewatering facilities follow the revised Hawaii General State Plan (Hawaii Revised Statutes, Chapter 226, May 1986) by supporting the objectives for the prudent use and effective protection of the physical environment.

The development also follows the objectives and policies for facility systems including maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid waste.

8.2 RELATION TO 205A AND SMA GUIDELINES:

Chapter 205A, Hawaii Revised Statutes, defines the Coastal Zone Management Area and provides objectives relating to the preservation, protection, and restoration of natural resources within the coastal zone. The proposed construction of the dewatering facilities is compatible with the SMA guidelines, specifically:

- Ensures wildlife preserves are reserved
- Provisions are made for solid and liquid waste treatment disposition
- Alterations to existing land forms and vegetation will cause minimum adverse effects to water resources and minimum danger of floods, erosion, or siltation.
- The development will not have any substantial adverse environmental or ecological effect
- That the development is consistent with the objectives, policies, and special management area guidelines enacted by the legislature
- The development is consistent with the City & County of Honolulu's General Plan and zoning requirements.

8.3 CITY & COUNTY OF HONOLULU'S GENERAL PLAN:

The dewatering facilities conform to the City & County of Honolulu's General Plan of December 8, 1992.

8.3.1 NATURAL ENVIRONMENT:

Objective A is "To protect and preserve the natural environment of Oahu". The proposed dewatering facilities are compatible with policies 4, 6, 7, and 8 of objective A.

8.3.2 TRANSPORTATION AND UTILITIES:

Objective B is "To meet the needs of the people of Oahu for an adequate supply of water and for environmentally sound systems of waste disposal". The proposed dewatering facilities are compatible with policies 5 and 7 of objective B.

8.4 CITY & COUNTY OF HONOLULU'S SPECIFIC PLANS:

The preliminary EA was submitted to the City & County of Honolulu's Planning Department for review and comment. The Planning Department confirms the proposed locations are consistent with the Public and Quasi-public land use designations on the Primary Urban Center and Koolaupoko Development Plan Land Use Maps. The proposed improvements would not require an amendment to the Development Plan Public Facilities Maps.

However, as recommended by the Planning Department, fencing and/or landscaping will be considered for the dewatering facilities at the Waimanalo WWTP.

CHAPTER 9 - IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The City and County of Honolulu's Department of Public Works is committed to constructing these facilities. Once constructed, the dewatering facilities will provide a central location for the processing of water laden debris.

The Irreversible and irretrievable resources include land area, building materials, and labor expended for the construction of the dewatering facilities.

For the Pearl City WWTP, no new land area is required since the existing drying beds, collection pipes, and drain sump will be utilized.

CHAPTER 10 - AGENCIES CONTACTED FOR THIS ENVIRONMENTAL ASSESSMENT

10.1 CITY & COUNTY OF HONOLULU:

10.1.1 ROAD MAINTENANCE DIVISION, Department of Public Works:

Mr. Albert Miyashiro was contacted to ensure the purpose of this project was in conformance to their needs. Secondly, there was a need to find out the current methods in place for cleaning and disposing of debris. Mr. Miyashiro and his field crews provided information on the methods, equipment used, and manpower requirements for a typical cleaning operation.

A field observation of the actual cleaning procedure was made to supplement the descriptive data and to conduct first hand observation of the actual debris being removed.

10.1.2 REFUSE DIVISION, Department of Public Works:

Mr. Wayne Hamada, Disposal Operations Engineer, was contacted (523-4775) on the possibility of discharging free liquids in landfills. According to Mr. Hamada, "free liquids" are not allowed in municipal landfills. The only City landfills still in operation on Oahu are located at Waimanalo Gulch in Nanakuli and Kapaa in Kailua.

10.1.3 DIVISION OF WATER QUALITY, Department of Wastewater Management:

Ms. Cheryl Kaneshiro was contacted (527-5137) to discuss the project intent and to clarify the latest Industrial Wastewater Discharge Provisions. These provisions apply to all water-carried waste and wastewater excluding domestic wastewater and uncontaminated water.

10.1.4 DEPARTMENT OF PLANNING:

Mr. Eugene Takahashi was contacted (527-6022) to discuss the status of the project. Mr. Takahashi was already familiar with the design intent and based on preliminary information, did not foresee any conflicts. Mr. Takahashi will be apprised of any changes and will provide further review as required.

10.1.5 DEPARTMENT OF LAND UTILIZATION:

The preliminary EA was provided to the Department of Land Utilization (DLU) for review and comment. DLU provided the information in this EA relating to Special Management Area Use Permit (SMP); Conditional Use Permits (CUP), Type 1; and

Existing Use (EU) Permits.

10.2 STATE OF HAWAII:

10.2.1 DIVISION OF FORESTRY & WILDLIFE, Department of Land and Natural Resources:

Mr. Dave Smith, Wildlife Manager, was contacted (973-786) to obtain map(s) of any bird or wildlife refuge under State jurisdiction. There were none in the vicinity of the four sites.

10.2.2 CLEAN WATER BRANCH, Department of Health:

Ms. Joanne Seto, was contacted to confirm requirements for storm water disposal. Since the proposed facility does not discharge to State waters, a national pollutant discharge elimination permit (NPDES) is not required for the operation of the facility. An NPDES however, may be required for construction activities.

10.3 FEDERAL GOVERNMENT:

10.3.1 FISH & WILDLIFE SERVICE, Department of Interior:

Mr. Mike Silbernagle, Wildlife Biologist, was contacted (637-6330) to discuss the project intent and to obtain map(s) of any Federally protected bird or wildlife refuge. There were no wildlife refuge sites near enough to the proposed facilities to be affected or disturbed. The closest wildlife refuge near one of proposed sites was the Pearl Harbor Wildlife Refuge on the Waiawa peninsula.

10.3.2 PLANNING AND OPERATIONS DIVISION, U.S. Army Corps of Engineers:

The preliminary EA was provided to the Planning and Operations Division for review and comment. The proposed dewatering facility at Kaneohe WWTP may require a Department of Army (DA) Permit. The Regulatory Section shall be consulted during the projects design stage.

10.4 PRIVATE ENTITIES:

10.4.1 CHEVRON USA:

Mr. Tim Potter, Reliability Engineer, was contacted (682-2308) to confirm the access road to Pearl City WWTP will cross Chevron's pipelines. Mr. Potter researched the

depth of the pipelines and determined that adequate cover is provided and the vehicular crossing is acceptable.

10.4.2 HAWAIIAN ELECTRIC COMPANY, INC.:

The preliminary EA was provided to HEI, Inc. for review and comment. No comments were returned however HEI, Inc. reserves the right to review and approve construction plans that may affect electrical power lines.

SECTION 11 - DETERMINATION

After completing an assessment of the potential environmental effects of the project at all 4 sites, it has been determined the project would not have a significant impact on the environment and that an environmental impact statement is not required. This document constitutes a notice of intent to issue a Negative Declaration pursuant to Chapter 343 (HRS). The following reasons are provided in support of the Negative Declaration:

- The proposed action will not present any change in the use of the areas.
- The proposed action will not adversely affect the physical or social environments.
- There will be no degradation of existing ambient air and noise levels.
- There will be no impact on the flora and fauna of the areas.
- The project conforms to the City & County of Honolulu's Plans and Ordinances.

APPENDIX A

The entire cleanout shall be installed within the property and at the expense of the property owner. In improvement district projects, the city may install all or a portion of the riser extension at city expense when directed by the director. A sewer manhole in lieu of the above cleanout shall be installed when directed by the director.

- (2) If an existing lateral connection does not include a cleanout as described above, the property owner shall have one installed within 60 calendar days after written notice has been given the owner by the director.
 - (3) Special control structures and other appurtenances shall be constructed by the applicant when required by the director.
 - (c) Lateral Installation Charges. An applicant for lateral sewer installation shall pay for installation charges in accordance with the schedule of charges in Section 14-3.2.
- (Sec. 11-1.5, R.O. 1978 (1987 Supp. to 1983 Ed.); Sec. 11-1.5, R.O. 1990; Am. Ord. 90-50, 94-46)

Sec. 14-1.9 Use of public sewers—Restrictions.

- (a) Inflow shall not be permitted in the sewer system. Thus, no person shall discharge or cause to be discharged any storm water, surface water, groundwater, roof runoff, or subsurface drainage into any public sewer or any private sewer which is connected to the public sewer.
- (b) No person shall enter, obstruct, uncover or tamper with any portion of the public sewer, or connect to it, or discharge any wastewater or any other substance directly into a manhole or other opening in the public sewerage system other than in accordance with requirements established by this chapter and through service sewers approved by the director, except that the director may grant permission and establish requirements and policies for such direct discharge.
- (c) No person or party shall remove or demolish any building or structures with plumbing fixtures connected directly or indirectly to the public sewer without first notifying the department of such intention. All openings, in or leading to the public sewer line or lines caused by such work, shall be sealed watertight and inspected by the department before being backfilled.
- (d) No person shall fill or backfill over, or cause to cover, or obstruct access to, any sewer manhole.
- (e) No person shall erect any improvements, structures or buildings over public sewers without the written permission of the director.
- (f) The general and specific prohibitions set forth by the federal regulations at 40 CFR Section 403.5 are hereby incorporated into this chapter by reference.
- (g) No person shall discharge or cause to be discharged any of the following into any public sewer or any private sewer that is connected to a public sewer:
 - (1) Any pollutant(s) which cause pass-through or interference of the wastewater treatment plant;
 - (2) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR Section 261.21. At no time shall two successive readings on an explosion hazard meter at the point of discharge into the system be over five percent, nor shall any single reading be over ten percent of the lower explosive limit of the meter;
 - (3) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.5 or higher than 11.0, unless the POTW is specifically designed to accommodate such discharges;
 - (4) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - (5) Any pollutant, including oxygen-demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
 - (6) Heat in the amounts which will inhibit biological activity in the POTW resulting in interference, but in no case shall heat be permitted in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit);
 - (7) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;
 - (8) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

- (9) Any trucked or hauled pollutants except at discharge points designated by the POTW;
- (10) Ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, paper ware either whole or ground or any other solid or viscous substances or normally dry, solid wastes capable of causing obstruction to the flow in or damage to sewers or other interference with the proper operation of the sewerage works;
- (11) Any wastewater containing toxic pollutants such as herbicides and insecticides, in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, or create a toxic effect in the receiving waters of the POTW. A toxic pollutant shall include, but is not limited to, any pollutant identified pursuant to Section 307(a) of the Federal Water Pollution Control Act, as amended;
- (12) Any unusual volume of flow or concentration of wastes constituting "slugs" as defined herein without notification to the POTW;
- (13) Water or wastes which have been contaminated by radioactive materials;
- (14) Water added for the purpose of diluting wastes which would otherwise exceed applicable maximum concentration limitations set by the POTW or the federal categorical pretreatment standards;
- (15) Water or wastes containing in excess of the following local limits:
 - 0.50 mg/L Arsenic
 - 0.69 mg/L Cadmium
 - 2.77 mg/L Total chromium
 - 3.38 mg/L Copper
 - 1.90 mg/L Total cyanide
 - 0.60 mg/L Lead
 - 0.50 mg/L Mercury
 - 3.98 mg/L Nickel
 - 2.00 mg/L Selenium
 - 0.43 mg/L Silver
 - 2.61 mg/L Zinc
 - 2.00 mg/L Phenolic compounds
 - 100.00 mg/L Oil and grease;
- (16) Water or wastes with concentrations exceeding national categorical pretreatment standards promulgated by the U.S. Environmental Protection Agency in accordance with Sections 307(b) and (c) of the Federal Water Pollution Control Act, as amended. The national categorical pretreatment standards in 40 CFR Chapter I, Subchapter N, Parts 405-471, are hereby incorporated into this section. These standards, unless specifically noted otherwise, shall be in addition to all applicable pretreatment standards and requirements set forth in this chapter and, if more stringent than limitations imposed under this section, shall immediately supersede the limitations imposed under this section;
- (17) Any substance which may cause a city sewage treatment plant's effluent or any other products thereof, such as residues, sludges, or scum to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case shall a substance discharged to a city sewage treatment plant cause it to be in noncompliance with sludge use or the disposal criteria, guidelines or regulations developed under Section 405 of the Federal Water Pollution Control Act (P.L. 92-500), as amended; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, or the Toxic Substances Control Act; or State of Hawaii criteria applicable to the sludge management method being used;
- (18) Any substance which will cause the city's sewage treatment plant to violate its national pollutant discharge elimination system permit or State of Hawaii water quality standards; and
- (19) Any wastewater with an oil and grease content greater than 100 mg/l or having detrimental characteristics so as to cause obstruction to structures, equipment within the sewer system or interference with the operation of the POTW; and any wastewater containing substances that may precipitate, solidify or become viscous at temperatures between 40 degrees Fahrenheit and 100 degrees Fahrenheit.

- (h) Grease and oil interceptors shall be provided for the separation and retention of oil, grease, flammable substances, sand, solids, acidic or alkaline substances or other harmful ingredients from industrial wastewater before discharge into the public sewer system.
- (1) A grease interceptor shall be required when deemed necessary by the director for slaughterhouses, food packing establishments, restaurants, drive-ins, bars serving cooked foods, cafeterias, school kitchens, hotels, hospitals, or other establishments where oil and grease of vegetable or animal origin are discharged into the public sewer system.
 - (2) An oil interceptor shall be required when deemed necessary by the director for service stations, repair shops, automobile washing facilities, or other establishments where oil, gasoline, kerosene or other light density volatile substances are discharged into the public sewer system.
 - (3) All interceptors shall be constructed and installed in accordance with the requirements for industrial interceptors and grease interceptors for commercial kitchens specified in the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials, as adopted by Chapter 19, ROH 1990, as amended.
 - (4) All grease and oil interceptors shall be maintained in efficient operation at all times by the owner at the owner's expense. In general, once a month will be sufficient. However, the frequency of cleaning may be more or less than once a month. In maintaining these interceptors, the owner shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates, amounts and means of disposal which are subject to review by the director.
- (i) Any industrial user who shall discharge or cause to be discharged into the public sewers any water or wastes having more than 200 mg/l of suspended solids or BOD₅ shall be obligated to pay a surcharge in accordance with Section 14-6.6 to the department occasioned by the extent to which such water or waste shall contain an excess over the foregoing limitation of concentration.
- (j) Where preliminary treatment facilities are provided for any wastewater as a condition of its acceptance, they shall be maintained continuously in satisfactory and effective operation by the owner at the owner's expense.
- (k) When required by the director, the owner of any property served by a building sewer carrying industrial wastes shall install monitoring and recording equipment, and a suitable control manhole in the building sewer to facilitate observation, sampling and measurement of the waste. Such manhole shall be readily accessible and safely located, and shall be constructed in accordance with plans approved by the director. If applicable, the manhole shall be designated in the industrial user's discharge permit as its approved sample location. The manhole shall be installed and maintained by the owner at the owner's expense.
- (l) All pretreatment program monitoring activities discussed in this chapter shall be conducted in accordance with the methods and procedures in 40 CFR Part 136 and shall be made at the sampling location identified in the industrial wastewater discharge permit.
- (m) Dilution is prohibited as a substitute for treatment. Except where expressly authorized to do so by an applicable pretreatment standard or requirement, no industrial user shall ever increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement. The director may impose mass limitations on industrial users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases where the imposition of mass limitations is appropriate.
- (n) Any discharge which would be considered a hazardous waste, if disposed of in a different manner, shall be prohibited from the sewer system.
- (o) In addition to the provisions of this chapter, all industrial users shall comply with all applicable requirements set forth in federal categorical pretreatment standards and other applicable federal regulatory standards, applicable state orders and water quality control regulations, sewage discharge permits and orders issued to the city by federal and state agencies, federal and state pretreatment program approval conditions, local discharge limitations and regulations promulgated by the director and the city, and any other applicable requirement regulating the discharge of wastewater into the sewerage system. The director is authorized to develop and enforce such local limitations as the director deems necessary for the city's compliance with state and federal laws and requirements and the enforcement of this chapter set forth in Sections 14-5.15 through 14-5.20.

(Added by Ord. 94-46; Am. Ord. 94-73)

→ END SEC 14-1.9

APPENDIX B

RIGHT OF ENTRY AGREEMENT

1. Date of this Agreement: August 1, 1995.
2. Parties to this Agreement:
 - Owner: Trustees of the Estate of Bernice Pauahi Bishop
567 South King Street, Suite 200
Honolulu, Hawaii 96813
 - Entrant: City and County of Honolulu
Department of Public Works
650 South King Street, 12th Floor
Honolulu, Hawaii 96813
3. Property: Lease No. 27,484
 - Name of Lessee: Watercress of Hawaii, Inc.
 - Address: 98-160 Kamehameha Highway
Aiea, Hawaii 96701
 - Sublease
 - Name of Sublessee: Nakatani Farms, Inc.
 - Address: 94-1096 Lumi Street
Waipahu, Hawaii 96797
 - TMK No.: (1) 9-6-03-39 & 26
4. Activities to be Conducted on the Property:

Entrant has requested permission from Owner for ingress and egress over an existing unimproved roadway through the Property to reach the Pearl City sewer treatment plant site. Equipment to be used for storm drain cleaning will include and will be limited to vacuum trucks, dump trucks, and a rubber-tired loader. The roadway is shaded in blue in the maps attached to this Agreement.

5. Term of this Agreement:

The term of this Agreement shall begin on the date of this Agreement set forth above and shall terminate on July 31, 1998, unless sooner terminated pursuant to the terms set forth in this paragraph 5 or in other provisions of this Agreement.

5. Permission to Enter Property:

Owner hereby gives Entrant permission to enter the Property to conduct the activities listed in paragraph 4 above, subject to the terms and conditions contained in this Agreement.

6. Conditions to Entry:

Entrant may enter the Property subject to the following conditions:

- a. Prior to entering the Property, Entrant shall obtain the prior written consent of the lessee or tenant occupying or leasing the Property and shall furnish to Owner a copy of such consent.
- b. Prior to entering the Property, Entrant shall furnish to Owner a list of Entrant's employees, agents or representatives that desire to enter the Property. Only those individuals named in such list shall have the right to enter the Property.
- c. Entrant shall conduct only those activities listed in paragraph 4 above and no other activities.
- d. Entrant shall not interfere with or disrupt any of Owner's or Owner's lessees' or any sublessees' activities on the Property.
- e. Entrant shall exercise due care for public and private safety on the Property.
- f. Upon expiration or earlier termination of this Agreement, Entrant shall remove all equipment and other items of Entrant's and shall restore the Property to the same condition existing prior to Entrant's entry on the Property.
- g. Entrant shall immediately repair any damage to the roadway caused by Entrant's use of such roadway.

7. Hazardous Materials:

Entrant shall not cause or permit the Property to be in violation of any Hazardous Materials Laws (as hereinafter defined). Entrant shall immediately advise Owner in writing of Entrant's discovery of any occurrence or condition on the Property or adjoining properties relating to Hazardous Materials Laws. Entrant shall not cause or permit any Hazardous Materials (as hereinafter defined) to exist on, under or about the Property. Entrant shall indemnify Owner, its successors in trust and assigns, from and against any loss, damage, cost (including, without limitation, all reasonable attorneys' fees), expense or liability directly or indirectly arising out of or attributable to the use, storage, handling, release, threatened release, disposal or presence of Hazardous Materials on, under or about the Property. The indemnification provision contained in this paragraph 8 shall survive the term of this Agreement.

The term "Hazardous Materials Laws" as used in this Agreement shall mean all federal, state or local laws, ordinances or regulations, now or hereafter in effect, relating to environmental conditions, industrial hygiene or Hazardous Materials on, within, under or about the Property or any improvements thereon.

The term "Hazardous Materials" as used in this Agreement shall mean any and all radioactive materials, asbestos, organic compounds known as polychlorinated biphenyls, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, hazardous wastes, toxic substances, and any and all other substances or materials defined as or included in the definition of "hazardous substances", "hazardous wastes", "hazardous materials", or "toxic substances", under any Hazardous Materials Laws.

8. Indemnification:

Entrant agrees to indemnify and hold harmless Owner and Owner's lessees and sublessees occupying the Property, against all loss, damage, costs, expenses, charges, reasonable attorneys' fees and liability for injury to property or persons, including wrongful death, arising out of or caused by any accident on or in connection with the Property or the entry or use of Entrant, or any person claiming under Entrant, of the Property and improvements thereon, or arising out of failure of Entrant to observe and perform any term, covenants

or condition herein contained and on the part of Entrant to be observed and performed, or caused by Entrant in the exercise of the rights and duties granted hereunder.

9. **Liability Insurance:**

If requested by Owner, Entrant shall, at Entrant's own expense, effect and maintain at all times during the term of this Agreement, with an insurance company qualified to do business in Hawaii, a policy of comprehensive liability insurance, in form and substance acceptable to Owner and with such reasonable minimum limits as may be prescribed by Owner.

10. **Preservation of Historic and Archaeological Sites:**

The Entrant shall take every reasonable precaution to preserve and leave unaltered all places, if any, of historic and/or archaeological interest, including without limitation structures and sites listed on the Hawaii State Register of Historic Places and/or the National Register of Historic Places, ponds, reservoirs, heiau, altars, agricultural terraces, lo'i, walls, auwai, house platforms, imu, petroglyph sites, cemeteries; and all objects, if any, of historic and/or archaeological interest, including without limitation antiquities and specimens of Hawaiian or other ancient art or handicraft which may be found in or on the Premises. Upon the discovery of such objects or of any human remains in or on the Premises, the Entrant will leave the same untouched and will immediately notify the Owner of the type and location of such discovery.

11. **No Assignment:**

Entrant shall not assign or transfer any right under this Agreement.

12. **Termination of Agreement:**

In the event that Owner, in Owner's judgment, determines that any of the terms or conditions contained in this Agreement have been breached, or upon the condemnation of the Property or any portion thereof, Owner shall have the right to terminate this Agreement without having to furnish Entrant prior notice.

13. **No Real Property Interest:**

Entrant agrees that Entrant does not and shall not claim at any time any real property interest in the Property. THIS AGREEMENT IS NOT A LEASE OR A GRANT OF AN EASEMENT.

14. Trustees not personally liable:

This instrument has been approved or executed by the Trustees of the Estate of Bernice Pauahi Bishop in their fiduciary capacities as said Trustees, and not in their individual capacities. No personal liability or obligation under this instrument shall be imposed or assessed against said Trustees in their individual capacities.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

APPROVED AS TO FORM AND LEGALITY

WINSTON K. O. WONG

Deputy Corporation Counsel

TRUSTEES OF THE ESTATE OF BERNICE PAUHAHI BISHOP

By *Paul J. Cathcart*
Paul J. Cathcart, Manager, Urban Oahu
Its Authorized Representative

Owner

APPROVED AS TO CONTENTS:

Hubert Keyser
Division of Road Maintenance

WATERCRESS OF HAWAII, INC.

By *Don S. Nakatani*

By _____

Lessee

NAKATANI FARMS, INC.

By *Don S. Nakatani*

By _____

Sublessee

APPENDIX C

BENJAMIN J. CAYETANO
GOVERNOR



GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4184

WES	KTS
RTT	NM
	RF
REC'D JAN 23 1996 RMT	

January 22, 1996

Mr. Kenneth E. Sprague, Director and Chief Engineer
City and County of Honolulu Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

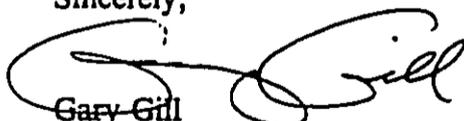
Subject: Draft Environmental Assessment for Dewatering Facilities for Storm Drain Equipment

Thank you for the opportunity to review the subject document. We have the following comments.

1. Please describe in more detail the composition of debris that is typically extracted from storm drains.
2. What is the total capacity of the new dewatering facilities? Is the size enough to handle all the debris in the storm drains on Oahu?
3. The access road to the Pearl City facility, which is located next to Waiawa Stream, is not improved. Please describe the mitigation measures that will be employed to prevent runoff from entering the stream.
4. Please evaluate whether the Pearl City facility would affect or disturb the Pearl Harbor Wildlife Refuge.

If you have any questions, please call Jeyan Thirugnanam at 586-4185. Thank you.

Sincerely,


Gary Gill
Director

c: R.M. Towill, Corp.

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

630 SOUTH KING STREET
HONOLULU, HAWAII 96813



DK	KTS
WES	NM
RTT	RF
REC'D JAN 31 1996 RMTC	

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER

DARWIN J. HAMAMOTO
DEPUTY DIRECTOR

ENV 96-025

January 30, 1996

Mr. Gary Gill, Director
Office of Environmental Quality Control
220 South King Street, 4/F
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Draft Environmental Assessment
Dewatering Facilities for Storm Drain Equipment
TMK: Various

Thank you for reviewing the Draft Environmental Assessment for the subject project and providing comments. Our response is numbered to correspond with your comments as follows:

1. The composition of debris that is extracted from the storm drain system basically consists of silt, soda cans, styrofoam containers, tree leaves, papers, and plastic bags.
2. The total capacity of the new dewatering facilities is designed for 16,000 gallons per day which obviously is inadequate to handle all debris in the storm drain on Oahu. However, because of site limitation and budget constraints, we decided that initially we will install four dewatering facilities to cover Honolulu, East Honolulu, Windward and Leeward Oahu areas. If the system proves to be working, we may construct more dewatering facilities in the future.
3. We recognize that the access road to the former Pearl City Wastewater Treatment Plant along the Waiawa Stream is not improved and we plan to provide a layer of coral over the existing roadway to improve the drainage.
4. To stay away from the Waiawa Wildlife Refuge on Waipio Peninsula, we opted for a route by passing through private properties instead of entering from Waipio Point Access Road. In fact, when we contacted the Fish and Wildlife

Mr. Gary Gill, Director
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Service, U.S. Department of Interior, during the pre-consultation period, we were told that there were no refuge sites close enough to the proposed project to be affected or disturbed.

We appreciate your input to this project. Should you have any questions, please contact Mr. Alex Ho, Environmental Engineer, at 523-4150.

Very truly yours,


KENNETH E. SPRAGUE
Director and Chief Engineer

cc: R.M. Towill Corp.

RMW W
GC —

44-365 Kaneohe Bay Drive
Kaneohe, Hawaii 96744-2664
January 22, 1996

City and County of Honolulu
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813
att: Alex Ho

Dear Mr. Ho,

I am responding to a Notice of a proposed Dewatering Facility for Storm Drain Equipment at the Kaneohe Wastewater Treatment Plant in Kaneohe.

I am a member of the Kaneohe Neighborhood Board and the Kaneohe Bay Regional Council and we were under the impression that the Kaneohe WWTP was scheduled to go off-line within the next few years. In that light alone, it seems unsuitable to place a facility such as this at that location. Certainly the Aikahi Plant, which is being updated and worked on, would be a much better location, especially since all the sewage ends up there anyway. Aikahi is also closer to Kapaa land fill and the trucks would not have to travel along the portion of Kaneohe Bay Drive that is weight restricted to get there from Aikahi.

We have recently gotten complaints at Neighborhood Board about trucks going down the street that leads to the plant, Kulauli Street. These trucks have been construction vehicles for Bay View Golf Course, so I know the residents of that street will not look kindly on whatever sewer-type trucks would be rolling past their houses to go to the dewatering plant!

There are no sidewalks on Kulauli, and there is quite a bit of foot traffic on that road, due to kids walking to Puohala School. There is even a school pathway from Kaneohe Bay Drive that feeds on to Kulauli for the kids. We need to keep heavy vehicles off that road, if possible.

I imagine you would assure everyone that there will be no odor involved, but the folks who live around the plant know that there has been odor, and there probably will be some associated with this operation. They have been looking forward to having the plant go off line, as has the new golf course near by. We don't need NEW things going in there. Again, I say that the Aikahi plant or somewhere else is the appropriate place. If we are trying to save money, then a dewatering plant should go in with the plans to upgrade Aikahi and let the Kaneohe Plant shut down.

Kaneohe Dewatering Facility page 2

In connection with that, we know that part of the area around the plant has been designated to become park when the plant goes offline. Both the Kaneohe Neighborhood Board and the Kaneohe Bay Task Force considered park a major priority for the residents of the South Bay. In that light, an adjoining dewatering plant hardly seems a good idea. The Kaneohe Bay Task Force considered a park at this location of highest priority, please do not try to put barriers in the way. Since the developers of the golf course are donating the use of the land, it makes sense for the City to go along with park plans.

I have major problems with several portions of this notice. First of all, this is in no way "an industrial area" (page 25 5.2.4). The plant is located in a long-established, quiet residential area with a grade school and golf club near by. There is no industry within miles! There are trees on the parcel (page 24 5.2), there are many beautiful monkeypods and lovely lawn within the plant boundaries and the adjoining area is prolific in plants and animals. (see EIS for golf course expansion). Also the future park designation has been ignored and the document itself states that the plant was downgraded in 1994 (page 24 5.1.1). The ambient air quality and ambient noise may be "consistent with that of a treatment plant" (page 25), but what about with a pumping station and park and play grounds?

We were just made aware of this project and I'm sure that the neighbors, once they become aware, would be very much opposed to any futher additions to the Kaneohe WWTP, especially when they have been anticipating and looking forward to its dismantling. Please find another location! Thank you.

Gretchen Gould, 254-5242

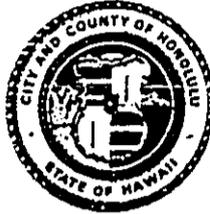


Kaneohe Neighborhood Board
Kaneohe Bay Regional Council

cc: R.M. Towill Corporation
Office of Environmental Quality Control
Councilman Steve Holmes
Senators Mike Liu, Mike McCartney
Representatives Devon Nekoba, Cynthia Thielen, Ken Ito, Terrance Tom

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4341 • FAX: (808) 527-7828



JEREMY HARRIS
MAYOR

DK	KTS
APR	NM
ATT	RF
REC'D FEB 7 1996 RMTC	
KENNETH E. SPRAGUE DIRECTOR AND CHIEF ENGINEER	
DARWIN J. HAMAMOTO DEPUTY DIRECTOR	

February 5, 1996

GC — ENV 96-031
CS —

Ms. Gretchen Gould
Member
Kaneohe Neighborhood Board No. 30
44-365 Kaneohe Bay Drive
Kaneohe, Hawaii 96744-2664

Dear Ms. Gould:

Subject: Draft Environmental Assessment (DEA)
Dewatering Facilities for Storm Drain Equipment

Thank you for your letter of January 22, 1996, expressing your concerns about the subject facility at the Kaneohe Wastewater Treatment Plant (WWTP) and our response are as follows:

1. First, we wish to stress that the installation of the dewatering is part of the City's storm water National Pollutant Discharge Elimination System (NPDES) requirements which are mandated by the Federal Clean Water Act. Failure to do so will subject the City to pay fines up to \$25,000 per day.
2. The Kailua Wastewater Treatment Plant is designated as the regional wastewater treatment plant for the windward area. Accordingly, the plant has recently undergone a series of modification and expansion which occupy most of the available land within the plant premises. As a result, we are not able to secure a place for the dewatering facility.
3. To minimize the traffic impact around the Kaneohe WWTP area, we decided to downsize the facility by reducing the design load from 4,000 gallons/day to 1,000 gallons/day in order to cut down the frequency of the AQUATECH truck to only once a day in stead of four (4) times a day as initially planned. In addition, we will also install a stockpiling area with a roof structure above so that the debris can be temporarily stored on the site and then be hauled away to the landfill for disposal when it is needed. In so doing, the frequency of debris hauling will be significantly reduced.

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4. We will contact the Bay View Golf Course management regarding the use of Kulauli Street for access and we will again try to minimize the traffic impact to the maximum extent practicable.
5. Since the composition of the debris from the storm drain system consists largely of silt, tree leaves, soda cans, papers, plastic bags, and styrofoam containers, i.e., mostly inorganic materials, the odor problem, if any, should be minimal.
6. The hauling hours for the AQUATECH truck will be 9:30 to 11:30 a.m., Monday through Friday. Therefore, it will not interfere with the school and the proposed park activities.
7. We realize that the existing Kaneohe WWTP is surrounded by Bay View Golf Course and residential areas. However, in the draft environmental assessment, we merely stated the fact that according to City's Development Plans, the existing site is designated for industrial use.
8. We fully understand your concerns and would like to assure you that we will work with you and the neighbors in finding mitigative measures to minimizing the adverse environmental impacts. Meanwhile, we will continue to search for other potential site(s) in the windward area. If we are successful, we may not need the Kaneohe WWTP as the site for dewatering facility.

If you have any questions and/or concerns related to the subject project, please write to me or call me at 523-4150.

Very truly yours,



ALEX HO
Environmental Engineer

cc: OEQC
Councilmember Steve Holmes
Senators Mike Liu, Mike McCartney
Representatives Devon Nekoba, Cynthia Thielen,
Ken Ito and Terrance Tom
R.M. Towill