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AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
3021 UMI STREET
LIHUE, KAUAI, HAWAII 96766

July 22, 1994

Director
Office of Environmental Quality Control
220 S. King Street, 4th Floor
Honolulu, HI 96813

Dear Director:

RE: Negative Declaration for Nonpotable Water System Kekaha Phase I and Phase II Facilities, TMK 1-2-02: Portion 1, Kekaha, Kauai, Hawaii

The Department of Public Works, County of Kauai has reviewed the comments received during the 30-day public comment period which began on June 23, 1994. 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 August 8, 1994 OEQC Bulletin.

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

Please contact our Solid Waste Coordinator, Dale Burton, at 241-6860 if you have any questions.

Sincerely,

ELDON FRANKLIN
County Engineer

DRB/db
Enclosures

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Harding Lawson Associates

Environmental Assessment
Nonpotable Water System
Kekaha Landfill and Recycling Station
Kekaha, Kauai, Hawaii

Engineering and Environmental Services

1994-08-08-KA-FEA-KeKaha Nonpotable Water System

Environmental Assessment
Nonpotable Water System
Kekaha Landfill and Recycling Station
Kekaha, Kauai, Hawaii

Prepared for

County of Kauai
Department of Public Works
Solid Waste Section
3021 Umi Street
Lihue, Kauai, Hawaii 96766

HLA Project No. 22897.703H

Lene K. Ichinotsubo
Project Engineer

William T. Hawley
Civil Engineer - 8027 (Hawaii)

July 26, 1994

0407LA

Harding Lawson Associates
Engineering and Environmental Services
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Alea, HI 96701 – (808) 486-6009

This document was prepared for the sole use of County of Kauai and the regulatory agencies that are directly involved in this project, the only intended beneficiaries of our work. No other party should rely on the information contained herein without prior written consent of Harding Lawson Associates.

SUMMARY

ENVIRONMENTAL ASSESSMENT

Project:	Nonpotable Water System Kekaha Phases I and II Facilities
Location:	Kaumualii Highway Island of Kauai County of Kauai
Tax Map Key:	1-2-02: portion of 1
Agency:	County of Kauai Department of Public Works Solid Waste Section
Consultant:	Harding Lawson Associates 235 Pearlridge Center, Phase 1 98-1005 Moanalua Road Aiea, Hawaii 96701 Phone: (808) 486-6009 Contact Person: William T. Hawley

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1.0 DESCRIPTION OF THE PROPOSED ACTION

1.1 Description of the Proposed Project

The County of Kauai, Department of Public Works, Solid Waste Section, proposes to construct a nonpotable water system that will transport water from Kekaha Sugar Company's (KSC) irrigation ditch to the Kekaha Phase II Landfill and to the proposed Kekaha Phase I recycling station for fire protection, dust control and irrigation. The nonpotable water line will run through land owned by the state of Hawaii (Tax Map Key [TMK] 1-2-02: portion of 1) and leased by KSC (General Lease S-4222), cross Kaumualii Highway, and to the landfill and recycling facilities. A site plan showing the nonpotable water line, in relation to its water source and the landfill, is provided on Figure 1.

The County of Kauai is in discussion with the state Department of Land and Natural Resources (DLNR) for the purpose of obtaining an easement and a water license for the water line; and is in discussion with the County of Kauai Fire Department for their approval of the water quality and treatment system. The County of Kauai has already received required approvals from KSC and the state Department of Transportation.

An environmental impact statement for the Kekaha Phase II Landfill and an environmental assessment (negative declaration) for the proposed Kekaha Phase I Recycling Station have already been filed with the Office of Environmental Quality Control.

1.2 Technical Characteristics

The proposed nonpotable water system will pump water from the existing KSC irrigation ditch, and deliver the water to the landfill site. The design consists of a pump, filter, and chlorination system near the intake and a 12-inch PVC water line (Figure 2). The average daily nonpotable water demand by the landfill facility is estimated at 10,000 gallons per day (gpd) for dust control and irrigation. In case of a fire, approximately 1,000 gallons per minute (gpm) will be required.

A nonpotable system was chosen for design because potable water is not available from the County water system, according to the County of Kauai, Department of Water.

A sample of the untreated irrigation water was collected for biological and chemical analyses. The results of the analyses are as follows:

Analysis	Results
HPC	9,500 CFU/ml
Coliform	≥2,400 MPN/100 ml
Nitrate-N	<0.01 mg/l
Ammonia-N	0.21 mg/l
Total Suspended Solids	15.5 mg/l
pH	8.30
Chloride	316. mg/l
Total Phosphorous	0.05 mg/l
Lead	<0.001 mg/l
Triazine Pesticides	<1.0 mg/l

mg/l = milligrams per liter
CFU = colony-forming units
ml = milliliter
MPN = most probable number

The County of Kauai Fire Department is reviewing the results of the analyses as part of their review of the nonpotable water system. The nonpotable water obtained from the irrigation ditch will be treated through filtration and chlorination prior to use.

1.3 Socioeconomic Characteristics

The proposed construction of the nonpotable water system will enable the landfill and recycling facility to conform to fire protection standards and allow for fugitive dust control, as required by the Department of Health (DOH). Jobs are not anticipated to be affected with the construction of the nonpotable water system.

1.4 Environmental Characteristics

Constructing a nonpotable water system instead of expanding the existing potable water system will minimize the demand on the limited fresh water resource in the vicinity of Kekaha town and is estimated to be less expensive than developing the potable water system.

The effects of the nonpotable water line include protection of public health and the environment from fires occurring at the landfill or recycling station, and the maintenance of vegetation, specifically in areas where vegetation is used for erosion control. The effects of the nonpotable water line on state lands are limited to the construction of a concrete pad on which the pump, filter, and chlorination system are placed, and the excavation of an approximately 4.5-foot-deep trench for the water line, which will be backfilled after the pipeline is installed.

2.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

2.1 Physical Characteristics

2.1.1 Location

The nonpotable water system for the Kekaha Phase II Landfill and the Kekaha Phase I Recycling Station is located in Kekaha, Kauai, within TMK 1-2-02: portion of 1. The location of the water line is shown on Figure 1.

2.1.2 *Topography and Soils*

The ground surface elevation in the area of the nonpotable water line installation ranges from 7 to 19 feet mean sea level (MSL). The water line will be placed in an excavation approximately 4.5 feet deep. The pumping and treatment system will be constructed at an elevation of 10 feet MSL (Figure 2). The surface soils in the vicinity of the water line are classified as Jaucus loamy fine sand (SCS, 1972).

2.1.3 Flood Hazard

According to the Flood Boundary Map of the County of Kauai, published by the Federal Emergency Management Agency (FEMA), the area in which the nonpotable water system is proposed to be constructed is not within the 100-year flood boundary.

2.1.4 Water Quality

2.1.4.1 Surface Water

Due to the high permeable soils, no perennial streams are within or near the project area. The water from the agricultural irrigation system is not considered Water of the United States by the Clean Water Act.

2.1.4.2 Groundwater

Underlying the Mana coastal plain are two aquifers, the coastal plain sedimentary aquifer and the basalt aquifer. The coastal plain sedimentary aquifer retards the seaward and upward discharge of groundwater from the basaltic aquifer. The basaltic

aquifer underlying the coastal plain aquifer is composed of the lava flows constituting the Napali Formation. The coastal plain aquifer is used for agricultural purposes, including irrigation, and is not used as a source of drinking water. The nearest groundwater wells that supply drinking water are approximately 9,000 feet east of the vicinity of the nonpotable water line.

2.1.5 Wetlands

There are no wetlands in the project area.

2.1.6 Flora

The area in which the nonpotable water line, pump, filter, and chlorination system are proposed for construction, is along an existing dirt road and adjacent to sugar cane fields. It is highly unlikely that any uncommon or rare natural plants exist within these actively cultivated areas.

2.1.7 Fauna

Faunas likely to exist within an active sugar cane field are common species of dogs, rodents, and chickens. Unusual or rare species are unlikely to occur in an area that is actively disturbed.

2.1.8 Air Quality

Due to the prevailing trade winds, the air quality in the vicinity of the site is generally good. Aside from the occasional burning of sugar cane, the KSC mill, and the heavy equipment used by KSC, there is little activity in the vicinity of the project that affects air quality.

2.1.9 Noise

The noise within the vicinity of the project area is typically the traffic from Kaumualii Highway and the heavy equipment that is used in the cane fields.

2.1.10 Scenic and Visual Resources

Currently, the sugar cane fields, which are visible from the highway, and the grade change near the location of the treatment system, together will generally block the view of the pump, filter, and chlorination system (Figure 2).

2.2 Socioeconomic Characteristics

2.2.1 Population

According to the 1990 census, approximately 50,000 people reside on the island of Kauai. The nearest population center to the project area is the town of Kekaha, with a population of approximately 2,000.

2.2.2 Land Ownership and Use

The nonpotable water system is on property owned by the state of Hawaii, and the portion that does not cross the highway and does not occur within the Kekaha Phases I and II facilities is leased by KSC under General Lease S-4222. The County of Kauai is in the process of obtaining an easement from the state of Hawaii for the nonpotable water system. The County of Kauai, or its landfill contractor, will maintain and operate the nonpotable water system.

2.2.3 Employment

Employment in southwestern Kauai is primarily in agriculture and with military service contractors.

2.2.4 Transportation

Access to the pump and treatment system of the water line is via a dirt road off Kaumualii Highway. Currently, KSC uses the access for maintenance of their pump system and access to their fields.

2.2.5 Utilities

Electrical and telephone services are provided in the vicinity of the project area. A limited amount of potable water is available from the County of Kauai, Department of Water, Kekaha Town System, via a U.S. Navy (PMRF) pipeline along Kaumualii Highway.

3.0 PROBABLE IMPACTS OF THE PROPOSED ACTION AND MITIGATIVE MEASURES

3.1 Water Quality

3.1.1 Groundwater

The nonpotable water system uses existing KSC wells in the uppermost aquifer as a supply source, and an existing KSC irrigation ditch. The quantity of this water planned for use in the proposed system is approximately 10,000 gpd. No additional pumping by KSC will be required to supply this system.

The water will be used for dust control, as required by the DOH, and to maintain vegetation at the Kekaha Phases I and II facilities, particularly in those areas susceptible to erosion. The quantity of water that will be used for these purposes is limited, such that it will unlikely contribute to groundwater or groundwater quality. The nonpotable water source will also be used for fire protection. The quantity of water used in this case may be significantly larger; however, water use will be less frequent if at all required.

Another possibility for contribution from the nonpotable water system to groundwater may occur during water line maintenance, repairs, or ruptures of the water line. The effect on groundwater quality in this instance will be minimal because the water in the line will have been pumped from the same aquifer and treated by filtration and chlorination.

3.1.2 Surface Water

The effects of the nonpotable system on surface water will be minimal because no surface-water bodies exist near the proposed system, with the exception of the ocean, approximately 1,800 feet southwest of the Kekaha Phases I and II facilities.

3.2 Air Quality

Effects on air quality, including dust and diesel exhaust, can be anticipated during construction of the nonpotable water system. Dust concentrations can be minimized with various construction methods, including the use of water wagons. Dust and exhaust emission concentrations are limited by state and federal regulations.

Effects on air quality will be minimal during the operation of the nonpotable water system. The pumps and treatment system will initially be operated by a diesel generator and will later run on electricity from the Kauai Electric Company, which will not produce diesel exhaust. Because of the dominant trade winds at the project area, no significant air quality impacts are expected from the construction or operation of the nonpotable water system.

3.3 Flora and Fauna

The existing flora at the project area is primarily unwanted weed species; and predominant faunas are primarily rodents, feral chickens, and canines. The construction and operation of the nonpotable water system initially may reduce the unwanted weed species, but will not likely affect the rodent, feral chicken, and canine population.

3.4 Noise

A temporary increase of noise is expected during construction. Construction is anticipated to occur during daylight and normal working hours. Noise generation associated with the nonpotable water system, particularly the pump and treatment system, will be minimal and very similar to the existing KSC pump system. No significant noise impacts are expected from the proposed action.

3.5 Traffic

Traffic to the project area may increase slightly during construction; however, traffic after construction will be limited to an occasional vehicle for maintenance and operational purposes.

3.6 Employment

The construction and operation of the nonpotable water system for the Kekaha Phases I and II facilities will not likely affect employment in the area.

3.7 Historical/Cultural Resources

The project area where the nonpotable water system is to be installed has been previously disturbed by agricultural activity or by the construction of a roadway system.

3.8 Utilities

The proposed nonpotable water system will have no effect on the potable water, telephone, or sanitary services in the area. Operation of the nonpotable water system will require minimal amounts of electricity for the pumping and treatment system. No impact on public services is anticipated as a result of the proposed action.

3.9 Permit

All necessary permits for construction on state-owned lands will be obtained for the proposed activity. Grading, filling, building, construction within state right-of-way, and highway crossing permits will also be obtained as necessary.

4.0 ALTERNATIVES TO THE PROPOSED ACTION

The Kekaha Phases I and II facilities are required to satisfy fire protection and health requirements by providing sufficient water for fire and dust control. Alternatives to the proposed action include no action, expansion of the existing potable water system, or construction of an onsite well as a source of nonpotable water supply.

The no-action alternative will be in violation of any building permits due to lack of fire protection. Thus, the no-action alternative is not proposed.

According to the Department of Water, the existing Kekaha town potable water supply system is unable to accommodate the Kekaha Phases I and II facilities with the quantity of water necessary for fire protection in addition to other water requirements (i.e., restroom facilities). One option would be to expand Kekaha town's water supply system by drilling an additional well and upgrading the treatment and distribution system. The cost of upgrading the existing potable water system for the purpose of fire protection significantly exceeds the cost of the proposed nonpotable water system. Also, using a nonpotable source for fire protection will minimize the demand on the potable water source. Thus, expansion of the existing potable water system is not proposed.

Another alternative, the construction of an onsite nonpotable source was considered, and its construction cost was estimated to exceed the proposed nonpotable water system. An onsite well was also determined to likely affect groundwater hydrology at the landfill in an undesirable manner. Since KSC does not plan to pump any additional water for the County's nonpotable water system, as excess water is currently being discharged into the ocean, the proposed nonpotable water system will not create a significant additional demand on the nonpotable water source.

5.0 SIGNIFICANCE CRITERIA

In accordance with the environmental assessment procedure, the proposed nonpotable water system does not have significant adverse effects on the environment as follows:

- *Involves a loss or destruction of any natural or cultural resource.* There are no known natural or cultural resources associated with the existing highway, access road, and adjacent sugar cane fields. Since the proposed areas have previously been disturbed, no impact on natural or cultural resource is anticipated.

- *Curtails the range of beneficial uses of the environment.* The proposed water line will be placed below ground, and the pumping and treatment system will use only a small portion of land; thus, the project would not curtail beneficial uses of the environment (including the current agricultural land use) in the area.

- *Conflicts with the state's long-term environmental policies or goals and guidelines.* The proposed project will allow compliance with County, state, and federal guidelines and regulations for public safety against fire and fugitive dust.

- *Substantially affects the economic or social welfare of the community or state.* No adverse economic or social problems are anticipated by the proposed project.

- *Substantially affects public health.* The proposed project will aid in the protection of public health and the environment against fire and fugitive dust.

- *Involves substantial secondary effects, such as population change or infrastructure demands.* No increase in population or on infrastructure demands will result from the proposed nonpotable water system project.

- *Involves a substantial degradation of environmental quality.* The proposed project will not significantly degrade the environmental quality of the area.

- *Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment to larger actions.* The proposed action does not have a cumulative effect on the environment and does not require the commitment of larger actions.

- *Substantially affects a rare, threatened or endangered species or its habitat.* There are no known rare, threatened, or endangered species or habitat currently existing at the adjacent sugar cane fields, access road, or Kaumualii Highway.

- *Detrimentally affects air or water quality or ambient noise levels.* Short-term impacts on air quality and noise are anticipated during construction, but will be limited by normal construction practices. The nonpotable water system will eventually be operated on electricity and will minimize noise levels and effects on air quality. No effect on water quality is anticipated.

- *Affects an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water area, or coastal waters.* The landfill site is not within the flood plain or tsunami zone. The proposed action is not anticipated to affect any environmentally sensitive areas.

On the basis of the above criteria, we anticipate that the proposed nonpotable water system will not have a significant adverse effect on the environment.

6.0 AGENCIES AND ORGANIZATIONS CONSULTED

The following agencies and organizations were consulted in preparing this environmental assessment:

- County of Kauai, Department of Public Works
- County of Kauai, Fire Department
- County of Kauai, Department of Water
- State of Hawaii, Department of Land and Natural Resources
- State of Hawaii, Department of Transportation, Highways Division

7.0 REFERENCES

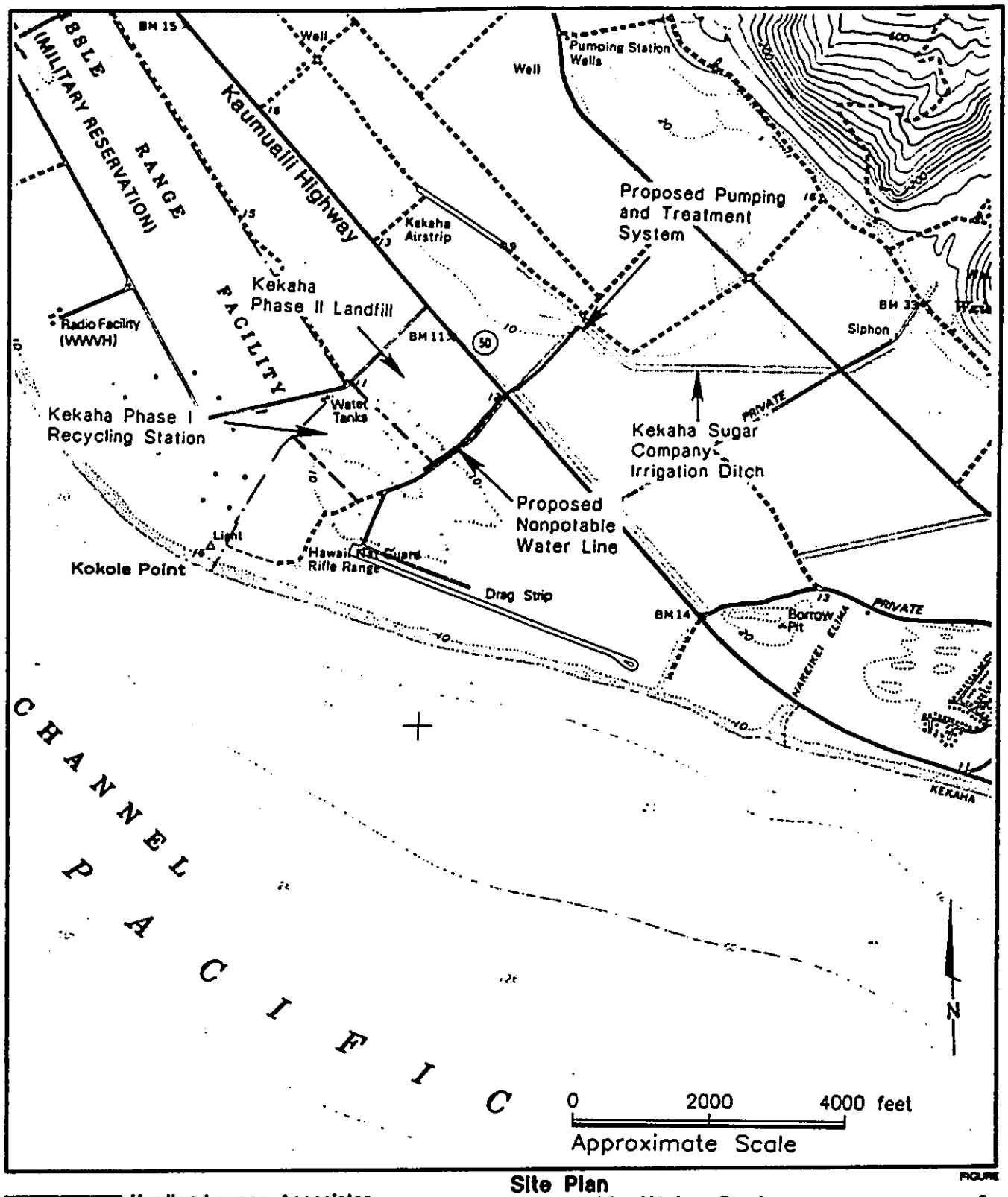
Hawaii State, Department of Business Economics Development and Tourism. 1991. *The state of Hawaii data book.*

Office of Environmental Quality Control (OEQC). 1991. *A guidebook for the Hawaii state environmental review process.*

U.S. Soil Conservation Service (SCS). 1972. *Soil survey of islands of Kauai, Oahu, Maui, Molokai, and Lanai, state of Hawaii.*

ILLUSTRATIONS

FIGURES

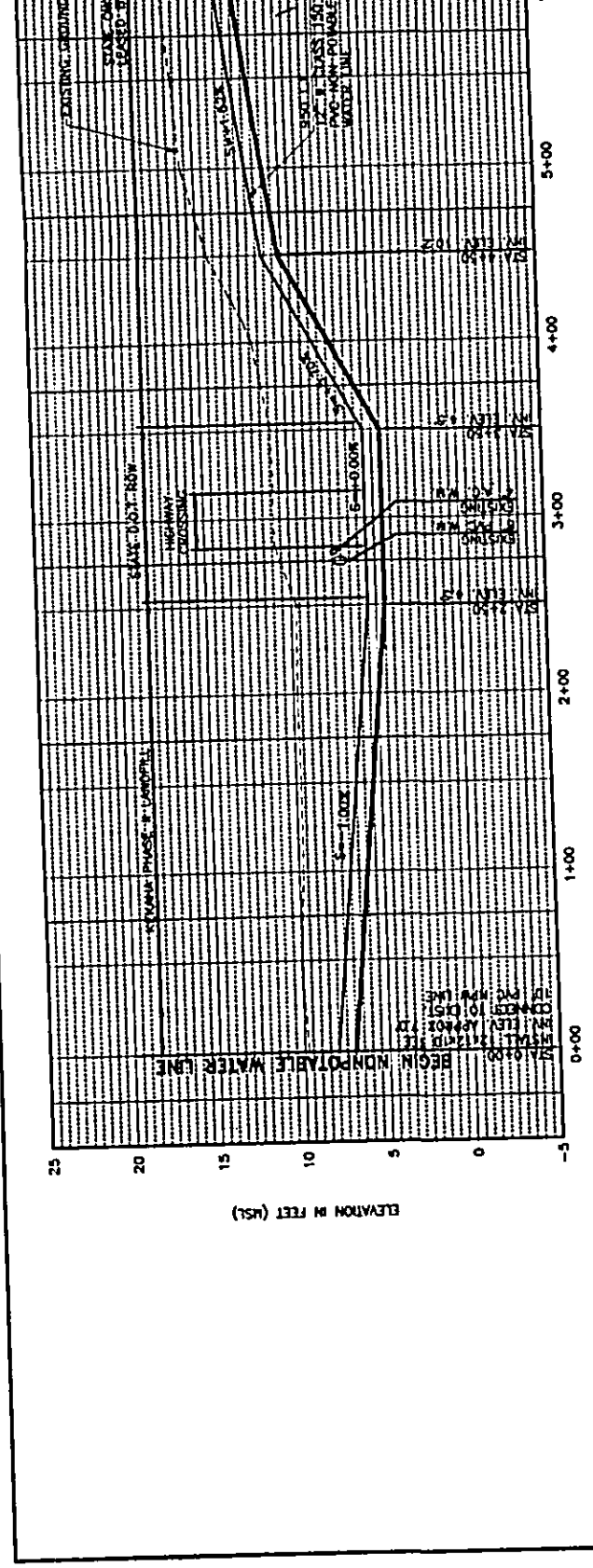


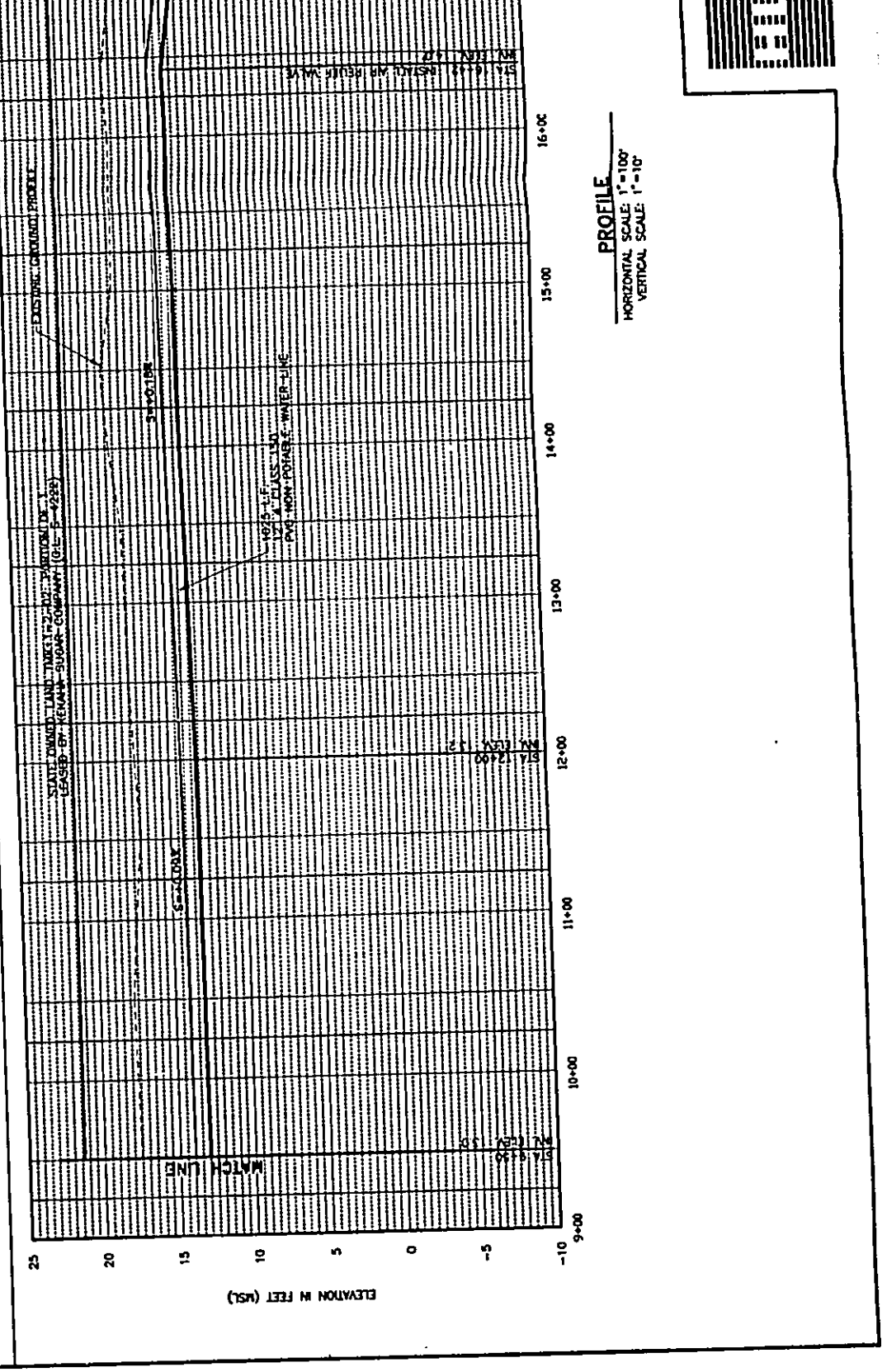
Harding Lawson Associates
Engineering and Environmental Services

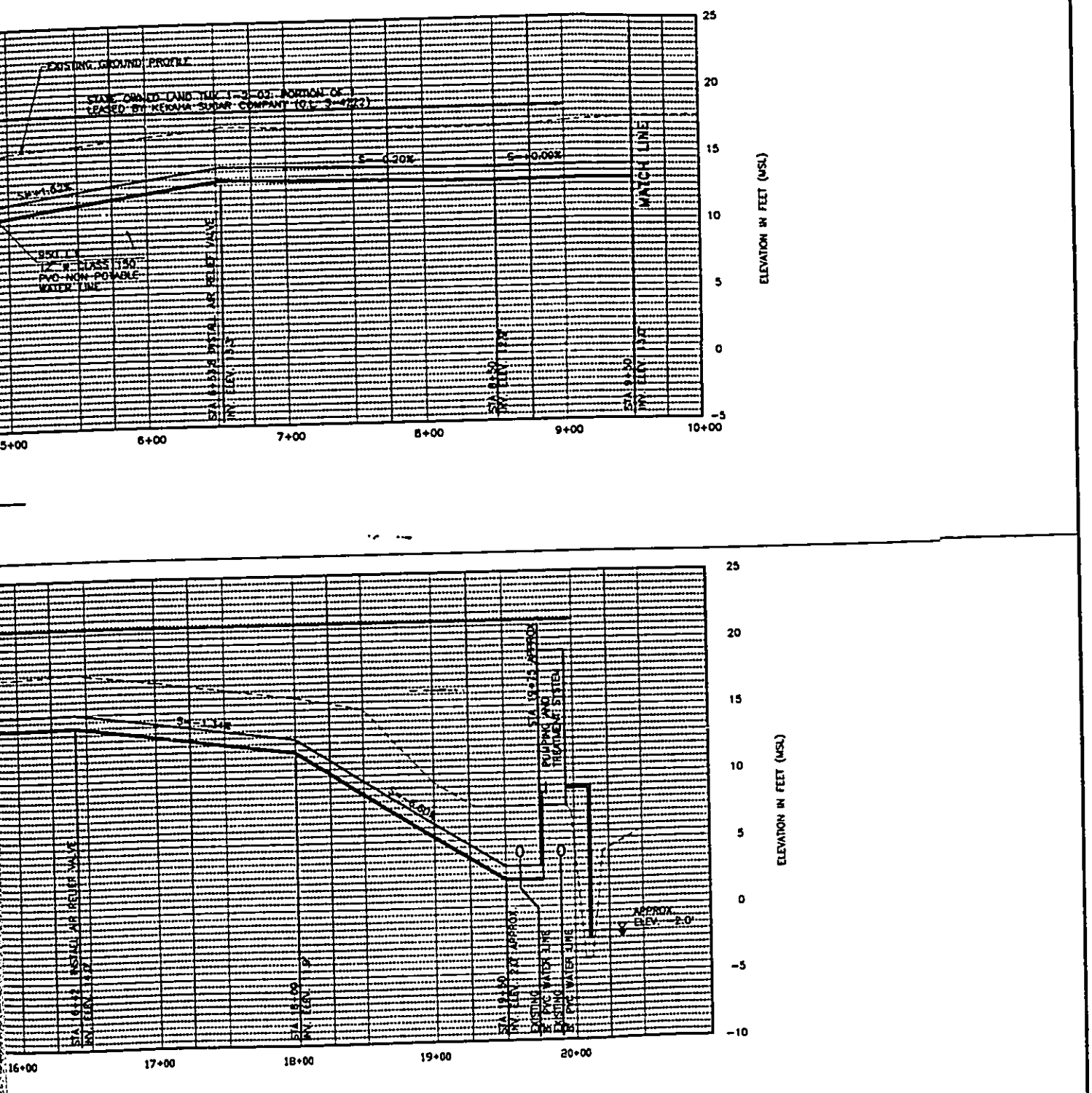
Site Plan
Nonpotable Water System
Kekaha Phase I & II Facilities
Kekaha, Kauai, Hawaii

FIGURE 1

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
dmg	22879.703h		TEMP LO 19940517.1049	5/94	


PROFILE
HORIZONTAL SCALE: 1"=100'
VERTICAL SCALE: 1"=10'
BEGIN NONPOTABLE WATER LINE
ELEVATION IN FEET (MSL)


PROFILE
HORIZONTAL SCALE: 1"=100'
VERTICAL SCALE: 1"=10'
MATCH LINE
ELEVATION IN FEET (MSL)



FIGURE

2

Water Line Profile
Nonpotable Water System
Kekaha Phase I and II Facilities
Kekaha, Kauai, Hawaii

Harding Lawson Associates
Engineering and
Environmental Services

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
kar	22897.703H		22897052 10 19440517 1118	5/94	

DISTRIBUTION

Environmental Assessment
Nonpotable Water System
Kekaha Landfill and Recycling Station
Kekaha, Kauai, Hawaii

July 26, 1994

Copy No. 1

Copies 1 - 4: Director
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Copies 9 - 10: Report File - HLA-Hawaii

Quality Control Reviewer

for Philip B. Crispell
Civil Engineer - 8011 (Hawaii)

LKI/WTH/rmc:0407LA