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OFC. OF ENVIRONMENTAL
QUALITY CONTROL

June 25, 1999

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

FROM: James J. Nakatani, Chairperson
Board of Agriculture

SUBJECT: Final Environmental Assessment (EA) for
Barbers Point Agricultural Park
Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

The Department of Agriculture has reviewed the comments received during the 30-day public comment period which began on November 8, 1998. The agency has determined that this project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI) determination. Please publish this notice in the July 8, 1999 edition of The Environmental Notice.

The following documents are enclosed for your review and use:

1. One (1) copy of the OEQC publication form, including project summary on disk;
2. Four (4) copies of the Final EA;
3. One (1) copy of the Letter to Participants; and
4. One (1) copy of the proposed Distribution List.

Should you have any questions or require additional information, please call Mr. Paul T. Matsuo, P.E., Administrator-Chief Engineer of the Agricultural Resource Management Division, at 973-9473.

Enclosures

c: Joseph J. Azzaro, Palama Meat Company, Inc.
Leonard Oshiro, Hawaii Livestock Cooperative
James S. Kumagai, Ph.D., P.E.

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Final Environmental Assessment/
Finding of No Significant Impact (FONSI)

~

BARBERS POINT AGRICULTURAL PARK
SLAUGHTERHOUSE AND MEAT PROCESSING PLANT

Ewa, Oahu, Hawaii
TMK: 9-1-31: 25, 26, portions of 1 and 37

Applicants:

PALAMA MEAT COMPANY, INC.
HAWAII LIVESTOCK COOPERATIVE

Approving Agency:

DEPARTMENT OF AGRICULTURE
STATE OF HAWAII

Prepared by:

JAMES S. KUMAGAI, Ph.D., P.E.
c/o Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

JUNE 1999

Final Environmental Assessment/
Finding of No Significant Impact (FONSI)

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BARBERS POINT AGRICULTURAL PARK SLAUGHTERHOUSE AND MEAT PROCESSING PLANT

Ewa, Oahu, Hawaii
TMK: 9-1-31: 25, 26, portions of 1 and 37

This environmental document has been prepared pursuant to Chapter 343, Hawaii Revised Statutes

Applicants:

PALAMA MEAT COMPANY, INC.
HAWAII LIVESTOCK COOPERATIVE

Approving Agency:

DEPARTMENT OF AGRICULTURE
STATE OF HAWAII

Responsible Official:

James Nakatani, Chairperson

6/17/99
Date

Prepared by:

JAMES S. KUMAGAI, Ph.D., P.E.
c/o Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

JUNE 1999

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DEVELOPMENT SUMMARY

APPLICANTS:	Palama Meat Company, Inc. 2656 Waiwai Loop Honolulu, HI 96819	Hawaii Livestock Cooperative 94-403 Ukee Street Waipahu, HI 96797
Contact: Phone: Fax:	Joseph J. Azzaro, Chairman & CEO 836-0172 834-8895	Leonard Oshiro, President 676-9100 676-9200
APPROVING AGENCY:	Department of Agriculture State of Hawaii 1428 South King Street Honolulu, HI 96814	
Responsible Official:	James Nakatani, Chairperson Board of Agriculture	
Contact: Phone: Fax:	Paul Matsuo, Administrator-Chief Engineer Agricultural Resource Management Division 973-9473 973-9467	
PROJECT NAME:	Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant	
PROPOSED ACTION:	Establish an agricultural park and construct a slaughterhouse and a meat processing plant on state-owned lands within Campbell Industrial Park	
PROJECT LOCATION:	91-265 Olai Street Kapolei, HI 96707	
TAX MAP KEY:	9-1-31:25, 26 and portions of 1 and 37	
LAND OWNER:	State of Hawaii	

STATE LAND USE DESIGNATION:	Urban
DEVELOPMENT PLAN LAND USE MAP:	Industrial
ZONING:	I-2, Intensive Industrial
EXISTING USE:	A portion of the site was formerly a feedlot operated by Hawaii Meat Company from 1963 to 1991. The site has remained vacant since closure of the feedlot.

CHAPTER 1
INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this Final Environmental Assessment (EA) is to disclose potential environmental impacts resulting from establishing an agricultural park, and constructing and operating a slaughterhouse and a meat processing plant at Ewa, Oahu; and to identify measures to mitigate these impacts. This document was prepared following a period of public review of a Draft EA. Public comments and applicant responses have been incorporated in this document.

1.2 BACKGROUND

Act 148, Nineteenth Legislature (1998) gives the rationale for authorizing special purpose revenue bonds for the construction of a slaughterhouse, meat processing plant and wastewater treatment plant at Campbell Industrial Park as follows:

> "Section 1. The legislature finds that the lease for the existing Oahu slaughterhouse located in Honouliuli will expire in 2004. This slaughterhouse is the only one with United States Department of Agriculture approval facility (sic) on Oahu that slaughters cattle, hogs, and sheep. The closure of this slaughterhouse will leave livestock producers without the means to slaughter and process animals. It will also mean the termination of certain livestock operations, loss of jobs and revenues to the State, and the loss of fresh products for Hawaii consumers. Therefore, it is imperative that plans proceed for the construction of a slaughterhouse.
>
> The planned slaughterhouse at Campbell industrial park will include a meat processing plant and waste treatment plant..."

The act goes on to say:

> "Section 2. ...the department of budget and finance, with the approval of the governor, is authorized to issue in one or more series special purpose revenue bonds in a total amount not to exceed $10,000,000, for the purpose of assisting Palama Meat Company in financing the establishment of a slaughterhouse including a meat processing plant, and waste processing plant on Oahu. ..."

Action by the Nineteenth Legislature followed a long history of difficulty faced by the livestock industry for survival in an island economy. Lands in Campbell Industrial Park presently under consideration were leased to Hawaii Meat Company in 1963 for a cattle feedlot. The feedlot was

constructed for 14,000 head of cattle per day. Prior to that time, the land was unused since its purchase by James Campbell in the 1890's.

Hawaii Meat Company leased two acres to Hawaii Meat Products Corporation for construction of a rendering plant which was built in 1965. The rendering plant processed inedible meat products, animal parts, and grease from restaurants, to manufacture animal feed, soap, cooking oil, and a variety of other products. The plant is still in operation today and continues to play a significant role in waste management from the current slaughtering and meat processing operations.

In 1990, The Estate of James Campbell proposed a tenfold increase in the feedlot lease rent consistent with the I-2 zoning of the parcels. The cost increase would have made it difficult, if not impossible, for Hawaii Meat Company to remain in business. Consequently, the company sold its leasehold interest to Koloa Properties who planned to develop the land for industrial use.

In an effort to keep the land in agriculture, the State of Hawaii acquired the 124 acres of land in 1991 (**Figure 1**). The action forestalled closure of the feedlot, but it did not prevent Hawaii Meat Company from ceasing feedlot operations. The company stopped receiving cattle at the feedlot in February 1991.

Closure of the feedlot adversely affected the fresh meat industry. There was no USDA approved facility for fresh meat production on Oahu that protected public health and welfare. To meet an urgent consumer demand, the Farmers Livestock Cooperative started the slaughterhouse operation under a temporary, short term lease. This cooperative was made up of hog farmers.

Act 148 (1998) created the opportunity for the industry to develop a permanent site in Campbell Industrial Park. A new organization, the Hawaii Livestock Cooperative, was formed to undertake the construction of the slaughterhouse. Its membership was expanded beyond hog farmers to include cattle ranchers, dairy farmers, feed producers, milk processors and poultry farmers as associate members.

1.3 OBJECTIVES

Slaughtering and meat processing facilities have moved from place to place over the years, and have run into environmental problems at each location. This project is intended to overcome those objections by locating the facilities and operations at an environmentally compatible site.

The objectives of this proposed agricultural park project are:

- to assure the supply of fresh meat products to consumers on Oahu by construction of permanent USDA approved slaughter and meat processing facilities;

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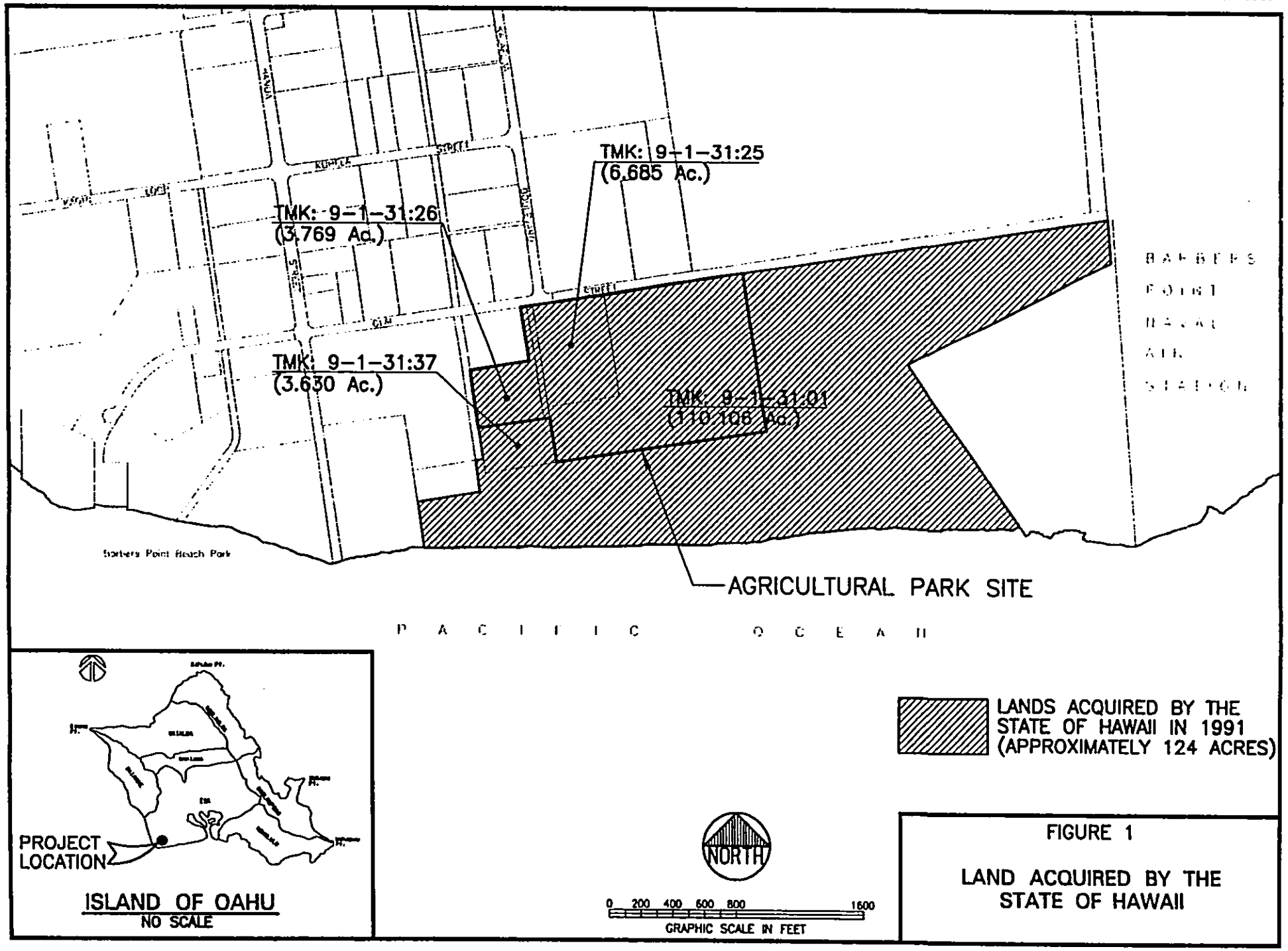


FIGURE 1

LAND ACQUIRED BY THE STATE OF HAWAII

- to support the local livestock industry through the preservation of jobs; and
- to provide an environmentally compatible operation.

1.4 PROJECT DESCRIPTION/LOCATION

The project site is located on state-owned land within Campbell Industrial Park. The site is shown on **Figure 2**. The agricultural park will be composed of a slaughterhouse, a meat processing plant and an animal waste treatment plant, to be constructed within TMK 9-1-31:25 and 26, with utilities and access traversing parcel 37. Wastewater effluent will be disposed on a portion of TMK: 9-1-31:1. Refer to **Figure 3** for a general location map of the proposed agricultural park facilities. The recommended layout is intended for maximum flexibility in facility design. Details on the configuration of the slaughterhouse, meat processing plant and wastewater treatment facilities will be established in the design phase.

1.5 ALTERNATIVES CONSIDERED

Other alternatives considered included shipping animals to the mainland or to the island of Hawaii for slaughter and processing.

The "no action" alternative is to cease livestock operations and related diversified agriculture in the state and rely on totally imported products. However, this action is contrary to legislative policy of Act 148, Nineteenth Legislature (1998).

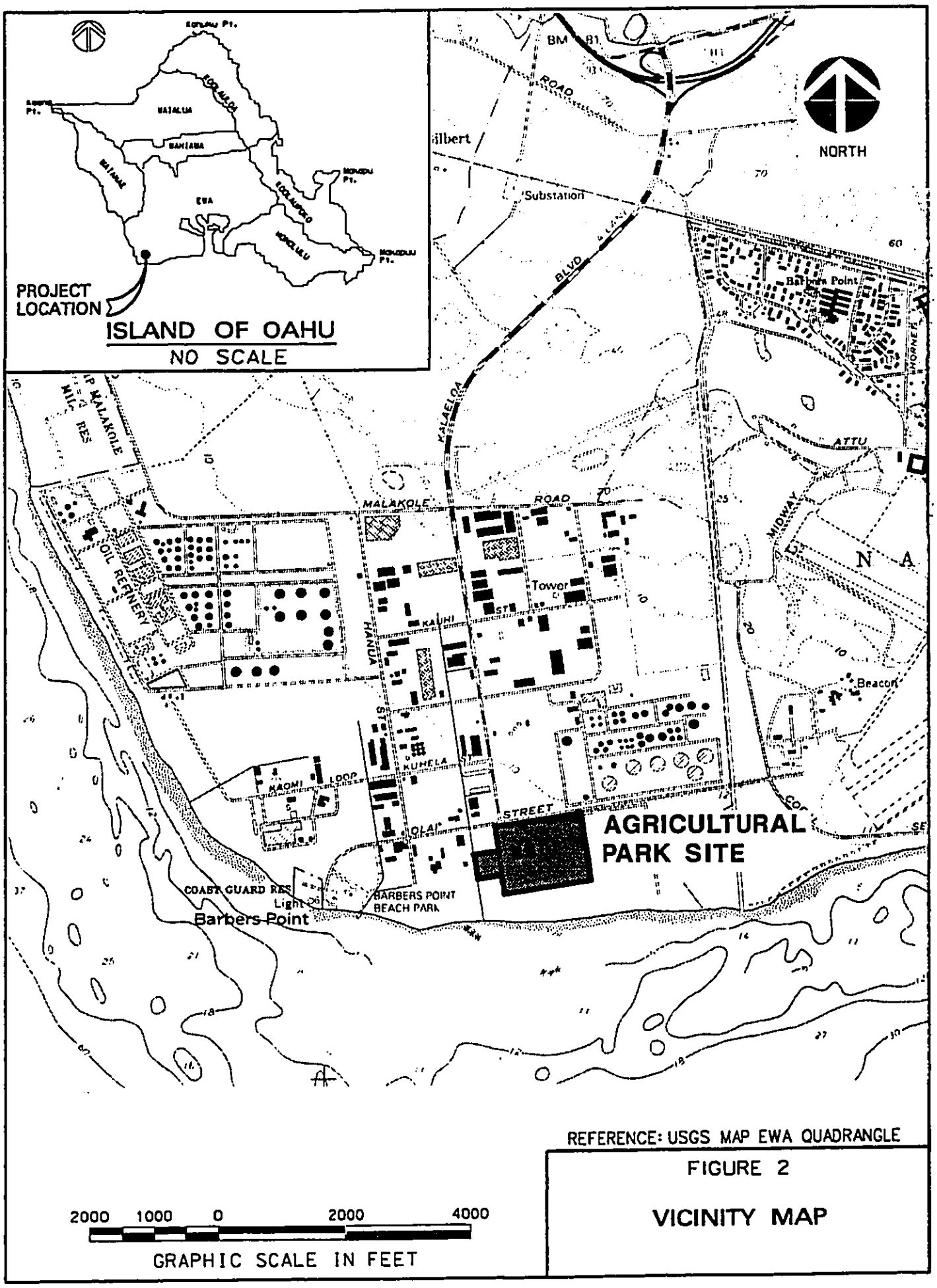
1.6 SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES

Soil Erosion

The potential for soil erosion will be a short term impact, limited to construction activities. The area is relatively flat and the seaward side of the entire property has been elevated to retain storm runoff. The localized impact of soil erosion will be mitigated routinely through an erosion control plan prepared as part of the facility design. The erosion control plan will identify specific best management practices appropriate for the site during construction. Long term impacts are not anticipated.

Water Quality

Long term water quality impacts associated with effluent irrigation can be controlled by limiting the mass emission rates. The project is located in a site that is conducive to achieving an almost zero-discharge state to the groundwater and coastal waters.



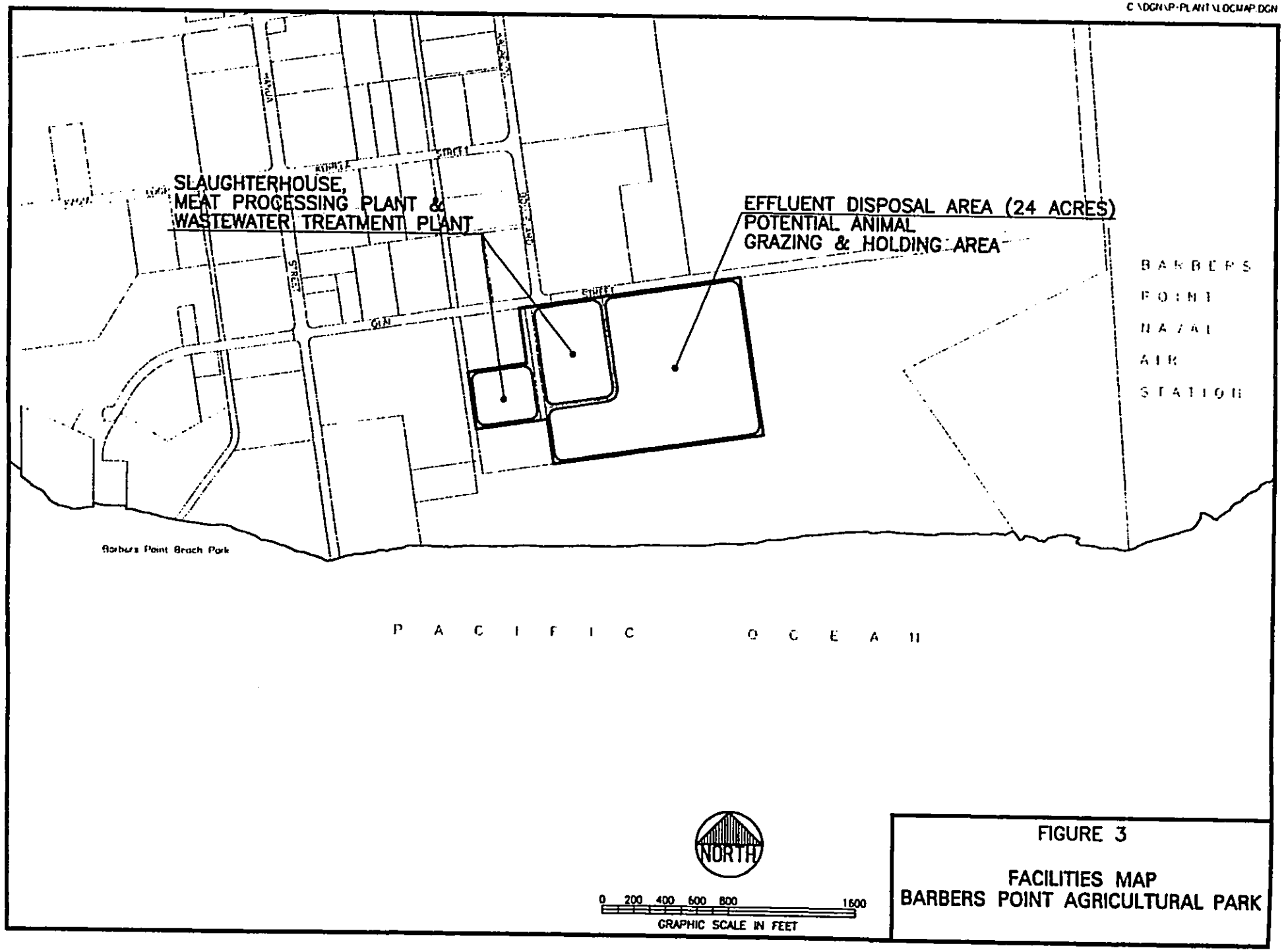


FIGURE 3

FACILITIES MAP
BARBERS POINT AGRICULTURAL PARK

Tsunami Hazards
Due to location within a tsunami evacuation area, employee education and an evacuation plan will be established to ensure awareness and public safety.

Archaeological and Historic Resources
In the unlikely event that historic sites, including human burials, are uncovered during routine construction activities, all work in the vicinity will cease and the State Historic Preservation Division will be contacted for direction.

Fugitive Dust
A temporary reduction in air quality may result during construction due to generation of fugitive dust. Dust control measures will be implemented to ensure compliance with the State Department of Health regulations.

Odors
Long term impacts may include generation of odors from unenclosed portions of the site (i.e. holding pens, wastewater treatment). Odors are anticipated to be localized and will be minimized by good housekeeping practices, monitored and enforced by the United States Department of Agriculture Food Safety Inspection Service.

Aerosols
In order to minimize long term impacts, irrigation systems that create aerosol drift beyond the project boundary will be avoided. If spray irrigation is indeed installed, operators will suspend irrigation when wind gusts occur in the direction of the public roadway.

Noise
Short term noise impacts may result from construction activities. The contractor will be required to comply with State Department of Health and City and County of Honolulu noise regulations to minimize any impact. Long term impacts are not anticipated due to the isolated and industrial nature of the area, and the fact that most of the operation will occur within enclosed buildings.

Socioeconomic Environment
The proposed project will provide jobs and a continued supply of fresh meat, in particular "hot" pork, to local consumers. Moreover, it will support the livestock industry as a whole.

Traffic
Long term traffic impacts in the vicinity of the project site are not anticipated due to continuation of the shift work schedule presently employed by the existing slaughterhouse and meat processing plant operations. Further, delivery traffic on public streets between the slaughterhouse, processing plant and rendering plant will be eliminated due to their location on adjacent lots.

1.7 PERMITS AND APPROVALS REQUIRED

Permits and approvals that may be required for construction of the proposed action are listed in **Table 1**. Applications for permits and approvals will be prepared as planning and design of the project progresses. There are no federal permits or approvals anticipated.

In addition, operation of the slaughterhouse and meat processing plant may be subject to a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with industrial activity.

TABLE 1
PERMITS AND APPROVALS

AGENCY	PERMIT/APPROVAL
State of Hawaii Department of Health	• Pollution controls • NPDES General Permit Coverage for Discharge of Storm Water Associated with Construction Activity • NPDES General Permit Coverage for Discharge of Construction Dewatering Effluent • NPDES General Permit Coverage for Discharge of Hydrotesting Waters • Approval to reuse wastewater for irrigation • Construction plan approval
City & County of Honolulu Dept. of Planning and Permitting	• Building Permit for Building, Electrical, Plumbing, Sidewalk/Driveway, and Demolition Work • Grubbing, Grading and Stockpiling Permit • Construction plan approval • Conditional Use Permit, Type 1 for Joint Development

CHAPTER 2
PROJECT DESCRIPTION

2.1 NEED FOR THE PROJECT

The Nineteenth Legislature (1998) passed Act 148 declaring that the development of a slaughterhouse and meat processing plant with appropriate wastewater treatment facilities at Campbell Industrial Park is in the public interest. This action came after several decades of changing conditions in an island economy that threatened the survival of the local livestock industry. Jobs would be lost, and so would the supply of USDA-approved fresh meat to local consumers.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The project proposes to do the following:

- Establish an agricultural park;
- Establish a long term lease on the land;
- Construct a new slaughterhouse complying with USDA standards;
- Construct a new meat processing plant;
- Construct an onsite wastewater treatment plant and effluent disposal system; and
- Construct infrastructure to support the maintenance and operation of the facilities.

Specific tasks are described in the following sections.

2.2.1 Establishment of An Agricultural Park

The Board of Land and Natural Resources, at its meeting on October 9, 1998, approved the designation of state land for agricultural park purposes pursuant to section 171-112, HRS. The parcel has been subdivided for slaughterhouse and meat processing use together with appurtenant works.

On October 22, 1998, the Board of Agriculture approved the establishment of an agricultural park pursuant to section 166-4, HRS.

2.2.2 Establishment of Long Term Lease

Chapter 166, HRS, authorizes the Board of Agriculture to dispose of agricultural park lots by negotiation pursuant to section 4-153-19(e) Hawaii Administrative Rules, provided the use is for processing of agricultural products, encourages competition, and shall not exceed a maximum term of 35 years.

The lease rent shall be determined by an independent appraisal to be conducted by a certified Appraiser engaged by the Department. Lease terms shall be negotiated to meet the standard terms and conditions of the agricultural park program.

The existing slaughtering facility at Honouliuli is on a lease which ends in the year 2004. Therefore, operations must cease by the year 2002 to allow time to clean up and restore the land to prescribed conditions. Long term leases for TMK: 9-1-31: 25 and 26 for development of slaughterhouse and meat processing facilities; and lease or easement for a portion of TMK: 9-1-31:37 for utilities and material transport will be required. An associated revocable permit will be requested for a portion of TMK: 9-1-31:1 for wastewater effluent disposal.

It is proposed that management of the property be flexible such that the slaughterhouse and meat processing plant can be constructed and operated independently or jointly. In this regard, the properties could be leased independently or combined into one lot or reconfigured into two separate lots by resubdivision. The intent is to provide for maximum flexibility to meet necessary phasing and financing schemes.

2.2.3 Slaughterhouse

The new slaughterhouse is proposed to operate at approximately the same capacity as the existing temporary facility at Honouliuli. It is anticipated that the maximum capacity will be up to 40 head of cattle and 200 hogs per day. The facility will require construction of a building of approximately 7,000 sq. ft. with a 5,000 sq. ft. animal holding pen.

Animals will be delivered in bulk trailers designed for animal transport. The trailer capacity is 40 head of cattle or 115 hogs per trailer. The current average delivery is 40 cattle per week and 345 hogs per week. Note that for cattle, the delivery currently is 40 per week but the intended slaughter capacity is 40 per day. The maximum number of animals in the holding pen at a given time will be about 100. Depending on the variation of market demand, animals may be kept in the holding pen up to one week.

Based on present operations, animals will be delivered at around 9:00 a.m. and placed in a holding pen. Slaughtering will occur at night. The work shift starts at 4:00 p.m. and ends at 1:00 a.m. The slaughtering operation will be performed using humane methods approved and inspected by the United States Department of Agriculture (USDA). Carcasses will be chilled overnight or shipped "hot" to local markets. Deliveries, particularly the "hot pork", will be made in the

morning. Chilled carcasses will be shipped to local markets or transported to the meat processing plant.

2.2.4 Meat Processing Plant

The existing processing plant is located at 2656 Waiwai Loop, in Honolulu. Palama Meat Company is proposing to move its operations to the Campbell Industrial Park site to take advantage of the opportunity to invest in upgraded facilities. The proposed meat processing plant will be housed within an 80,000 sq. ft. building.

Palama Meat Company currently employs about 200 people that work in shifts, including 25 outside sales persons. One shift of 25 employees works from 4:00 a.m. until 12:00 noon. Another shift of 75 employees start at 6:00 a.m. and finish at 3:00 p.m. The night shift of 75 employees work from 8:00 p.m. until 4:00 a.m.

2.2.5 Animal Process Waste Treatment and Disposal

Waste Composition/Characteristics

Solid and liquid wastes will be generated from both the slaughtering and meat processing operations (see **Figure 4**).

Slaughterhouse wastewater characteristics are summarized in **Table 2**. The characteristics of wastewater generated by meat processing plant operations are shown in **Table 3**.

Non-edible solids and grease from the slaughtering and processing operations will be collected and exported to the adjacent rendering plant (TMK: 9-1-31:37).

Wastewater Treatment

Treatment of process wastewater generated by the project will be accomplished by an onsite system. The wastewater treatment system will be sized for 87,000 gallons per day. Treatment units will fundamentally include preliminary treatment (solids removal), aerobic treatment, secondary settling and disinfection. The recommendation is for two parallel aerated lagoons for biological treatment by the aerobic suspended growth process; secondary settling pond; and hypochlorite disinfection. The wastewater treatment system will encompass an area of 1.5 acres within TMK: 9-1-31:25. Refer to **Figure 5** for a schematic flow chart of the wastewater treatment process.

The aerated lagoons will each encompass 0.5 acre with a depth of six feet. The lagoons will be lined with an impervious material-- typically a flexible membrane, concrete or compacted bentonite. The bottom of the lagoons will not extend into the groundwater. The secondary settling pond will encompass an area of 4,000 square feet and a depth of six feet. The pond will also be lined with an impervious material. Both the aerated lagoons and secondary settling pond will be designed initially with adequate freeboard to provide 10 days of emergency storage in the

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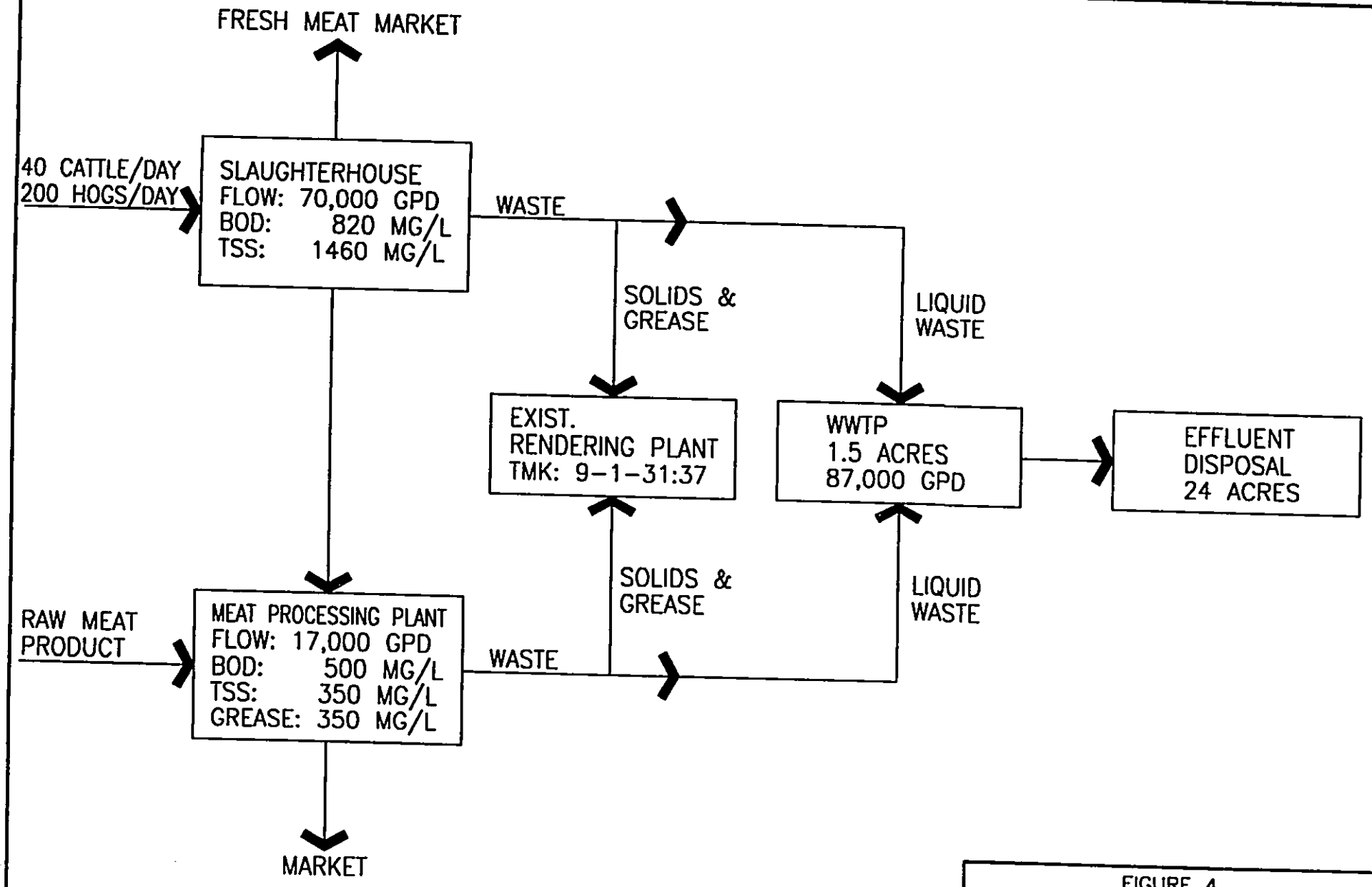

FIGURE 4

WASTE GENERATION AND MANAGEMENT

TABLE 2
SLAUGHTERHOUSE WASTEWATER CHARACTERISTICS

Parameter	Range	Average
BOD, mg/l	135-1350	820
Suspended Solids, mg/l	76-2495	1460
Organic Nitrogen, mg/l	2-150	70
Ammonia Nitrogen, mg/l	4.2-69	34
Grease, mg/l	--	--
Chlorides	139-1550	760
pH	5.34-7.01	6.34
TCOD	256-6116	2100
SCOD	82.6-777	340
Phosphorus, mg $P\text{-}PO_4$/l	7.6-56	27
Total Alkalinity	35-382	65
Flow (m^3/1000 kg live wt.)	13.9-20.8	--

Reference: J. Tao et al, University of Hawaii (1996)

TABLE 3
MEAT PROCESSING PLANT WASTEWATER CHARACTERISTICS

Parameter	Average
BOD, mg/l	500
Suspended Solids, mg/l	350
Grease, mg/l	350
Flow (gpd)	17,000

Reference: Palama Meat Company (July 20, 1998)

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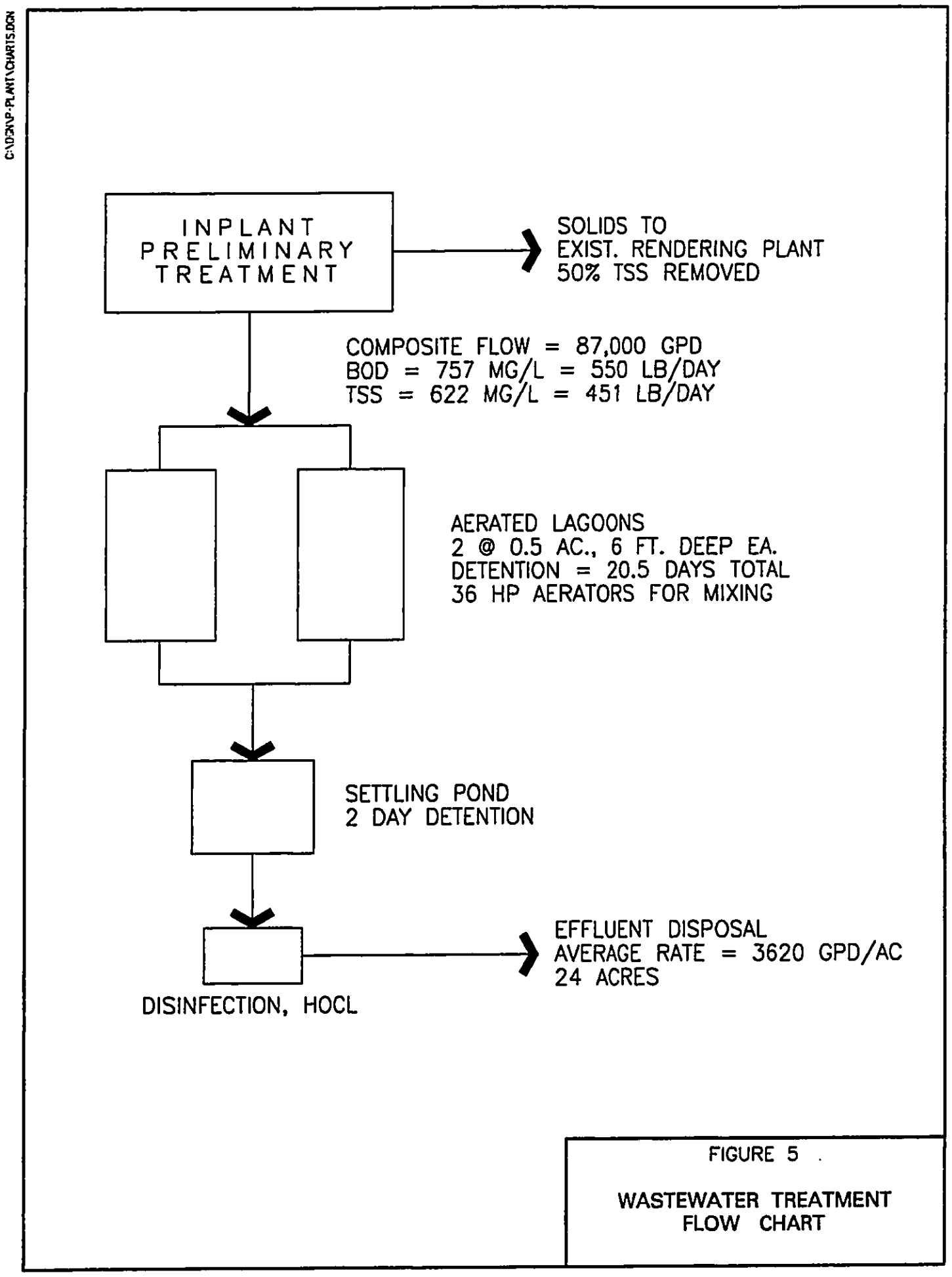

FIGURE 5 .

WASTEWATER TREATMENT
FLOW CHART

event effluent disposal by irrigation is temporarily suspended. Additional storage can be incorporated later as shallow ponds, if needed. There is sufficient land available to do that.

The alternatives for aerobic treatment are activated sludge units, oxidation ponds, or constructed wetlands, which can add to or replace the recommended aerated lagoons. The choice can be made in the design phase based on detailed evaluation of cost-effectiveness. It is emphasized that the recommendation is fundamentally for aerobic treatment units.

Solids recovered from the preliminary treatment process will be collected and exported to the adjacent rendering plant.

Effluent Characteristics

Onsite wastewater treatment is anticipated to remove 85 percent of the BOD and total suspended solids, and 20 percent of total nitrogen. The soil media and forage crop will remove the remainder of the constituents. The conservative elements such as chlorides and other minerals will remain.

Effluent Disposal

Effluent disposal will be accomplished by low impact sprinkler irrigation. The design intent is to minimize drift outside of the project boundary. An area of approximately 24 acres within TMK: 9-1-31:1 will be required to accommodate effluent. The land area required will depend on the evapotranspiration rate which varies seasonally and from year to year. An average irrigation rate of 3,620 gallons per day per acre is anticipated. Californiagrass or other forage crop could be grown within the effluent disposal area and probably grazed by animals prior to slaughter. Otherwise, crops must be harvested mechanically.

Effluent irrigation may be temporarily suspended due to inclement weather, treatment upset, power failure or other means. During these periods, wastewater will be stored within the treatment plant lagoons and pond. In the case of power outage, operations will cease and no wastewater will be generated.

2.2.6 Domestic Wastewater Treatment and Disposal

Domestic wastewater will be treated separately. Domestic sewage, mainly from toilet wastes, will be treated in onsite septic tanks or other disbursed anaerobic systems. Effluent from the treatment units will be conveyed to subsurface leaching fields for disposal. Domestic wastewater generation rates are estimated to be:

Facility	Employees		Domestic wastewater (gpd)
Slaughterhouse	22	x 35 gpd/person	770
Meat Processing Plant	175	x 35 gpd/person	6,125
Total	197 employees		Total 6,895 gpd

There is sufficient land available onsite for leaching fields within TMK: 9-1-31:1.

2.2.7 Site Improvements

Prior to construction of the proposed facilities, the following site improvements will be required:

Demolition of existing structures, originally built in 1965 by Hawaii Meat Company. Presently, TMK: 9-1-31:25 contains the following vacant buildings/facilities: administration/offices; general storage warehouse; animal feed processing mill; and livestock scales. These structures will be demolished if not renovated for reuse. In addition, TMK: 9-1-31:1 contains the abandoned feedlot pens. These pens will be removed in the area designated for wastewater effluent disposal if not used for any purpose.

Clearing and grubbing the land of shrubs and grass. The project site will be cleared and grubbed prior to grading. All vegetation and debris will be transported offsite for disposal at appropriate facilities.

Seeding the land. Portions of the project site will be prepared and seeded with suitable grasses for cattle grazing.

2.2.8 Utility Infrastructure

Construction of utility infrastructure, including onsite roads, potable water, sanitary sewers, storm drainage system, electrical power and telephone service will be required to support development of the slaughterhouse and meat processing plant.

2.3 PROJECT SCHEDULE AND CONSTRUCTION COST

The project schedule anticipated is phased construction over a three-year period for full build out. The approximate cost of the project is $12 million, of which $10 million is authorized for special purpose revenue bonds.

CHAPTER 3
DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 PHYSICAL ENVIRONMENT

3.1.1 Regional Context

The project site is located in Campbell Industrial Park in the Ewa plain. The industrial park is zoned for noxious industries, away from residential and urban areas. Moreover, the industrial park is located in the region designated as the "second city" according to city and state policies. Future growth on Oahu is directed to this region, away from urban Honolulu and windward Oahu where the infrastructure is either already burdened to its limits or where the environment is sensitive to further growth. The legislative policy of Act 148, 1998, of locating the slaughterhouse and meat processing plant at the Campbell Industrial Park site is in keeping with prior policy decisions on directing growth on Oahu.

3.1.2 Climate

The project site is in the arid leeward side of the island. Mean rainfall recorded at station 702.2, located about seven miles away at the same elevation as the project site, is 21 inches/year from 33 years of record. The corresponding mean annual evaporation is 91 inches. The average monthly minimum temperature is 61.6 degrees F in January and average monthly maximum temperature is 87.9 degrees F in August (Ewa Plantation 741).

3.1.3 Geology and Hydrogeology

The project site is on the Ewa plain, which is typically flat and of calcareous substrata. The elevation of the project site ranges from about 10 feet at Olai Street to 8 feet on the ocean side.

Sedimentary strata grew sequentially over geologic times, covering the Koolau and Waianae volcanic formations. These strata are called "caprock". The Ewa plain sits on caprock which serves as a physical barrier to the potable basal groundwater. The caprock occurs as a wedge starting several miles inland and increasing in thickness seaward to about 1,000 feet at the coastline near Iroquois Point. The lowest stratum in the caprock is composed of muddy sediments, which is poorly permeable, and serves as a hydraulic barrier to the basal aquifer. In contrast, the topmost stratum is composed of relatively clean fossil reef limestone and is highly permeable to groundwater flow.

In between are several layers which are often described by geologists and groundwater modelers in complex terms.

The usual and simpler reference is to two groundwater aquifers in the region. Groundwater that is identified with the volcanic formation is called basal water, and that identified with the sedimentary deposits is called caprock water. The depth to groundwater ranges from 8 to 10 feet at the project site.

The quality of groundwater in the caprock aquifer has been influenced by the extensive sugar cane cultivation that occurred in the Ewa Plain between 1930 and 1994. Irrigation water imported to the region from basal aquifers (Koolau and Waianae) resulted in irrigation return flows as high as 32 mgd.

Campbell Industrial Park is situated in the Malakole sector of the Ewa plain as defined by George A. L. Yuen & Associates, Inc. in their report to the State Commission on Water Resource Management (CWRM).[1] The CWRM has divided the hydrogeology of the Ewa plain into five sectors for management purposes: Honouliuli, Puuloa, Kapolei, Barbers Point Naval Air Station (BPNAS) and Malakole. Boundaries of these sectors are indicated on **Figure 6**. Hydrogeologic data compiled for these sectors is summarized in **Table 4**. Groundwater pumpage from the Malakole sector is for cooling water and not for landscape irrigation as in the other sectors.

3.1.4 Flood and Tsunami Hazards

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located within Zone D, areas in which flood hazards are undetermined (see **Figure 7**).

The project site is situated within the tsunami evacuation area as indicated on the Civil Defense Tsunami Evacuation Oahu Map 17: Kahe Point to Ewa Beach (**Figure 8**).

3.1.5 Flora and Fauna

The project site is over grown with weeds and shrubs that have grown over after cessation of the feedlot operation. The plants are typical of weeds and shrubs in the arid Ewa plain area.

3.1.6 Archaeological and Historic Resources

There were no archaeological or historic resources identified prior to construction of feedlot and milling operations in 1965. There has been no recorded use of the land since it was purchased by James Campbell in 1890 and leased to Hawaii Meat Company in 1963.

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[1]George A.L. Yuen & Associates, Inc.

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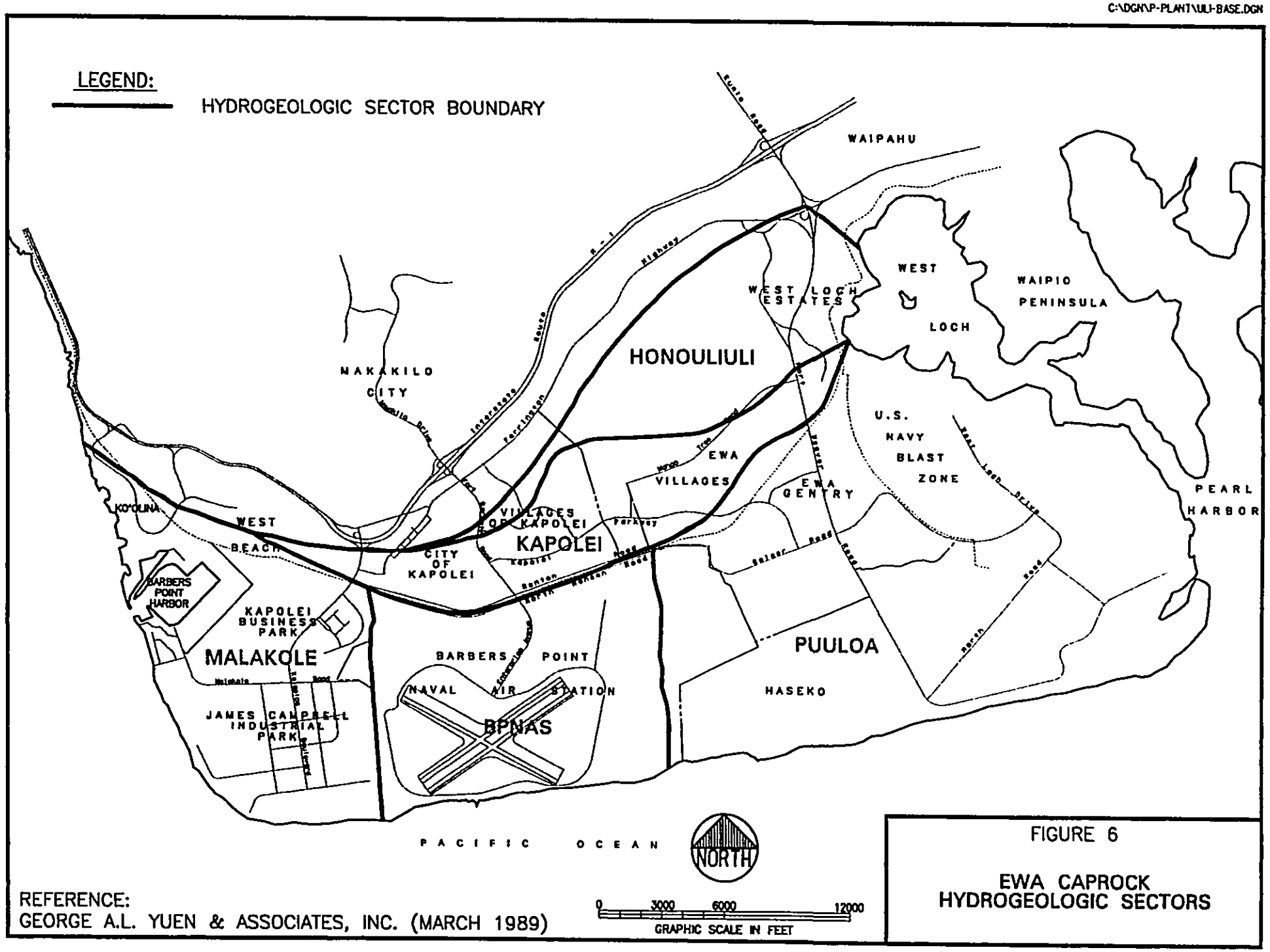


REFERENCE:
GEORGE A.L. YUEN & ASSOCIATES, INC. (MARCH 1989)

FIGURE 6

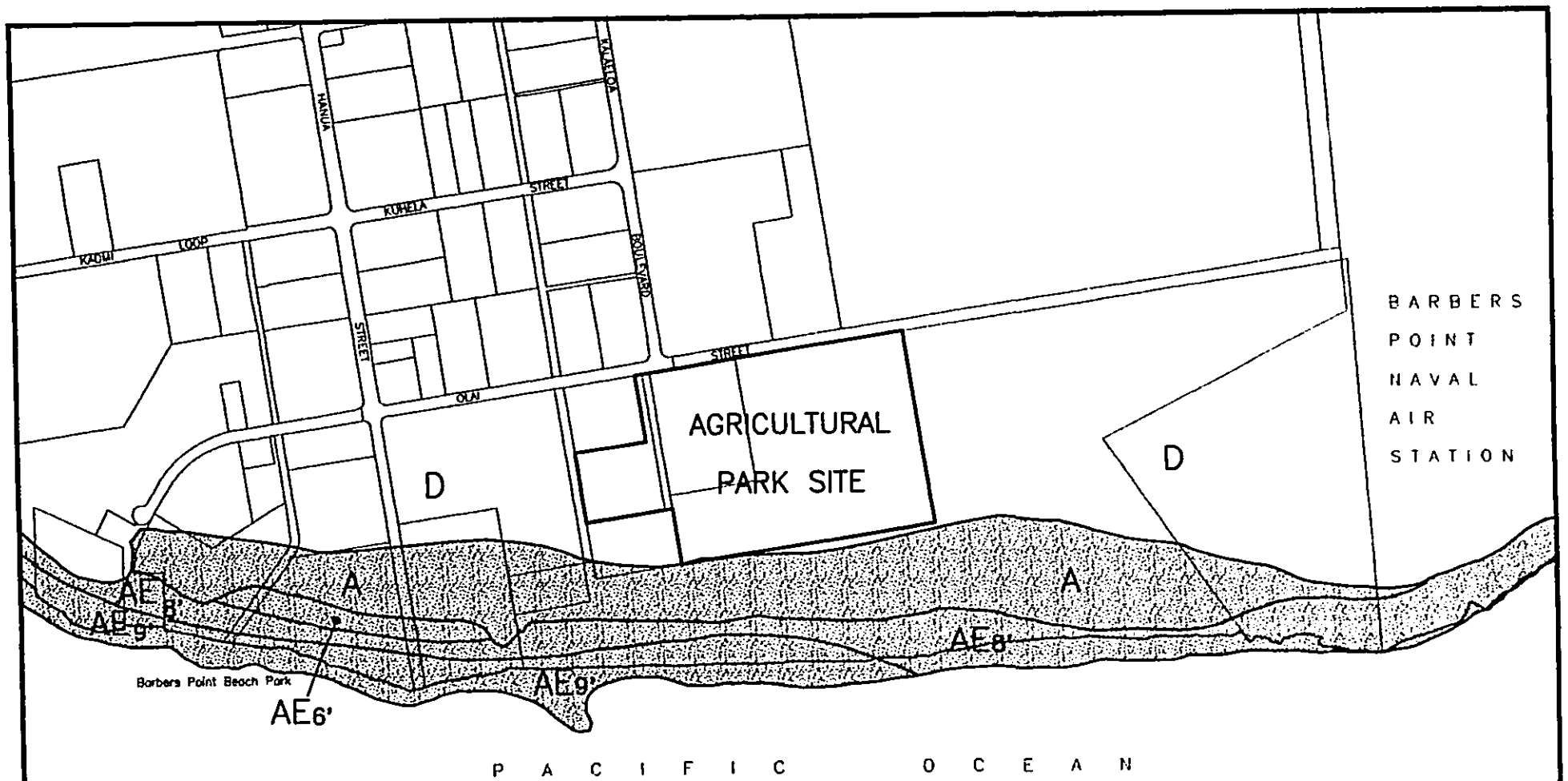
EWA CAPROCK
HYDROGEOLOGIC SECTORS

TABLE 4
EWA PLAIN HYDROGEOLOGIC DATA

Aquifer Sector	Area (sq.mi.)	Rain Recharge (mgd)	1989 Sustainable Yield (mgd)	Groundwater Chlorides (mg/l)	Groundwater Gradient (ft/mi)
Puuloa-Honouliuli	15.5	4	10 to 15	500 to 1,000	2.1
Kapolei-BPNAS	7.6	1.5	5	500 to 1,000	2.1
Malakole	5.3	1	<1	>>1,000	<<2

Reference: George A.L. Yuen & Associates, Inc.

C:\DGN\P-PLANT\FLOODMAP.DGN



	Special Flood Hazard Areas Inundated by 100-Year Flood
ZONE A	No Base Flood Elevations Determined
ZONE AE	Base Flood Elevations Determined
ZONE D	Areas in Which Flood Hazards are Undetermined

NORTH

0 200 400 600 800 1600
GRAPHIC SCALE IN FEET

REFERENCE:
FEMA FLOOD INSURANCE RATE MAP
COMMUNITY-PANEL No. 1500010130C
REVISED 9/28/90

FIGURE 7

FLOOD HAZARD MAP

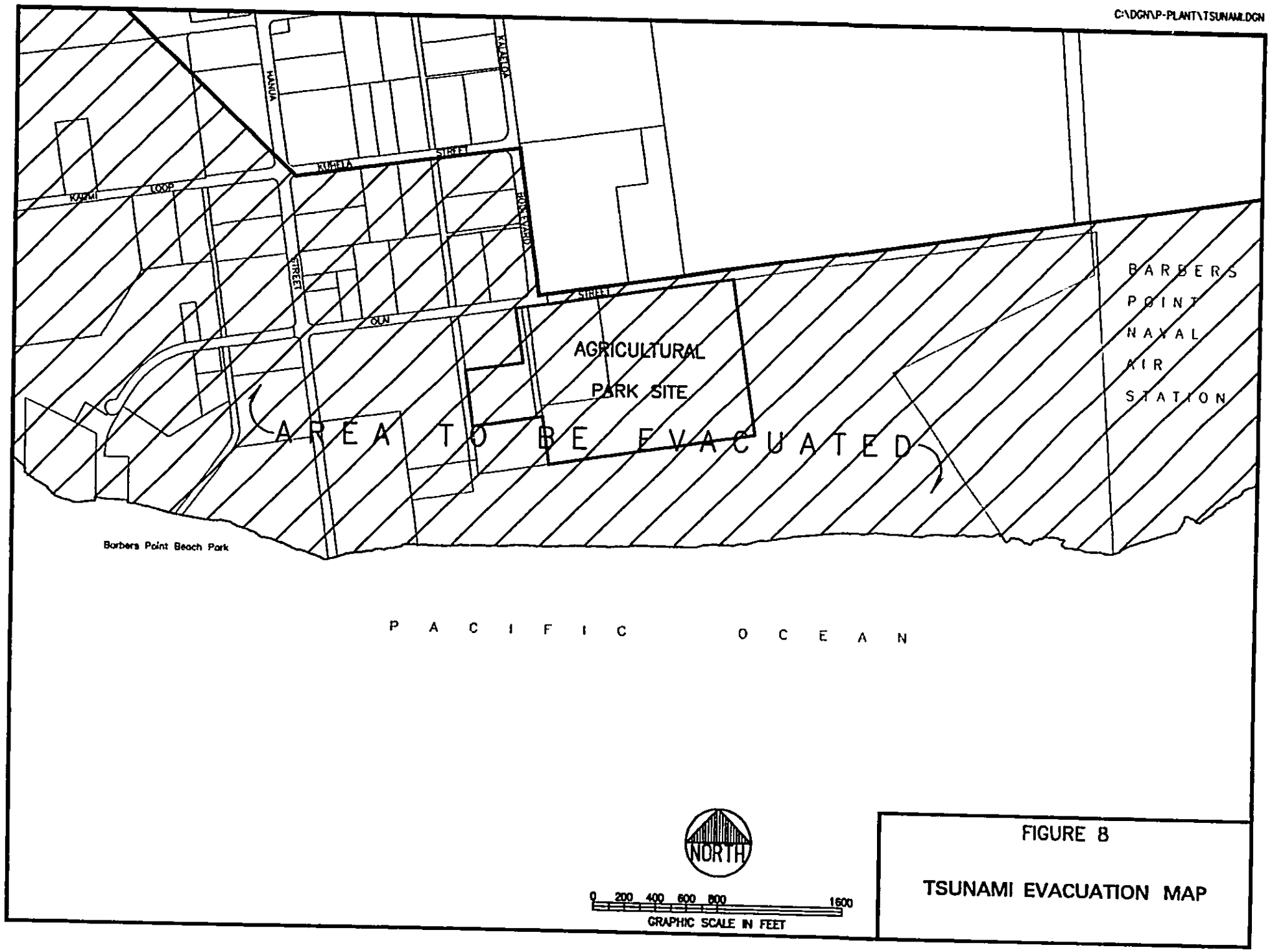


FIGURE 8

TSUNAMI EVACUATION MAP

3.1.7 Air Quality

The project site is currently vacant. However, the existing rendering plant operates on an adjoining property. Odor from the rendering plant has been noticeable and objectionable at times according to observations by Campbell Estate staff. Prior to 1991 when the feedlot was in operation, odors were also noticeable especially when kona winds prevailed. The neighboring Kalaeloa Co-generation Power Plant has stack emissions. Annual average wind frequency for the leeward side of Oahu is presented on **Figure 9**.

3.1.8 Noise

The project site is located within an industrial area where noise is part of the operation and generally contained by enclosures. Noise concerns are not considered to be a problem.

3.2 SOCIOECONOMIC ENVIRONMENT

The project site is located within Campbell Industrial Park. Neighboring businesses include oil refineries, power plants, warehouses, manufacturers of construction materials, and other highly industrial operations.

3.2.1 State Land Use Designation

The project site is located within the Urban District (see **Figure 10**) according to the State Land Use District Boundary Map O-6 (Ewa Quadrangle).

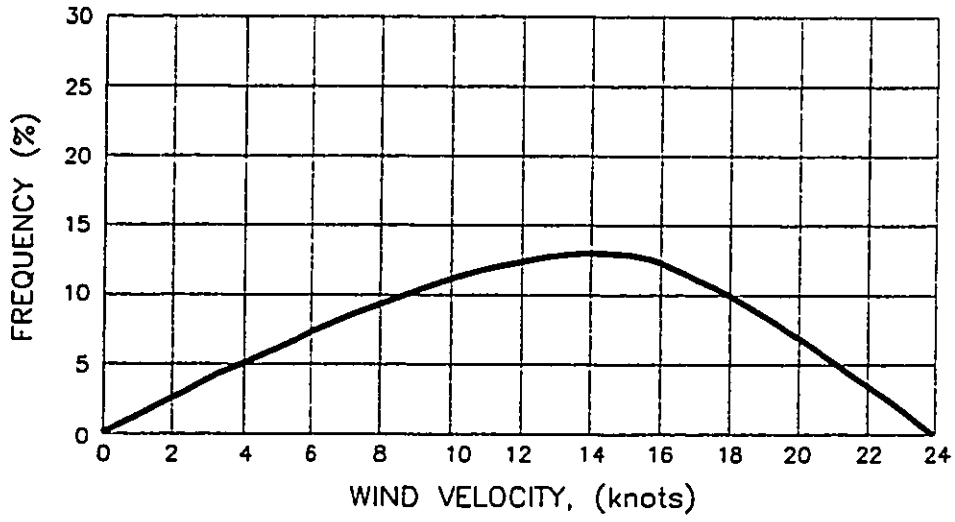
3.2.2 Zoning Designation

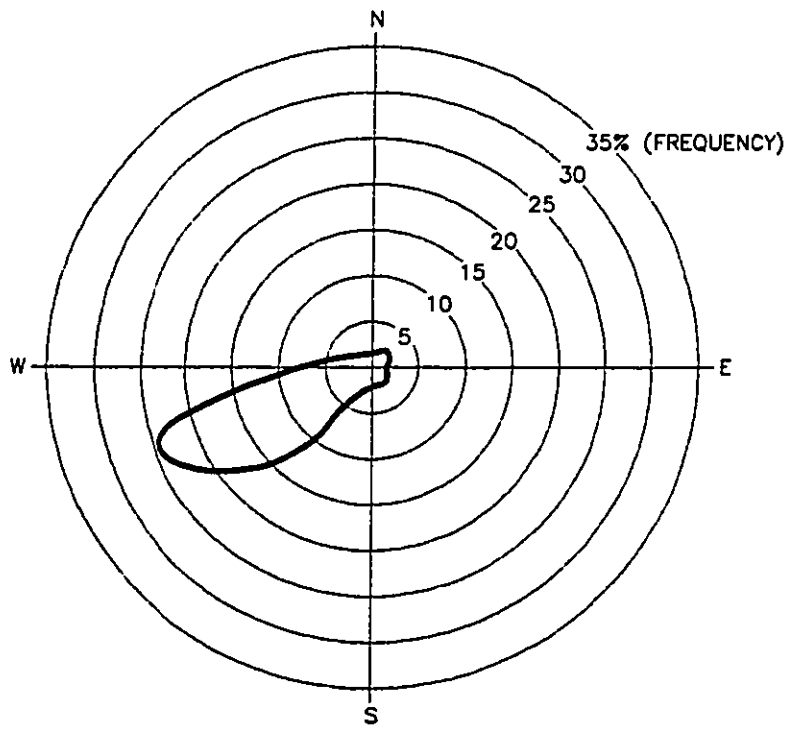
The project site is located within an area zoned I-2, Intensive Industrial, according to Zoning Map No. 14 (Barbers Point - Kahe - Nanakuli). Refer to **Figure 11** for the City and County of Honolulu zoning designations in the project vicinity.

3.2.3 Special Management Area

The project site is situated in an area just inland (mauka) of the special management area (SMA) boundary as designated on the City and County of Honolulu Department of Planning and Permitting (see **Figure 12**). The SMA boundary is situated approximately 1,000 feet seaward (makai) of Olai Street. The proposed project will not extend within the SMA limits.

C:\DGN\P-PLANT\WINDDIA.DGN

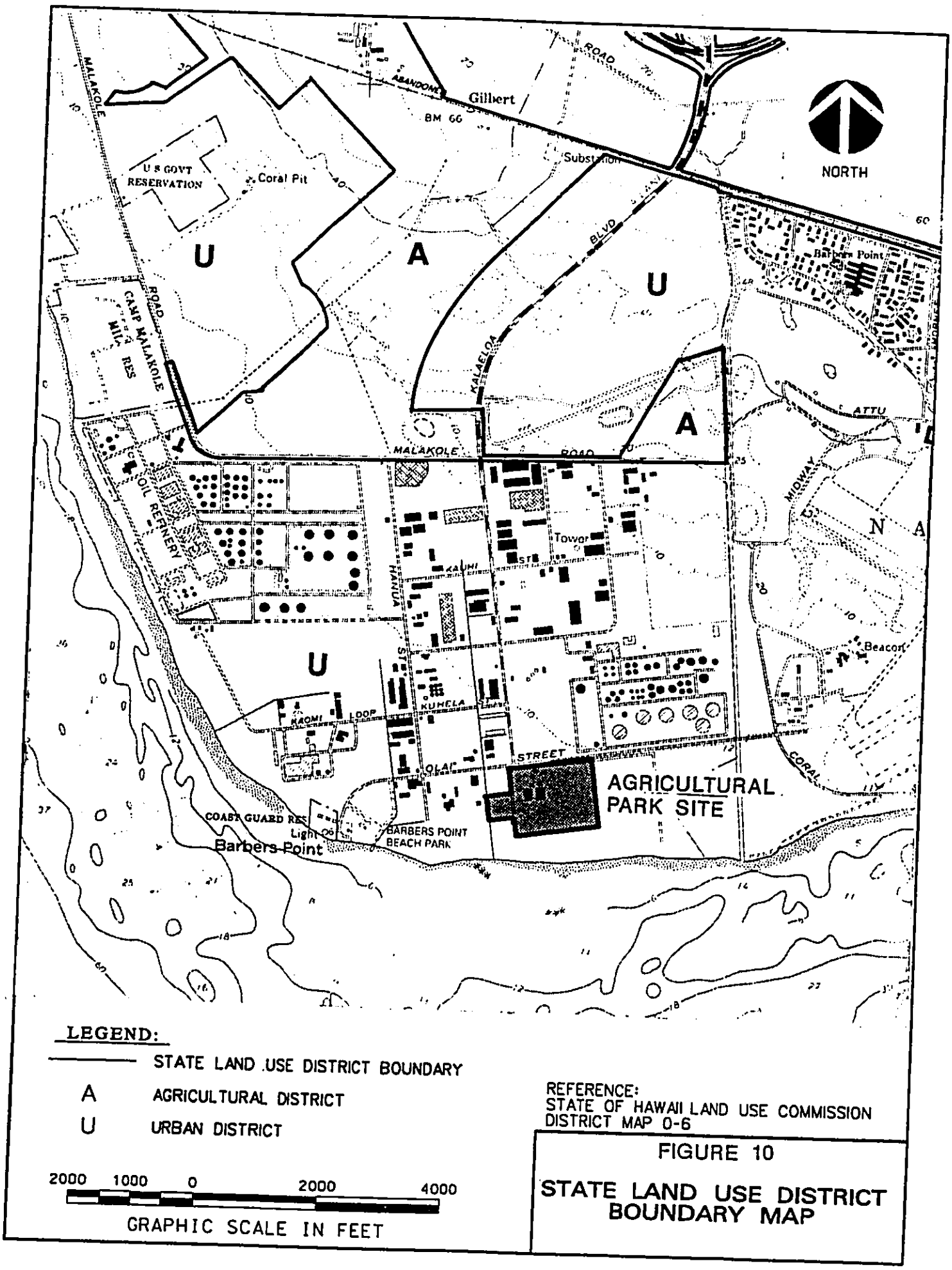




REFERENCE:
WATER QUALITY PROGRAM FOR OAHU (FEB. 1972)

FIGURE 9

ANNUAL AVERAGE WIND FREQUENCY DIAGRAM LEEWARD SIDE OF OAHU (1951–1960)



LEGEND:

——— STATE LAND USE DISTRICT BOUNDARY

A AGRICULTURAL DISTRICT

U URBAN DISTRICT

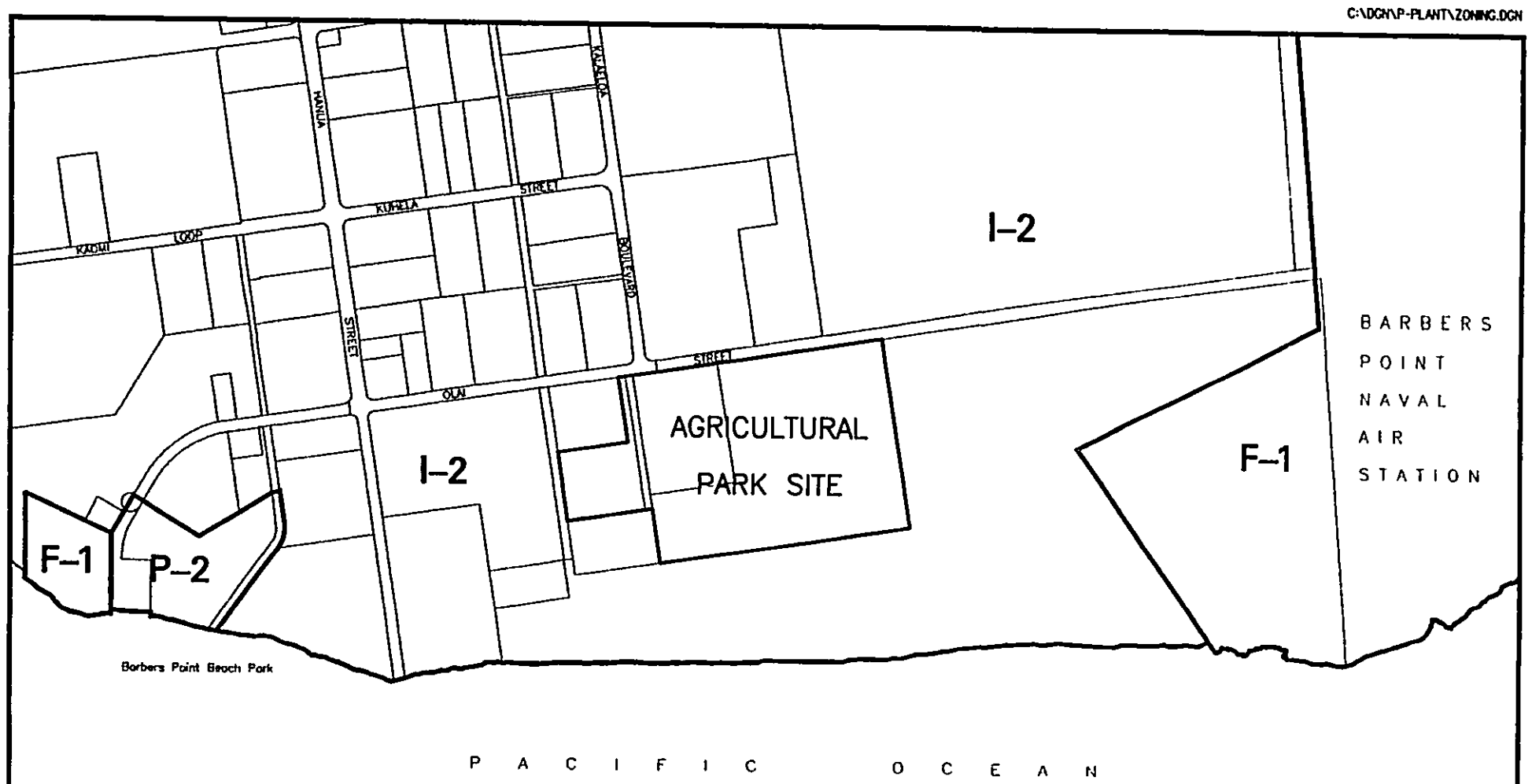
2000 1000 0 2000 4000

GRAPHIC SCALE IN FEET

REFERENCE:
STATE OF HAWAII LAND USE COMMISSION
DISTRICT MAP O-6

FIGURE 10

STATE LAND USE DISTRICT BOUNDARY MAP



LEGEND :

F-1 MILITARY & FEDERAL PRESERVATION ZONE

I-2 INTENSIVE INDUSTRIAL ZONE

P-2 GENERAL PRESERVATION ZONE

NORTH

0 200 400 600 800 1600

GRAPHIC SCALE IN FEET

REFERENCE:
CITY & CONTY OF HONOLULU ZONING MAP No. 14
BARBERS POINT-KAHE-NANAKULI

FIGURE 11

ZONING MAP

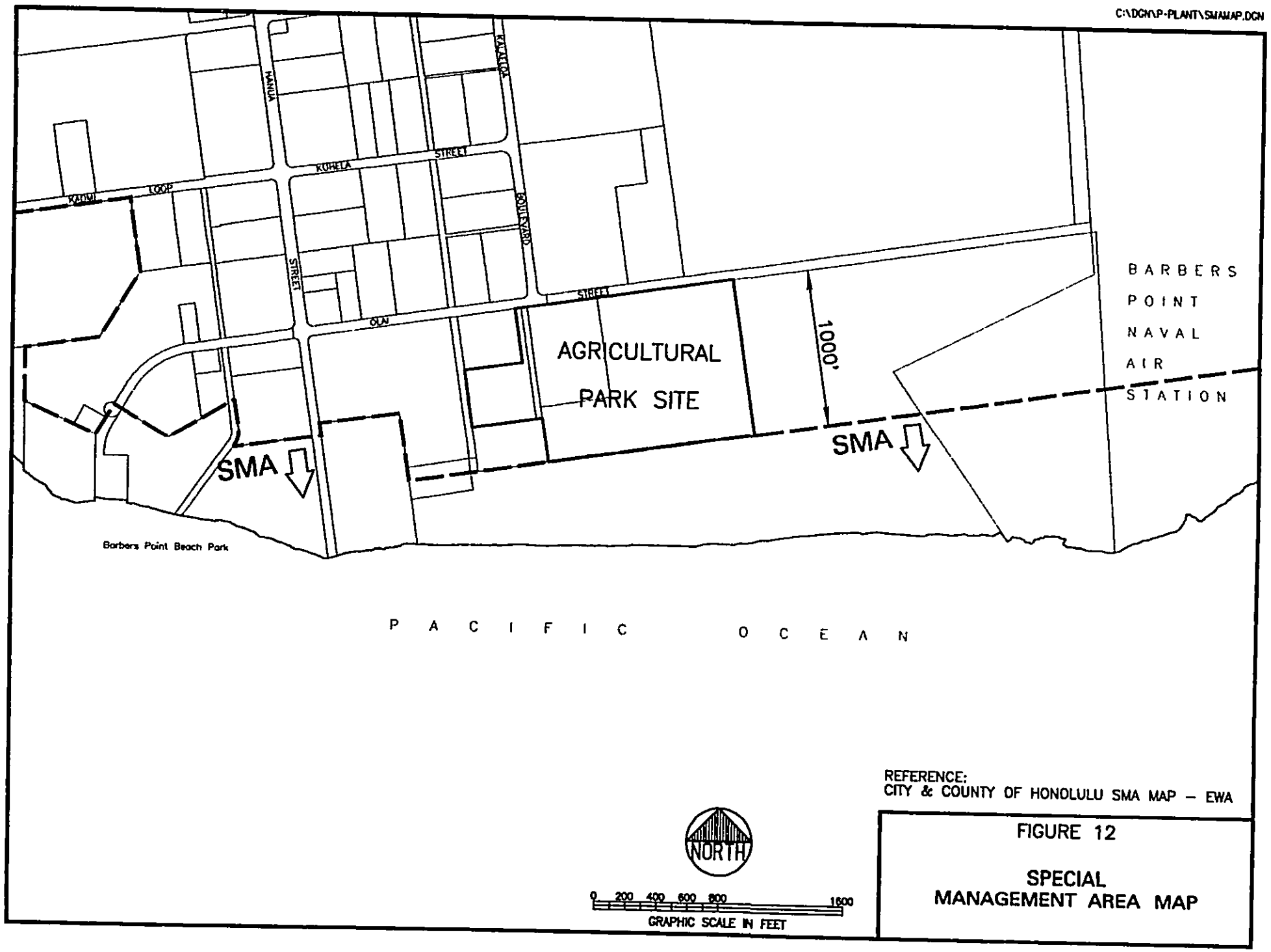


FIGURE 12

SPECIAL
MANAGEMENT AREA MAP

3.3 INFRASTRUCTURE

3.3.1 Roads

The project site is situated adjacent to Olai Street which is under jurisdiction of the City and County of Honolulu from Hanua Street to Kalaeloa Boulevard, fronting the project site access. Olai Street is privately owned beyond Kalaeloa Boulevard.

3.3.2 Drainage

Drainage ditches have been constructed within Campbell Industrial Park to channelize storm runoff to the ocean. The Estate of James Campbell has a 50-foot wide easement for a drainage ditch which terminates within TMK: 9-1-31:1 to the west of the project site. The ditch is usually blocked from the ocean by an earth berm created by sand and sediment deposits, causing storm runoff to percolate into the ground except during high peak flows that erode the berm and remove the obstruction to flow.

3.3.3 Water

Potable water service to the area is provided by the City and County of Honolulu Board of Water Supply. An existing 4-inch water meter serves the state-owned lands (TMK: 9-1-31:1, 25, 26 and 37), including the existing rendering plant.

3.3.4 Wastewater

There is no municipal sewer system in the vicinity of the project site. Businesses within Campbell Industrial Park rely on private, onsite wastewater disposal systems to serve their individual operations.

3.3.5 Electrical Power and Telephone Service

Electrical power and telephone service in the project vicinity is provided by Hawaiian Electric Company and GTE Hawaiian Telephone Company.

CHAPTER 4
POTENTIAL IMPACTS AND MITIGATION MEASURES

4.1 IMPACTS ON THE PHYSICAL ENVIRONMENT

4.1.1 Regional Impacts

The proposed project will result in relocation of existing operations from sites with already stressed infrastructure. The existing slaughterhouse is under temporary lease which is a disincentive for capital investment in environmental quality control. Palama Meat Company's processing plant is presently located within a congested urban area. Relocation of the meat processing plant will relieve traffic and other burdens at its existing site.

4.1.2 Soil Erosion

The potential for soil erosion will be a short term impact, limited to construction activities. Disturbance of pavement and existing vegetation during grading and trenching activities will result in bare ground with the potential for soil erosion. Upon completion of construction, soil erosion potential will revert back to pre-construction conditions due to paving, construction of buildings, and establishment of permanent vegetative ground cover.

Control measures will be implemented during construction to minimize soil erosion and offsite sediment transport. Erosion control plans will be prepared during the design phase and included in the construction documents. The erosion control plan will identify specific best management practices which will be employed to minimize erosion and sediment transport. These practices may include construction of temporary berms or swales to direct offsite runoff away from construction activities, and installation of a silt fence on the downstream side of the site to reduce offsite transport of sediment and construction debris.

4.1.3 Water Quality

The proposed project can achieve an almost zero-discharge state to the groundwater and coastal waters. Emissions from leakage are expected to be indistinguishable. Therefore, water quality impact should be indistinguishable.

The estimated groundwater gradient averages 2.1 feet per mile or 0.0004 ft/ft. The estimated hydraulic conductivity is 2,500 ft/day and effective porosity is 0.10.[1] Therefore, time of travel will be on the order of 10 feet per day according to Darcy's Law. The proposed boundaries of the

[1]George A.L. Yuen & Associates, Inc.

disposal ranges from 600 to 1,700 feet in the direction of flow to the coastline. Time of travel to the shoreline of any contaminants that actually reaches groundwater would be on the order of 60 to 170 days.

Impact of Nitrogenous Contaminants

Compared to emissions from existing conditions, the project is expected to have negligible effect. It should be noted that Campbell Industrial Park is served entirely by onsite waste disposal systems where emissions of nutrients, nitrogen in particular, seep into coastal waters virtually unabated. This has been the case with the entire Ewa Plain for decades when it was served by cesspools prior to the construction of the municipal sewerage system. There are parts of Ewa still on cesspools.

The outflow from caprock aquifer sectors for conditions that existed under sugar cane cultivation have been estimated to be 10-20 MGD from the Puuloa sector, and 6 MGD from BPNAS. Discharge from the Malakole sector is much less than the other areas.[2]

Nitrogen concentrations in caprock water was reported to be 2 to 5 mg/l as nitrogen, but more recent sampling by the City and County of Honolulu showed nitrogen values as high as 10 mg/l.[3] Given the estimated regional outflow to the coastal waters from the Ewa Plain that existed before, the potential contribution from this project to the coastal waters would be insignificant.

Moreover, the relevant parameter in the water quality standards is the classification of an open coast regime compared to embayments or inland waters. The standards take into account the parameters of time and concentration, or mass emissions, to the water body. This approach to water quality standards was started by the State Department of Health (DOH) in the later part of the 1970's.

In conclusion, water quality impacts will be controlled by limiting the mass emission rate. Uncontrolled leakage to groundwater would be inconsequential compared to the emissions that must be occurring from the onsite disposal systems for the entire industrial park. Moreover, this project is proposing to mitigate water quality impacts by achieving virtually a zero-discharge system in wastewater management.

Impact of Wastes Generated by Grazing Cattle

Cattle may be grazed in the wastewater effluent disposal area for feed and for harvesting forage crops. Environmental effects of grazing animals are dependent upon the intensity and duration of waste loads on the land. Manure deposited on the land undergo degradation naturally and nutrients released in the process are taken up by forage crops. Problems occur when animal

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[2]George A.L. Yuen & Associates, Inc.

[3]URS Grainer Woodward Clyde

densities are too high where the manure deposited on the land exceeds the capacity of the land to assimilate the nutrient load.

Consider the following. The former feedlot at the project site was designed to hold 14,000 head of cattle in an area of about 100 acres. Animal densities of more than 100 head per acre can cause problems without an engineered waste management system. Experience with pastureland grazing shows that a manageable density is close to 10 head/acre. For this project, the estimated maximum carrying capacity for grazing Californiagrass on the 24-acre irrigation area is four to five head per acre. The number of livestock anticipated and the area recommended for the forage crop are designed to be in balance for nutrient uptake by forage crops.

Compliance with CZM Coastal Ecosystem Objective and Policies

The Coastal Zone Management (CZM) coastal ecosystems objective as stated in Hawaii Revised Statutes, Chapter 205A is: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

Coastal ecosystem policies include:

(A) *Improve the technical basis for natural resource management;*
(B) *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
(C) *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
(D) *Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.*

The project will be in compliance with the coastal ecosystem objective and policies by achieving a nearly zero-discharge state to groundwater and coastal waters. Solids will be sent to the neighboring rendering plant for recovery as animal feed and other byproducts, and the liquid effluent will be consumed in crop irrigation. Leakage to groundwater may occur, but it is expected to be small and insignificant. The eventual seepage or leakages from the system into the coastal water will be virtually devoid of nutrients due to uptake by forage crops. In the unlikely event that water quality impact is discernable, leakage can be further reduced either by increasing storage volumes within the wastewater ponds to control effluent application rates, or by expanding the acreage of the irrigated area. Land is available.

4.1.4 Flood and Tsunami Hazards

The project site is not located within a flood hazard area; therefore, no impacts are anticipated due to flooding.

Lands within Campbell Industrial Park located on the seaward side of Kuhela and Olai Streets in the project vicinity are within an area designated for tsunami evacuation by State Civil Defense. The entire project area is located within the evacuation area. Employee education and an evacuation plan would need to be instituted at the facility to ensure awareness and public safety in the event an evacuation is required.

4.1.5 Archaeological and Historic Resources

In the unlikely event that historic sites, including human burials, are discovered during routine construction activities, all work in the vicinity will cease and the State Historic Preservation Division will be contacted for direction.

4.1.6 Fugitive Dust

During construction, generation of fugitive dust during demolition, earthmoving and other activities may result in a temporary impact on air quality. The contractor will be required to comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control", Section 11-60.1-33 on Fugitive Dust. To ensure compliance with DOH regulations, an effective dust control plan will be implemented during construction. Dust control measures may include watering the work area, use of wind screens, keeping the adjacent roadways clean, and covering open-bed trucks. Permanent paving and landscaping will be scheduled as soon as practical.

The contractor will also be required to employ the following mitigation measures, as requested by the DOH Clean Air Branch:

- planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and onsite vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;
- providing an adequate water source at the site prior to start-up of construction activities;
- landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
- controlling dust from shoulders, project entrances, and access roads; and
- providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities.

4.1.7 Odors

Long term impacts to air quality associated with the proposed project include generation of odors from portions of the operations that are open to the atmosphere. These operations include the animal holding pens and wastewater conveyance to aerobic treatment units. However, odors are anticipated to be localized onsite. Mitigation measures include implementation of good housekeeping practices or keeping the facility clean. In the case of the slaughterhouse, strict facility maintenance and sanitation operating procedures will be followed. These practices will be monitored and enforced by the United States Department of Agriculture (USDA) Food Safety Inspection Service, who will station an inspector at all times when the slaughterhouse is in operation. Should the facility fail to maintain sanitation standards, it will be shut down until corrective measures are taken.

Animals will be transported routinely to the site for slaughter and processing in trailers and trucks designed specifically for that purpose. Manure and other material will be contained on the vehicles. Odors will be noticeable to a person standing next to the vehicle, but not necessarily in passing traffic.

4.1.8 Aerosols

Irrigation systems that create aerosol drift will be avoided since they pose health risks to exposed people and usually consume more energy than necessary. Appropriate irrigation equipment under consideration are low impact sprinklers or even perforated pipes. The wind rose **(Figure 9)** indicates the typical predominance of the tradewinds which would cause aerosols, if any, to drift away from the public roadway most of the time. Sprinkler irrigation, if that is the choice of the operator, will be suspended when wind gusts occur in the northerly direction toward the public roadway.

4.1.9 Noise

Short term noise impacts may result from construction activities. However, adverse impacts from construction noise are not anticipated to affect public health and welfare due to the temporary nature of the work and the administrative controls in place for its regulation. To mitigate construction-related noise impacts, the contractor will be required to comply with Hawaii Administrative Rules Chapter 11-46 "Community Noise Control", and noise regulations of the City and County of Honolulu, including those specified in the grading permit.

Long term noise impacts due to operation of the proposed slaughter house and meat processing plant are not anticipated due to containment within enclosed structures. Moreover, the project site is relatively isolated from public exposure.

4.2 IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

The proposed project will provide for a USDA approved slaughtering and meat processing facility that would not otherwise available for the benefit of Oahu consumers. Without the project, dairy farmers would have no facility to send their culled cows and the "hot pork" market would not be afforded the public health protection of a USDA approved facility.

The proposed project will preserve existing jobs. However, many employees will be subject to longer commutes to and from the new Campbell Industrial Park location. Palama Meat Company plans to institute van pools for its employees in an effort to mitigate this impact.

4.3 IMPACTS ON UTILITY INFRASTRUCTURE

4.3.1 Roads and Traffic

The traffic impact from the proposed project should be insignificant to Campbell Industrial Park, while the associated relocation of existing facilities should relieve some of the traffic burden in urban Honolulu. Palama Meat Company is presently located at Waiwai Loop near the airport, an area which is presently congested. The proposed relocation is in line with city and state policies directing growth in the Ewa area to relieve burdens on traffic and other infrastructure. In addition, relocation of the slaughterhouse and meat processing plant adjacent to the existing rendering facility will further reduce existing traffic between the three operations.

The slaughterhouse operates mainly at night. Presently 18 employees work from 4 p.m. to 1:00 a.m., and four employees work from 6 a.m. to 2:30 p.m. Animals are transported mainly in trailers, with delivery of one trailer load of 40 cattle per day and a maximum of two trailer loads of hogs (115 head per trailer) per day. On the average, the current delivery is equivalent to three trailer loads per week, resulting in an insignificant traffic burden.

Meat processing occurs in shifts, as follows:

Shift	No. of Employees
4:00 a.m. - 12:00 p.m.	25
6:00 a.m. - 3:00 p.m.	75
8:00 p.m. - 4:00 a.m.	75

In addition, the facility employs 25 outside sales people who will not commute to the project site. Approximately 10 deliveries are made by truck per day. Larger shipments are made in containers at a rate of 100 per month. Traffic burden is not significant due to the shift work schedule and infrequent deliveries.

Adequate employee parking will be provided onsite to minimize on-street parking.

4.3.2 Drainage

Existing onsite drainage patterns will remain essentially the same. Storm runoff will flow generally from the Olai Street side of the property toward the ocean. The existing berm on the ocean side of the site will remain, providing a surface drainage barrier which enables runoff to percolate into the ground. Negative impacts associated with onsite drainage are not anticipated.

4.3.3 Water

Determination of the existing water allocation for the project site will be coordinated with the Board of Water Supply. Should the estimated water use rate of 100,000 gallons per day exceed the existing allocation, obtaining additional water allocation will be coordinated with the Department of Land and Natural Resources. Negative impacts to the water source or existing municipal water system infrastructure are not anticipated.

4.3.4 Wastewater

Domestic wastewater will be treated and disposed onsite by septic tanks and leaching fields in accordance with State Department of Health requirements.

Animal process waste will be treated by private onsite treatment system and disposed onsite by irrigation. Effluent irrigation is a viable disposal method where plant uptake is the primary consumptive use (assumed to be equal to the measured evaporation rate). At times when rainfall and irrigation are greater than evapotranspiration, excess effluent would be either stored or allowed to percolate into the ground.

The probability of monthly rainfall exceeding the evaporation rate was based on data gathered at station Honolulu Observatory 702.2 in Ewa Beach. The data was analyzed using a Monte Carlo technique and computer software. Based on the analysis, rainfall exceeds evaporation less than 30 percent of the time in November, December and January; and less than 5 percent of the time in October. The evaporation rate is greater than rainfall for the remaining months of the year.

Increasing or decreasing the irrigated area serves to increase or decrease the percolation rate respectively but not appreciably. Based on a 24-acre effluent irrigation area, annual recharge of 16,000 gpd would occur as irrigation return flow. Irrigation of Californiagrass will strip the effluent of nitrogen and other nutrients. Percolation and eventual seepage to the coastal waters will not have a discernable environmental effect.

4.3.5 Electrical Power and Telephone Service

Electrical power and telephone service for the project will be coordinated with Hawaiian Electric Company and GTE Hawaiian Telephone Company as planning and design of the project proceeds. Negative impacts to the existing utility infrastructure are not anticipated.

CHAPTER 5
ALTERNATIVES TO THE PROPOSED ACTION

The Nineteenth State Legislature declared the project to be in the public interest. The industry has had a long history of struggling with alternatives to remain economically viable.

The industry tried several alternatives, including maintaining the feedlot on the project site that existed from 1963 to 1991. Attempts were also made to ship animals to the island of Hawaii and the mainland for slaughter and processing. The dairy industry suffered from the lack of slaughtering facilities for their culled cows, and there was no alternative for the local "hot pork" market except under clandestine backyard operations that jeopardized the health and safety of consumers. The state legislature stepped in and supported the relocation of the slaughterhouse and processing plant to Campbell Industrial Park and authorized the use of special purpose revenue bonds for construction.

The "no action" alternative would result in cessation of livestock operations and associated diversified agriculture, with reliance on imported products. This action would be contrary to the legislative policy of Act 148, Nineteenth Legislature (1998).

CHAPTER 6
FINDINGS AND DETERMINATION

6.1 DETERMINATION

The State of Hawaii Department of Agriculture has concluded that the proposed project does not have the potential to generate significant environmental impacts, and the need to prepare an environmental impact statement is not evident. This Final Environmental Assessment is submitted with a Finding of No Significant Impact (FONSI) determination.

6.2 FINDINGS AND REASONS SUPPORTING DETERMINATION

The overall and cumulative effects of the proposed action were evaluated with respect to Hawaii Administrative Rules (HAR) Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-12 "Significance Criteria". The following findings and conclusions can be made in support of the FONSI determination.

(1) *The proposed action will not involve an irrevocable commitment to loss or destruction of any natural or cultural resource.*

The project site is located in an industrial area on the grounds of an abandoned cattle feedlot. There are no known structures of historic or cultural significance present at the project site.

(2) *The proposed action will not curtail the range of beneficial uses of the environment.*

Operation of a slaughterhouse and meat processing plant are consistent with the existing I-2 (Intensive Industrial) zoning designation for the property.

(3) *The proposed action will not conflict with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.*

Development of the proposed action will comply with the environmental policies, goals and guidelines expressed in Chapter 344, HRS.

(4) *The proposed action will not have a substantial negative effect on the economic or social welfare of the community or state.*

The proposed action will have a positive effect on the economy by preserving existing jobs which may otherwise be terminated upon closing of the temporary slaughterhouse and meat processing plant facilities. The positive economic effect will also extend to livestock operations statewide. In addition, the local consumer will be assured of a supply of fresh meat meeting the standards of quality and public health protection of the United States Department of Agriculture (USDA).

(5) *The proposed action will not have a substantial negative effect on public health.*

Construction activities may result in temporary generation of noise and dust. However, these impacts will subside upon completion of construction and there should be no long term effect on public health. The facility will be USDA approved, resulting in a positive long term impact on public health.

(6) *The proposed action will not involve substantial secondary impacts, such as population changes or effects on public facilities.*

The proposed project will replace the existing slaughterhouse and meat processing plant operating at temporary facilities at Fort Weaver Road and Waiwai Loop, respectively, thereby relieving the burdens on the infrastructure and environments at those localities.

(7) *The proposed action does not involve substantial degradation of environmental quality.*

The proposed action will be developed within an industrial park and will not impact previously undeveloped areas. Water quality impacts should be indistinguishable due to the proposed waste management system that is designed to achieve nearly zero-discharge condition to groundwater and coastal waters. Sufficient land is available to make it feasible.

(8) *The proposed action will not have a considerable cumulative effect upon the environment or involve a commitment for larger actions.*

Construction of the project will be phased over a three-year period or more, depending on economics. The operation is not expected to grow beyond current projections, and certainly not beyond the capacity of the land to sustain operations.

(9) *The proposed action will not substantially affect a rare, threatened, or endangered species or its habitat.*

There have been no endangered species or habitats identified within the project site or its immediate vicinity.

(10) *The proposed action will not detrimentally affect air or water quality or ambient noise levels.*

Air quality and ambient noise levels may be temporarily impacted during construction activities. However, these impacts will terminate upon completion of construction. Long term negative impacts are not anticipated. Generation of aerosols will be controlled by design and operation. Good housekeeping practices in compliance with USDA requirements will minimize generation of odors during operation. Waste management will achieve nearly zero-discharge to groundwater and coastal waters.

(11) *The proposed action will not affect, nor is it likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal water.*

The project site is located beyond the limits of coastal flooding defined by the Federal Emergency Management Agency Flood Insurance Rate Map. However, the site is located within a tsunami evacuation area as indicated on civil defense maps. This is a safety rather than water quality issue.

(12) *The proposed action will not substantially affect scenic vistas or viewplanes identified in county or state plans or studies.*

The project site is located within an industrial park. Scenic vistas or viewplanes will not be impacted.

(13) *The proposed action will not require substantial energy consumption.*

The meat processing plant is estimated to have an electric energy requirement of 480 volts, 3000 amps. The slaughterhouse is estimated to have an energy requirement of 480 volts, 1200 amps. This is routine in industrial application.

CHAPTER 7
CONSULTATION

This Final EA was prepared for Palama Meat Company, Inc. and the Hawaii Livestock Cooperative by James S. Kumagai, Ph.D., P.E.

7.1 PARTIES CONSULTED DURING PREPARATION OF THE DRAFT EA

The following agencies were contacted for pre-assessment consultation during preparation of the Draft EA.

7.1.1 State Government

Department of Agriculture
Department of Health

7.1.2 City and County Government

Board of Water Supply

7.1.3 Other Interested Parties

The Estate of James Campbell

7.2 PARTIES CONSULTED DURING PREPARATION OF THE FINAL EA

Thirty-three (33) copies of the Draft EA were mailed to agencies, organizations and other interested parties. A complete listing of these consulted parties is included in **Sections 7.2.1** through **7.2.4**.

Availability of the Draft EA was published in the November 8, 1998 edition of *The Environmental Notice* by the Office of Environmental Quality Control. A total of 19 comment letters were received as of December 24, 1998 (the public review period ended on December 8, 1998.) Agencies and organizations responding to the request for comments are marked with an asterisk (*) in the lists which follow.

7.2.1 State Government

State Legislature:
* Senator Brian Kanno, District 20
Senator James Aki, District 21
Senate Committee on Economic Development:
Senator Joe Tanaka, Co-Chair
Senator Brian Taniguchi, Co-Chair
Representative Michael Kahikina, District 43
House Agriculture Committee: Representative Merwyn Jones, Chair
Department of Agriculture
* Department of Business, Economic Development and Tourism: Office of Planning
* Department of Health, Environmental Planning Office
* Department of Land and Natural Resources
* State Historic Preservation Division
* Office of Environmental Quality Control
Office of Hawaiian Affairs
* University of Hawaii at Manoa, Environmental Center

7.2.2 City and County Government

* Board of Water Supply
* Department of Planning and Permitting
* Planning Department
* Department of Transportation Services

7.2.3 Other Interested Parties

* Hawaiian Electric Company, Inc.
* Makakilo/Honokai Hale/Kapolei Neighborhood Board No. 34
(Attn: Ms. Maeda Timson, Chairperson)
The Estate of James Campbell
Island Commodities Corp.
Ameron International Corp.
* Roscoe Moss Hawaii, Inc.
Kalaeloa Partners LP
Land O Lakes, Inc.
* Tesoro Hawaii Corporation
Bank of Hawaii c/o Special Assets 250
** Penny Ambler
* Barbers Point Naval Air Station Redevelopment Commission
* Sierra Club, Hawaii Chapter

7.2.4 Libraries

Ewa Beach Public and School Library

7.3 COMMENTS ON THE DRAFT EA

Comment letters received during public review of the Draft EA and responses prepared by the applicants have been included in **Appendix B**.

REFERENCES

Hawaii State, Department of Health, *Hawaii Administrative Rules*, "Chapter 42: Vehicular Noise Control for Oahu", October 24, 1981.

Hawaii State, Department of Health, *Hawaii Administrative Rules*, "Chapter 46: Community Noise Control", September 23, 1996.

Hawaii State, Department of Health, *Hawaii Administrative Rules*, "Chapter 60.1: Air Pollution Control", October 29, 1993.

Hawaii State, Department of Health, *Hawaii Administrative Rules*, "Chapter 200: Environmental Impact Statement Rules", August 20, 1996.

Hawaii State, Department of Health, Wastewater Branch, Planning and Design Section, *Farmers Livestock Cooperative Slaughter House Wastewater Treatment & Disposal Preliminary Engineering Report*, November 1997.

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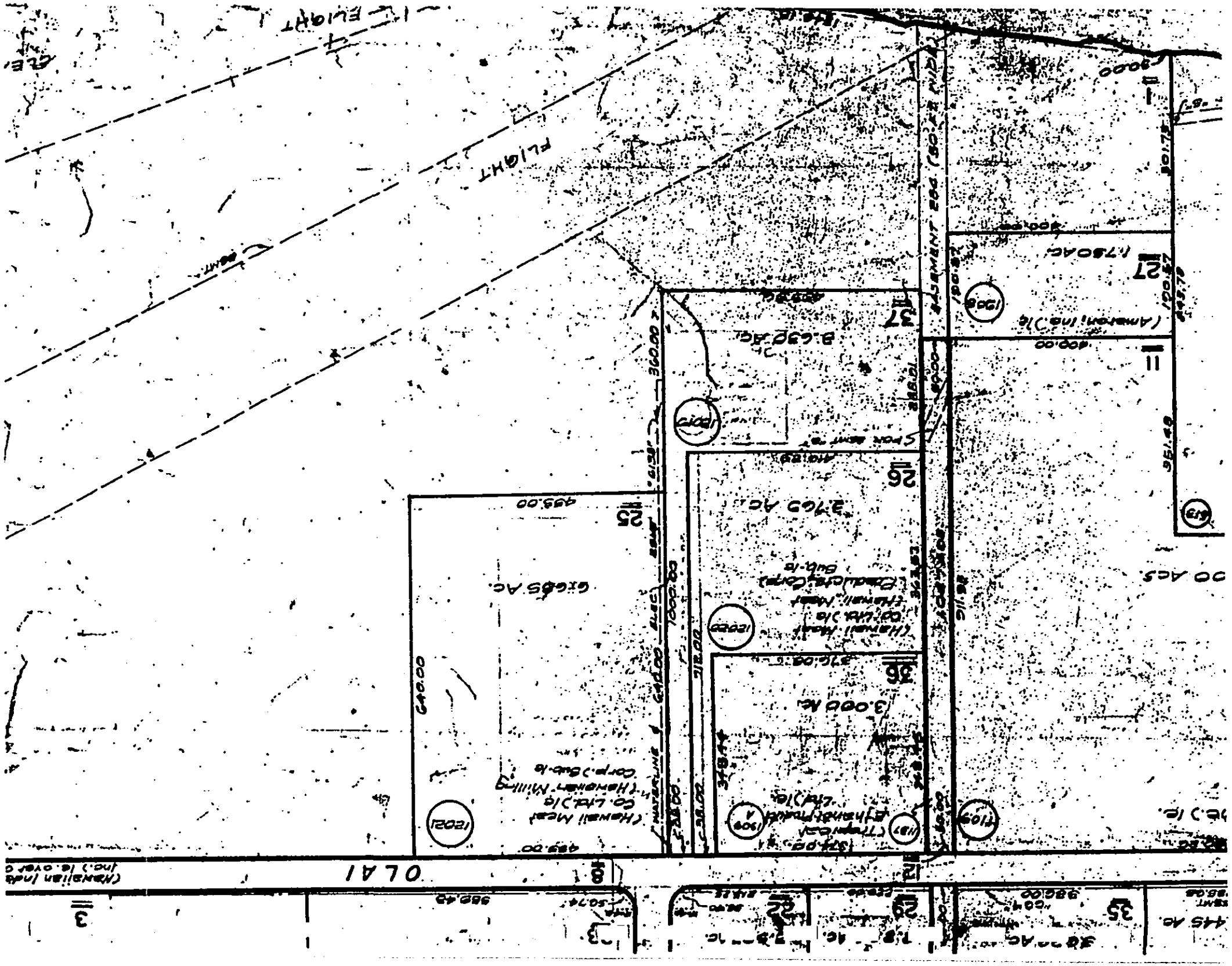
APPENDIX A

TMK Map 9-1-31



APPENDIX B

Draft EA Comments and Responses

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING
235 South Beretania Street, 6th Flr., Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

BENJAMIN J. CAYETANO
GOVERNOR
SELJI F. MAYA
DIRECTOR
BRADLEY J. MOSSMAN
DEPUTY DIRECTOR
RICK EGGED
DIRECTOR, OFFICE OF PLANNING

Tel.: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-7826

November 30, 1998

MEMORANDUM

TO: James J. Nakatani, Chair
Department of Agriculture

ATTN: Lance Yamamoto

FROM: Bradley J. Mossman
Director, Office of Planning

SUBJECT: Draft Environmental Assessment for Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant, Ewa, Oahu, Hawaii

The Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant project proposes to establish an agricultural park, construct and operate a slaughterhouse and a meat processing plant, and construct a wastewater treatment and disposal facility in Ewa, Oahu. We have the following comments.

Because of the potential impacts to coastal water quality, the environmental assessment should include an assessment of the project's compliance with the Coastal Zone Management (CZM) coastal ecosystem objective and policies of Chapter 205A, Hawaii Revised Statutes. In addition to drainage ditches and wastewater treatment and disposal facilities, it should also describe mitigation measures to control soil erosion and other polluted runoff during construction activities.

If there are any questions, please contact Steve Olive of our CZM Program at 587-2877.

cc: Office of Environmental Quality Control
Palama Meat Company, Inc.
Hawaii Livestock Cooperative
James S. Kumagai, Ph.D., P.E.

April 3, 1999

Mr. Bradley J. Mossman, Director
Office of Planning
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 30, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document and offer the following response to your comments.

1. *"Because of the potential impacts to coastal water quality, the environmental assessment should include an assessment of the project's compliance with the Coastal Zone Management (CZM) coastal ecosystem objective and policies of Chapter 205A, Hawaii Revised Statutes."*

   The Final EA will clarify the mitigating measures in the language of the CZM coastal ecosystem objectives and policies. The control and mitigating measures to the proposed project can come close to achieving a zero-discharge system. Solids will be sent to the neighboring rendering plant for recovery as animal feed and other byproducts, and the liquid effluent will be consumed in crop irrigation. Leakage to groundwater may occur, but is expected to be small and insignificant. The draft EA estimated that amount. Moreover, eventual seepage of leakages from the system into the coastal water will be virtually devoid of nutrients. They will be taken up by forage crop as fertilizer. In the unlikely event that water quality impact is discernible, the amount of leakage can be further reduced by including additional storage volumes into the wastewater treatment system to control application rates or expanding the irrigated area to include more acreage.

2. *"In addition to drainage ditches and wastewater treatment and disposal facilities, it should also describe mitigation measures to control soil erosion and other polluted runoff during construction activities."*

   Erosion and polluted runoff during construction will be effectively controlled as described in the EA. The area is flat, and there is a berm that was constructed along the

James S. Kumagai, PhD, P.E. Consulting Engineer, 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

shoreline edge of the property to retain storm water. This berm was probably constructed as part of the mitigating measure for runoff from the feedlot that was in operation earlier.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0907. FAX: 456-8006

The Senate
The Nineteenth Legislature
of the
State of Hawaii

STATE CAPITOL
HONOLULU, HAWAII 96813

December 7, 1998

Mr. James Nakamoi
Director, Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Nakamoi:

The purpose of this letter is to voice my concerns over the proposed slaughterhouse and meat processing plant as described in the Draft Environmental Assessment Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant, prepared by Engineering Concepts, Inc., on behalf of Palama Meat Company, Inc. and the Hawaii Livestock Cooperative.

The main concerns I have over the proposed slaughterhouse and meat processing plant are:

(1) The lack of opportunity for community input; and

(2) The use of ambiguous terms such as "best management practices" and "good housekeeping practices" when referring to mitigation measures to be used to minimize adverse environmental impacts.

With regard to item 1, the proposal for the slaughterhouse and meat processing plant was not broached to the community with sufficient notice for input.

With regard to item 2, the use of ambiguous terms such as "best management practices" and "good housekeeping practices" when referring to mitigation measures are not sufficiently descriptive to assure that the surrounding community will not be adversely affected by soil erosion, fugitive dust, waste stench, or even more importantly, the possibility of contaminated animal waste or by-products finding its way into groundwater into the area's aquifer system.

Until these concerns are addressed, I hope that your department will delay approval of the abovementioned project.

In closing, thank you for considering my concerns and the concerns of the community.

Sincerely,

Brian Kanno

BRIAN KANNO
Senator, Twentieth District

cc: Office of Environmental Quality Control
Palama Meat Company, Inc.
James S. Kumagai, Ph.D., P.E.

April 3, 1999

Senator Brian Kanno
State Capitol
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 7, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

(1) *"The lack of opportunity for community input;"*

The Draft EA is an integral part of the public participation process. It is a disclosure document inviting public comment on the slaughterhouse and meat processing plant that is being proposed for the Campbell Industrial Park site. The 30-day public comment period is a standard. The EA is not the end of the process. It is only the beginning. The project was presented to the Makakilo/Kapolei/Honokai Hale Neighborhood Board on February 17, 1999, and community members have been invited to visit the existing facility to get a first hand look at a slaughterhouse that is intended in the proposed site.

(2) *"The use of ambiguous terms such as 'best management practices' and 'good housekeeping practices' when referring to mitigation measures to be used to minimize adverse environmental impacts."*

You are correct. To the lay public it sounds ambiguous. However, these terms have specific meaning in federal regulations under the Clean Water Act. The terms have become the jargon of the trade. Best management practices have taken on the meaning of doing all that can be practically done in controlling emissions to the environment. Good housekeeping means to keep the place clean. In the case of the slaughterhouse, good housekeeping practices means that strict facility maintenance and sanitation operating procedures will be followed. These practices are monitored and enforced by the United States Department of Agriculture Food Safety Inspection Service, who will station an inspector at all times when the slaughterhouse is in operation. Should the plant fail to maintain sanitation standards, the plant will shutdown until corrective measures are taken. In addition, more specific description will be given in the Final EA with reference to soil erosion, odor control, and protection of the aquifer.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

LAWRENCE MIKE
DIRECTOR OF HEALTH

In reply, please refer to

RECEIVED
DEC 10 1998
ENGINEERING CONC...

December 8, 1998 98-241/epo

Mr. Lance Yamamoto
Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Yamamoto:

Subject: Draft Environmental Assessment (DEA)
Slaughterhouse and Meat Processing Plant
Barbers Point Agricultural Park
Ewa, Oahu
TMK: 9-1-31: 25, 26 & por. of 1 & 37

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Wastewater Branch

The project site is located in the Pass Zone, below the Underground Injection Control Line and in a Critical Wastewater Disposal Area as determined by the Oahu Wastewater Advisory Committee. No new cesspools will be allowed. In addition, we submit the following:

1. Page 1-2. The EA states that a "rendering plant that processes inedible meat products, animal parts, and grease from restaurants..." exists on an adjoining property. Figure 4, "Waste Generation and Management" does not show any liquid waste generated by this existing rendering plant. What is the amount of liquid waste generated in gallons per day by this operation? Our Wastewater Branch (WWB) has no knowledge of this wastewater source or processor.

2. Page 1-8. Table 1. Permits and Approvals. An approval to reuse the wastewater for irrigation purposes will be needed from the Department of Health's Wastewater Branch.

3. Page 2-2. Establishment of Long Term Lease. The DEA suggests that management of the property be flexible to allow the slaughterhouse and meat processing plant to be constructed and operated independently or jointly. Who will be responsible for the operation and maintenance of the wastewater treatment system and wastewater disposal if the slaughterhouse and meat processing plant are operated independently? This needs to be addressed.

4. Hawaii Administrative Rules (HAR), Chapter 11-62, "Wastewater Systems," defines an "individual wastewater system" as a facility designed to receive and dispose of no more than 1,000 gallons per day of domestic wastewater. The estimated domestic wastewater generation is 6,895 gpd. A single septic tank will not be allowed for handling the estimated amount of wastewater.

5. It is proposed that effluent disposal be accomplished by a low impact sprinkler system to irrigate California grass and other forage crops. Please specify the type of "low impact sprinkler" to be used. What is the height and spray coverage? One of the potential problems of spray irrigation is aerosol generation. The prevailing wind direction in the area needs to be provided and adjacent property uses described.

   For effluent disposal utilizing irrigation systems, operation and maintenance is critical to the success of the project. It appears that grazing will be minimal for this operation. Thus, California grass and other forage crops will need to be cut or harvested on a regular basis for nutrient uptake and reduction of effluent which will minimize the impacts to the nearby shoreline.

6. Page 4-4. The DEA stated that at times when rainfall and irrigation are greater than evapotranspiration, excess effluent would be stored or allowed to percolate into the ground. Over irrigation during wet weather is not considered a best management practice and may be considered a deliberate wastewater discharge to State waters or overflow to the ground. Therefore, storage of effluent must be considered and implemented as part of the system's design.

7. The DEA cited as a reference the Hawaii State Department of Health, Wastewater Branch, Planning and Design Section, Farmers and Livestock Cooperative Slaughterhouse Wastewater Treatment & Disposal Preliminary Engineering Report, November 1997. The report was prepared for the

'internal use' of the Chairperson of the House Agriculture Committee, Hawaii State Legislature and for Dr. Chin Lee of the University of Hawaii's College of Tropical Agriculture and Human Resources Extension Service (CTAHR). The purpose of the report was to help the farmers address the technical and economic feasibility of a wastewater treatment and disposal system for the Kahua slaughterhouse.

The information contained in the report is intended for such purposes only. Consultants are cautioned not to rely on the information contained in the report for design purposes. All information contained in the report should be independently verified.

Should you have any questions on these comments, please feel free to contact Mr. Tomas See of the WWB at 586-4294.

Clean Air Branch

The Clean Air Branch has some concerns in regard to nuisance odors which may come from sources such as animal holding pens, the wastes and by-products from the slaughtered animals and the meat processing plant, the wastewater conveyed to the aerobic treatment units, and the trailers and trucks that transport the animals and the non-edible solids and grease wastes generated from the plant operations. These concerns should be addressed appropriately in the final EA.

Although designated an industrial area, there is a significant potential for fugitive dust to be generated during the demolition of existing structures and the abandoned feedlot pens, during grubbing and grading, during seeding and landscaping, and during the construction of the facilities and supporting structures.

The Clean Air Branch has received numerous odor and fugitive dust complaints in the Campbell Industrial Park complex in the past. Most of these complaints occur during unfavorable weather conditions such as gusty winds from the south (Kona Winds). The close proximity to the ocean may compound dust problems since no natural or man-made features exist to lessen the impact of the wind. Implementation of adequate dust control measures during all phases of construction is warranted. Construction activities must comply with the provisions of Chapter 11-60.1, Hawaii Administrative Rules, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust.

The contractor should provide adequate measures to control dust from road areas and during the various phases of construction activities. These measures include, but are not limited to:

a. planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;

b. providing an adequate water source at site prior to start-up of construction activities;

c. landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

d. controlling of dust from shoulders, project entrances, and access roads; and

e. providing adequate dust-control measures during weekends, after hours, and prior to daily start-up of construction activities.

The Clean Air Branch issues permits for air pollution sources. If the slaughterhouse or the meat processing plant have any combustion sources, an air permit may be required.

If there are any questions regarding these issues, please contact the Clean Air Branch at 586-4200.

Water Pollution

1. The applicant should contact the Army Corps of Engineers to identify whether a federal permit (including a Department of Army permit) is required for this project. If a federal permit is required, then a Section 401 Water Quality Certification is required from the State Department of Health, Clean Water Branch.

2. A National Pollutant Discharge Elimination System (NPDES) general permit is required for the following discharges to waters of the State:

   a. Storm water discharges relating to construction activities, such as clearing, grading, and excavation, for projects equal to or greater than five acres;

   b. Storm water discharges from industrial activities;

c. Construction dewatering activities;

d. Noncontact cooling water discharges less than one million gallons per day;

e. Treated groundwater from underground storage tank remedial activities;

f. Hydrotesting water;

g. Treated effluent from petroleum bulk stations and terminals; and

h. Treated effluent from well drilling activities.

Any person requesting to be covered by a NPDES general permit for any of the above activities should file a Notice of Intent with the Department's Clean Water Branch at least 30 days prior to commencement of any discharge to waters of the State.

3. After construction of the proposed facility is completed, a NPDES individual permit will be required if the operation of the facility involves any wastewater discharge into State waters.

Any questions regarding these comments should be directed to Mr. Denis Lau, Branch Chief, Clean Water Branch at 586-4309.

Sincerely,

BRUCE S. ANDERSON, Ph.D.
Deputy Director for
Environmental Health

c: WWB
CAB
CWB
OEQC
Palama Meat Co.
HI Livestock Cooperative
Mr. James Kumagai

April 3, 1999

Mr. Bruce S. Anderson, Ph.D.
Deputy Director for Environmental Health
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 8, 1998 (98-241/epo). We appreciate your effort in reviewing and commenting on the document. We offer the following response to your comments.

Wastewater Branch

We acknowledge your statement that no new cesspools will be allowed at the site. We do not plan to use cesspools in the proposed facilities.

1. *You asked for the amount of liquid waste generated by the neighboring rendering plant in gallons per day. You have no record of discharges from the facility.*

   The rendering plant is not part of this project. That facility has been in operation since 1965 according to records available to us.

2. *"An approval to reuse wastewater for irrigation purposes will be needed..."*

   We acknowledge this requirement. The Final EA will list approval from the Department of Health Wastewater Branch as one of the permits required for implementation.

3. *"Who will be responsible for the operation and maintenance of the wastewater treatment system and wastewater disposal if the slaughterhouse and meat processing plant are operated independently?"*

   The operator of the slaughterhouse will be responsible for disposal of wastewater effluent as the larger of the two wastewater generators. In this case, the meat processing plant will at least pretreat its wastewater for solids and grease removal. Details on facilities and configuration will be determined in the design phase. Plans will be submitted to the Wastewater Branch for approval in accordance with your administrative rules.

James S. Kumagai, PhD, P.E. Consulting Engineer, 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507, FAX: 456-8008

4. *"The estimated domestic wastewater generation is 6,895 gpd. A single septic tank will not be allowed for handling the estimated amount of wastewater."*

   We acknowledge your comment. The project does not anticipate using a single septic tank for treatment of domestic wastewater generated at the proposed facility. In concept, the likely processes will include dispersed anaerobic systems with subsurface leaching fields.

5. *"Please specify the type of 'low impact sprinkler' to be used. What is the height and spray coverage?...The prevailing wind direction in the area needs to be provided and adjacent property uses described....It appears that grazing will be minimal for this operation. Thus, California grass and other forage crops will need to be cut or harvested on a regular basis for nutrient uptake and reduction of effluent which will minimize the impacts to the nearby shoreline."*

   Reference to low impact sprinklers is made here to indicate the intent of selecting low energy consuming facilities for cost control. For example, spray guns require high energy for effective areal coverage, but as you noted, they do indeed cause aerosol drift in high winds. Low energy systems will reduce operating cost while avoiding aerosol drift. The tradeoff is increased construction cost. The Final EA will include regional wind data to give designers constraints in the use of sprinklers and spray guns in the irrigation system.

   We concur that if grazing proves to be an insufficient harvesting technique, then the forage must be harvested manually or mechanically.

6. *"Over irrigation during wet weather is not considered a best management practice and may be considered a deliberate wastewater discharge to State waters or overflow to the ground. Therefore, storage of effluent must be considered and implemented as part of the system's design."*

   The Final EA will consider storage. Moreover, the farmer can follow a simple rule of not irrigating in the rain.

7. *The Draft EA cited the DOH report of November 1997. That report was prepared for internal use only and information contained should be independently verified.*

   The citation in the Draft EA acknowledges that work was done by DOH on the slaughterhouse wastewater management. Otherwise, the Draft EA reviewed and analyzed the project independently. Different conclusions were drawn on the treatment units and parameters. Hydrologic data from DOH were used, and they were verified to be consistent with other published data.

Clean Air Branch

1. The Final EA will include an expanded discussion of concerns regarding nuisance odors which may come from sources such as animal holding pens, wastes and by-products from slaughtered animals and meat processing, wastewater conveyed to the aerobic treatment units, and trailers and trucks that transport animals and non-edible solids and grease waste.

2. The Final EA will include a statement that construction activities will comply with the provisions of Chapter 11-60.1, HAR, "Air Pollution Control", Section 11-60.1-33 on Fugitive Dust. In addition, the following mitigation measures will be listed in the Final EA to control dust from road areas and during the various phases of construction activities:

   a. planning the different phases of construction; focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and onsite vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;

   b. providing an adequate water source at the site prior to start-up of construction activities;

   c. landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

   d. controlling dust from shoulders, project entrances, and access roads; and

   e. providing adequate dust-control measures during weekends, after hours, and prior to daily start-up of construction activities.

3. The project is not anticipated to have any combustion sources. However, in the event a combustion source is added, the Clean Air Branch will be contacted for permit requirements.

Water Pollution

1. *"The applicant should contact the Army Corps of Engineers to identify whether a federal permit (including a Department of Army permit) is required for this project."*

The project will not involve dredging or filling of waters of the United States, including wetlands. Therefore, a Department of Army permit is not required.

2. The Final EA will include a list of possible NPDES permit requirements for the project, including:

   a. NPDES general permit for storm water discharges relating to construction activities;

   b. NPDES general permit for storm water discharges from industrial activities;

   c. NPDES general permit for construction dewatering activity; and

   d. NPDES general permit for hydrotesting water.

3. After construction of the proposed facility is completed, there will be no wastewater discharge into State waters. Therefore, a NPDES individual permit will not be required.

A copy of your letter and this response will be included in the Final EA. Should you have any further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

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

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

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DEC - 8 1998
ENGINEERING CONCEPTS

Ref:PS:EH

Mr. Lance Yamamoto
Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, HI 96814

Dear Mr. Yamamoto:

Subject: Draft Environmental Assessment (DEA) for Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant, Ewa, Oahu

We have reviewed the subject DEA and offer the following comments for your consideration.

The Oahu District Land Office has concluded that the proposed Wastewater Treatment Plant and Effluent Disposal System needs to be explained in detail. The present description is considered inadequate. There is a need to describe the entire process of the wastewater treatment plant in detail with plans and illustrations to show how the waste material will be processed.

The Effluent Disposal System needs to be described in detail, addressing the following questions:

1. What does the effluent consists of?
2. If it ponds in a lagoon, what effect will it have on wildlife?
3. Can it be absorbed into the type of soil present at the feedlot? Isn't the soil type there consisted of coral where this effluent will not be readily absorbed?
4. What is the rate of intake of the effluent into the ground?
5. Can the rate of intake sustain the amount of effluent being sprayed everyday?
6. Isn't there a possibility that the effluent will not be absorbed into the ground and end up into a big lagoon, potentially effecting wildlife?

The DEA is considerably deficient in explaining all of the wastewater and effluent functions in detail so the public, and especially DLNR, can understand what effect this will have on surrounding land and lots. DLNR has considerable experience with livestock waste management problems with its dairy leases and believes it is important to know what effect the effluent will have on its land within the feedlot.

Also, the location of the proposed ponds needs to be clarified. We recommend that the ponds be constructed in the runway flight path as uses within this area are restricted. The ponds should be placed in the restricted area rather than in the non-restricted area that would support a higher and better land use.

Additionally, should the estimated water rate of 100,000 gpd exceed the existing allocation, please coordinate additional water allocations with the DLNR. It is important to consider that water allocations available from the State are limited.

We confirm that the proposed project is located in Zone D, an area in which potential flood hazards are undetermined.

Should you have any questions regarding these comments, please contact staff planner, Ed Henry, at 587-0380.

Thank you for the opportunity to comment on this document.

Very truly yours,

Dean Uchida,
Administrator

c.c. OEQC
Palama Meat Company, Inc.
Hawaii Livestock Cooperative
James S. Kumagai,Ph.D.,P.E.

c.c. ODLO

April 3, 1999

Mr. Dean Uchida, Administrator
Land Division
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 7, 1998 (Ref:PS:EH) regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

A. *"There is a need to describe the entire process of the wastewater treatment plant in detail with plans and illustrations to show how the waste material will be processed."*

The EA comes at the beginning of the decision-making process for the proposed project. This is the phase that defines the design objectives for mitigating potential environmental impacts and evaluates the feasibility of meeting those objectives. There are several more steps in the planning process before the project can be implemented. Each step adds more detail to the plans and specifications until the final permitting phase when all agencies, including DLNR will have the opportunity to review the plans in detail and concur whether the plans and specifications do indeed meet the design objectives.

Our response to your specific comments are as follows:

1. *What does the effluent consist of?*

The relevant quality parameters are the measures of organic matter, suspended solids, and nitrogen. The putrescible organic material is the critical factor in odor problems. More description and discussion will be given in the Final EA.

2. *If it ponds in a lagoon, what effect will it have on wildlife?*

The treatment process recommended is aerated lagoons consisting of two 0.5 acre ponds, six feet deep, in a 1.5-acre area. Ponding of effluent in the disposal zone is not likely. Even if it does, it should not have any effect on wildlife. Further discussion of this aspect is given in the following paragraphs.

James S. Kumagai, PhD, P.E. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

3. *Can it be absorbed into the type of soil present at the feedlot? Isn't the soil type there consisted of coral where this effluent will not be readily absorbed?*

The Draft EA describes a system that has a comfortable margin for success under less than ideal farming conditions. Given the planned scale of the disposal system, performance is less dependent on the soil media than the hydrologic factors. It is not the objective of this project to optimize crop growth but to maximize reliability of operation.

Forage crop irrigation as the method of effluent disposal. The suggested crop is Californiagrass. It is a hardy grass, but it requires some soil preparation as a matter of routine. The soil is coralline. The application rate assumes one inch per week on the average or 1/7 inch per day or 52 inches per year. The operation requires 24 acres for the projected wastewater flow. At this rate, there is a comfortable margin of acceptable performance. Allowing more acreage for disposal would provide an even greater margin for success. By comparison, evapotranspiration rate measured at the observatory in Ewa and applied to this area averaged 91 inches per year. Effluent irrigation is estimated to be 52 inches per year. Rainfall is 21 inches per year. Evapotranspiration on an annual basis far exceeds effluent irrigation and rainfall.

However, on a monthly basis, there are times when evapotranspiration is less than rainfall plus irrigation. There will be times when there will be more water than what the plants can consume. During those periods, irrigation can stop and effluent stored in the ponds until hydrologic conditions allow irrigation to resume. In that case, it is possible to temporarily terminate irrigation and rely totally on evaporation from the ponds. The draft EA describes a condition of leakage when the operator continues to irrigate even in the rain. For one thing, the analysis shows that this condition will arise infrequently. For another, the percolation rate of water to the groundwater would be insignificant. Whatever the case, DOH regulations require that irrigation be stopped when evapotranspiration rate is too low to accommodate the applied effluent. As a practical matter, the simpler rule to follow is not to irrigate in the rain.

While attention is on crop irrigation, the fundamental factor to recognize is the consumptive use of water. That is the primary means of getting rid of effluent. Crops need water, and effluent can provide that water. There are several alternative design configurations that could be applicable. For example, the objective can also be met through constructed wetlands. This is a concept that is now being widely investigated at the national level as a viable alternative for animal waste disposal. The choice of alternatives will be made in the design phase when details on construction and cost are fully developed.

4. *What is the rate of intake of the effluent into the ground?*

James S. Kumagai, PhD, P.E. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782 Phone: 454-0507. FAX: 456-8006

The planned rate of application is 1/7 inch per day as described in the answer to question 3. This rate is less than the evapotranspiration rate. Hence there is a good chance that water will be evaporated or transpired by the plant most of the time before it can infiltrate and percolate through the soil medium to groundwater. The maximum rate of infiltration, or uptake, is immaterial to this process.

5. *Can the rate of intake sustain the amount of effluent being sprayed everyday?*

Yes, we believe so. The applied rate is small compared to the typical evapotranspiration rates.

6. *Isn't there a possibility that the effluent will not be absorbed into the ground and end up into a big lagoon, potentially affecting wildlife?*

No, it is not likely that effluent will not be absorbed in the ground and result in a big lagoon. The projected disposal area is 24 acres for the effluent flow of 87,000 gpd. The region is dry and arid compared to the other parts of the island. There is a deficit in the hydrologic budget. Effluent will serve a critical need in crop growth.

B. *"The DEA is considerably deficient in explaining all of the wastewater and effluent functions in detail so the public, and especially DLNR, can understand what effect this will have on surrounding land and lots. DLNR has considerable experience with livestock waste management problems with its dairy leases and believes it is important to know what effect the effluent will have on its land within the feedlot."*

We see the issue of livestock waste management as a problem in the scale of operation: trying to do too much on limited land area. Environmental effects are dependent upon the intensity and duration of waste loads on the land. Dairies and livestock feedlots cause waste management problems because of their concentration in numbers on limited land area. Dairies on Oahu may be as large as 700 or more milking cows on limited acreage. The feedlot that was in this site before was designed to hold 14,000 head of cattle, in about 100 acres. Animal densities of more than 100 head per acre can create problems. A manageable density might be closer to 10 head/acre. It should be noted that the estimated maximum carrying capacity for grazing Californiagrass on the 24-acre irrigation area is 4 to 5 head per acre, or a total of 100 head. This is substantially less than the estimated manageable density of 10 head/acre. By comparison, the average density for this project might be equivalent to only 2 head of cattle per acre in the 24 acres projected as the needed area for disposal. More acreage can control problems even better, although it might be past the point of diminishing returns economically.

Moreover, most of the slaughtering and meat processing facilities will be enclosed, while the holding pens for the slaughterhouse will be in the open. The open lot could be a source of odor problems. The mitigating factor is keeping the place clean by frequent washdown of manure for treatment and disposal. The efficiency of wastewater treatment is projected to be around 85 percent. With a processing rate of 100 hogs per day, there will be an equivalent of 15 hogs loading the 24-acre disposal area, or about 8 equivalent cattle assuming two hogs for one cattle. Now the equivalent density will be 48 head cattle in 24 acres or precisely 2 head per acre. Compared to 100 head per acre or more, the burden at the project site as environmental stress is insignificant.

The fundamental difference between this project and the dairy and feedlot operation is the density of animals on the land. The former feed lot and dairies operate with densities 10 to 100 times greater than the projected scale of operation proposed here. The environmental management issues here would be far less than other concentrated animal operations.

C. *"...the location of the proposed ponds needs to be clarified. We recommend that the ponds be constructed in the runway flight path...rather than in the non-restricted area that would support a higher and better land use."*

Yes, the location of the ponds is not specified in the Draft EA. A decision has not been made yet on the design configuration of the project facilities. The recommendation of relocating the ponds into the flight zone easement closer to the beach has an advantage, but it has some pitfalls as well. For one thing, it is closer to the beach. For another, distributing effluent over the disposal area will incur higher pumping cost. The third consideration is the elevation. The bottom of the ponds would extend into groundwater. The ground elevation is lower there. The ponds are assumed to be six feet deep and lined with an impermeable material. Constructing the ponds in ground water will increase cost. The alternative is to design shallower ponds with greater land area to match the volume. It would then affect the choice of aeration equipment.

D. *"...should the estimated water rate of 100,000 gpd exceed the existing allocation, please coordinate additional water allocations with the DLNR."*

We concur and will make this note in the Final EA.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

December 2, 1998

Lance Yamamoto
Department of Agriculture
State of Hawaii 1428 South King Street
Honolulu, Hawaii 96814

LOG NO: 22570
DOC NO: 9811EJ22

Dear Mr. Yamamoto:

SUBJECT: Chapter 6E-42 Historic Preservation Review – Draft Environmental Assessment Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Honouliuli, 'Ewa, O'ahu
TMK: 9-1-31:25, 26 and portions of 1 and 37

Thank you for the opportunity to review the DEA for the Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant. A review of our records shows that there are no known historic sites at the project location. Aerial photographs from the late 1970s show that this parcel has been developed and according to the DEA contained feedlots and milling operations. Because it is unlikely that any historic sites would be found in the project area, we believe that this project will have "no effect" on historic sites.

In the unlikely event that historic sites, including human burials, are uncovered during routine construction activities, all work in the vicinity must stop and the State Historic Preservation Division must be contacted at 692-8015.

If you have any questions please call Elaine Jourdane at 692-8027.

Aloha,

Don Hibbard, Administrator
Historic Preservation Division

EJ:jk

c: Office of Environmental quality Control, 235 S. Beretania St., Suite 702, Honolulu, HI 96813
Mr. Joseph J. Azzaro, Palama Meat Company, Inc. 2656 Waiwai Loop, Honolulu, HI 96819

April 3, 1999

Mr. Don Hibbard, Administrator
Historic Preservation Division
Department of Land and Natural Resources
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 2, 1998 (LOG NO: 22570; DOC NO: 9811EJ22) regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document.

We acknowledge your comment that because it is unlikely any historic sites would be found in the project area, the project will have "no effect" on historic sites.

The Final EA will state that in the unlikely event historic sites, including human burials, are uncovered during routine construction activities, all work in the vicinity will cease and the State Historic Preservation Division will be contacted at 692-8015.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-6006

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BENJAMIN J. CAYETANO
GOVERNOR

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
[illegible]

December 8, 1998

Mr. Joseph J. Azzaro, Chairman and CEO
Palama Meat Company, Inc.
2656 Waiwai Loop
Honolulu, Hawai'i 96819

Mr. Leonard Oshiro, President
Hawaii Livestock Cooperative
94-403 Uke'e Street
Waipahu, Hawai'i 96797

Dear Messieurs Azzaro and Oshiro:

Having reviewed the draft environmental assessment (DEA) for the "Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant," 'Ewa, O'ahu, Hawai'i, TMK 9-1-31: 25, 26, portions of 1 and 37, we submit the following comments for your response.

1. ENVIRONMENTAL SETTING AND IMPACTS

A. GEOLOGY AND HYDROLOGY.

Section 3.1.3 of the DEA notes that the 'Ewa Plain is "typically flat and of calcareous substrata."

(1) Please describe the geology and hydrology of the region, with particular attention to aquifers in the calcareous substrata above the caprock. Please describe the depth to the ground water.

(2) Please provide estimates of the groundwater gradient in the area along with estimated times of travel for nitrogenous contaminants to reach the coastal waters and their impacts on water quality.

B. DESCRIPTION OF AERATED LAGOONS AND SETTLING PONDS.

(1) Please describe the aerated lagoons and settling ponds, with particular detail on the lining (if any) of these ponds, and whether such ponds will be in the calcareous aquifer.

C. PHYSICO-CHEMICAL CHARACTERIZATION OF WASTE AND DESCRIPTION OF EFFLUENT LOADING.

(1) Please describe the physico-chemical nature of the liquid waste entering the WWTP (in Figure 4) and the effluent being proposed for disposal on 24 acres through irrigation.

(2) Please describe the efficiency of the irrigation/grass cultivation process in reducing nitrogenous and other wastes in the calcareous aquifer.

(3) The DEA makes mention of a proposal to allow cattle to graze on the California grass in the effluent disposal area. Please describe the fate of cow dung, especially in its form as *in-situ* waste from the cattle in the grazing area.

D. FLORA AND FAUNA (BOTH LAND-BASED AND OCEAN-BASED).

Section 3.1.5. discusses the flora and fauna of the project site. The environmental setting

discussion would not be complete without discussion of the effects to the regional environment (including the shoreline and the ocean).

(1) Please discuss flora and fauna in the environmental surrounding the project site, especially the shoreline area. Describe all shoreline organisms, such as plants, animals, fish, invertebrates, etc., and their habitat.

(2) Please describe the impacts of nitrogen loading on flora and fauna, ground water and nearshore water quality.

E. AIR QUALITY.

Section 3.1.7 discusses air quality in qualitative terms.

(1) Please describe the regional winds and their distribution using a wind rose.

(2) Please describe the impacts of odors on the surrounding communities.

2. VARIANCE FROM POLLUTION CONTROLS

Please specify what variances will be sought from the Department of Health and the reasons for seeking such variances.

3. REVISED DISCUSSION OF THE THIRTEEN SIGNIFICANCE CRITERIA

After considering the above, please revisit each of the thirteen significance criteria set forth in Section 11-200-12, Hawai'i Administrative Rules.

A copy of all comment letters, and your responses must be submitted to the Department of Agriculture for their inclusion in the final environmental assessment and notice of determination for this project. If there are any questions, please call Leslie Segundo, Environmental Health Specialist at 586-4185.

Sincerely,

GARY GILL
Director

Enclosure

c: Mr. Lance Yamamoto, DOA
Dr. James S. Kumagai, P.E., Engineering Concepts, Inc.

April 3, 1999

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

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 8, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

1. The Final EA will address the following topics relating to the Environmental Setting and Impacts, as requested in your letter:

<u>Geology and Hydrology</u>
- description of the regional geology and hydrology
- description of the aquifer in the calcareous substrata above the caprock
- identification of depth to groundwater
- estimate of the groundwater gradient in the area and travel time for nitrogenous contaminates to reach coastal waters
- impacts of nitrogenous contaminants on water quality

<u>Aerated Lagoons and Settling Ponds</u>
- description of the aerated lagoons and settling ponds, detailing pond lining and whether the ponds will extend into the calcareous aquifer

<u>Physico-Chemical Characterization of Waste and Description of Effluent Loading</u>
- description of the physico-chemical nature of liquid waste entering the WWTP and effluent proposed for irrigation
- description of the efficiency of effluent disposal method in reducing nitrogenous and other wastes in the calcareous aquifer
- description of the fate of dung from cattle grazing in the effluent disposal area

<u>Air Quality</u>
- description of the regional winds and their distribution using a wind rose

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006.

However, we disagree with your request to identify flora and fauna, especially in the shoreline area. We do not concur that the additional studies required to complete descriptions of all shoreline organisms is meaningful to this project. For one thing, the proposed project can achieve an almost zero-discharge state to the groundwater and coastal waters. The emissions from leakage are expected to be indistinguishable. Therefore, water quality impact will be indistinguishable.

Compared to emissions from existing conditions, this project is expected to have negligible effect. It should be noted that Campbell Industrial Park is served entirely by onsite waste disposal systems where emissions of nutrients, nitrogen in particular, seep into coastal waters virtually unabated. This has been the case with the entire Ewa plain for decades when it was served by cesspools prior to the City's construction of the sewerage system. There are parts of Ewa still on cesspools. Emissions to the coastal water were substantially greater than possible from this project alone and the regional effect on the ecosystem would be dependent on this history.

Moreover, the relevant parameter in the water quality standards is the classification of an open coast regime compared to embayments or inland waters. The standards take into account the parameters of time and concentration, or mass emissions, to the water body. This approach to water quality standards was started by DOH in the later part of the 1970's.

The conclusion of this discussion is that water quality impact can be controlled by limiting the mass emission rates which this project proposes to do. Categorizing the shoreline ecosystem in detail is unwarranted because of the time and expense and the value of the information expected in return. Suffice to say, the project is proposing to mitigate water quality impacts by achieving virtually a zero-discharge system in wastewater management.

2. "Variance from Pollution Controls" was listed in the Draft EA under the section on anticipated permits and approvals to disclose the fact that an application <u>may</u> be filed. Offhand, noise emissions associated with construction vehicles is the most likely reason to request a variance for this project.

3. The thirteen significance criteria set forth in Section 11-200-12, HAR will be revisited in the Final EA and reviewed by the Department of Agriculture prior to their determination.

A copy of your letter and this response will be included in the Final EA. The Department of Agriculture will be furnished with copies of all comment and response letters for your their

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

review in preparation of a Notice of Determination for the project. Should you have any further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006.

98 DEC 10 P1:25

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

December 9, 1998
RA: 00185

James Kumagai
Engineering Concepts, Inc.
250 Ward Avenue, Suite 206
Honolulu, Hawaii 96814

Dear Mr. Kumagai:

Barbers Point Agricultural Park,
Slaughterhouse and Meat Processing Plant
Ewa, Oahu

Palama Meat Company, Inc. and the Hawaii Livestock Cooperative are proposing to establish an agricultural park and construct a meat processing plant on state-owned land within the Campbell Industrial Park. The proposed facility would be located at 91-265 Olai Street, adjacent to an existing rendering plant. The agricultural park project includes: an onsite wastewater treatment plant and effluent disposal system for animal process wastes; and utility infrastructure to support operation and maintenance of the facility.

Development of the proposed slaughterhouse and meat processing plant will assure a supply of fresh meat products for Oahu consumers. The project will also support the local livestock industry through preservation of jobs. The estimated construction cost is $12 million, of which $10 million is authorized for special purpose revenue bonds.

This Draft Environmental Assessment was reviewed with the assistance of Paul Ekern, Soil and Agronomy Emeritus; and Victoria Cullins of the Environmental Center.

2.2.5 Wastewater Treatment Plant and Effluent Disposal System

There is great concern over the disposal of leachate into the coral substratum. Likewise, the use of evaporation ponds is of concern. Will evaporation ponds have any control on quality of percolating waters? Sinks and solution cavities in the coral must form direct channels with little chance for soil filtration of the percolate. Depths of fill soil may also be too erratic to form

an adequate barrier. The document should include an assessment of the potential flow paths of infiltrating waters (e.g. septic tanks) and discussion of location of site on the clay or coral plain and any fill land.

The sprinkler irrigation will have the capacity to generate windborn spray. Please discuss the relation of this to wind flow, speed, and direction. Diurnal and seasonal wind shifts should be considered. An assessment of wind flow patterns is also lacking for possible dispersal of odors, insects, etc. This information may preclude the forming of emergence alternatives for periods of Kona Storms or calms with land-sea breezes.

There exists a dependence of the effluent disposal on evaporation rates, yet the current pan evaporation assessment depends on advection from dry upwind fetch. Translation from elevated class A pan, to extensive deeper water basins or to grasses requires factors of perhaps 80% of the pan.

What is the storage capacity for liquid wastes in the event of power failure? Can brackish water be used in the flushing operation as a conservation measure and still be used for irrigation?

Soil Erosion , Flood Hazards

2.2.5 Maximum instantaneous peak flow data for drainage basins relatively nearby (Kalol area) are given in S. Bowles and J. Mink's 1977 report on "Hydrogeological and soils study of proposed sanitary landfills for Leeward and Windward Oahu City and County of Honolulu." The potential destructiveness of these peak flows to the structures of and terraces associated with the slaughter house will have to be determined by consideration of channel environment, slope, and cross sectional area. The report suggests that a severe storm could be expected at least once in every 5 to 10 years. The pattern of surface overland flow from intense rainfall may pose a hazard. The impact and mitigation of this should be discussed.

Connor's Barbers Point Master Plan, 1977, places the project area not only in a tsunami evacuation zone, but also in an inundation zone. In the case of a tsunami or flood there would be marked discharge across the site. Long term impacts on soil erosion would depend on the direction of the surface flow. The Naval Air Station Barbers Point USDA Flood Protection Plan, 1969, states that diversion dikes are present inland form the proposed site. These dikes should be identified. How would the drainage ditches identified in section 3.3.2 affect the proposed project? Also, it is stated that the site is not located within the flood hazard area, yet the flood hazard map (Fig. 6) reports the site to be located in an area in which flood hazards are undetermined. To what extent does the adequacy of flood protection depend on Barbers Point or Campbell systems?

In section 4.3.2 it is stated that existing drainage patterns will remain the same and negative impacts associated with onsite drainage are not anticipated. However, the current

system is not presented or assessed, making judgment on the drainage system unattainable.

Thank you for the opportunity to review this EA.

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
Roger Fujioka
Paul Ehrn

Victoria Collins

April 3, 1999

Mr. John T. Harrison, Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
Crawford 317
2550 Campus Road
Honolulu, Hawaii 96822

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 9, 1998 (EA:00185) regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

Wastewater Treatment Plant and Effluent Disposal System

1. *"There is great concern over the disposal of leachate into the coral substratum. Likewise, the use of evaporation ponds is of concern. Will evaporation ponds have any control on quality of percolating waters? Sinks and solution cavities in the coral must form direct channels with little chance for soil filtration of the percolate. Depths of fill soil may also be too erratic to form an adequate barrier."*

   The ponds described in the Draft EA are the aerated lagoons for secondary treatment of wastewaters and for temporary storage of water. They will be lined with impervious material. In practice, the liner is commonly a flexible membrane. Otherwise it could be concrete or compacted bentonite. The choice is usually based on cost.

   The proposed method of effluent disposal is by consumptive use in crop irrigation. The suggested crop is Californiagrass. The irrigated area proposed is 24 acres for 87,000 gpd, or 3,625 gpd/acre. The estimated evapotranspiration of the area based on the measurements at the observatory in Ewa is 91 inches per year. Corresponding rainfall is 21 inches. The proposed application rate of effluent will be a little less than one inch per week or less than 52 inches per year. The hydrologic budget would leave a deficit of 18 inches per year. These numbers are considered to be indices. The actual budget will vary year to year and month to month. The important feature here is the allocation of at least 24 acres for disposal by consumptive use. It is assumed that soil amendment will be included routinely by the operator, and the effluent application rate proposed is well short

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone. 454-0507. FAX: 456-8006

of the evapotranspiration rate most of the time. Of course, more acreage will provide greater assurance of quality control, but it will incur higher land cost.

In summary, the important feature to recognize in the Draft EA is the recommendation for setting aside 24 acres for effluent disposal. It should be further recognized that the proposal does not seek to optimize crop production. Rather, it seeks to provide reliability in controlling emissions to the groundwater and hence to the nearby coastal water.

2. *"The document should include an assessment of the potential flow paths of infiltrating waters (e.g. septic tanks) and discussion of location of site on the clay or coral plain and any fill land."*

The flow path is seaward perpendicular to the shoreline in keeping with the hydraulic gradient assumed for the region. The hydrodynamics are not known. It is presumed that the emergence of the flow path is at the coastline, although details are not known. This is the case almost everywhere along the Ewa coastline.

Septic tanks or dispersed anaerobic systems with subsurface leach fields will handle domestic wastewater as allowed by regulation. In fact, the entire industrial park is served by individual onsite systems of one kind or another, typically cesspools and septic tanks. There is no sewerage system serving the park.

3. *"The sprinkler irrigation will have the capacity to generate windborne spray. Please discuss the relation of this to wind flow, speed, and direction. Diurnal and seasonal wind shifts should be considered. An assessment of wind flow patterns is also lacking for possible dispersal of odors, insects, etc. This information may preclude the forming of emergence alternatives for periods of Kona Storms or calms with land-sea breezes."*

The Final EA will include a discussion on sprinklers, wind, and spray. Sprinkler irrigation is an alternative. It would have the greatest potential for spray drift off site. There are alternatives. Border flooding or the hydraulic-driven applicators like the pivot point or linear irrigators are applicable alternatives which avoid issues of aerosol spray. The choice is left to the operator. Wind data will be included in the Final EA to guide design decisions.

4. *"There exists a dependence of the effluent disposal on evaporation rates, yet the current pan evaporation assessment depends on advection from dry upwind fetch. Translation from elevated class A pan, to extensive deeper water basins or to grasses requires factors of perhaps 80% of the pan."*

The recommended rate does not rely on maximum evapotranspiration. It does not seek to maximize crop production as mentioned in item 1 above.

5. *"What is the storage capacity for liquid wastes in the event of power failure? Can brackish water be used in the flushing operation as a conservation measure and still be used for irrigation?"*

Storage capacity will be a design consideration in any case. However, in the event of power failure, the facility will not be able to operate and no wastewater will be generated. Brackish water at the site is considered too salty and is not suitable for irrigation.

<u>Soil Erosion, Flood Hazards</u>

1. *"The pattern of surface overland flow from intense rainfall may pose a hazard. The impact and mitigation of this should be discussed."*

The facility as proposed will be located outside of the flood zone defined in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. More severe storms may flood the project site. In which case, the facility will cease operation. The acceptability of this risk is driven by economics.

2. *"...the project area (is) not only in a tsunami evacuation zone, but also in an inundation zone."*

Yes, the facility is in the tsunami inundation zone. In event of tsunami, the facility will be damaged and operation will cease. There is a risk. Again, acceptance of that risk is an economic issue.

3. *"The Naval Air Station Barbers Point USDA Flood Protection Plan, 1969, states that diversion dikes are present inland form (sic) the proposed site. These dikes should be identified. How would the drainage ditches identified in section 3.3.2 affect the proposed project?...To what extent does the adequacy of flood protection depend on Barbers Point or Campbell systems?"*

Drainage ditches or channels are located to the east and west of the state-owned land. The channels are unlined and convey storm runoff from the upland watershed to the coast. The channels provide some retention of storm runoff as they approach the coastline. As mentioned in Section 3.3.2, the mouth of the western drainage channel is blocked by an earth berm, which causes storm runoff to percolate into the ground. The mouth of the larger drainage channel located to the east of the site along the boundary

with Barbers Point Naval Air Station accumulates with sand on occasion. However, the sand deposits are washed out during periods of heavy storm runoff. Flood protection will be dependent on continued maintenance of these neighboring drainage channels to minimize the impact of upland storm runoff from entering the project site.

4. *"...it is stated that existing drainage patterns will remain the same and negative impacts associated with onsite drainage are not anticipated. However, the current system is not presented or assessed, making judgment on the drainage system unattainable."*

Under existing conditions, runoff from the project site flows overland from Olai Street toward the coast. There are no onsite drainage pipes or infrastructure at present.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohel Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96843
PHONE (808) 527-6160
FAX (808) 533-2714

December 9, 1998

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Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Attention: Lance Yamamoto

Gentlemen:

Subject: Draft Environmental Assessment for the Barbers Point Agricultural Park: Slaughterhouse and Meat Processing Plant, Ewa, Oahu, TMK: 9-1-31: Portion 1, 25, 26, Portion 37

Thank you for the opportunity to review the environmental document for the proposed project.

We have the following comments to offer:

1. The existing off-site water system is presently adequate to accommodate the proposed project.

2. As noted, the developer will be required to obtain an allocation for any additional water from the Department of Land and Natural Resources.

3. The availability of water will be determined when the Building Permit Applications are submitted for our review and approval. If water is made available, the applicant will be required to pay the applicable Water System Facilities Charges for transmission and daily storage.

4. The existing 4-inch domestic water meter mentioned serves TMK: 9-1-31: 01. There is also an 8-inch fire meter which serves the same parcel.

5. If an additional 3-inch or larger water meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.

6. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

7. Board of Water Supply approved Reduced Pressure Principle Backflow Prevention Assemblies are required to be installed immediately after all water meters serving the project site.

If you have any questions, please contact Barry Usagawa at 527-5235.

Very truly yours,

CLIFFORD S. JAMILE
Manager and Chief Engineer

cc: Gary Gill, Office of Environmental Quality Control
Joseph J. Azzaro, Palama Meat Company, Inc.
Leonard Oshiro, Hawaii Livestock Cooperative
James S. Kumagai, Engineering Concepts, Inc.

Pure Water . . . our greatest need – now it needs

April 3, 1999

Mr. Clifford S. Jamile
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 9, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

1. We acknowledge your comment that the existing offsite water system is presently adequate to accommodate the proposed project.

2. If additional water is needed, an allocation will be obtained from the Department of Land and Natural Resources.

3. We acknowledge your comment that the availability of water and applicable facility charges will be determined upon submittal of the Building Permit application.

4. We acknowledge your confirmation of an existing 4-inch water meter and 8-inch fire meter serving TMK: 9-1-31:01.

5. Construction plans will be submitted for review and approval if an additional 3-inch or larger water meter is required.

6. Onsite fire protection requirements will be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

7. Approved Reduced Pressure Principle Backflow Prevention Assemblies will be installed immediately after all water meters serving the project site.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET • HONOLULU, HAWAII 96813
PHONE (808) 523-4414 • FAX (808) 527-6743

JEREMY HARRIS
MAYOR

JAN NAOE SULLIVAN
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

RECEIVED
DEC 14 1998
ENGINEERING CONCEPTS

98/CLOG-238(ST)
'98 EA Comment - Zone 9

December 8, 1998

Mr. James J. Nakatani, Chairperson
Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Attn: Lance Yamamoto

Dear Mr. Nakatani:

Draft Environmental Assessment (DEA):
Barbers Point Agricultural Park
Slaughter House and Meat Processing Plant
Barbers Point, Ewa, Oahu
Tax Map Keys: 9-1-31: por. 1, 25, 26, por. 37

We have reviewed the DEA for the above-referenced project received on November 10, 1998, and have the following comments:

1.7 PERMITS AND APPROVALS REQUIRED

Insofar as the proposed facility involves the development of more than two separate lots of record, a Conditional Use Permit, Type 1 for Joint Development will be required. Table 1 in the Final EA should be revised to reflect this requirement. We have enclosed the relevant application information for this CUP1.

2.2.5 Wastewater Treatment Plant and Effluent Disposal System

It is our understanding from this section and sections 3.3.4 and 4.3.4, that wastewater, as well as solids generated from the proposed facility, will be accommodated by on-site facilities. Please note that the processing of off-site waste and by-products at this facility may require additional land use approvals.

Thank you for the opportunity to comment on this matter. Should you have any questions, please contact Steve Tagawa of our staff at 523-4817.

Very truly yours,

Loretta K.C. Chee

JAN NAOE SULLIVAN
Director of Planning
and Permitting

Enclosures

cc: OEQC
Joseph J. Azzaro, Palama Meat Co.

IS:am

POSSE:696

April 3, 1999

Ms. Jan Naoe Sullivan, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 30, 1998 (98/CLOG-238(ST), '98 EA Comment - Zone 9), regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

1. Table 1 of the Final EA will be revised to reflect the need for a Conditional Use Permit, Type 1 for Joint Development.

2. Your understanding that wastewater generated from the proposed facility will be treated by onsite facilities is correct. No offsite waste or by-products will be brought in for processing at this proposed facility. We understand that processing offsite waste and by-products at this facility may require additional land use approvals.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohui Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 8TH FLOOR • HONOLULU, HAWAII 96813-3017
PHONE: (808) 523-4133 • FAX: (808) 523-4950

JEREMY HARRIS
MAYOR

PATRICK T. ONISHI
CHIEF PLANNING OFFICER

DONA L. HANAIKE
DEPUTY CHIEF PLANNING OFFICER

RR 11/98-2211

November 30, 1998

Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Attention: Lance Yamamoto

Gentlemen:

Draft Environmental Assessment (EA) for
Barbers Point Agricultural Park
Slaughterhouse and Meat Processing Plant
Tax Map Key: 9-1-31: 25, 26, Portions of 1 and 37

In response to your agency's request of November 8, 1998, we have reviewed the draft EA with regard to the proposed project's impact on the City and County of Honolulu's General Plan and the Ewa Development Plan.

The location of the proposed use is zoned I-2, Intensive Industrial, and a portion of the site was previously used as a feedlot prior to 1992. It is our understanding that the closure of the feedlot was related to the economics surrounding such an operation. Our Waianae Development Plan revision program indicates that this operation is essential if livestock production in the Waianae Development Plan area is to remain viable.

We note that the wastewater treatment proposed for the disposal of the project's effluent relies on land application of treated liquid effluent. The applicant should confirm that the area is appropriate for such a disposal method, especially with regard to odors and potential impacts on the adjacent shoreline area.

Should you have any questions, please contact Robert Reed of my staff at 523-4402.

Yours very truly,

PATRICK T. ONISHI
Chief Planning Officer

PTO:ft

c: OEQC
Palama Meat Company, Inc.
Hawaii Livestock Cooperative
James S. Kumagai, Ph.D., P.E.

April 3, 1999

Mr. Patrick T. Onishi
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street, 8th Floor
Honolulu, Hawaii 96813-3017

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 30, 1998 (RR 11/98-2211) regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

(1) *"...this operation is essential if livestock production in the Waianae Development Plan area is to remain viable."*

Thank you for calling this to our attention. This project responds to the need for livestock production on Oahu, and it is good to know that this project is compatible with your planning policy for the area.

(2) *"The applicant should confirm that the area is appropriate for such a disposal method, especially with regard to odors and potential impacts on the adjacent shoreline area."*

We believe that the disposal method recommended is appropriate. The Draft EA describes the design objectives for wastewater treatment and disposal. The disposal system is based on consumptive use in irrigation of forage crops. Water consumed and ultimately released by evapotranspiration from crops will prevent discharges to groundwater or coastal waters. Leakage that may occur will be small and insignificant. The Draft EA estimates that quantity. There is flexibility in the project plan. More land is available for disposal if a problem develops.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0567. FAX: 456-8008

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
PACIFIC PARK PLAZA • 711 KAPIOLANI BOULEVARD, SUITE 1200 • HONOLULU, HAWAII 96813
PHONE (808) 523-4529 • FAX (808) 523-4730

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

JOSEPH M. MAGALDI, JR.
DEPUTY DIRECTOR

December 21, 1998

TPD11/98-06681R

Mr. Lance Yamamoto
Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Yamamoto:

Subject: Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant

In response to the November 8, 1998 letter from Mr. James J. Nakatani, the draft environmental assessment for the subject project was reviewed. The following comments are the result of this review:

1. On Page 1-7, the Traffic Section should clarify that the shift work schedule referred to is that of the existing slaughterhouse and meat processing plant operations.

2. On Page 4-3, Section 4.3.1 Roads and Traffic should discuss the possible location of the access to the property. If the access is anticipated to be at the Kalaeloa Boulevard/Olai Street intersection, the configuration of the proposed intersection should be described. A traffic assessment should be conducted to evaluate the impact of the increased vehicular load due to this project. The number of on-site or off-street parking stalls should at least meet the minimum requirements set forth in the Land Use Ordinance.

Should you have any questions regarding these comments, please contact Faith Miyamoto of the Transportation Planning Division at 527-6976.

Sincerely,

CHERYL D. SOON
Director

cc: Mr. Gary Gill, Office of Environmental Quality Control
Mr. Joseph J. Azzaro, Palama Meat Company, Inc.
Mr. Leonard Oshiro, Hawaii Livestock Cooperative
Mr. James S. Kumagai, Engineering Concepts, Inc.

April 3, 1999

Ms. Cheryl D. Soon, Director
Department of Transportation Services
City and County of Honolulu
711 Kapiolani Boulevard, Suite 1200
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 21, 1998 (TPD11/98-06681R), regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

1. The following clarification will be included in the Final EA under Section 1.6, Traffic:

   "Long term traffic impacts in the vicinity of the project site are not anticipated due to continuation of the shift work schedule presently employed by the *existing* slaughterhouse and meat processing plant operations."

2. Regarding your comment on Section 4.3.1 Roads and Traffic:

   a. It is unlikely that access to the property will be located at the intersection of Kalaeloa Boulevard and Olai Street. However, should this be the case, design of the proposed intersection configuration will be coordinated with DTS and a traffic assessment will be conducted to evaluate impacts.

   b. The project site will be designed with adequate onsite (offstreet) parking. The number of parking stalls will meet or exceed the minimum requirements set forth in the Land Use Ordinance.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

Scott W.H. Seu, P.E.
Manager
Environmental Department

December 11, 1998

Department of Agriculture
State of Hawaii
1428 South King Street
Honolulu, HI 96813
Attention: Mr. Lance Yamamoto

Dear: Mr. Yamamoto

Subject: Barbers Point Agriculture Park Slaughterhouse and Meat Processing Plant

Thank you for the opportunity to comment on the October 1998 Draft EA for the Barbers Point Agriculture Park Slaughterhouse and Meat Processing Plant, as proposed by the Palama Meat Company, Inc. We have reviewed the subject document and have determined that there is 2300 KVA capacity remaining at the Malakole Substation to accommodate new loads in the area. Additional, information, including expected loads and service dates, is required for further analysis.

We also wish to express a general concern over siting an agricultural park in such close proximity to a heavy industrial area. Any decision to site agricultural park operations should take into account the impacts on, and from, existing facilities in the surrounding area.

Sincerely,

cc: OEQC

Palama Meat Company, Inc.
2658 Waiwai Loop
Honolulu, HI 96819
Attn: Mr. Joseph J. Azzaro

April 3, 1999

Mr. Scott W.H. Seu, P.E.
Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 11, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document.

We acknowledge your comment that there is 2300 KVA capacity remaining at the Malakole Substation to accommodate new loads in the area. We understand that you will require additional information on expected loads and service dates for further analysis. This information will be submitted for review during the design phase.

Your general concern over siting an agricultural park in an industrial area is noted. According to the City and County of Honolulu *Land Use Ordinance*, the slaughterhouse and meat processing plant operations are appropriate and permitted uses within the I-2 (Intensive Industrial) zoned lands. The impacts on, and from, existing facilities in the surrounding area have been taken into account in site selection and will be addressed in greater detail in the Final EA.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, P.E. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

MAKAKILO/KAPOLEI/HONOKAI HALE NEIGHBORHOOD BOARD NO. 34

November 17, 1998

Gentlemen:

Thank you for your letter concerning "Barbers Point Agricultural Park Slaughter House and Meat Processing Plant". Your overview of the project was most helpful.

I would expect that a project of this nature be presented to our Neighborhood Board as all new proposed developments are. This proposed project appears to be large and will bring questions, concerns and comments from the community. I ask that you talk to the community before determining if a full EIS is needed.

I would like to make a few comments for your consideration:

1. "Barbers Point Agricultural Park".....
   Why this name when the property is located next door at Campbell Industrial Park?
   Did you know that Barbers Point is an obsolete name? The Barbers Point Redevelopment Commission has changed that name to Kalaeloa.

2. How will this project impact the future uses being planned at Kalaeloa when Barbers Point Naval Air Station closes on July, 1999? Should you contact the Barbers Point Commission to discuss any possible impacts?

3. The anticipated generation of odors will be minimized by "good housekeeping practices"? This is a vague statement for a major community issue.

Again, I would ask that a full presentation be made to the Neighborhood Board as soon as possible. Please call me at 525-5601 if you are interested.

Sincerely,

Maeda C. Timson
Chair

Distribution by FAX:
Joseph Azzaro 836-3850
Leonard Oshiro 676-9200
Lance Yamamoto 973-9613
Leslie Segundo 586-4184
James Kumagai 591-9010

Oahu's Neighborhood Board System-Established 1973

April 3, 1999

Ms. Maeda C. Timson, Chair
Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34
c/o Neighborhood Commission
City Hall, 4th Floor
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your facsimile transmission of November 17, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

(1) The name "Barbers Point Agricultural Park" was selected as a routine matter. We are referring this suggestion to the Department of Agriculture for their consideration.

(2) The proposed project is not expected to impact the Barbers Point Naval Air Station (BPNAS) site or its future uses. However, as you suggested, we will contact the Barbers Point Redevelopment Commission for their review and feedback.

(3) As disclosed in the Draft EA, odors may be generated from portions of the facility that are not within the enclosed buildings. These operations include the animal holding pens and the wastewater treatment facility. Odors will be controlled through good housekeeping practices which include strict facility maintenance and sanitation operating procedures. Good housekeeping practices are monitored and enforced by the United States Department of Agriculture Food Safety Inspection Service. An inspector is on the site at all times when the slaughterhouse is in operation. Should the plant fail to maintain sanitation standards, the plant will be shut down until corrective actions are taken. Moreover, the scale of the slaughterhouse operation is relatively small and manageable: 40 head of cattle per day and 100 hogs. Odor problems are not expected from the meat processing plant. It will be enclosed. Wastewater will be treated aerobically in pond systems, and experience with routine odor control measures have proven to be effective. Effluent will be disposed of by irrigating forage crop. There is sufficient land available for the proposed scale of operation to control water quality.

We hope that the informational briefing of the Board, held on February 17, 1999, was helpful. We would welcome the opportunity to provide more information on the proposed project. Please feel free to call.

James S. Kumagai, PhD, PE, Consulting Engineer, 2190 Hoohai Street, Pearl City, HI 96782, Phone: 454-0507, FAX: 456-8006

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

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FACSIMILE TRANSMITTAL

Date: November 16, 1998 No. of Pages (including coversht): 2

To: Department of Agriculture Attn: Lance Yamamoto

Fax: 973-9613

From: William C. Moore

Subj: Draft Environmental Assessment
Barbers Point Agricultural Park - Slaughterhouse & Meat Processing Plant
TMK: 9-1-31:25, 26, portions of 1 and 37

We read the text of the Draft Environmental Assessment and find once again a social economic argument which is exaggerated.

We rightfully assume that the reviewers of this Assessment, and eventually the decision makers are familiar with the meat producing industry in the State of Hawaii, and more importantly have first hand knowledge and understanding of the processing business which is being proposed. Having that knowledge and experience, one could dismiss 75% of the Assessment's findings. Irregardless of the economic arguments, they are irrelevant when compared to the main objection for locating a livestock feeding, holding, livestock slaughtering, rendering, processing, disposal in any area within a five mile radius of any populated area. The report refers to a pollution resulting from the operation of a feed lot and the operation of a rendering plant beginning in 1965, anyone who was the recipient of their pollution in the form of odor that those operations generated on a daily 24-hour basis, and not commenting on the tons of animal waste in all forms which were discharged upon the surface of the land, discharged into the ocean, or lived with the fly infestation could possibly describe these activities as acceptable environmentally neutral activities.

Animal activities and the processing thereof are major polluters of ground water systems in the United States. I am sure the Committee is aware that less than 1% of the World's untreated potable water for human and animal consumption exists as ground water, those who are environmentally aware are now realizing the enormous portent of recent discoveries regarding the pollution of the ground water sources with human and animal waste and the growing proliferation of intestinal born bacteria, the ecoli series.

I am particularly critical with the so-called Grandfather arguments, i.e."We were here first", as if people generated laws, ordinances and regulations designed and implemented for the benefit of the community as a whole are superceded by the "I was here first" concept.

Summation:

Point #1: Although economic and business reasonings can be articulated, there are no necessary elements in the arguments. The production of food in the form of meat protains is not a necessary industry for Hawaii. Foraging animals can make use of the existence of plant materials in many areas of Hawaii which presumably is converted to a protain when ingested and processed through hoofed animals. However, such activities are in fact cottage or entrepreneurial activities and should survive, prosper or fail based on need and acceptance in a free market setup. It has a very low political and economic priority and certainly not an activity suitable or to be subsidized on the "people's" land.

Point #2: This is an issue of pollution which cannot be technologically eliminated nor controlled in any practical way. The pollution in many forms is part of this industry, to say otherwise is a testimony to ignorance of the subject matter.

Point #3: There are strong arguments put forth by commercial and entrepreneurial ventures to access public funds, public lands and public resources which would allow an undesirable activity to be located near population centers. These are essentially business arguments i.e. (money) networking, but they are not people's arguments.

Final Conclusion:

The Proposition must meet the people test, i.e.:

1. Would you want this industry in your backyard?
2. Is the activity environmentally stable? That is, can the Community expect that the sources of pollution will not be proliferated?
3. Should a polluting non-desirable, not in the public interest (a non-infrastructure, not necessary activity) be subsidized by the people, be located on people's land in close proximity to current or projected population center, in this case, adjacent to the ocean and it's beaches.

April 3, 1999

Roscoe Moss Hawaii, Inc.
91-259A Olai Street
Kapolei, Hawaii 96707

Attention: Mr. William C. Moore

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

Thank you for your comments on the draft environmental assessment which was forwarded to us on November 16, 1998. You raised some thought provoking concerns.

You commented on social and economic factors. The legislature has already declared the project to be in the public interest. We may disagree with it as individuals, but we should respect and support it as the outcome of due process.

Consider our response to your specific comments as follows:

(1) *"...objection for locating a livestock feeding, holding, livestock slaughtering, rendering, processing, disposal in any area within a five mile radius of any populated area."*

The project site is zoned I-2, Intensive Industrial. The proposed project is consistent with the zoning designation for the site.

(2) *"The report refers to a pollution resulting from the operation of a feed lot and the operation of a rendering plant beginning in 1965..."*

Reference was made in the Draft EA to the prior use of the land as a feedlot, which was constructed for 14,000 head of cattle. In comparison, the slaughterhouse is proposed to handle 40 head of cattle and 100 hogs a day. Both the meat processing and slaughterhouse operations will be enclosed within buildings. However, the holding pen will be in the open. Manure and waste material will be collected, treated and disposed of by reclaiming solids in the rendering plant and by reclaiming effluent for irrigation of forage crop.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006.

(3) *"Animal activities and the processing thereof are major polluters of ground water systems in the United States."*

It may be true that there are facilities around the country that pollute groundwater. That will not be the case here. The effluent is proposed for irrigation of forage crop, such as Californiagrass, according to the principle of consumptive use. There is sufficient land available for effective design and operation.

Again, we appreciate your review and comments. A copy of your letter and this response will be included in the Final EA. Should you have any further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

TESORO

Tesoro Hawaii Corporation
733 Bishop Street Suite 2700
P.O. Box 3379
Honolulu, Hawaii 96842-0001
808 547 3111
808 547 3145 Fax

December 2, 1998

Mr. Jospeh J. Azzaro, Chairman and CEO
Palama Meat Company, Inc.
2656 Waiwai Loop
Honolulu, Hawaii 96819

Mr. Leonard Oshiro, President
Hawaii Livestock Cooperative
94-403 Ukee Street
Waipahu, Hawaii 96797

Dear Messrs. Azzaro and Oshiro:

Barbers Point Agricultural Park, Slaughterhouse & Meat Processing Plant

This letter is in response to the Draft Environmental Assessment Report recently prepared for the proposed Barbers Point Agricultural Park, Slaughterhouse and Meat Processing Plant.

In view of the community's heightened concern over air quality issues, and as the plant's abutting neighbor, Tesoro Hawaii Corporation requests the applicant more fully elaborate their odor mitigation plans. The report's referencing on pages 1-7 and 4-2 of "good housekeeping practices" as methods of odor mitigation is inadequate and fails to identify and describe specific types of odor control equipment and practices which will be employed at the site by the applicant.

We are specifically interested in the mitigation measures related to the operation of the animal holding pens, the wastewater treatment system, the slaughterhouse, the meat processing plant and the rendering plant. The report also fails to disclose any disposal plans the applicant intends to utilize for manure left by animals in the holding pens.

Should you have any questions regarding this letter, please contact Mr. Robert Jungbluth at 547-3930.

Sincerely,

James Kappel, Vice President
Refinery Operations

dy
cc: Mr. Lance Yamamoto – State of Hawaii Department of Agriculture
Dr. James S. Kumagai, PE – Engineering Concepts, Inc.

April 3, 1999

Mr. James Kappel, Vice President
Refinery Operations
Tesoro Hawaii Corporation
P.O. Box 3379
Honolulu, Hawaii 96842-0001

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 2, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

1. *"In view of the community's heightened concern over air quality issues, and as the plant's abutting neighbor, Tesoro Hawaii Corporation requests the applicant more fully elaborate their odor mitigation plans . . . "*

   This project recognizes that good housekeeping practices with strict facility maintenance and operating procedures for sanitation are essential for odor control. The United States Department of Agricultural Food Safety Inspection Service enforces applicable standards. An inspector is on site at all times when the slaughterhouse is operating Should the plant fail to maintain sanitation standards, the plant will be shutdown until corrective actions are taken.

2. *"We are specifically interested in the mitigation measures related to the operation of the animal holding pens, the wastewater treatment system, the slaughterhouse, the meat processing plant and the rendering plant . . . "*

   As pointed out previously, good housekeeping practices enforced by USDA are the effective mitigating measures for potential sanitation problems in the holding pens and processing areas. The draft EA describes the treatment system in more detail. For discussion here, think of treatment as consisting of two waste streams: one for solids and the other for wastewater. Non-edible solids from slaughtering and meat processing will be recovered mechanically and taken to the neighboring rendering plant for further processing. This plant was constructed in 1965 and is not part of this proposed project. The other processing stream is wastewater, mainly wash water. It will be treated aerobically in ponds in one configuration or another, and effluent will be disposed of by irrigating forage crop. There is sufficient land available for the proposed scale of

operation to control performance of treatment and disposal effectively without unduly constraining the design and operation of the facility.

3. *"The report also fails to disclose any disposal plans the applicant intends to utilize for manure left by animals in the holding pens."*

Manure will be washed down from the holding pens and treated as part of the wastewater stream. The treatment and disposal features are described in the response to your previous comment (#2).

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-6006

RECEIVED
NOV 14 1998
ENGINEERING CONCEPTS

From: Penny Ambler <wnmw80a@prodigy.com>
To: oeqc@pixi.com <oeqc@pixi.com>
Date: Friday, November 13, 1998 11:18 AM
Subject: Re: Slaughterhouse at Kapolei 2

Copies sent to:

State of Hawai'i Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814
Attention: Lance Yamamoto

Palama Meat Company, Inc.
2556 Waiwai Loop
Honolulu, Hawai'i 96819
Attention: Mr. Joseph J. Azzaro

Hawai'i Livestock Cooperative
94-403 Uke'e Street
Waipahu, Hawai'i 96797
Attention: Mr. Leonard Oshiro

Dr. James S. Kumagai, P.E.
c/o Engineering Concepts, Inc..
250 Ward Avenue, Suite 206
Honolulu, Hawai'i 96814

Leslie Segundo
Environmental Health Specialist
Office of Environmental Quality Control
oeqc@pixi.com

To Whom It May Concern:

I am very much concerned about the proposed project of the Palama Meat Company and the Hawaii Livestock Cooperative to establish and construct a slaughterhouse and treatment plant on the OCEAN Front property at 91-265 Olai Street in Kapolei. I have some questions about this plan:

1. Is there a blood company to dispose of the blood and waste of the cattle and swine?

2. What do they do with the liquid waste?

3. What will the procedure be it prevent the animal solid and

liquid waste from leaching into fresh water and ocean water? An Example is in the State of Iowa:
The tapwater stinks because of pig waste.

4. Why does this project need to have $12,000,000. to do a project that occupies only 40 cattle per day and 200 swine?

5. If the projects purpose is to make sure Oahu has a continued supply of meat produce--Why is this a good reason? The Parker Ranch on the Big Island can supply great plenty, because according to my knowledge they have a surplus and even ship to the mainland via Pacific Airlift. Where would the cattle and pigs come from that would be brought to this property?

6. I grew up on a farm and we did not need over 100 employees to take care of such a small amount of cattle and pigs. Why are they doing a $12,000,000. project and only need just a small amount of employees?

7. The storms in that area will cause the waste to wash into the Ocean water and pollute it. A sand and coral brim will not stop this from happening. What is the plan?

8. With the cows and pigs held in pens right by the Ocean and they dispose waste several times in a day I do not see how this company can prevent the waste from contaminating the Ocean water. How would you accomplish this? To simply say we will practice sanitary methods will not work. What about the urine that soaks into the ground? Who would continually be monitoring any proposed method several times a day and night that could file reports of the same to the Office of Environmental Quality Control? Who in turn would verify the accuracy of the reports?

9. What company is going to buy the slaughtered animals?

10. What will the animals be feed?

11. What is the soil by the brim and what exactly is the brim made of? What about the erosion of the brim? Who will maintain it?

12. Where do they dispose of the slaughtered waste? Who monitors this disposal?

It is in my opinion that this company should locate on higher ground so that the waste has sufficient area of land in which it can filter into the ground or be treated in some other way rather

then be located on Ocean Front Property.

Thank You

Penny
wnmw80a@prodigy.com

In accordance with Chapter 200, Title 11, Hawai'i Administrative Rules, concerning applicant actions (section 11-200-9(b)).

11/13/98

April 3, 1999

Ms. Penny Ambler
P.O. Box 17505
Honolulu, Hawaii 96817

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 13, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

(1) *Is there a blood company to dispose of the blood and waste of the cattle and swine?*

There is a rendering plant next door that will recover the non-edible solids from the slaughtering and processing plant. Blood will occur as spillage and will be washed down in the wastewater stream for onsite treatment.

(2) *What do they do with the liquid waste?*

The Draft EA described the treatment processes proposed for the liquid waste. The proposed treatment process will include aerated lagoons, sedimentation pond, and disinfection. Treatment will destroy or remove putrid matter and render the effluent safe for disposal by irrigation of Californiagrass or other forage crops. The crop will consume water and nutrients as it grows into animal feed.

(3) *What will the procedure be it (sic) prevent the animal solid and liquid waste from leaching into fresh water and ocean water?*

Waste from slaughtering and meat processing will be treated and disposed of by irrigating forage crop in the case of liquid waste and by recovery in the neighboring rendering plant. Crop irrigation will consume water and essentially evaporated in the process of plant growth. Enough acreage is being planned so that most if not all of the liquid is consumed by plants. Nutrients will also be taken up by plants as fertilizer and removed from the wastewater stream and not pollute the underlying groundwater and the adjacent coastal water.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

(4) *Why does the project need to have $12,000,000 to do a project that occupies only 40 cattle per day and 200 swine?*

The $12,000,000 estimated cost is not only for the slaughtering facilities. In fact, most of the cost will be for construction of the meat processing plant which will process more products than supplied from the proposed slaughterhouse.

(5) *If the projects purpose is to make sure Oahu has a continued supply of meat produce-- Why is this a good reason? The Parker Ranch on the Big Island can supply great plenty, because according to my knowledge they have a surplus and even ship to the mainland via Pacific Airlift. Where would the cattle and pigs come from that would be brought to this property?*

A USDA approved slaughterhouse is needed on Oahu. It would provide a slaughtering facility for animals produced on Oahu (67% of the dairy cows and 65% of the hogs in the state are produced on Oahu). Parker Ranch does not satisfy this need. The state legislature addressed these issues in its public forum and determined that slaughtering and meat processing facilities are needed on Oahu.

(6) *I grew up on a farm and we did not need over 100 employees to take care of such a small amount of cattle and pigs. Why are they doing a $12,000,000 project and only need just a small amount of employees?*

Yes, there is no need for over 100 employees to take care of the small amount of cattle and pigs. Instead, most of the workers are needed for the meat processing plant. The cost is mainly for the construction of new meat processing plant.

(7) *The storms in that area will cause the waste to wash into the ocean water and pollute it. A sand and coral brim (sic) will not stop this from happening. What is the plan?*

There are safeguards against effluent being washed into the ocean from storm flows. There is an existing berm to hold storm water. Technically, the standard is the flood designation of the City and County of Honolulu. The proposed project will not be in the hazard zone, and there is no danger of effluent running off into the ocean. Besides, in the event of a more severe storm or event, the facility can stop processing and not produce any wastewater.

(8) *With the cows and pigs held in pens right by the ocean and they dispose waste several times in a day I do not see how this company can prevent the waste from contaminating the ocean water. How would you accomplish this? To simply say we will practice sanitary methods will not work. What about the urine that soaks into the ground? Who*

would continually be monitoring any proposed methods several times a day and night that could file reports of the same to the Office of Environmental Quality Control? Who in turn would verify the accuracy of the reports?

Basically, wastewater and waste material from processing and manure from grazing livestock will be disposed of by consumption by forage crops. This is a natural process. Sanitation practices refer to frequent wash downs and clean up of the holding pens. There is established experience to set limits on how much effluent and manure the forage crops can take. The Department of Health monitors environmental quality and provides the forum for resolution of conflicts perceived by the concerned public.

(9) *What company is going to buy the slaughtered animals?*

There are consumers for slaughtered animals that are not processed onsite by the meat processing plant. In particular, pork will be sold directly to consumers in the local "hot pork" market.

(10) *What will the animals be feed (sic)?*

As a matter of routine, the animals will be slaughtered within hours of delivery. Those that are kept in the holding pen longer than usual will be fed material that is readily available. In the case of cattle, there will be an option for grazing.

(11) *What is the soil by the brim (sic) and what exactly is the brim (sic) made of? What about the erosion of the brim (sic)? Who will maintain it?*

According to the soil survey map prepared by the USDA and the University of Hawaii, the soil is classified as coral outcrop. It consists of coral or cemented calcareous sand in 80 to 90 percent of the area, with 10 to 20 percent consisting of friable, red soil. Given the flat slope of the ground, the erosion potential is not a concern. It is anticipated that with forage crops like Californiagrass, an organic layer or mat will develop over the irrigated area and serve as ground cover.

(12) *Where do they dispose of the slaughtered waste? Who monitors this disposal?*

The disposal of slaughtered waste has been covered in items 1 and 2 above. The State Department of Health will ultimately be the one monitoring and enforcing environmental quality requirements.

In closing, I would like to stress that there is sufficient land area available to manage effectively the disposal of waste material and wastewater from the proposed slaughterhouse and meat

processing plant. The quality of nearby coastal waters and the surrounding lands will be adequately protected.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, P.E. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

From: Penny Ambler <wnmw60a@prodigy.com>
To: oeqc@pixi.com <oeqc@pixi.com>
Date: Tuesday, December 08, 1998 7:11 PM
Subject: Kapolei Slaughterhouse Project

Copies sent to:

State of Hawai'i Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814
Attention: Lance Yamamoto

Palama Meat Company, Inc.
2656 Waiwai Loop
Honolulu, Hawai'i 96819
Attention: Mr. Joseph J. Azzaro

Hawai'i Livestock Cooperative
94-403 Uke'e Street
Waipahu, Hawai'i 96797
Attention: Mr.. Leonard Oshiro

Dr.. James S. Kumagai, P.E.
c/o Engineering Concepts, Inc..
250 Ward Avenue, Suite 206
Honolulu, Hawai'i 96814

Leslie Segundo
Environmental Health Specialist
Office of Environmental Quality Control
oeqc@pixi.com

To Whom It May Concern:

I have more questions concerning the proposed project of the Palama Meat company and the Hawaii Livestock Cooperative to construct a slaughterhouse and treatment plant on the ocean front property at 91-265 Olai Street in Kapolei.

1. Since the zoning is listed as I-2, intensive industrial, why isn't a variance required to have cows grazing?

2. Why will cows be grazing if the intention is to immediately slaughter them?

3. Why are you putting ANOTHER slaughterhouse there, when they already have a slaughterhouse/rendering plant just on the property adjoining?

4. In section 1-8 of the environmental assessment, is states the permits and approvals anticipated. Why are you listing a Variance from Pollution Controls?

5. There seems to be a lot of land zoned Agricultural in the Kapolei area, why doesn't this company use the land that is already zoned Agricultural instead of I-2, intensive industrial?

6. In the past, there was a real problem with the smell from the cattle especially with the kona winds. Why repeat the same problem?

7. Kailua, Oahu has a water problem because of the treatment plant so close to the ocean. Why would you place a treatment plant again so close to the ocean after knowing that it already creates a problem, seeing the example of the Kailua Beach and canal?
8. There is a two foot topography slope on this parcel going towards the ocean. The natural flow of liquids will go towards to ocean. How can you prevent the liquid waste during a storm from going into the ocean?

It is in my opinion that the Palama Meat Company, Inc.. and the Hawaii Livestock Cooperative should locate land that is zoned Agricultural with grazing grasses already and in an area at will not cause Air, Land, and Ocean pollution.

Thank you for your reply.

Penny
wnmw60a@prodigy.com

April 3, 1999

Ms. Penny Ambler
P.O. Box 17505
Honolulu, Hawaii 96817

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of December 8, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your additional comments:

(1) Since the zoning is listed as I-2, Intensive Industrial, why isn't a variance required to have cows grazing?

Grazing is a temporary, accessory use to the slaughterhouse operation.

(2) Why will cows be grazing if the intention is to immediately slaughter them?

The grazing area is for temporary holding of animals prior to slaughter. Grazing is an alternative (for cattle, not swine) to the proposed holding pens. As stated in the Draft EA, animals are presently delivered in the morning and slaughtered at night.

(3) Why are you putting ANOTHER slaughterhouse there, when they already have a slaughterhouse/rendering plant just on the property adjoining?

There is a rendering plant on the adjoining property, not a slaughterhouse. The fact that the rendering plant is located nearby is convenient to the proposed slaughterhouse and meat processing operations for solid waste disposal.

(4) In section 1-8 of the environmental assessment, is (sic) states the permits and approvals anticipated. Why are you listing a Variance from Pollution Controls?

The purpose of the EA is disclosure. A Variance from Pollution Controls was listed in the permits and approvals section to disclose the possibility that an application may be requested. The variance is needed from the Department of Health if an emission or discharge of a pollutant or noise exceeds applicable standards or rules. Such may be the case during construction due to noise from heavy equipment. It should be noted that

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

DOH will not grant a variance if the emission/discharge will endanger human health or safety.

(5) There seems to be a lot of land zoned Agricultural in the Kapolei area, why doesn't this company use the land that is already zoned Agricultural instead of I-2, Intensive Industrial?

According to the City and County of Honolulu *Land Use Ordinance*, slaughterhouses (agricultural products processing, major) and meat processing plants (animal products processing) are permitted uses, or compatible uses, within I-2 zoned lands. The zoning intends that projects such as this be located together, away from sensitive areas.

(6) In the past, there was a real problem with the smell from the cattle, especially with the kona winds. Why repeat the same problem?

The proposed project should not be compared to the former feedlot operation at the site. The feedlot was designed to accommodate 14,000 head of cattle, while the proposed project will have a maximum capacity of only 40 head of cattle and 200 hogs per day. In addition, the former feedlot was entirely open to the atmosphere which contributed to the odor problem. The proposed slaughterhouse and meat processing plant will be contained within enclosed buildings. Odors will be controlled through good housekeeping practices which include strict facility maintenance and operating procedures for sanitation. Good housekeeping practices are monitored and enforced by the United States Department of Agricultural Food Safety Inspection Service, which has an inspector on site at all times when the slaughterhouse is operating. Should the plant fail to maintain sanitation standards, the plant will be shutdown until corrective action are taken.

(7) Kailua, Oahu has a water problem because of the treatment plant so close to the ocean. Why would you place a treatment plant again so close to the ocean after knowing that it already creates a problem, seeing the example at Kailua Beach and canal?

The wastewater treatment facility for this project is not comparable to the City and County's Kailua Wastewater Treatment Plant. The concern at Kailua has been on the ocean outfall, which discharges effluent to sea. The proposed animal process wastewater treatment facility will not have an ocean outfall and will not discharge effluent to sea. Effluent disposal by irrigation will be managed to maximize consumptive use by grasses and forage crops. In addition, the treatment lagoons and ponds will be sealed with an impervious liner, preventing infiltration of wastewater into the ground.

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

(8) *There is a two foot topography slope on this parcel going towards the ocean. The natural flow of liquids will go towards to (sic) ocean. How can you prevent the liquid waste during a storm from going into the ocean?*

First, the existing berm located along the shoreline effectively prevents direct discharge of stormwater to the ocean. Second, wastewater will be stored in the treatment ponds during storm events or when irrigation is not needed. These ponds will be routinely lined with impervious material to prevent infiltration and seepage.

In closing, relocating the project to land zoned Agricultural is not a comparable alternative. The Intensive Industrial (I-2) designation is the appropriate land use for this project.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohei Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008

BPNAS
Barbers Point
Naval Air Station
Redevelopment Commission
Developing the Community at Kalaeloa

Benjamin J. Cayetano
Governor

Rich Eggrd
Chairman

William M. Bass
Executive Director

Ref. No.: BP-0336

November 19, 1998

Mr. Joseph J. Azzaro, Chairman and CEO
Palama Meat Company, Inc.
2656 Waiwai Loop
Honolulu, Hawaii 96819

Mr. Leonard Oshiro, President
Hawaii Livestock Cooperative
94-403 Ukee Street
Waipahu, Hawaii 96797

Gentlemen:

I have been informed of your proposed Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant and wish to provide the following comments:

1. The Barbers Point Naval Air Station (BPNAS) Redevelopment Commission is coordinating the redevelopment of 2,150 acres of surplus Navy property to the east of the proposed agricultural park site. This development has been designated as the Kalaeloa Community Development District by the Hawaii Legislature to be consistent with its policy of restoring the native Hawaiian identity of the area. As such, the Commission is concerned as to the compatibility of the project with the planned commercial and recreational uses designated in our BPNAS Community Redevelopment Plan.

2. Specifically, our concerns relate to the wastewater treatment and disposal and air quality aspects of the project and their potential impacts on our nearby Kalaeloa Community Development District.

   a. Wastewater Treatment and Disposal: One of the potential projects in the Kalaeloa Community Development District is a commercial marine park. The quality of the ground water in the area is of particular importance to this project. What effect, if any, will the 87,000 gallon per day wastewater treatment system and 6,875 gallon per day domestic wastewater leaching fields have on neighboring land parcels? What safeguards will be used to contain the effects of these systems within the project site and preclude migration to adjoining parcels?

Mr. Joseph J. Azzaro
Mr. Leonard Oshiro
November 19, 1998
Page 2

   b. Air Quality. The DEIS indicates that "odors are anticipated to be localized and will be minimized by good housekeeping practices." Experience with existing tenants of Campbell Industrial Park indicates that during normal conditions localization of noxious fumes and odors is possible, but during times when Kona winds prevail they pose problems to inhabitants of neighboring areas. What actions will be taken specifically to mitigate the impact of the project on inhabitants of neighboring areas during Kona winds?

I would also like to offer the following suggestions regarding the project. First, a project of this nature and magnitude is bound to create concerns and uncertainties in the surrounding residential neighborhoods. Honolulu's Neighborhood Boards offer developers an opportunity to inform residents directly and correctly on the anticipated effects of their projects on the community. It would be prudent to schedule a presentation on the project before the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 to inform the community and address any concerns.

Second, in view of the Legislature's interest in restoring the native Hawaiian names to properties in this area as evidenced by the designation of the Kalaeloa Community Development District, and the recent changing of the name of Barbers Point Harbor to "Kalaeloa Barbers Point Harbor," you may wish to consider renaming the project accordingly.

The BPNAS Redevelopment Commission requests that it be included on your mailing list for any future correspondence on this project. We appreciate the opportunity to offer these comments and look forward to your response.

Sincerely,

William M. Bass
Executive Director

cc: Ms. Leslie Segundo, OEQC
Mr. Lance Yamamoto, State of Hawaii Department of Agriculture
Dr. James S. Kumigai, Engineering Concepts, Inc.

April 3, 1999

Mr. William M. Bass, Executive Director
Barbers Point Naval Air Station Redevelopment Commission
1001 Kamokila Boulevard, Suite 308
Kapolei, Hawaii 96707

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 19, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments:

(1) We concur with your concerns for compatibility of the proposed project with the BPNAS Community Redevelopment Plan. We will coordinate our efforts with the redevelopment commission.

(2.a) With regard to the impact of wastewater treatment and disposal on neighboring parcels, the proposed treatment and disposal system is being planned for forage crop irrigation where wastewater will be consumed in plant growth. Leakage may occur in small amounts which we show in the draft EA to be insignificant. The performance of the system will depend mainly on the size of the acreage irrigated. We propose 24 acres for the projected flow. The greater the area, the lower the application rate, hence less leakage. More land is available if necessary. Leakage to groundwater will follow the natural flow. For this area, it generally flows from the mountains to the ocean. Groundwater beneath BPNAS and neighboring parcels located either laterally along the coast or mauka of the project site should not be impacted. Moreover, solid wastes will be collected and sent to the neighboring rendering plant for recovery as animal feed and other saleable products.

(2.b) The control of odors from the proposed project in intended as an ongoing effort. The good housekeeping measures mentioned in the Draft EA refer to keeping the pens washed down to prevent accumulation of manure exposed to the atmosphere. Odors will be controlled through good housekeeping practices which include strict facility maintenance and operating procedures for sanitation. Good housekeeping practices are monitored and enforced by the United States Department of Agricultural Food Safety Inspection Service, which has an inspector on site at all times when the slaughterhouse is operating. Should the plant fail to maintain sanitation standards, the plant will be shutdown until corrective

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8006

action are taken. The treatment ponds are proposed to be aerated lagoons which have a record of routine, odor-free performance.

In closing, we have been in contact with the Makakilo/Kapolei/ Honokai Hale Neighborhood Board No. 34 and provided the Board with an informational briefing on the project on February 17, 1999. We thank you for the information on the Legislature's interest in restoring native Hawaiian names to properties in the area. We are referring this matter to the Department of Agriculture for their consideration of changing the name of this project.

A copy of your letter and this response will be included in the Final EA. Should you have further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hochai Street, Pearl City, HI 96782. Phone: 454-0507 FAX: 456-8006

SIERRA CLUB, HAWAI'I CHAPTER

P.O. Box 2577,
Honolulu, Hawai'i 96803
(808) 538-6616

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November 30, 1998

Lance Yamamoto
Department of Agriculture
1248 S. King St.
Honolulu, HI 96814

James Kumagai
Engineering Concepts Inc.
250 Ward Ave. #206
Honolulu, HI 96814

The Sierra Club requests that the Environmental Assessment for the Barbers Point Agriculture Park discuss at greater length the potential impacts on coastal water quality.

Livestock have caused extensive water quality problems in Hawai'i and across the nation. The Draft EA fails to discuss the Best Management Practices that will be implemented and declares that they will be specified later. Such a process circumvents public review in violation of chapter 343. The EA should more clearly describe the quality of the water after it has been treated and the extent to which the water will run off -- either from the surface or after percolation -- into ocean waters. It should more carefully assess the impact on the marine environment.

Sincerely,

David Kimo Frankel
Director

April 3, 1999

Mr. David Kimo Frankel, Director
Sierra Club, Hawaii Chapter
P.O. Box 2577
Honolulu, Hawaii 96803

Subject: Draft Environmental Assessment for
Barbers Point Agricultural Park Slaughterhouse and Meat Processing Plant
Ewa, Oahu, Hawaii
TMK: 9-1-31:25, 26, portions of 1 and 37

On behalf of the applicants, thank you for your letter of November 30, 1998 regarding the Draft Environmental Assessment (EA) for the subject project. We appreciate your effort in reviewing the document, and we offer the following response to your comments.

Your comment on discussing potential water quality impacts at greater length is well taken. We will include a discussion of the potential impacts in the Final EA. In general, the mass emissions from this proposed project will be small in the context of existing emissions to coastal waters in the Ewa region. Water quality impacts due to the implementation of this project will be correspondingly small. We believe the impact will not be discernable.

Furthermore, the Final EA will include more detail on best management practices. Good housekeeping practices include strict facility maintenance and operating procedures for sanitation, and they are monitored and enforced by the United States Department of Agricultural Food Safety Inspection Service. An inspector is on site at all times when the slaughterhouse is operating. Should the plant fail to maintain sanitation standards, the plant will be shutdown until corrective action are taken.

A copy of your letter and this response will be included in the Final EA. Should you have any further questions or concerns, please call me at 591-8820.

Very truly yours,

James S. Kumagai, Ph.D.

cc: Joseph J. Azzaro - Palama Meat Company, Inc.
Leonard Oshiro - Hawaii Livestock Cooperative
Lance Yamamoto - State Department of Agriculture
Leslie Segundo - Office of Environmental Quality Control

James S. Kumagai, PhD, PE. Consulting Engineer. 2190 Hoohai Street, Pearl City, HI 96782. Phone: 454-0507. FAX: 456-8008.