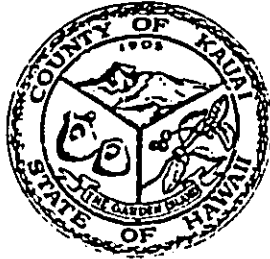


JOANN A. YUKIMURA
MAYOR



RECEIVED

COUNTY ENGINEER
TELEPHONE 241-6600

EDMOND P.K. RENAUD
DEP. COUNTY ENGINEER
TELEPHONE 241-6600

'94 MAY 11 A8:48

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
3021 UMI STREET
LIHUE, KAUAI, HAWAII 96766
April 28, 1994

Bruce S. Anderson, Ph.D.
Interim Director
Office of Environmental Quality Control
220 S. King Street, 4th Floor
Honolulu, HI 96813

Dear Dr. Anderson:

RE: Negative Declaration for Kekaha Landfill Phase I
Closure, TMK 1-2-02: 9, 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 March 23, 1993. 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 ~~May 23, 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.

Yours very truly,

ED RENAUD
Deputy County Engineer

DRB/db
Enclosures

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Harding Lawson Associates

**Final Environmental Assessment
Kekaha Sanitary Landfill, Phase I Closure
Kekaha, Kauai, Hawaii**

Prepared for

Engineering and Environmental Services



1994-05-23-KA-~~FEA~~-Kekaha Landfill Phase I
Closure

**Final Environmental Assessment
Kekaha Sanitary Landfill, Phase I Closure
Kekaha, Kauai, Hawaii**

MAY 23 1994

Prepared for

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

HLA Project No. 22924.501



Robin How
Staff Engineer


Philip B. Crispell
Associate Engineer

April 27, 1994

0276LA



Harding Lawson Associates
Engineering and Environmental Services
235 Pearlridge Center, Phase 1
98-1005 Moanalua Road
Aiea, HI 96701 - (808) 486-6009



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This document was prepared for the sole use of the County of Kauai and its authorized operator 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.

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DISTRIBUTION

1.0 DESCRIPTION OF THE PROPOSED ACTION

1.1 Project Description

The County of Kauai proposes to close the Kekaha Landfill, Phase I, using methods prescribed by state and federal regulations, and to provide postclosure maintenance and monitoring of the closed landfill. In addition, the County proposes to establish a debris recycling station on the closed landfill. The facility will accept materials which can be diverted from the landfill for beneficial uses. The divertible materials include green waste, aggregate and clean fill, segregated metal, tires, and construction and demolition waste. At the facility, these materials will be segregated and prepared for transport offsite and/or off island for further processing (Figure 3).

The existing landfill is approximately 1.3 miles northwest of Kekaha town, and is bounded by the Pacific Missile Range Facility on the northwest; the Hawaii National Guard Rifle Range on the southwest; Kekaha Landfill, Phase II Development on the northeast; and by agricultural lands leased from the state Department of Land and Natural Resources on the southeast. The site is bordered by open land with no occupied structures in the immediate vicinity. The ocean is approximately 1,800 feet to the south (Figure 1).

The original boundaries of the landfill are defined by Tax Map Key (TMK) 1-2-02 Parcel 9, providing approximately 35 acres. However, the landfill extends beyond these boundaries (approximately 220 feet north, 125 feet south, 25 feet east, and 145 feet west), and now covers approximately 39 acres. The extent of the refuse boundary of the landfill was estimated through a test pit investigation. The County proposes to remove all refuse that exists on the adjacent parcels to the west, south and east, and to relocate the refuse to within the property lines of the Phase I landfill (Figure 2). Because the parcel located to the north of the site is the Kekaha Phase II Landfill, refuse that extends into this parcel will not be relocated.

The Kekaha Sanitary Landfill, Phase I, is leased from the state of Hawaii and maintained by the County of Kauai. The adjacent parcels are owned by the State of Hawaii, including the right-of-way of the Kaumualii Highway.

The objectives of the proposed action are to protect public health and the environment by isolating and monitoring the solid waste deposits which have accumulated at the site for over 30 years, and to reduce the amount of municipal solid waste being disposed at the new landfill. Reducing the waste stream will prolong the life of the new landfill and may eventually reduce the cost of solid waste management in Kauai County.

This environmental assessment considers the effects of closure of the Phase I Landfill, and development of a debris recycling station (Figure 3).

1.2 Technical Characteristics

The proposed action will occur in four phases. The first phase is the development of a closure plan and closure design, the second phase is the actual construction, the third is development of the recycling station, and the fourth is postclosure monitoring.

To date, the closure and postclosure plan was submitted and approved by the state Department of Health (DOH); and the closure and recycling station design has been completed. The landfill closure and recycling station design generally consists of a gas management system, a trafficable cover system, which includes a geomembrane, and a surface-water management system with erosion control features.

The postclosure monitoring program at Kekaha Phase I Landfill includes the monitoring of landfill gas and groundwater. Landfill gas monitoring probes and groundwater monitoring wells will be installed at the time of closure at the approximate locations shown on Figure 2. Groundwater samples will initially be collected and analyzed

semiannually for the volatile organics and metals listed in Appendix I of 40 CFR 258. The proposed postclosure monitoring program is in accordance with the Department of Health's recommendations as there are no specific regulations requiring the postclosure monitoring of landfill gas and groundwater for landfills that have stopped receiving waste prior to October 9, 1993.

1.3 Socioeconomic Characteristics

Waimea, the largest district in Kauai, has the least population density of all districts in the island. The 1990 census reports a population of 8,888, which includes the towns of Port Allen, Hanapepe, Eleele, Kaumakani, Waimea, and Kekaha, and the Pacific Missile Range Facility (PMRF). Two sugar plantations occupy the majority of developed land in the district. The primary employment sector is agriculture. There is little tourist development in the district with the exception of facilities at Waimea Canyon.

The closure construction activity is not expected to affect the socioeconomic climate of the region due to its limited scope and duration. Soon to be one of several permanent facilities of its type in Kauai County, the debris recycling station may eventually save local businesses waste disposal costs. The ultimate success of recycling will significantly affect the solid waste revenues and tax balance of the entire County by prolonging the life of the landfill and stimulating employment in recycling and reuse.

1.4 Environmental Characteristics

Kekaha Landfill, Phase I, though no longer active, has not been closed. A timely closure would provide mitigative measures to:

- Protect the environment by reducing leachate generation.
- Reduce disease vectors.
- Reduce the risk of fire.

- Minimize the potential of spreading of wastes.
- Reduce the visual impact of Phase I.

Temporary impacts associated with the landfill closure include generation of noise, fugitive dust, and increased traffic. Noise levels and fugitive dust concentrations will be in accordance with state and federal regulations.

2.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

2.1 Physical Characteristics

2.1.1 Location

The Kekaha Landfill, Phase I, site is in the southwestern region of Kauai, on the Mana Plain, approximately 2 miles northwest of Kekaha town. The landfill is bounded on the east by Kaumualii Highway and on the west by Kokele Lighthouse Road, and is 1,800 feet from the coastline.

2.1.2 Topography and Soils

The landfill site elevations range from approximately 10 to 45 feet above mean sea level (MSL). The area surrounding the site is fairly level and consists of poorly graded sand having a permeability of greater than 5×10^{-3} cm/sec.

2.1.3 Flood Hazard

Federal Emergency Management Agency (FEMA) has determined that the project site is not within the 100-year flood zone nor the tsunami inundation zone.

2.1.4 Water Quality

2.1.4.1 Surface Water

Due to highly permeable soils, no perennial streams are within or near the project area. An agricultural irrigation system of ditches is maintained mauka of the site by Kekaha Sugar Company. These are not considered state waters of the United States by the Clean Water Act.

2.1.4.2 Groundwater

Underlying the Mana coastal plain are two aquifers having distinctly different hydrologic properties. They are the coastal plain sedimentary aquifer and the basaltic aquifer.

The coastal plain aquifer has a low hydraulic conductivity, estimated by the United States Geological Survey (USGS) to average approximately 4.2×10^{-5} cm/sec (Burt,

Description of the Affected Environment

1979). The coastal plain aquifer retards the seaward and upward discharge of groundwater from the basaltic aquifer. It is anticipated that the thickness of the coastal plain aquifer exceeds 400 feet beneath the landfill.

The uppermost groundwater beneath the site is encountered within the coastal plain aquifer at 5 to 7 feet below ground surface. These groundwater levels are 3 to 5 feet above MSL. At the landfill site, exploratory borings were drilled to more than 50 feet below existing grade without reaching the basaltic aquifer.

The basaltic aquifer underlying the coastal plain aquifer is composed of the lava flows constituting the Napali Formation. The basaltic aquifer of the Napali Formation yields large quantities of water to wells and shafts with relatively little drawdown, reflecting a high hydraulic conductivity, estimated by the USGS at 0.14 cm/sec (Burt, 1979).

The coastal plain aquifer is used for agricultural purposes (irrigation) in the landfill area, but is not used as a source of drinking water. There are no irrigation wells within a mile radius of the site, according to Mr. Owen Moe of the Kekaha Sugar Company. The nearest groundwater wells that supply drinking water are more than 2 miles north (upgradient) of the site. According to Mr. Clay Kagawa, air station engineer at the Barking Sands Naval Air Station, the potable water supply for the air station and landfill is supplied by a pipeline from the town of Kekaha.

2.1.5 Wetlands

There are no wetlands in the project area.

2.1.6 Flora

A survey conducted by the Department of Land and Natural Resources (DLNR) in August 1982 reports that "it is highly unlikely that any uncommon or rare natural plants exist within the landfill sites" (Towill, 1983). Since the landfill has previously been cleared and is constantly disturbed, rare or endangered plants probably are not onsite.

2.1.7 Fauna

Fauna likely to exist at the site are the common species of dogs, mice, rats, and chickens. The survey report conducted by DLNR in August 1982 states that landfill operations at the site "would not cause significant wildlife habitat degradation" (Towill, 1983).

2.1.8 Air Quality

Because of the prevailing trade winds and the one foot of soil currently covering the Phase I Landfill, the air quality in the vicinity of the site is generally good.

2.1.9 Noise

Noise associated with landfilling operations includes heavy equipment and traffic noise. This noise level will continue through the closure period, but will then diminish during postclosure.

2.1.10 Scenic and Visual Resources

Currently, the Phase I area can be seen from the highway. However, after construction of the Phase II landfill facility is complete, a visual buffer will be established between the highway and the Phase I and Phase II sites.

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 site is the town of Kekaha, with a population of approximately 2,000.

2.2.2 Land Ownership and Use

The landfill site is on property owned by the state of Hawaii. The landfill area was withdrawn from the Department of Land and Natural Resources general lease by Executive Orders No. 1558 in 1953 and No. 1671 in 1977.

The site is bounded by the Pacific Missile Range Facility on the northwest; the Hawaii National Guard Rifle Range on the southwest; Kekaha Landfill, Phase II Development on the northeast; and by agricultural lands leased by the state Department of Land and Natural Resources on the southeast. The site is bordered by open land with no occupied structures in the immediate vicinity. The ocean is approximately 1,800 feet to the south.

2.2.3 Employment

Employment in southwestern Kauai is primarily in agriculture and military service contractors. Because the Phase I Landfill is no longer accepting waste, no employees are currently required at the site.

3.0 PROBABLE IMPACTS OF THE PROPOSED ACTION AND MITIGATION MEASURES

3.1 Water Quality

3.1.1 Groundwater

Kekaha Landfill, Phase I, will be closed according to state and federal requirements for landfills which ceased accepting wastes prior to October 9, 1993.

The objective of the closure design is to minimize the amount of water entering the refuse via rainfall, runoff or run-on. This, in turn, minimizes the amount of leachate generation and infiltration into the groundwater system. Groundwater samples will periodically be collected from groundwater monitoring wells which will be installed near the Phase I landfill to monitor for leachate indicator parameters. Proposed monitoring well locations are shown on Figure 2. The proposed postclosure groundwater monitoring program includes semi-annual sampling and analysis for the volatile organics and metals listed in 40 Code of Federal Regulations (CFR) Part 258 (federal regulations for solid waste landfill facilities).

The landfill site is seaward of the underground injection control (UIC) line. No supply wells are downgradient of the landfill, and no drinking water wells are within 2 miles of the site. No adverse impact on Kauai's agricultural or domestic water supplies are anticipated.

3.1.2 Surface Water

The surface-water management system will:

- Be sized to accommodate runoff from the 25-year, 24-hour design storm.
- Incorporate the use of berms and pipes to minimize surface water on the sideslopes, and provide erosion control.
- Provide a drainage ditch around the perimeter of the landfill to intercept surface-water run-on and runoff. This ditch will also provide the means to promote infiltration and evaporation. No surface-water discharges offsite are anticipated.

3.2 Air Quality

Effects on air quality, including dust and diesel exhaust, can be anticipated during construction and operation of the recycling station. 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.

Landfill gas monitoring probes will be installed to monitor the offsite migration of landfill gas. A passive landfill gas venting system will be designed and constructed as part of the closure system for the landfill. Because of the dominant trade winds at the site, no significant air quality impacts are expected from the closure of the landfill or operation of the recycling station.

3.3 Flora and Fauna

The existing flora at the landfill is primarily unwanted weed species, and predominant faunas are primarily rodent and feral chickens. Rodents and feral chickens may be considered disease vectors. Construction of the landfill cover will reduce the vector population. The recycling station operators are required by Hawaii Administrative Rules Chapter 11-58 to control vectors as part of facility operation.

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 recycling station will be less than that emanating from the adjacent active landfill. No significant noise impacts are expected from the proposed action.

3.5 Traffic

The Phase I site is adjacent to the Phase II Landfill, which is actively receiving waste from the entire island, and is still under construction. Additional traffic attributed to

closure construction of the Phase I Landfill will be limited to construction and transport vehicles.

Upon completion of the Phase I closure operation, the debris recycling station will result in a low to moderate traffic flow to the site through the Phase II Landfill area. Commercial waste haulers who wish to use the recycling station will have access through the Phase II Landfill site. A new traffic storage/turning lane is currently planned to avoid traffic interruptions at the landfill entrance. No significant impact to the traffic pattern is anticipated from closure construction or the operation of the recycling station at the Phase I Landfill.

3.6 Employment

Closure construction activities will result in additional employment in the area for a period of approximately six months. A temporary stimulus to economic activities may result from closure construction.

Operation of the recycling center will likely be by contract.

3.7 Final Land Use

State and federal regulations restrict development on closed landfills to uses which will not endanger public health or the integrity of the closure cap. Siting a debris recycling station on the closed landfill is a compatible use. The activity requires no permanent structures which would create uneven settlement or create a methane explosion hazard. Its location, adjacent to the landfill, will promote recycling and help Kauai meet its waste reduction goals stipulated by the state legislature.

The recycling station is one of several proposed for Kauai. If this site were not located on the closed landfill, it would occupy more valuable agricultural lands elsewhere in southwestern Kauai.

3.8 Permit

All necessary permits for construction in a special management area (SMA), a conservation district, and on state-owned lands will be obtained in advance of the proposed activity. A Conservation District Use Application has previously been submitted and approved for landfilling and closure activities, and a revision to the existing application is anticipated. Grading, filling and building permits will also be obtained as necessary. An operation permit for the recycling station from the Department of Health has already been obtained and is included in the existing Integrated Solid Waste Facility Permit for the Kekaha Phase II Landfill.

3.9 Historical/Cultural Resources

The proposed activity will close a landfill which has been in operation since the early 1950s. Any cultural or historical objects which may have existed at the site have been previously disturbed.

3.10 Utilities

The proposed closure of the Phase I Landfill will have no effect on the use of electric, water or sanitary services in the area. Operation of the recycling center will require minimal amounts of water and electricity. No impact on public services is anticipated as a result of the proposed action.

4.0 ALTERNATIVES TO THE PROPOSED ACTION

The capacity of Kekaha Landfill, Phase I, is limited by its land area and elevation. The original Environmental Impact Statement for all phases of landfilling at this site stipulated a maximum elevation of 37 feet MSL. Phase I has reached its permitted capacity and has stopped receiving waste prior to October 9, 1993. State and federal regulations stipulate the methods and timing of closure for landfills which have ceased accepting wastes. Therefore, the "No Action" alternative is not recommended nor permitted by law. There are no apparent alternatives to closure of the Phase I Landfill.

Alternatives to constructing a debris recycling station on the closed Phase I Landfill would be a "No Action" alternative or to locate a facility on other land parcels. If the "No Action" alternative is taken, an area would not be made available for the collection, segregation, and preparation of recyclables for shipment off island; and, thereby, valuable space would be consumed in the Phase II Landfill, reducing the effective life. The "No Action" alternative would make it difficult for the County to meet the required waste diversion rates and, thus, is not recommended.

The recycling station may be located at other sites around the island; in fact, several such facilities currently are planned as part of the island's solid waste management plan. The location of these facilities will be determined on the basis of population centers, land use and availability, hauling distances, and proximity to harbors.

The land use of the closed Kekaha Phase I Landfill site is limited by the anticipated high differential settlements, methane gas generation and the postclosure maintenance and monitoring requirements. Therefore, in the interest of preserving other unused or undisturbed lands, the choice of the Phase I site is preferable.

Also, the recycling station's location allows for short hauling distances to Port Allen and from the active landfill where some of the waste diversion will occur. Thus, the Kekaha Phase I Landfill site is the preferred location for the recycling station.

5.0 SIGNIFICANCE CRITERIA

In accordance with the environmental assessment procedure, the proposed landfill closure does not have significant adverse effects on the environment, which are as follows:

- **Involves a loss or destruction of any natural or cultural resources.** There are no known natural or cultural resources associated with the existing landfill. The proposed closure would provide open space and minimize impacts on the environment from over 30 years of landfilling at the site. The proposed recycling station will maximize the limited land use potential of the closed landfill site and indirectly preserve natural resources by promoting reuse and recycling.
- **Curtails the range of beneficial uses of the environment.** The proposed landfill closure includes an area cleanup and isolation of wastes disposed at the site. The proposed action also improves access to the shoreline and promotes beneficial use of the environment by providing recycling facilities.
- **Conflicts with the state's long-term environmental policies or goals and guidelines.** The proposed project reflects compliance with state and federal guidelines and regulations for landfill closures and assists the County in achieving waste diversion goals stipulated by the state legislature.
- **Substantially affects the economic or social welfare of the community or state.** No adverse economic or social problems are anticipated by the closure of the landfill, or the construction and operation of a debris recycling station.
- **Substantially affects public health.** The proposed closure design and postclosure monitoring are implemented to protect public health and the environment. The proposed recycling station will be constructed in accordance with all state and federal regulations and is permitted by the DOH.
- **Involves substantial secondary effects, such as population change or infrastructure demands.** No increase in population will result from the proposed project. The County currently has an operational landfill (Phase II); thus, the final closure of Phase I will not affect refuse collection.
- **Involves a substantial degradation of environmental quality.** The proposed landfill closure will improve the environmental quality of the site. The recycling station will provide facilities for improving environmental quality over the entire island.
- **Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment to large actions.** No adverse environmental effects are anticipated by the final closure of the Phase I Landfill. Since Phase II Landfill is already accepting waste, no additional

Significance Criteria

commitments are necessary to ensure refuse disposal. The construction of a recycling station may require some commitment and County support in order to meet waste diversion goals.

- **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 landfill site.
- **Detrimentially affects air or water quality or ambient noise levels.** Impacts on air quality and noise are anticipated during construction and operation of the recycling station, but will be limited by normal construction practices (e.g., water wagons). The final landfill cover will be designed to decrease leachate generation and control methane gas migration. Thus, the proposed landfill closure will minimize environmental impacts. The cover design will also minimize impact from recycling operations onto surface and groundwater quality.
- **Affects an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, freshwater area, or coastal waters.** The landfill site is not located within an environmentally sensitive area. The proposed closure will reduce any existing environmental impact.

On the basis of the above criteria, we conclude that the proposed landfill closure and construction of a recycling station will not have a significant adverse effect on the environment.

6.0 AGENCIES AND ORGANIZATIONS CONSULTED

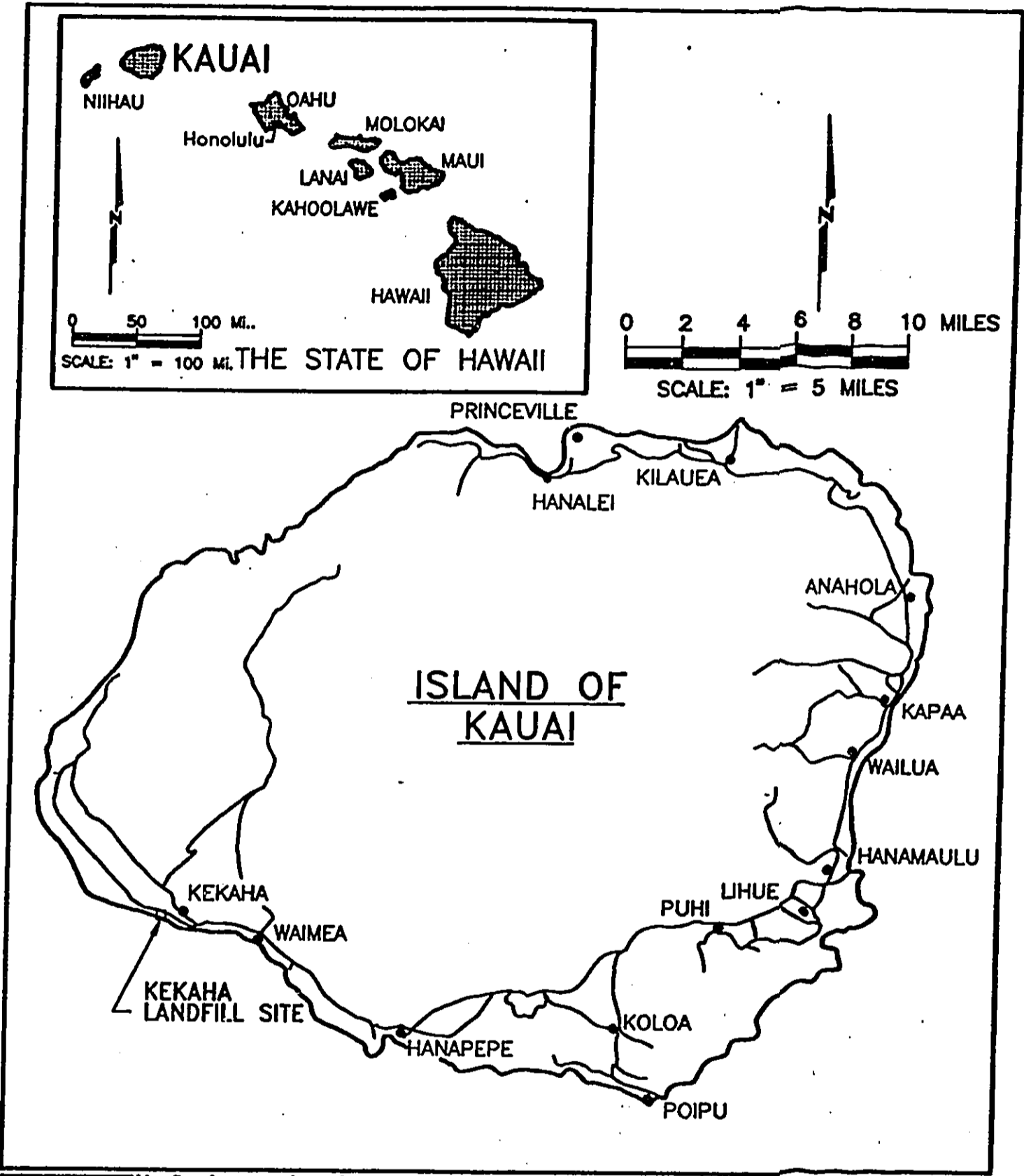
The following agencies and organizations were consulted in preparing this environmental assessment:

- Department of Health, Solid Waste Branch.
- County of Kauai, Department of Public Works.
- State Historic Preservation Division Office.
- County of Kauai, Planning Department.
- Department of Land and Natural Resources.

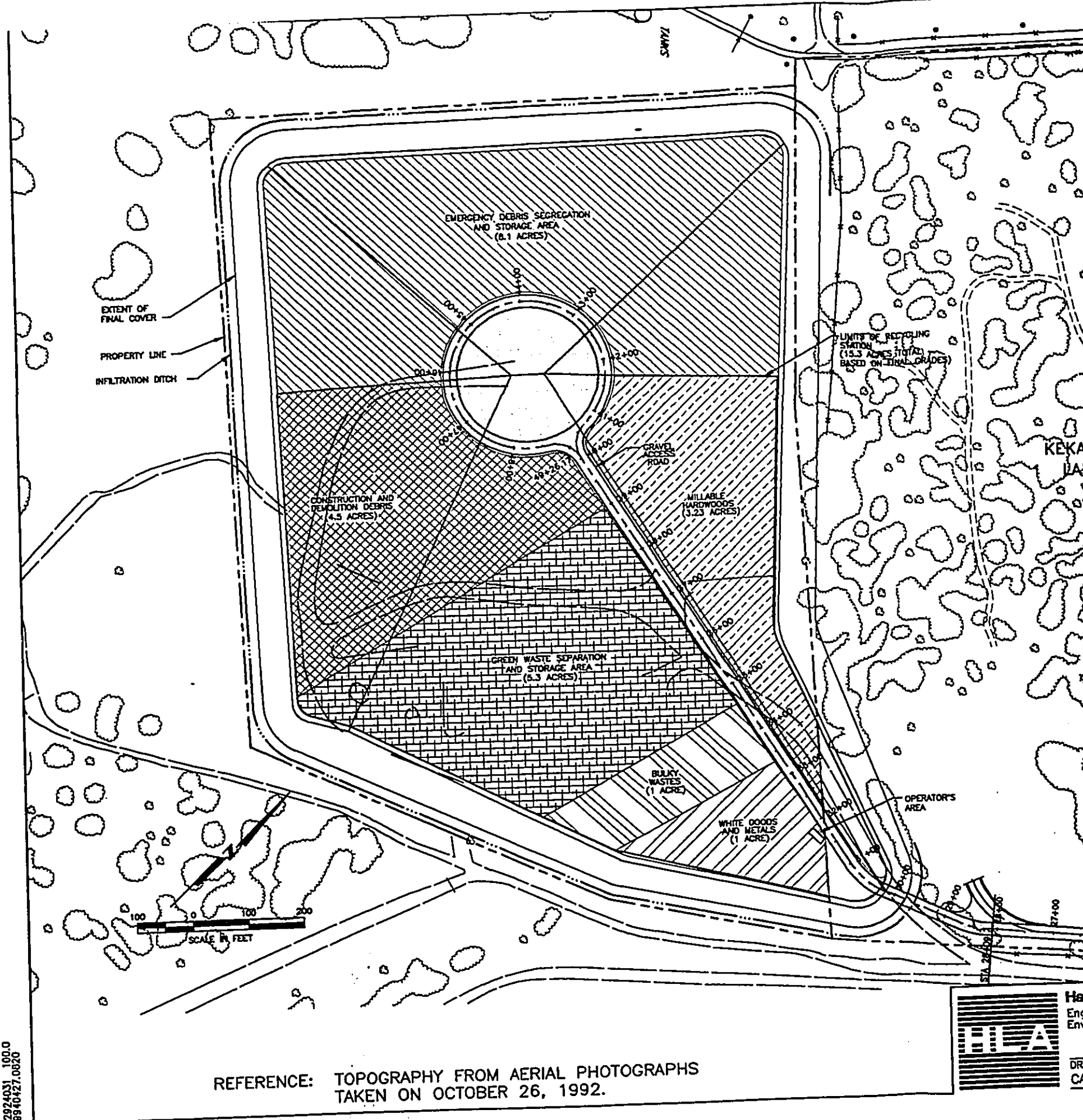
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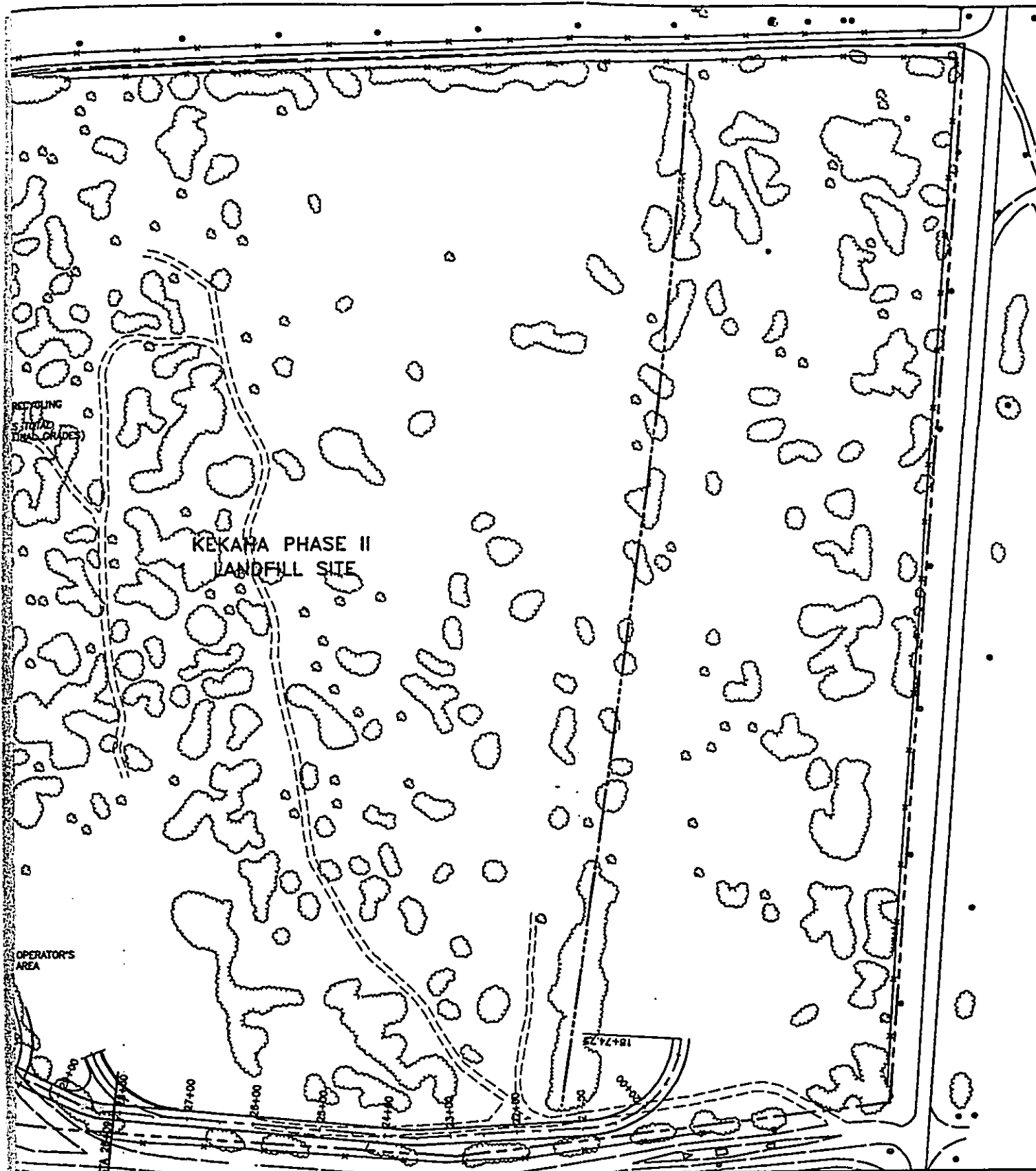
FIGURES



	Harding Lawson Associates	LOCATION MAP	FIGURE
	Engineering and Environmental Services	KEKAHA SANITARY LANDFILL -- PHASE I KAUAI, HAWAII	1
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H&A
Har
Eng
Envi
DRA
CA



KEKAHA PHASE II
LANDFILL SITE

OPERATOR'S
AREA

18+72.25

27+00

28+00



Harding Lawson Associates
Engineering and
Environmental Services

RECYCLING FACILITY LAYOUT

KEKAHA SANITARY LANDFILL - PHASE I
KAUAI, HAWAII

FIGURE

3

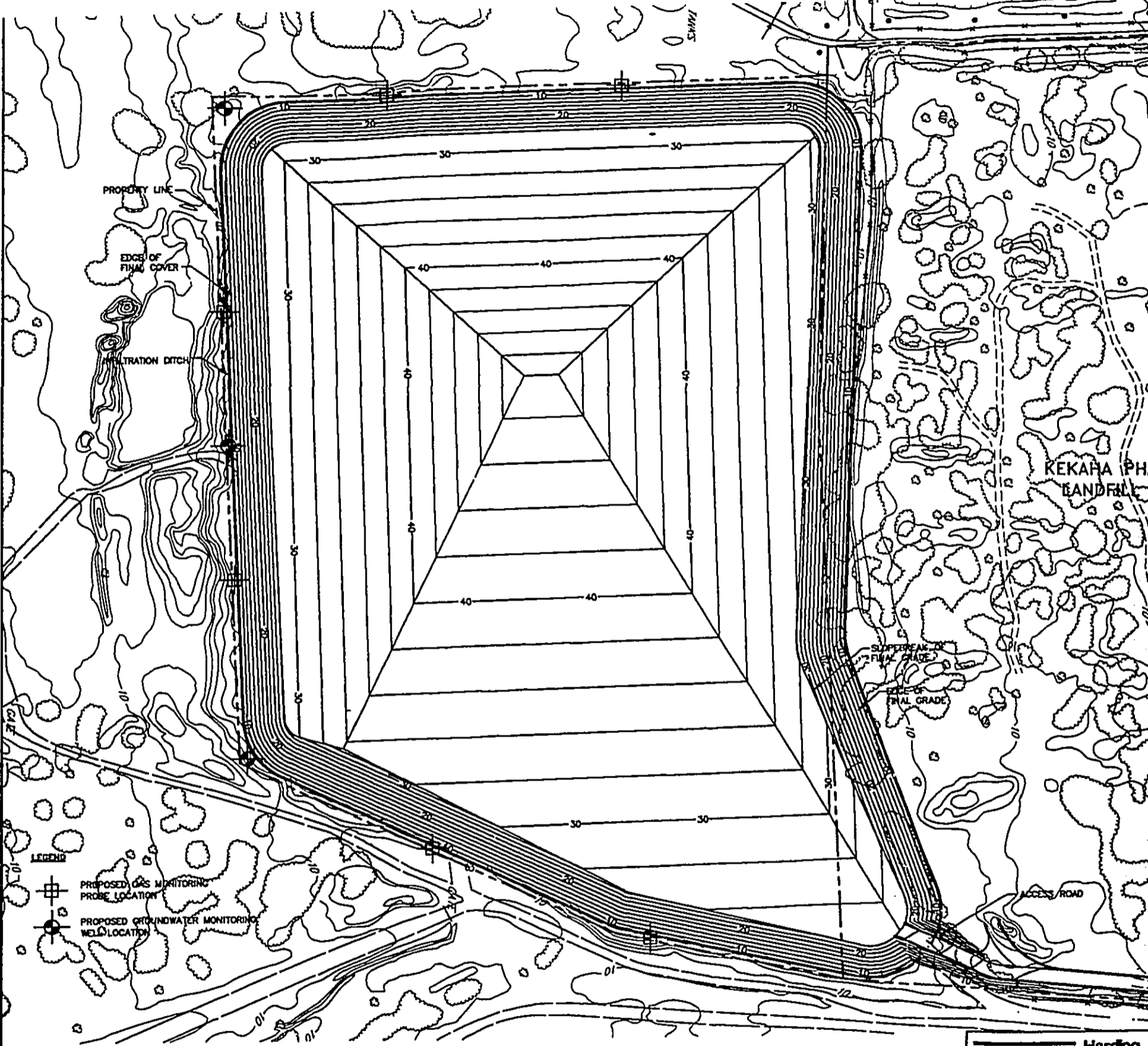
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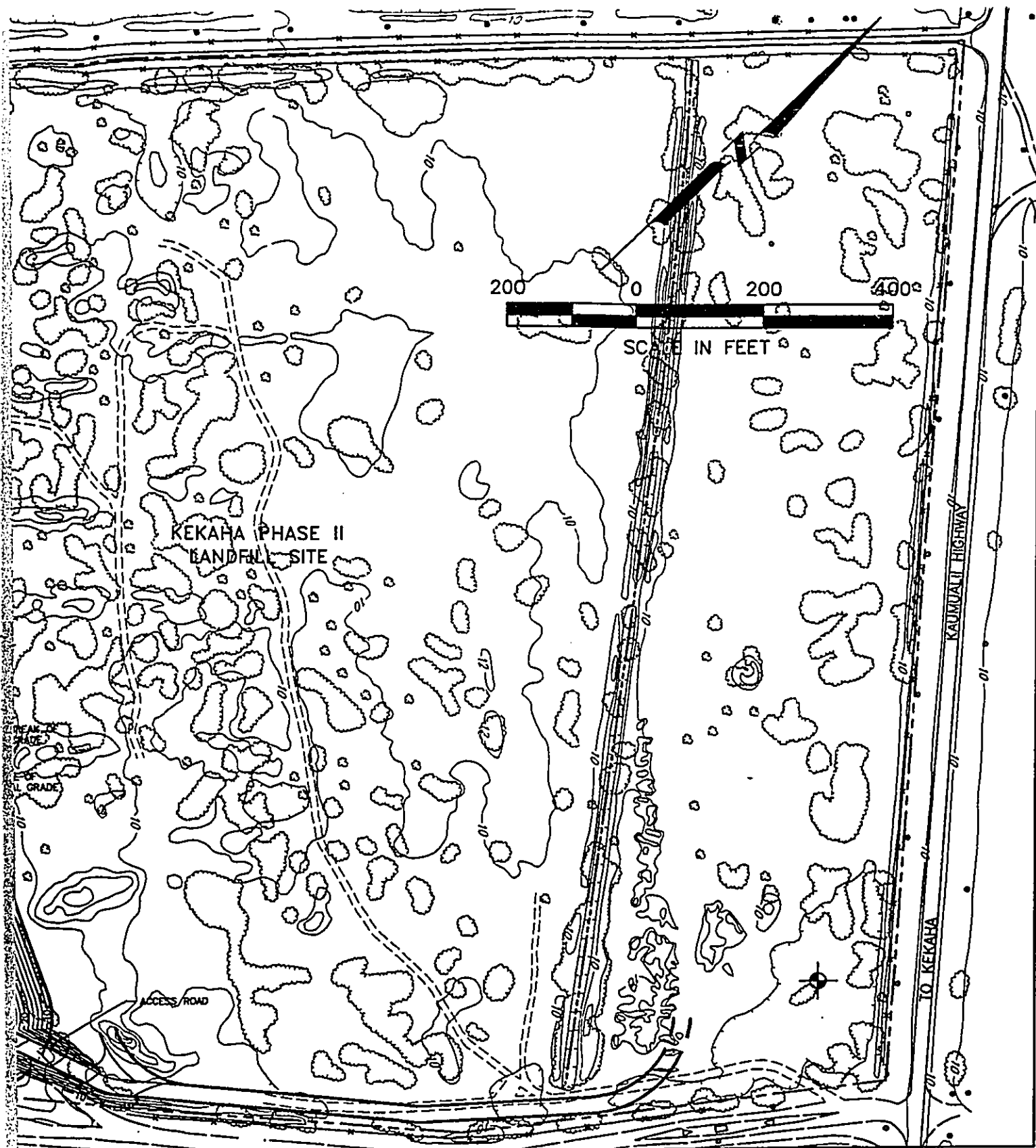
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REFERENCE: TOPOGRAPHY FROM AERIAL PHOTOGRAPHS
TAKEN ON OCTOBER 26, 1992.



Harding
Engineering
Environment

DRAWN
CAS/JCL



Harding Lawson Associates
 Engineering and
 Environmental Services

LANDFILL FINAL GRADING PLAN

KEKAHA SANITARY LANDFILL - PHASE I
 KAUAI, HAWAII

FIGURE

2

DRAWN
 CAS/JCL

JOB NUMBER
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APPROVED
MLC

DATE
 2/94

REVISED DATE
 4/94

APPENDIX A



APPENDIX

Draft Environmental Assessment Comments



University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Caropus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361

April 19, 1994

EA:00057

Mr. Dale Burton
County of Kauai
Department of Public Works, Solid Waste Division
3021 Umi Street
Lihue, Hawaii 96766

Dear Mr. Burton:

Environmental Assessment (EA)
Kekaha Phase I Landfill Closure and
Recycling Facility Construction
Waimea, Kauai

The activity being addressed by this Environmental Assessment (EA) is the proposed closure of the existing Kekaha Phase I landfill and the construction of a recycling facility on the closed landfill. The landfill closure and recycling facility design will consist of a gas management system, a trafficable cover system, which includes a geomembrane, and a surface-water management system with erosion control features.

The Environmental Center has reviewed the EA with the assistance of Roy Takekawa, Environmental Health and Safety Office; Henry Gee, Water Resource and Research Center; and Huilin Dong of the Environmental Center.

COMMENTS

It is stipulated on page 2 that the proposed action will occur in four phases with the last phase being postclosure monitoring. However, there is no description as to what this involves or the location of the monitoring wells cited on page 9. Are there any requirements for leachate sampling for heavy metals, pesticides, or other potentially hazardous materials which may be present in the landfill? Given the proximity of the coastal plain aquifer and its use for agricultural irrigation, it would seem imperative that monitoring of the quality of this aquifer be carried out. It may be prudent to collect this type of data in order to fulfill the objectives of protecting public health and the environment. We urge that the monitoring plan and a leachate sampling program be included in the final EA along with a map indicating the location of the monitoring wells.

A-1

An Equal Opportunity/Affirmative Action Institution

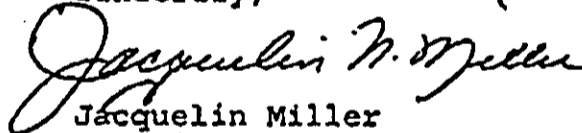
We note (pg.1) that the boundaries of the existing landfill (Phase I) extend beyond the original boundaries and encroach on approximately 4 additional acres. The county proposes to remove the encroaching material and relocate it to the existing landfill except for the material that is located on the proposed Phase II landfill site bordering the north side of Phase I. Unfortunately, the maps enclosed in the document do not show where the Phase II landfill is in relationship to the Phase I closure. Nor is the quantity of the refuse crossing the original boundaries given in the document. How much material is involved in terms of cubic feet? This information should be included in the final EA.

Because open areas with stored materials are conducive to rat infestations, reduction of the vector population is certainly another benefit of the landfill closure and cover. However, the draft EA does not address vector control at the recycling facility which will be open for materials to be separated. What mitigating measures will be taken to minimize vector problems at the recycling facility?

We recently had the opportunity to tour the Kapaa Generating Partners methane recovery plant at the Kapaa Landfill here on Oahu. It appears to be a highly successful operation with some 80 production wells that generate 2.7 megawatts of power, export 2.2 megawatts to Hawaiian Electric, and sell "waste" heat to Ameron HC&D which uses it in their sand drying process. The EA mentions that "a passive landfill gas venting system will be designed and constructed as part of the closure system for the landfill". Has consideration been given to the feasibility of developing a methane recovery/generating system on the Phase I site?

Thank you for the opportunity to review and comment on the draft EA. We hope you will find our comments helpful in preparation of the final document.

Sincerely,



Jacquelin Miller
Associate Environmental Coordinator

cc: OEQC
Roger Fujioka
Harding Lawson Associates
Henry Gee
Roy Takekawa
Huilin Dong

Harding Lawson Associates



April 28, 1994

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0392LA

Ms. Jacqueline Miller
University of Hawaii at Manoa
Environmental Center, Crawford 317
2550 Campus Road
Honolulu, Hawaii 96822

Response to Comments
Draft Environmental Assessment
Kekaha Phase I Landfill Closure and
Recycling Facility Construction
Kekaha, Kauai, Hawaii

Dear Ms. Miller:

On behalf of the County of Kauai, Solid Waste Division, we would like to take this opportunity to thank you for your comments and to provide you with our response.

COMMENT NO. 1 - POSTCLOSURE MONITORING

The postclosure monitoring program at Kekaha Phase I Landfill includes the monitoring of landfill gas and groundwater. Landfill gas monitoring probes and groundwater monitoring wells will be installed at the time of closure at the approximate locations shown on the attached figure. Monitoring wells have previously been installed at the site; however, preliminary comments from the Department of Health (DOH) indicated that they would like the old wells to be replaced. Groundwater samples will initially be collected and analyzed semiannually for the volatile organics and metals listed in Appendix I of 40 CFR 258. The proposed postclosure monitoring program is in accordance with the DOH's recommendations as there are no specific regulations requiring the postclosure monitoring of landfill gas and groundwater for landfills that have stopped receiving waste prior to October 9, 1993.

COMMENT NO. 2 - LIMIT OF REFUSE

Figure 2, as included in the Draft Environmental Assessment (EA), has been modified to show the location of the Kekaha Phase II Landfill with respect to the Phase I Landfill (see attached figure). The quantity of material that will be relocated to within the Phase I property boundaries are currently unknown. The refuse will be relocated as they are encountered during construction.

Engineering and
Environmental Services

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Page 2

COMMENT NO. 3 - VECTOR CONTROL

The operations contract for the recycling facility includes the development of an operations manual for the facility. The operations manual will include discussions and procedures regarding vector control. Because vector control is an operational concern with various mitigating measures available, and specific methods are not required by law or regulations, we are currently unable to answer your question at this time. Vector control will, however, be provided by the facility operator in accordance with Hawaii Administrative Rules Title 11-58 and their operations contract.

COMMENT NO. 4 - METHANE GAS RECOVERY

Kekaha Phase I Landfill, in comparison with Kapaa Landfill, is a relatively thin landfill (average depth of refuse is approximately 40 feet) and is located in an arid region (average annual rainfall is less than 20 inches). The limited amount of rainfall, together with a low permeable cover system, will result in minimal amounts of moisture entering the closed landfill. Thus, the refuse will degrade slowly and will not likely generate large quantities of methane to make a methane recovery system feasible. In addition, the location of the Phase I facility precludes economical reuse of the gas.

Again, we would like to thank you for your comments. They will be incorporated into the final EA. Please feel free to call if you have any additional questions or concerns. -

Sincerely yours,

HARDING LAWSON ASSOCIATES


Philip B. Crispell, P.E.
Associate Engineer

PBC/LKI/rmc

Enclosure: Modified Figure 2 - Landfill Final Grading Plan for
Final Environmental Assessment

cc: Mr. Dale Burton/County of Kauai

DISTRIBUTION

Environmental Assessment
Kekaha Sanitary Landfill, Phase I Closure
Kekaha, Kauai, Hawaii

March 11, 1994

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