29960

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

RECEIVED
01 OCT 23 P4:07
OFC. OF ENVIRONMENTAL QUALITY CONTROL

Ref. No.: 01HD-138
Author: LD-GH

MEMORANDUM

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

FROM: Gilbert S. Coloma-Agaran, Chairperson
Board of Land and Natural Resources

SUBJECT: *Finding of No Significant Impact (FONSI) to the Environment to Hawi* Agricultural and Energy Corporation for a Direct Lease for Aquaculture Purposes; Hu'ala, North Kohala, Island of Hawai'i; Tax Map Key: 3rd/5-5-07:05

The Department of Land and Natural Resources, Land Division, has reviewed the comments received during the 30-day public review period and the applicant's responses to these comments for the above referenced environmental assessment. Accordingly, we have determined that this project will not have a significant environmental effect and have issued a FONSI determination. Please publish this notice in your next scheduled publication of the Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form and four (4) copies of the final environmental assessment.

If you have any questions, please feel free to contact Mr. Gordon C. Heit at (808) 974-6203. Thank you.

Enclosures

cc: Land Board Member
Central Files
District Files

139

2001-11-08-HI-FEA-

TROPICAL PONDS HAWAII, LLC AQUACULTURE FARM HAWI, HAWAII

FINAL ENVIRONMENTAL ASSESSMENT

Proposing Group (Agencies):
Hawi Agricultural and Energy Corporation
P. O. Box 1656
Kamuela, Hawaii – 96743
and
Tropical Ponds Hawaii, LLC
P.O. Box 1750
Keaau, Hawaii - 96749

October 2001

By:
Waimea Water Services Inc.

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SECTION 1

INTRODUCTION AND SUMMARY

Hawi Agricultural and Energy Corporation (HA&E) and Tropical Ponds Hawaii, LLC (TPH), proposes to establish and operate a freshwater aquaculture farm, and hatchery near Hawi in the North Kohala District of the Big Island of Hawaii.

The few negative impacts, which have been identified in this Final Environmental Assessment, should be adequately minimized by the suggested mitigative measures. In accordance with Chapter 343, *Hawaii Revised Statutes*, it has been determined that an Environmental Impact Statement is not required for the proposed Tropical Ponds Hawaii aquaculture farm. Therefore, this document constitutes a notice of anticipated Finding of No Significant Impact.

1.1 PROPOSING GROUP (AGENCIES)

Hawi Agricultural and Energy Corporation and Tropical Ponds Hawaii, LLC, organized under the laws of the State of Hawaii.

1.2 AGENCIES CONSULTED IN MAKING THE ASSESSMENT

1. Historic Sites Preservation Office, Department of Land and Natural Resources, State of Hawaii
2. Land Division, Department of Land and Natural Resources, State of Hawaii
3. Office of the Mayor, County of Hawaii
4. Planning Department, County of Hawaii
5. Research and Development Department, County of Hawaii
6. Sea Grant Extension Service
7. Department of Agriculture

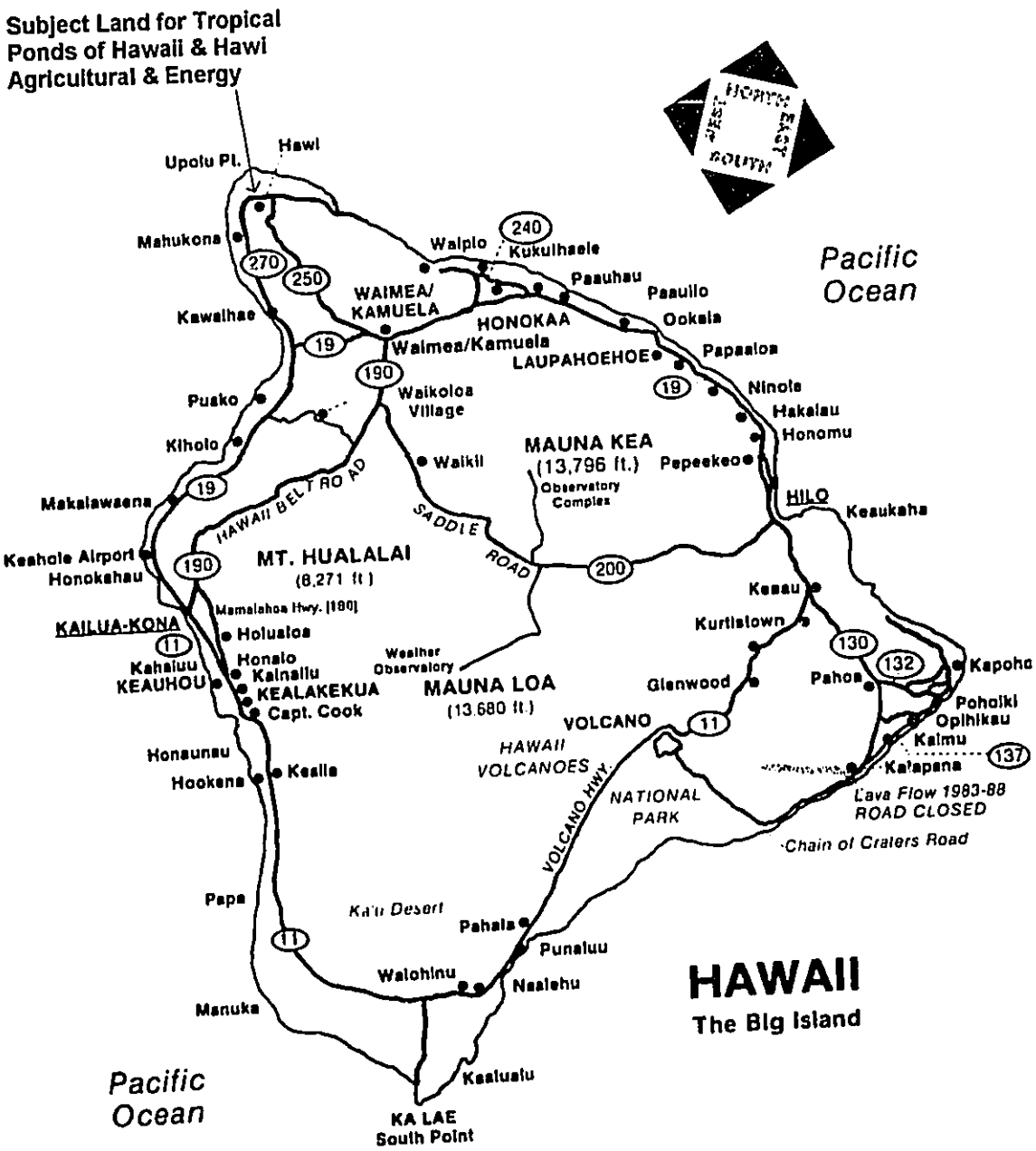
SECTION 2

PROJECT DESCRIPTION

Tropical Ponds Hawaii, LLC, a producer and exporter of freshwater aquarium fish, proposes to establish and operate a freshwater aquaculture farm, and hatchery near Hawi in the North Kohala District of the Big Island of Hawaii. The farm will expand the production of tropical freshwater aquarium fish for export to the U.S. mainland and Asia. Water for the farm will be supplied via an existing pipeline from the Kohala Ditch. Water discharged from the farm will be used to irrigate existing pasture on HA&E lands. Irrigation will also be used on site. With this leasehold expansion, TPH will also develop the ability to mentor and train other farmers and potential farms on the Big Island. This will facilitate the growth of the industry and provide new entrepreneurs with an example and resource for start up ventures.

2.1 PROJECT SITE

The project site is located in the northern region of the Big Island of Hawaii, near the town of Hawi, as shown in Figure 2-1. The aquaculture site is situated on the northern slope of the Kohala Mountain. The aquaculture farm is located on highway 270, a state highway, and makai, at an elevation of 400' feet above mean sea level (MSL), as shown in Figure 2-2. Access to the aquaculture farm is via Highway 270, a two-lane rural street, which runs through Hawi Town.



Map 1

Figure 2-1

LOCATION MAP

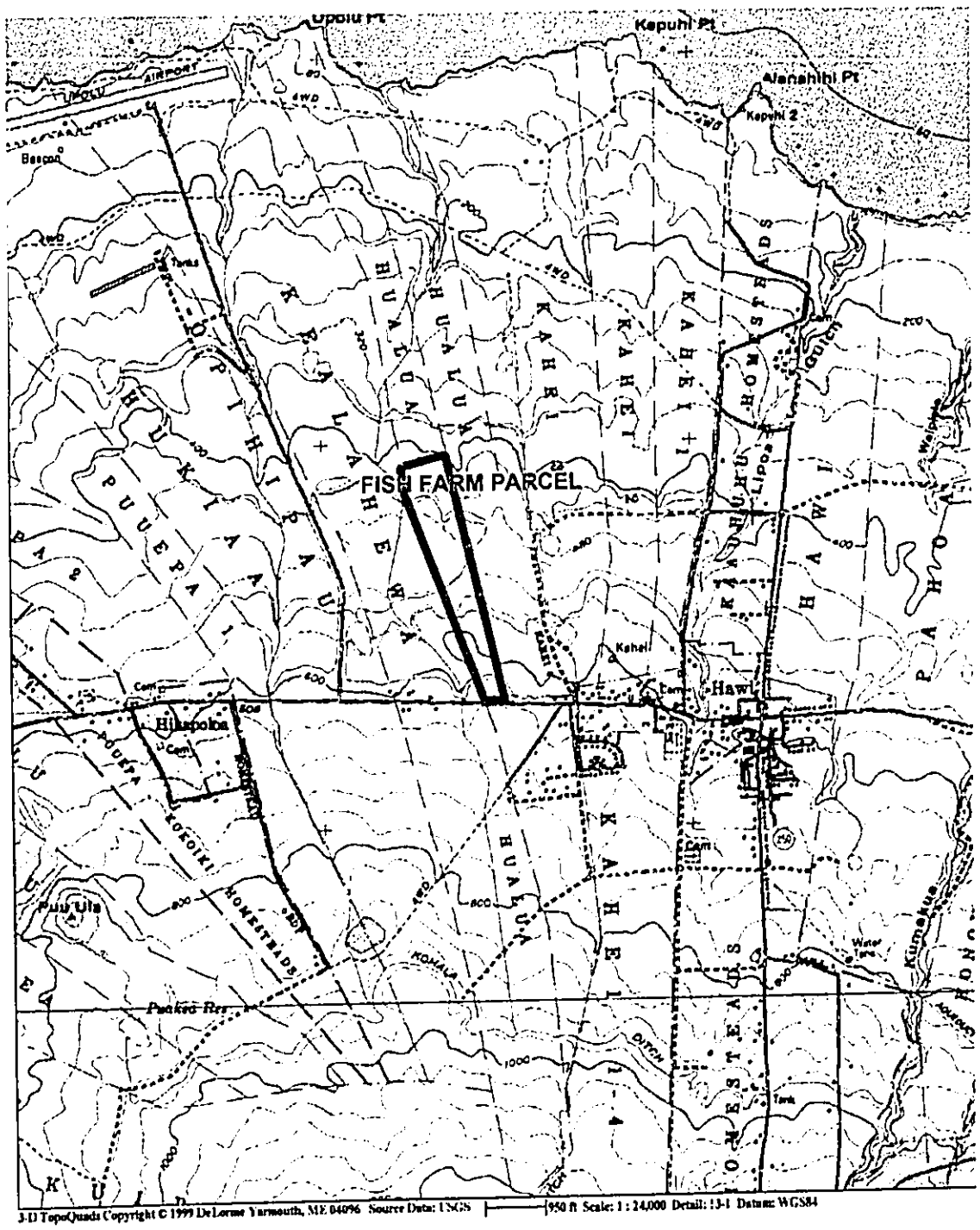


Figure 2-2

TOPO MAP

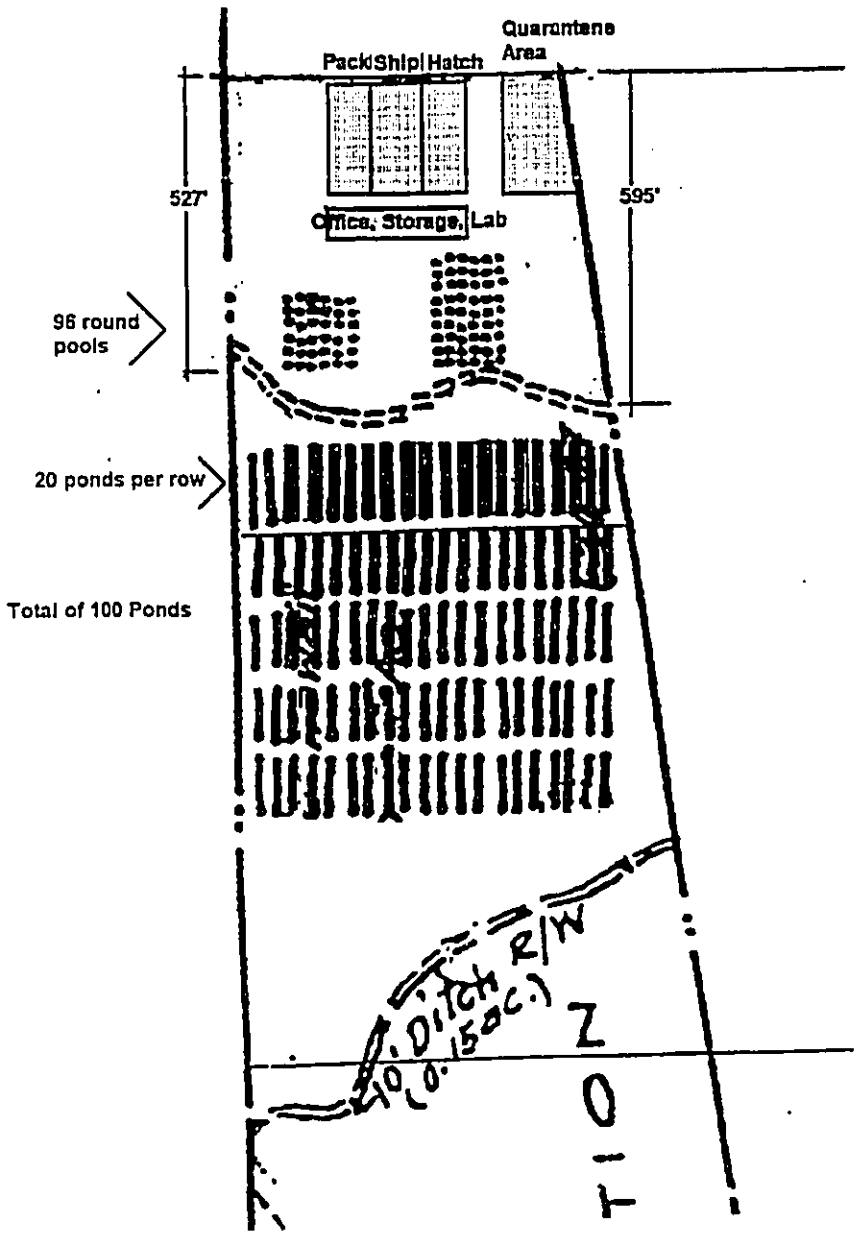


Figure 2-3

SITE PLAN

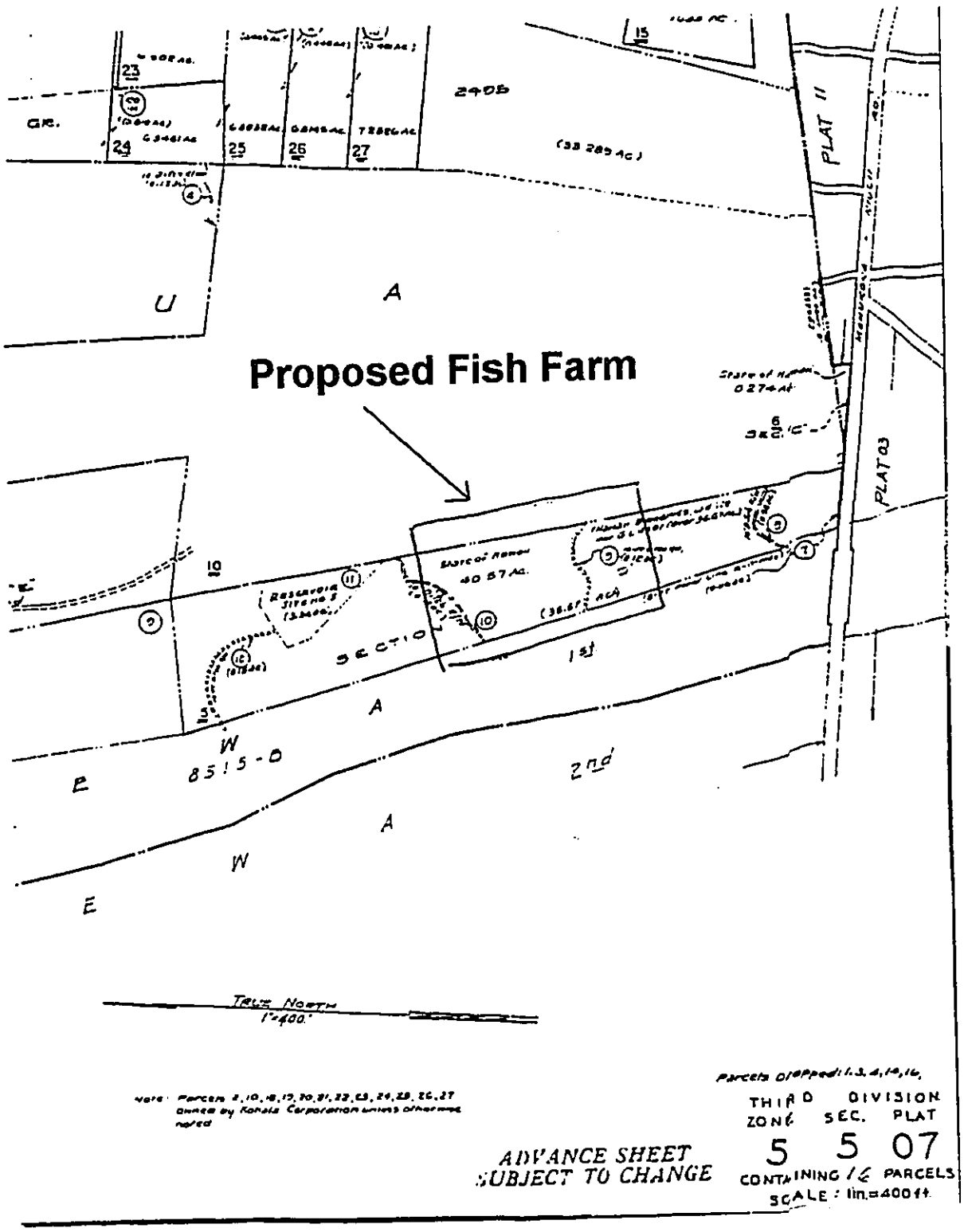


Figure 2-4

TMK MAP

The property, with TMK 3-5-5-07:5, is currently owned by the State of Hawaii, Department of Land and Natural Resources. The aquaculture farm site is located next to the existing land leased by Hawi Ag & Energy and owned by Chalon International. The site lot size is approximately 41 acres.

2.2 PROPOSED FACILITIES

Tropical Ponds Hawaii proposes to build 30 ponds and construct 30 pools within the first year of the lease period. Upon completion of this phase, we would then construct our hatchery and packing facilities, and would have this completed within the next twelve-month period. Completion of this phase would allow us to then expand to at least another 60 ponds and 100 pools. Further expansion and growth will come with the development of market expansion. A series of grants have been secured to begin the planning for the export market expansion.

The initial phase of the project will require about 10 gross acres situated where it can receive an adequate gravity flow of water for circulation and an additional area to receive the discharged waters. The full project build out will require a gross land area of about 25 to 30 acres of land for the production staging.

Figure 2-4 (TMK) shows the location of the aquaculture farm in reference to its surroundings and land divisions.

2.3 DEVELOPMENT SCHEDULE AND COST

Construction is scheduled to begin as soon as the lease is granted. The construction cost for this project is estimated at $340,000.

2.4 PROJECT NEED

The ornamental aquaculture industry on Hawaii Island shows potential for development and expansion. There is a long tradition of aquaculture in the community; the Big Island Aquarium Society is more than 20 years old and represents a considerable pool of knowledge and interest in ornamental fishes and plants. Hawaii Island has a large land area, abundant rainfall, runoff and ground water, and a population with a tradition of agricultural entrepreneurship. Ornamental and food production aquaculture have been proposed and promoted as potential means of livelihood for former employees of industrial agriculture (sugar) operations and their families. Commercial ornamental aquaculture has begun and is developing in both East and West Hawaii. Research funding and university-based extension services have fostered the industry's beginnings and continue to support its development and sustainability. The statewide Aquaculture Extension Service and others are aware of widespread current interest among the community in business opportunities in aquaculture.

The potential for expansion has raised concern that development should be sustainable, and has clarified the perception of constraining factors. Markets overseas, particularly on the U.S. mainland, require regular and reliable provision of large batches of fishes of particular varieties. These varieties consist of common types for which there is a large continuing demand, as well as an ever-changing list of varieties that are demanded in similar large quantities but for limited periods. The large batch sizes and changing list of varieties represent constraints to market entry by any but very large producers, and by consolidators or brokers of considerable size. The required size of the large businesses represents a constraint to Hawaii Island entrepreneurs in terms of capital requirements, and a risk to sustainability for the small number of present producers whose prospects are uncertain. New entry of small ornamental businesses is constrained by lack of locally-based consolidation, through factors including the two-stage brokering necessary to sell through Oahu-based consolidators, and by both export costs and import costs for feed and other materials. Other sustainability concerns include the need for proper planning of water access and disposal, ready access to suitable land and close proximity to direct air freight service (Keahole Airport).

SECTION 3

EXISTING CONDITIONS

This section describes the existing conditions of the project including the existing land use designation, surrounding land uses, climate, geology and topography, soils, hydrology, flood hazards, earthquake hazards, flora and fauna, and archaeological and historic sites.

3.1 EXISTING LAND USE DESIGNATIONS

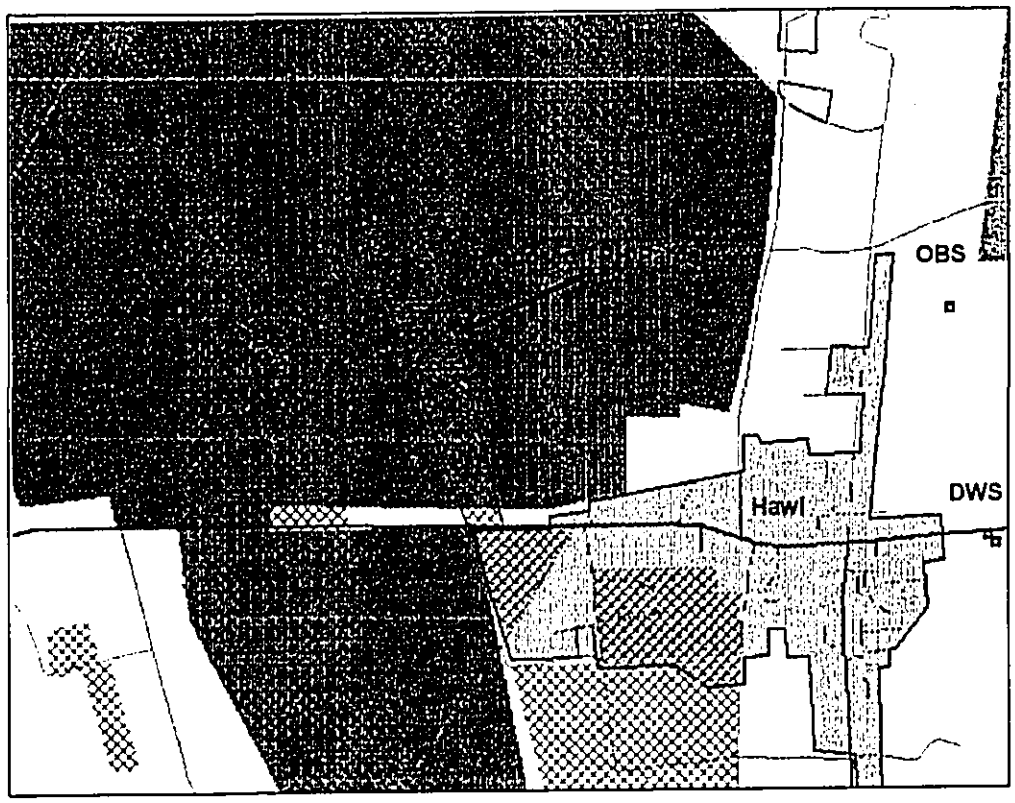
The aquaculture farm project boundaries fall within the State Agricultural Land Use District. Therefore, a Conservation District Use Permit is not required. The existing state land use designations are shown in Figure 3-1.

The County land use zoning designation is A-20a, which refers to agricultural lots greater than 20 acres.

3.2 SURROUNDING LAND USES

The surrounding grazing lands have been extensively used for sugar agriculture. Adjacent lands of Hawi Agricultural and Energy Corporation, under private lease, are also used for sod farming and hydroelectric power generation. The town of Hawi is located to the east of the project (Figure 2-2).

Hawaii State Planning Office:
Hawaii General Map Module



Well Note: The potable wells are indicated by DWS.
OBS = test purpose only
DWS=potable

Legend:

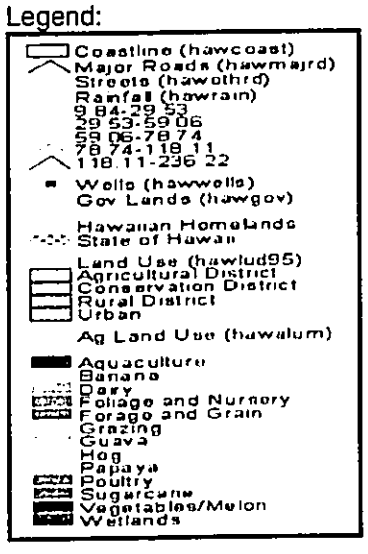


Figure 3-1

LAND USE MAP

3.3 CLIMATE

The project area receives an average of 70 inches of precipitation per year, most of which occurs during the winter months. Due to the elevation of the project site, the average annual temperature is 74° F.

3.4 GEOLOGY AND TOPOGRAPHY

The project site sits on residual soil formed from the Pololu basalt flows from the Kohala Mountain, laid down in prehistoric time. The farm site is best characterized as gently sloping makai. A topographic map of the area is shown in Figure 3-2.

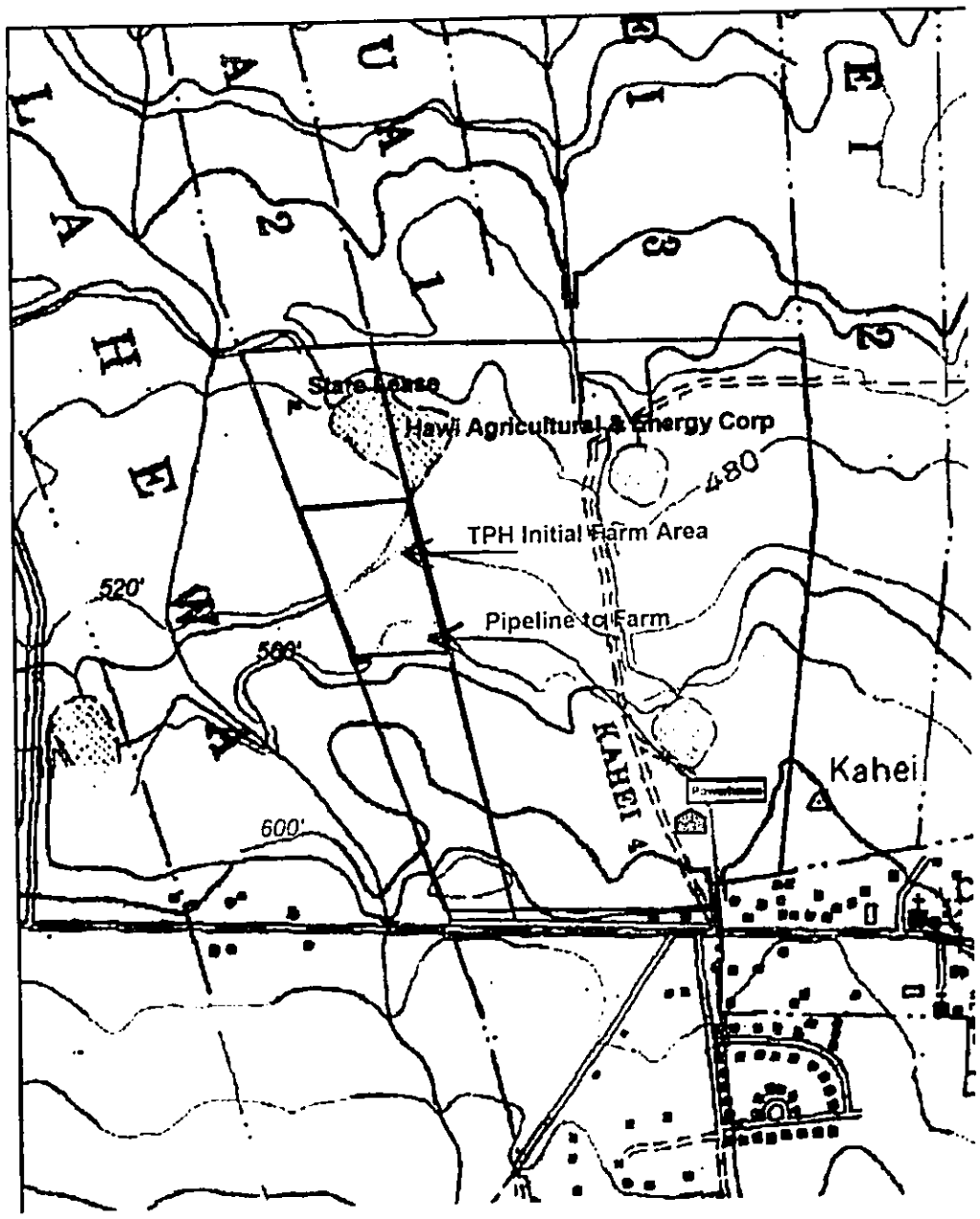


Figure 3-2

SITE TOPO MAP

3.5 SOILS

The soil at the project site is classified as Ainakea (AaB) Silty Clay Loam with slopes of 12 to 20 percent. This soil overlays the bedrock to a depth of 2 to 3.5 feet and consists of silty clay loams, often underlain by cinders. Runoff is medium and erosion hazard is moderate.

3.6 HYDROLOGY

The site contains no streams and runoff is general localized. A fresh basal groundwater lens is found at an elevation of +/- 5'.

3.7 FLOOD HAZARDS

Flood Insurance Rate Maps (FIRM) were used to evaluate the potential flooding for the study area. Based on map number 155166 1725C dated September 16, 1988, the project site is designated as "other areas, Zone X - areas which are determined to be outside of the 500-year flood plain".

3.8 EARTHQUAKE HAZARDS

The Island of Hawaii is classified as a Seismic Zone 3 area, as per the Uniform Building Code (1991). Given that the least active zone is Zone 0, and the most active zone is Zone 4, the possibility of an earthquake occurring on the Island of Hawaii is fairly high. All new structures will be designed and constructed to resist stresses produced by lateral forces which apply to the Seismic Zone 3.

3.9 FLORA AND FAUNA

Known plant species in the area are introduced, and there are no rare or endangered flora species at the project site. The area around the site was cultivated and planted in sugar, and is currently grazed by cattle. Grass, guava, and Christmas Berry are evident.

No rare or endangered fauna species are known to live at the project site. Common species which could be found nearby include feral pigs, mynahs, pheasants, quails, plovers, mongoose, and mice and other exotic species.

3.10 ARCHAEOLOGY AND HISTORIC SITES

Paul Rosendahl, Inc. was contracted with Tropical Ponds Hawaii, LLC to provide a documented historical opinion of the parcel, its uses and any potential sites of historical value, which can be found in Appendix B section of this Final Environmental Assessment. There were no findings of any historic or archaeological site in the vicinity of the aquaculture site. The site has been severely altered and used for production of sugar and is now pasture. However, should burials be found during construction, work must stop and the State Historic Preservation office must be contacted immediately.

SECTION 4

PROJECT IMPACTS AND MITIGATIVE MEASURES

The project impacts and their mitigative measures are discussed in the following sections. Some of the impacts discussed are construction noise, air quality, flora and fauna, surface water and groundwater quality, archaeological and historic, traffic, public health and safety, and socioeconomic.

4.1 SHORT-TERM IMPACTS AND MITIGATIVE MEASURES

Short-term impacts will result from site clearing, grubbing and grading, pond construction, building construction, and landscaping. These activities will be limited to the project site during the aquaculture farm construction period of approximately 2 years. The following sections discuss the short-term impacts and their mitigative measures.

4.1.1 CONSTRUCTION NOISE

Noise generated from the mobilization of equipment along the access road, and construction of ponds will be the primary impact at the farm site. Mobilization of equipment, as well as the pond construction, should be done only during daylight hours. Nearby residences may be as close as 1,000 feet to the project site. The noise impact on the nearby residential areas should not be significant but will be consistent with neighboring agricultural activities.

In order to mitigate any noise impacts, the use of muffled construction equipment is recommended. Construction equipment is also expected to be properly maintained. Heavy vehicles must be in compliance with Title III Administrative Rules, Department of Health (DOH), Chapter 42, Vehicular Noise Control for Hawaii. Construction work will most likely not be done during the night hours.

4.1.2 AIR QUALITY

Short-term air pollution from dust/dirt due to clearing, grubbing and grading, along with vehicular emissions from construction equipment, is expected to be insignificant. All operations will be conducted in conformance with the State Department of Health regulations regarding vehicular emissions.

Sprinklers will be used to minimize the levels of dust in the air. Areas, which have been graded, should be grassed as soon as possible to prevent dust from becoming a nuisance. All construction equipment shall be equipped with adequate emission control. All open-bed trucks shall be covered when transporting materials, which have the potential to become airborne. Overall, the project is not expected to have significant impacts on air quality.

4.1.3 FLORA AND FAUNA

No known rare or endangered species of flora and fauna are found at the site. Surveys of adjacent areas have also reported no known rare or endangered species. Therefore, no short-term impacts are expected.

4.1.4 SURFACE WATER AND GROUNDWATER QUALITY

Impacts on surface water and groundwater are expected to be insignificant as the site had been previously irrigated for sugar using the same water source (Kohala Ditch).

Any storm runoff from the site will be mitigated by erosion control measures including building berms around the project site to contain storm water runoff, installing silt fences as needed, immediately landscaping areas which have been graded, and grading during dry weather. Dewatering is not necessary for this project.

4.1.5 ARCHAEOLOGICAL AND HISTORICAL

No archaeological or historic sites are known to exist at the farm site, and no short-term impacts due to construction are expected.

4.1.6 TRAFFIC

The two-lane Akoni Pule highway that passes through the town of Hawi should not be impacted by the construction or operation of the aquaculture farm. Mobilization will be done during low traffic flow hours.

4.1.7 PUBLIC HEALTH AND SAFETY

All construction will implement appropriate measures to ensure public health and safety during the construction period. Construction areas will be delineated with no-trespassing and safety signs.

4.1.8 SOCIOECONOMIC

Construction of the production aquaculture farm and related improvements will provide several related jobs for the local workers. The purchase of materials from local suppliers will help the local building economy. The addition of aquaculture farming opportunity will meet the desired life-style of the greater community.

4.2 LONG-TERM IMPACTS AND MITIGATIVE MEASURES

No long-term impacts are expected from the operation of this aquaculture farm other than economic activity.

The following sections describe the farm's long-term impacts on noise, flora and fauna, drainage, stream flow, infrastructure, socioeconomic, land use and planned development.

4.2.1 NOISE

Very little noise at the farm site will be generated from the operation. Only short term activities, such as mowing or pond construction are expected and most activity will be conducted during normal working hours.

4.2.2 FLORA AND FAUNA

Since there are no rare or endangered plant or animal species at the project site, no significant long-term impacts are expected.

4.2.3 DRAINAGE

The minimal amount of additional runoff generated from the project improvements will be allowed to sheet flow into existing natural drainage ways. No significant impacts on drainage are expected.

4.2.4 STREAM FLOW

The development of the aquaculture farm should have no direct impact on any stream flows. Thus the development of the proposed aquaculture farm should not have a significant effect on stream flow.

4.2.5 INFRASTRUCTURE

Power will be required to operate the aquaculture farm and will be provided either via the nearby hydroelectric plant or via service from HELCO.

4.2.6 SOCIOECONOMIC

The development of the aquaculture farm will provide support for the residential, commercial and agricultural users of the Hawi service area. The creation of numerous jobs and training opportunities for the development of other new farms and aquaculture related activities and jobs will add to the community economic mix.

4.2.7 LAND USE AND PLANNED DEVELOPMENT

The proposed aquaculture facility is expected to remain consistent with the land use designation of the area. Both the County and State designations fall under Agriculture.

SECTION 5

ALTERNATIVES TO THE PROPOSED ACTION

Three alternatives were considered for this project:

1) no action,

2) delayed action,

3) alternate sites.

These alternatives are discussed below.

5.1 NO ACTION

A no-action alternative is not practical, because the development of large scale aquaculture will have a major positive impact on the development of an aquaculture industry within the state of Hawaii..

5.2 DELAYED ACTION

Delayed action is also not a practical alternative and will most probably result in a negative impact on the local economy .

5.3 ALTERNATE SITES

The aquaculture site is based on its proximity to Hawi Agricultural and Energy Corporation, which can supply adequate water from the outflow of its hydroelectric power generation and the potential for low cost power. There are no similar sites.

SECTION 6

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION

The few negative impacts which have been identified in this Final Environmental Assessment for TPH fish farm should be adequately minimized by the suggested mitigative measures. In accordance with Chapter 343, *Hawaii Revised Statutes,* it has been determined that this project will not have significant environmental effect and an Environmental Impact Statement is not required. This constitutes a Finding of No Significant Impact.

DESCRIPTION OF THE PROPOSED ACTION

Tropical Ponds Hawaii, LLC, a producer and exporter of freshwater aquarium fish, proposes to establish and operate a freshwater aquaculture farm, and hatchery near Hawi in the North Kohala District of the Big Island of Hawaii. The farm will expand the production of tropical freshwater aquarium fish for export to the U.S. mainland and Asia. Water for the farm will be supplied via an existing pipeline from the Kohala Ditch. Water discharged from the farm will be used to irrigate existing pasture on HA&E lands. Irrigation will also be used on site. With this leasehold expansion, TPH will also develop the ability to mentor and train other farmers and potential farms on the Big Island. This will facilitate the growth of the industry and provide new entrepreneurs with an example and resource for start up ventures.

The few negative impacts which have been identified in this Final Environmental Assessment TPH fish farm should be adequately minimized by the suggested mitigative measures. In accordance with Chapter 343, *Hawaii Revised Statutes,* it has been determined that this project will not have significant environmental effect and an Environmental Impact Statement is not required. This constitutes a Finding of No Significant Impact.

DETERMINATION AND REASONS SUPPORTING THE DETERMINATION

The proposed project would not have a significant effect on the environment and therefore preparation of an environmental impact statement is not required. The "Significance Criteria," Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

1. *No irrevocable commitment to loss or destruction of any natural or cultural resource would result.* The lands for construction and access right-of-way are located on former sugar lands. No significant other natural resources are present. No known cultural resources would be impacted. The State Division of Historic Preservation was contacted.

2. *The action would not curtail the range of beneficial uses of the environment.* The project, while certainly making use of water resources, would increase the opportunity for local aquaculture development.

3. *The proposed action does not conflict with the State's long-term environmental policies or goals and guidelines.* The State's environmental policies and guidelines are set forth in Chapter 344, Hawaii Revised Statutes, "State Environmental Policy." Two broad policies are espoused: conservation of natural resources, and enhancement of the quality of life. The proposed project does not consume or interfere with significant natural resources. It would include mitigative measures to minimize various categories of pollution, while promoting and improving the opportunity for aquaculture development thus allowing fulfillment of the social, economic and other requirements of residents in North Kohala.

4. *The economic or social welfare of the community or state would not be substantially affected.* The only impact will be increased economic opportunity in a rural community.

5. *The proposed action does not substantially affect public health.* There will be no impact on public health.

6. *No substantial secondary impacts, such as population changes or effects on public facilities, are anticipated.* There may eventually be the local addition of several families, however, no significant impact is otherwise anticipated.

7. *No substantial degradation of environmental quality is anticipated.* The project area is unremarkable in terms of environmental resources, and standard mitigation measures would suffice to protect ambient environmental quality. Proper mitigation of construction noise and water discharge would take place. The project is not expected to result in concentrations of pollutants exceeding State or federal standards for ambient air quality or water quality.

8. *The proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment.* An export market is anticipated using existing air freight capacity from local airports.

9. *No rare, threatened or endangered species or their habitats would be affected.* No endangered, threatened or candidate floral species would be affected by the project.

10. *Air quality, water quality or ambient noise levels would not be detrimentally affected.* There is no impact on air quality. No significant water quality impacts are anticipated as the project will use existing sources of supply which formerly serviced the sugar fields.

11. *The project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, fresh waters or coastal waters.* No environmentally sensitive areas would be affected. The project site is on slightly sloped land well inland of the coast. Tsunami inundation is impossible. Seismic risks are not expected if proper construction is used. There are no volcanic hazards. All discharged water will be returned to the land via irrigation on neighboring pasture lands.

SECTION 7

LIST OF NECESSARY PERMITS AND APPROVALS

The following permits and approvals are anticipated for the development of the proposed aquaculture project:

1. Grading Permit - County of Hawaii
2. Building Permit - County of Hawaii
3. Land Division, Department of Land and Natural Resources - State of Hawaii
4. State Historic Preservation Office Review, Department of Land and Natural Resources - State of Hawaii

REFERENCES

1. State of Hawaii, Aquaculture Development Program, Department of Planning and Economic Development, *Permits & Environmental Requirements for Aquaculture in Hawaii*, Revised January 1980.

2. Stephen P. Bowles, John F. Mink, Akinaka & Associates, and Charles S. May, *Kohala Water Resources Management and Development Plan, Phase II*, May 1974.

3. County of Hawaii, Department of Water Supply, U.S. Geological Survey, Water-Resources Investigations Report 95-4113, *Ground-Water Availability from the Hawi Aquifer in the Kohala Area, Hawaii.*

4. Letter from Paul Rosendahl, Department of Land and Natural Resources, State Historic Preservation Division, July 2001.

5. Megumi Kon, Inc. State of Hawaii, Commission of Water Resource Management, Department of Land and Natural Resources. *Hawaii County Water Use and Development Plan.* Review Final, February 1992.

6. H.T. Stearns and G.A. MacDonald, *Geology and Ground-Water Resources of the Island of Hawaii*, Bulletin 9, Hawaii Division of Hydrography, 1946.

7. State of Hawaii, *Environmental Assessment Booklet*

8. State of Hawaii, Department of Land and Natural Resources, Division of Water and Land Development. *Rainfall Atlas of* Hawaii. R76. June 1986.

9. U.S. Department of Agriculture, Soil Conservation service. *Soil Survey of Island of Hawaii, State of Hawaii.* August 1972.

10. *Land Use District Boundaries, District Map H-50*, State of Hawaii, Land Use Commission, Dec. 20, 1974.

11. County of Hawaii General Plan, 2001.

APPENDIX A

PHOTOS OF SITE

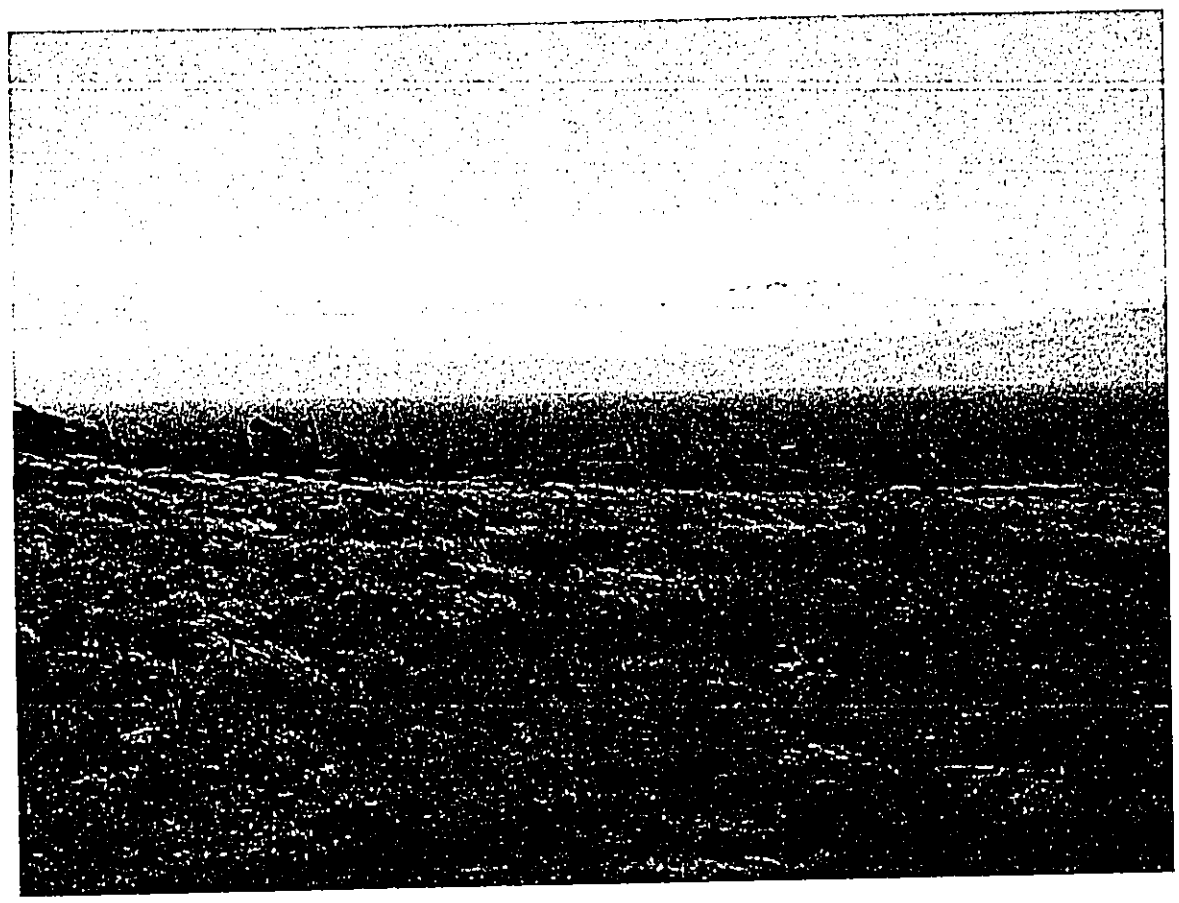


Photo 1: From Hawi Ag & Energy looking makai over pond area (Maui to right)

Photo 2: Pond area looking makai (Maui in background)

Photo 3: Pond area looking mauka (Hawi Ag & Energy to left)

APPENDIX B

CULTURAL IMPACT ASSESSMENT
BY PAUL H. ROSENDAHL, Ph.D.

PHRI **Paul H. Rosendahl, Ph.D., Inc.**
Archaeological • Historical • Cultural Resource Management Studies & Services
204 Wainuenue Avenue • Hilo, Hawaii 96720 • (808) 969-1763 • FAX (808) 961-6998
P.O. Box 23305 • G.M.F., Guam 96921 • (671) 472-3117 • FAX (671) 472-3131

PHRI Report 2190-072701 July 2001

CULTURAL IMPACT ASSESSMENT FOR ENVIRONMENTAL ASSESSMENT (EA)

TROPICAL PONDS OF HAWAII AQUACULTURE FARM PROJECT

Land of Hualua 2nd, North Kohala District
Island of Hawai'i (TMK:3-5-5-07:5)

The purpose of this cultural impact assessment is to comply with the requirements of *Chapter 343 (Haw.Rev.Stat.)*, as recently amended by H.B. No.2895, H.D.1 of the Hawai'i State Legislature (2000) and approved by the Governor as *Act 50* on April 26, 2000, and which among other things requires that environmental assessments (EA) and impact statements (EIS) identify and assess the potential effects of any proposed project upon the "...cultural practices of the community and State...." *Chapter 343 (Haw.Rev.Stat.)* was amended by the State legislature because of the perceived need to assure that the environmental review process explicitly addressed the potential effects of any proposed project upon "...Hawai'i's culture, and traditional and customary rights." Guidelines previously prepared and adopted by the State Office of Environmental Quality Control (OEQC) 1997) provide compliance guidance. Both *Act 50* and the OEQC *Guidelines for Assessing Cultural Impacts* mandate consideration of potential cultural impacts upon all the different groups comprising the multi-ethnic community of Hawaii. This inclusiveness, however, is generally understated, and the emphasis–as indicated by a background review (PHRI 1998:5-8) of the cultural impact assessment issue, and the intent and evolution of both the legislative action and the guidelines–is clearly meant to be primarily upon aspects of Native Hawaiian culture–particularly traditional and customary access and use rights.

This cultural impact assessment has been prepared for Mr. Bob Kern of Tropical Ponds of Hawaii in connection with an application to the Board of Land and Natural Resources for a general lease for the use of a state-owned parcel (TMK:3-5-5-07:5) for the development of an aquaculture farm project involving the production of tropical fish for the wholesale market. The subject parcel is situated in the North Kohala District of Hawai'i Island, approximately 0.75 miles west of Hawi Village and 0.45 miles east of the intersection of the Mahukona-Niulii Road and the Upolu Airport Access Road *(see Figure 1, at end)*. Identified as Parcel 5 of TMK:3-5-5-07, the subject parcel consists of 40.57 acres located in the Land of Hualua 2nd, between the Land of Hualua 1st to the northeast and the Land of Kealahewa to the southwest. It extends approximately 3,450 ft seaward from the Mahukona-Niulii Road, and slopes seaward from an elevation of c. 640 ft down to c. 440 ft. The subject parcel, which is owned by the State of Hawai'i, was previously used for intensive agricultural cultivation. It presently lies fallow, with a vegetation cover of various introduced pasture grasses, and scattered specimens of introduced exotics including lantana (*Lantana camera* l.), Formosa koa (*Acacia confusa* Merr.), and koa-haole (*Leucaena glauca* (L.) Benth.). No native vegetation has been noted present within the parcel (S. Bowles, pers. comm.).

The scope of work and methodology for the Tropical Ponds of Hawaii Aquacultural Farm Project cultural impact assessment are based on the general assumption that the level of study effort appropriate in any project-specific context should involve the consideration of several factors, the most relevant of which are the following: (a) the probable number and significance of known or suspected cultural properties, features, exploitable natural resources, practices, or beliefs within or associated with the specific project area; (b) the potential number of individuals (potential informants) with cultural knowledge of the specific project area; (c) the availability of historical and cultural information for the specific project area or immediately adjacent lands; (d) the physical size, configuration, and natural and human modification history of the specific project area; (e) the present or recent modern land use of the specific project area; and (f) the potential effects of the project on known or expected cultural properties, features, practices, exploitable natural resources, or beliefs within or related to the specific project area.

Consideration of these factors within the specific nature and context of the proposed Tropical Ponds of Hawaii Aquacultural Farm Project, as well as consultation with professional staff in the State Historic Preservation Division–History and Culture Branch, indicated that the appropriate level of study for an adequate assessment of potential cultural impacts would be a relatively lesser level of study effort that could be characterized as an identification study. The distinctive characteristics of an identification study are that it would be limited to (a) the identification of native Hawaiian or other cultural practices, beliefs, properties, features, or exploitable natural resources associated with and/or present within or related to the specific project area that are currently being conducted by and/or known to individual cultural practitioners or groups, and (b) the collection of information reasonably sufficient so as to define the general nature, location, and likely authenticity of identified cultural claims.

An identification study would not involve the considerably greater level of study effort – both calendar months and hours of labor – needed to carry out what could be characterized as a full documentation study. The distinctive characteristics of the latter, which would commonly be referred to as a full ethnographic or oral history study, would be (a) the collection of detailed information regarding identified native Hawaiian cultural practices by means of formal oral history interviews which are usually tape recorded and transcribed, and (b) the analysis and synthesis of all collected data – from interviews, as well as relevant historical documentary and archival research – within the general cultural-historical context of traditional native Hawaiian culture and the defined specific geographical area of a specific project.

In connection with Tropical Ponds of Hawaii's application to the Board of Land and Natural Resources for a general lease for the use of the subject state-owned parcel (TMK:3-5-5-07:5), PHRI recently prepared a report (PHRI 2001), the purpose of which was to provide appropriate documentation supporting a request to the State Historic Preservation Division (SHPD) for a determination of "no historic properties affected" in accordance with the general guidance provided by Chapter 284: Section 5(b) of the SHPD Draft Rules and Regulations (HAR Title 13, DLNR; Subtitle 13, SHPD) (5/31/01). The report indicated that no significant historic sites were likely to be present within the subject project area because of extensive land altering activities during the last 100 years or so.

Available information indicates that the general land area within which the subject parcel is located has been extensively altered by historic period agricultural use since latter part of the 19th century, beginning with plantation-scale cultivation of sugar that continued until the mid-1970s and was followed for a few years by field-scale cultivation of several crops for cattle forage. Archaeological research and historical documentary research suggest that prior to the historic period development of sugar cultivation, the traditional native Hawaiian pattern of occupation and land use for the general area of the subject parcel consisted of widely dispersed temporary and permanent residential habitations associated with extensive field-scale cultivation of dryland crops in a settlement-subsistence pattern most likely very similar to that reconstructed for the Lapakahi area (Rosendahl 1972, 1994).

While traditional patterns of settlement, subsistence, and general land use persisted in North Kohala through the immediate post-contact period and into the early historic period, the period of the early 1840s to 1860s was characterized by a steep decline in native Hawaiian population, a consolidation of residential habitation into the more desirable locations, and a gradual shift in the economy from traditional subsistence based on fishing and farming to a cash-based market economy. The early 1860s saw the beginnings of the plantation-scale sugar industry with the incorporation of the Kohala Sugar Company in 1863. The industry so flourished that by the mid-1890s that five other sugar mills had development in competition with the Kohala Mill.

The general area of the subject parcel seems to have been brought into commercial sugar cultivation in the 1880s as part of a general expansion to supply increased volumes of sugarcane for processing at the Hawi Mill. As part of this expansion and in an effort to resolve cane transportation difficulties, the Hoea Mill was established in 1904–approximately 1.0 miles north-northeast of the subject parcel–in the nearby Land of Kahei 3rd (*see Figure* 1), and in closer proximity to the newer cultivation areas. Until the early 1900s, plantation cultivation was dependent upon natural rainfall for crop irrigation. In response to a period of severely reduced rainfall, the Kohala Ditch project was begun in 1904 to bring irrigation water from the wet windward valleys of North Kohala. With the completion of the ditch in 1906, abundant water became available and cultivation in the general area of the subject parcel was converted to furrow irrigation serviced by a network of distribution ditches.

Between 1929 and 1937, Kohala Sugar Company gradually acquired and consolidated the various mills in North Kohala and came to control most of the sugar cultivation acreage in North Kohala. Furrow irrigation continued to be the principal form of irrigation in the general area of the subject parcel until the late 1950-early 1960s, when Kohala Sugar converted from furrow irrigation to high-pressure overhead

irrigation using portable pipelines and sprinklers, and the earlier system of distribution ditches and irrigation furrows was plowed under and disappeared.

The period from WWII to the mid-1970s saw a gradual decline in the population of North Kohala. While Kohala Sugar continued to operate during this period, crop yields varied, and various economic factors–including increasing costs of labor and general operation and world market competition–gradually diminished profitability. In 1971, the decision to close down sugar production was announced, and Kohala Sugar ceased all operations in 1975. In response to the economic slump resulting from the closure, a state-funded aid program referred to as the Kohala Task Force sought to bring about an economic revitalization of North Kohala. Several diversified agricultural projects were funded, including a cattle feedlot operation undertaken by a new commercial firm, Hawaii Biogenics, Ltd., on several leased parcels of land in the general area of, and including, the subject parcel. While the cattle feedlot operation involved the cultivation of various grain crops for silage conversion from fodder into cattle feed, the subject parcel–though under lease from the state to Hawaii Biogenics–was never actually cultivated but was used as pasturage for dairy cattle by a local diary operator. Hawaii Biogenics ceased operations in 1978, and the subject parcel has remained basically in fallow since then.

Based on the background research carried out with respect to both the general area of the subject parcel and the subject parcel itself in North Kohala (PHRI 2001), it was believed that no significant historic sites are likely to be present within the subject parcel because of extensive land altering activities during the last 100 years or so. Most of these activities were carried out in connection with sugarcane production and related cultivation and irrigation practices from the 1880s through the mid-1970, and were believed likely to have eliminated any physical evidence of earlier traditional native Hawaiian occupation and agricultural exploitation.

The overall rationale guiding the present cultural impact assessment study has been that the level of study effort should be commensurate with the potential of the proposed project for making any adverse impacts upon (a) any native Hawaiian or other cultural practices or beliefs currently conducted or held by cultural practitioners within or related to the subject parcel, or (b) any known or expected cultural properties, features, or exploitable natural resources within or related to the subject parcel. Based on the location and the intensive historic period to recent modern agricultural development and utilization of the project area, the present study assumes that (a) potential cultural impact assessment issues would be highly unlikely, (b) the report (PHRI 2001) recently prepared for the project in support of a request to the State Historic Preservation Division (SHPD) for a determination of "no historic properties affected" confirms both the greatly altered physical nature of the project area and the absence of cultural resources within or related to the project area, and (c) in the unlikely instance that any legitimate cultural impact assessment issues should arise during the environmental review period, they could be addressed adequately within the framework of the review process.

The proposed Tropical Ponds of Hawaii Aquacultural Farm Project area has been extensively modified during historic period to recent times, as indicated by (a) the current condition and use of the property and (b) the findings of the report (PHRI 2001) prepared for the project in support of a request to the State Historic Preservation Division (SHPD) for a determination of "no historic properties affected". Furthermore, there is no indication of any kind that the project area is currently being used either by Native Hawaiian cultural practitioners exercising traditional and customary access and use rights for any purposes, or by individuals of any other cultural affiliation for any traditional cultural purposes (S. Bowles, pers. comm.; M. Richards, pers. comm.) Based on the negative results of the recently completed determination of "no historic properties affected" report and the absence of any evidence that the project area is currently being used for legitimate traditional cultural purposes by either Native Hawaiian cultural practitioners or individuals of any other cultural affiliation, it can be concluded that the proposed Tropical Ponds of Hawaii Aquacultural Farm Project should have no significant effects–much less any adverse impacts–upon any cultural resources, and that no mitigation measures of any kind are needed.

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PHRI (Paul H. Rosendahl, Ph.D., Inc.)

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Rosendahl, P.H.

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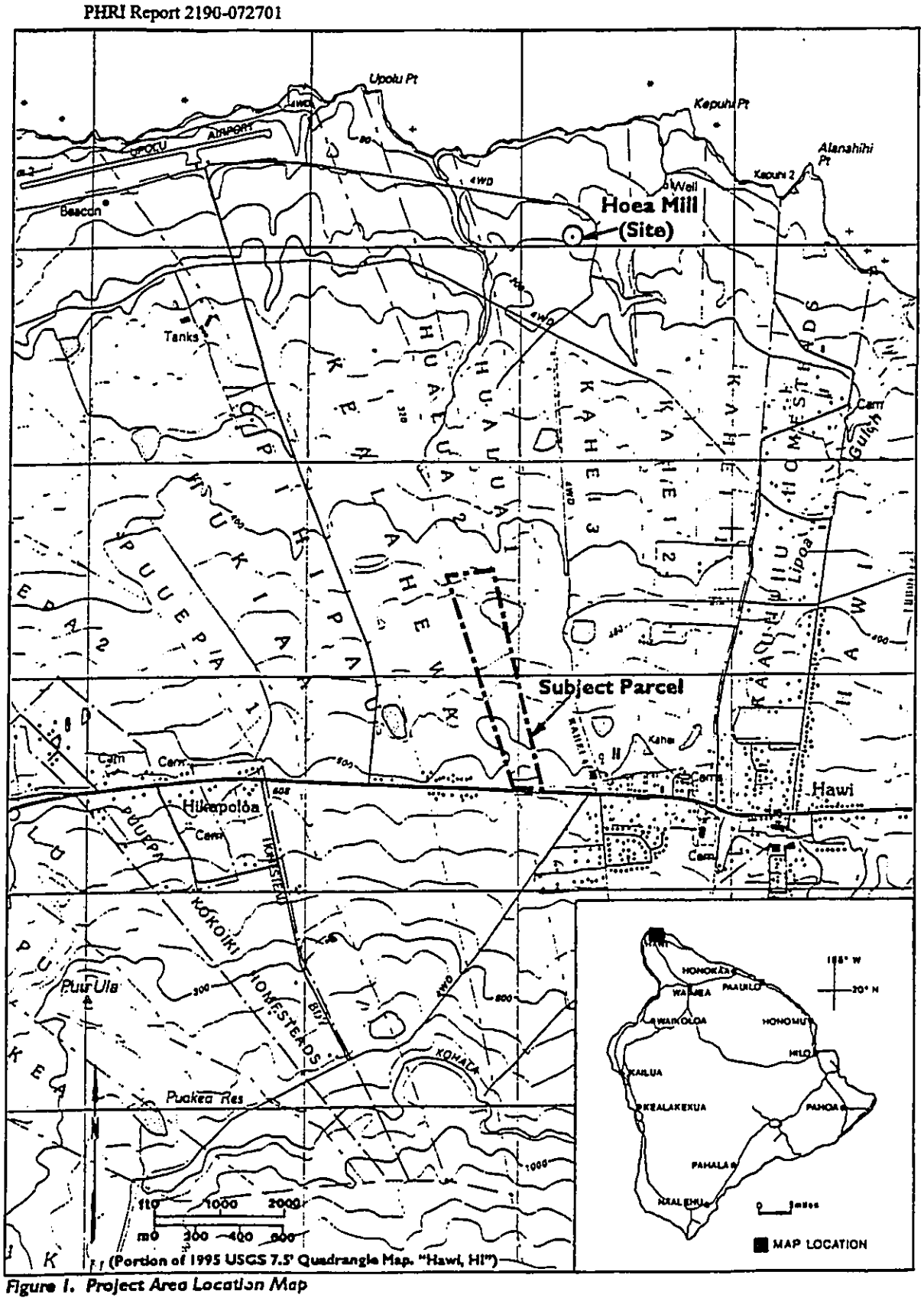

Figure 1. Project Area Location Map

APPENDIX C

DETERMINATION OF "NO HISTORIC PROPERTIES AFFECTED"
BY PAUL H. ROSENDAHL, Ph.D.

PHRI Paul H. Rosendahl, Ph.D., Inc.
Archaeological • Historical • Cultural Resource Management Studies & Services
204 Wainuenue Avenue • Hilo, Hawaii 96720 • (808) 969-1763 • FAX (808) 961-6998
P.O. Box 23305 • G.M.F., Guam 96921 • (671) 472-3117 • FAX (671) 472-3131

Report 2190-072501

July 2001

REQUEST TO STATE HISTORIC PRESERVATION DIVISION FOR DETERMINATION OF "NO HISTORIC PROPERTIES AFFECTED"

TROPICAL PONDS OF HAWAII AQUACULTURE FARM PROJECT

Land of Hualua 2nd, North Kohala District
Island of Hawai'i (TMK:3-5-5-07:5)

The purpose of this report is to provide appropriate documentation supporting a request to the State Historic Preservation Division (SHPD) for a determination of "no historic properties affected" in accordance with the general guidance provided by Chapter 284: Section 5(b) of the SHPD Draft Rules and Regulations (HAR Title 13, DLNR; Subtitle 13, SHPD) (5/31/01). The following documentation supports our professional opinion that no significant historic sites are likely to be present within the subject project area because of extensive land altering activities during the last 100 years or so. This report has been prepared by Paul H. Rosendahl, Ph.D., for Mr. Bob Kern of Tropical Ponds of Hawaii in connection with an application to the Board of Land and Natural Resources for a general lease for the use of a state-owned parcel (TMK:3-5-5-07:5) for the development of an aquaculture farm project involving the production of tropical fish for the wholesale market.

The subject parcel is situated in the North Kohala District of Hawai'i Island, approximately 0.75 miles west of Hawi Village and 0.45 miles east of the intersection of the Mahukona-Niulii Road and the Upolu Airport Access Road *(see Figures 1 and 2, at end)*. Identified as Parcel 5 of TMK:3-5-5-07, the subject parcel consists of 40.57 acres located in the Land of Hualua 2nd, between the Land of Hualua 1st to the northeast and the Land of Kealahewa to the southwest. It extends approximately 3,450 ft seaward from the Mahukona-Niulii Road, and slopes seaward from an elevation of c. 640 ft down to c. 440 ft. The subject parcel, which is owned by the State of Hawai'i, was previously used for intensive agricultural cultivation. It presently lies fallow, with a vegetation cover of various introduced pasture grasses, and scattered specimens of introduced exotics including lantana (*Lantana camera* l.), Formosa koa (*Acacia confusa* Merr.), and koa-haole (*Leucaena glauca* (L.) Benth.). No native vegetation has been noted present within the parcel (S. Bowles, pers. comm.).

The principal sources of information utilized for documentation of past land use and extensive land alteration activities during the last 100 years or so were the following:

1. A study (Newman n.d.) prepared for the Division of State Parks in 1968-1970 on traditional Hawaiian fishing and farming of the late prehistoric and early historic periods on Hawaii Island, with specific attention to leeward North Kohala;
2. A collection of papers (Tuggle and Griffin 1973) produced in 1970 by students participating in the University of Hawaii summer archaeological field school at Lapakahi–particularly a paper on traditional agricultural field systems and environmental variables (Smith and Schilt 1973);
3. A collection of papers (Stephenson 1977) produced in 1977 by North Kohala students participating in a class sponsored by the Center for Continuing Education and Community Service-University of Hawaii at Hilo (CCECS-UHH);
4. A study (Tomonari-Tuggle 1981) prepared for the Division of State Parks in 1980-1981 for the management of cultural resources in North Kohala;

5. Personal communications with Steve Bowles, a private water resources consultant with extensive experience in agricultural development in North Kohala, particularly with regard to the operations of the state-sponsored Kohala Task Force in the early 1970s (Bowles et al. 1974);

6. Personal communications with Bill Shontell, a long-time North Kohala resident, and presently employed as an engineer with Chalon International of Hawaii, Inc., a major landowner and developer of properties in North Kohala, and

7. Personal observations and experience derived from several periods of archaeological and cultural resource management work and extended residency in North Kohala during the period 1968-1973.

Available information indicates that the general land area within which the subject parcel is located has been extensively altered by historic period agricultural use since latter part of the 19th century, beginning with plantation-scale cultivation of sugar that continued until the mid-1970s and was followed for a few years by field-scale cultivation of several crops for cattle forage. Archaeological research and historical documentary research suggest that prior to the historic period development of sugar cultivation, the traditional native Hawaiian pattern of occupation and land use for the general area of the subject parcel consisted of widely dispersed temporary and permanent residential habitations associated with extensive field-scale cultivation of dryland crops in a settlement-subsistence pattern most likely very similar to that reconstructed for the Lapakahi area (Rosendahl 1972, 1994).

While traditional patterns of settlement, subsistence, and general land use persisted in North Kohala through the immediate post-contact period and into the early historic period, the period of the early 1840s to 1860s was characterized by a steep decline in native Hawaiian population, a consolidation of residential habitation into the more desirable locations, and a gradual shift in the economy from traditional subsistence based on fishing and farming to a cash-based market economy. The early 1860s saw the beginnings of the plantation-scale sugar industry with the incorporation of the Kohala Sugar Company in 1863. The industry so flourished that by the mid-1890s that five other sugar mills had development in competition with the Kohala Mill.

The general area of the subject parcel seems to have been brought into commercial sugar cultivation in the 1880s as part of a general expansion to supply increased volumes of sugarcane for processing at the Hawi Mill. As part of this expansion and in an effort to resolve cane transportation difficulties, the Hoea Mill was established in 1904–approximately 1.0 miles north-northeast of the subject parcel–in the nearby Land of Kahei 3rd (*see Figure* 1), and in closer proximity to the newer cultivation areas. Until the early 1900s, plantation cultivation was dependent upon natural rainfall for crop irrigation. In response to a period of severely reduced rainfall, the Kohala Ditch project was begun in 1904 to bring irrigation water from the wet windward valleys of North Kohala. With the completion of the ditch in 1906, abundant water became available and cultivation in the general area of the subject parcel was converted to furrow irrigation serviced by a network of distribution ditches.

Between 1929 and 1937, Kohala Sugar Company gradually acquired and consolidated the various mills in North Kohala and came to control most of the sugar cultivation acreage in North Kohala. Furrow irrigation continued to be the principal form of irrigation in the general area of the subject parcel until the late 1950-early 1960s, when Kohala Sugar converted from furrow irrigation to high-pressure overhead irrigation using portable pipelines and sprinklers, and the earlier system of distribution ditches and irrigation furrows was plowed under and disappeared.

The period from WWII to the mid-1970s saw a gradual decline in the population of North Kohala. While Kohala Sugar continued to operate during this period, crop yields varied, and various economic factors–including increasing costs of labor and general operation and world market competition–gradually diminished profitability. In 1971, the decision to close down sugar production was announced, and Kohala Sugar ceased all operations in 1975. In response to the economic slump resulting from the closure, a state-funded aid program referred to as the Kohala Task Force sought to bring about an economic revitalization of North Kohala. Several diversified agricultural projects were funded, including a cattle feedlot operation undertaken by a new commercial firm, Hawaii Biogenics, Ltd., on several leased parcels of land in the general area of, and including, the subject parcel. While the cattle feedlot operation involved the cultivation of various grain crops for silage conversion from fodder into cattle feed, the subject parcel–though under lease from the state to Hawaii Biogenics–was never actually cultivated but was used as pasturage for dairy cattle by a local diary operator. Hawaii Biogenics ceased operations in 1978, and the subject parcel has remained basically in fallow since then.

Based on the background research carried out with respect to both the general area of the subject parcel and the subject parcel itself in North Kohala and the documentation presented in this report, it is our professional opinion that no significant historic sites are likely to be present within the subject parcel because of extensive land altering activities during the last 100 years or so. Most of these activities were carried out in connection with sugarcane production and related cultivation and irrigation practices from the 1880s through the mid-1970, and are believed most likely to have eliminated any physical evidence of earlier traditional native Hawaiian occupation and agricultural exploitation. Therefore, we believe it to be appropriate for SHPD to prepare and issue a written determination of "no historic properties affected" in accordance with the general guidance provided by Chapter 284: Section 5(b) of the SHPD Draft Rules and Regulations (HAR Title 13, DLNR; Subtitle 13, SHPD) (5/31/01).

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1994 Aboriginal Hawaiian Structural Remains and Settlement Patterns in the Upland Agricultural Zone at Lapakahi, Island of Hawai'i. *Hawaiian Archaeology 3:14-70.*

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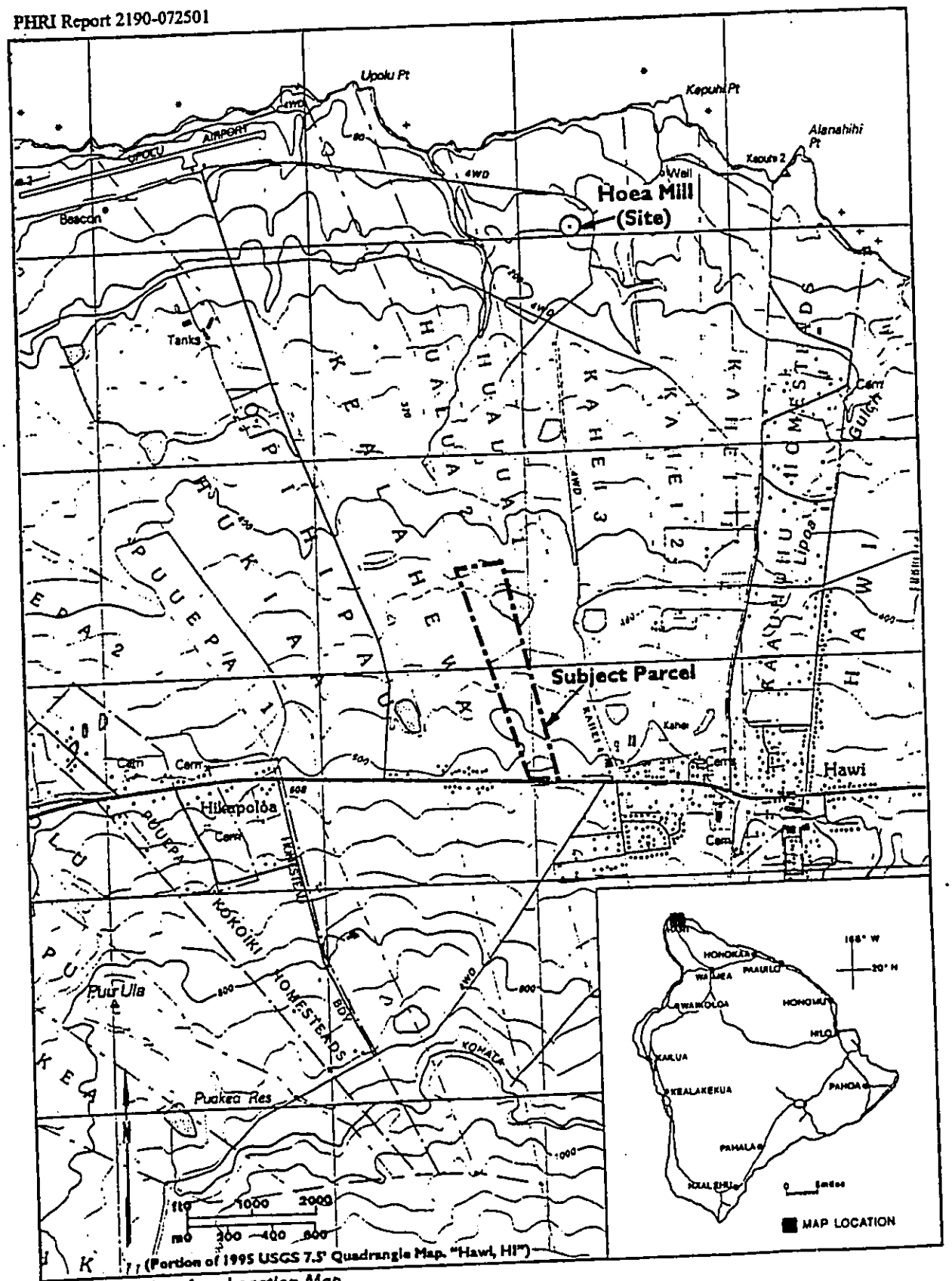

(Portion of 1995 USGS 7.5' Quadrangle Map, "Hawi, HI")

Figure 1. Project Area Location Map

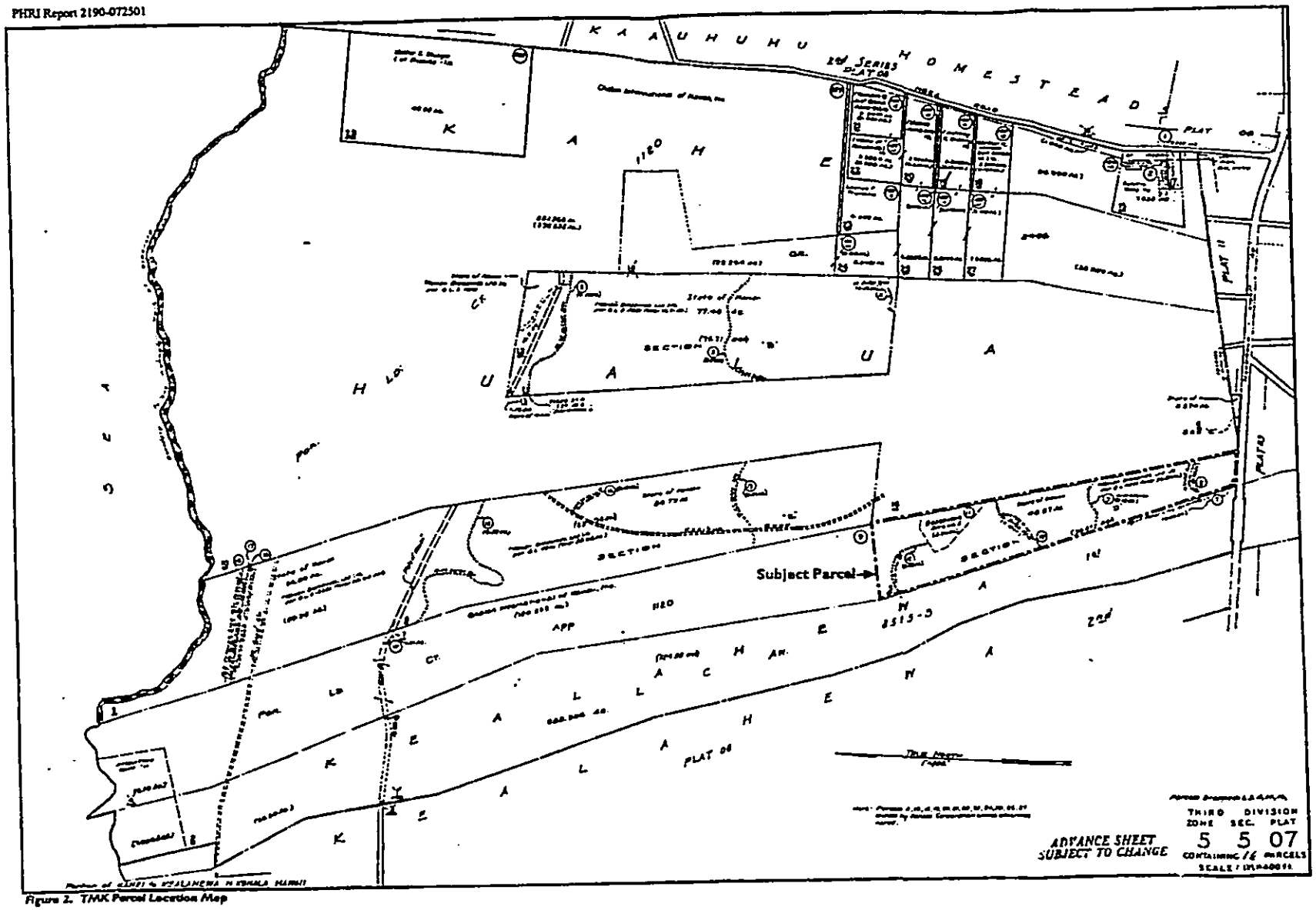

Figure 2. TMK Parcel Location Map

APPENDIX D

LETTERS OF CORRESPONDENCE

- Mayor Harry Kim - County of Hawaii
- Christopher J. Yuen, Planning Director - County of Hawaii
- Jane Testa, Director of Department of Research and Development - County of Hawaii

Harry Kim
Mayor

Dixie Kaetsu
Managing Director

Peter T. Young
Deputy Managing Director

COUNTY OF HAWAII

25 Aupuni Street, Room 215 • Hilo, Hawaii 96720-4252 • (808) 961-8211 • Fax (808) 961-6553
KONA: 75-5706 Kuakini Highway, Suite 103 • Kailua-Kona, Hawai'i 96740
(808) 329-5226 • Fax (808) 326-5663

July 9, 2001

Mr. Bob Kern
Tropical Ponds of Hawaii
P.O. Box 1750
Keaau, HI 96749

Dear Mr. Kern:

Your proposed freshwater ornamental fish farm project in Hawi, North Kohala, is a development that is well in line with the direction that my administration is pursuing for our island and its people. My administration encourages sustainable businesses that are economically viable as well as environmentally friendly. I see aquaculture as being especially suitable for our island because it revives a cherished tradition that was long practiced by the Hawaiian people in past times. It is an industry that could utilized our ample agriculture-zone lands and could employ former plantation workers that are used to working outdoors.

Aquaculture is growing at the national as well as the local level. My administration will continue to support and help in whatever way we can to ensure the long term economic success of the ornamental industry on the Big Island.

Sincerely,

Harry Kim
MAYOR

mllh

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

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

FACSIMILE
(808) 966-6786

July 2, 2001

Mr. John Santangelo
Tropical Ponds of Hawaii
PO Box 1750
Keaau, HI 96749

Dear Mr. Santangelo:

SUBJECT: TMK Map for Tropical Ponds of Hawaii

This letter is in response to your request for comments on a proposed lease of state land, T.M.K. No. 5-5-7:5. This property is designated "Intensive Agriculture" on the current County General Plan and is zoned A-20. The proposed use of the property for aquaculture is consistent with the General Plan and zoning designations. There are also many specific provisions of the General Plan that would encourage the use of properties such as this for high-value agricultural and aquacultural uses.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

CJY:pak
Wpwin60\Pat\Santangelo - Tropical Ponds of Hawaii

Harry Kim
Mayor

Jane H. Testa
Director

County of Hawaii

DEPARTMENT OF RESEARCH AND DEVELOPMENT

25 Aupuni Street, Room 219 • Hilo, Hawaii 96720-4252
(808) 961-8366 • Fax (808) 935-1205
E-mail: chresdev@interpac.net

July 9, 2001

Mr. Bob Kern
Tropical Ponds of Hawaii
P.O. Box 1750
Keaau, HI 96749

Dear Mr. Kern:

The County of Hawaii Department of Research and Development supports your proposed freshwater ornamental fish farm development in Hawi, North Kohala.

Hawaii County continues to encourage the utilization of agriculture zoned lands for the development of economically viable industry. Aquaculture is an industry that shows great potential for success on the Big Island because of our pure artesian water which is ideal for all species of ornamentals coupled with our year-round mild climate that allows us to grow a variety of aquatic organisms.

Ornamental fish is a growing industry in Hawaii at this time. Your proposed project is not only timely but also could serve as the impetus for further development of the ornamental industry on the Big Island.

Sincerely,

Jane Testa
Director

mlh

APPENDIX E

LETTERS OF COMMENTS / RESPONSES

- Edward Bumatay, Fire Chief - County of Hawaii
- Milton D. Pavao, P.E., Manager, Department of Water Supply - County of Hawaii
- Christopher J. Yuen, Planning Director - County of Hawaii
- William Wong, P.E., Chief, Safe Drinking Water Branch, Department of Health - State of Hawaii

  - Response from Bob Kern, Tropical Ponds Hawaii, LLC

- Genevieve Salmonson, Director of Office of Environmental Quality Control - State of Hawaii

  - Response from Bob Kern, Tropical Ponds Hawaii, LLC

- John T. Harrison, Ph.D., Environmental Coordinator - University of Hawaii at Manoa - State of Hawaii

  - Response from Bob Kern, Tropical Ponds Hawaii, LLC

Harry Kim
Mayor

Edward Bumatay
Fire Chief

County of Hawai'i
FIRE DEPARTMENT
80 Pauahi Street • Suite 101 • Hilo, Hawai'i 96720
(808) 961-8297 • Fax (808) 961-8296

August 7, 2001

Mr. Bob Kern, Agent
Hawi Agricultural & Energy Corporation
P.O. Box 1656
Kamuela, HI 96743

Dear Mr. Kern:

Subject: Draft Environmental Assessment for Direct Lease for Aquaculture Purposes to Hawi Agricultural and Energy Corporation and Tropical Ponds of Hawaii; Hualua, North Kona, Hawaii
TMK: (3) 5-5-007:005
Reference No.: 01HD-138
Author: LD-TLH

We have no comments on the Draft Environmental Assessment for direct lease for aquaculture purposes to Hawi Agricultural and Energy Corporation and Tropical Ponds of Hawaii.

Sincerely,

EDWARD BUMATAY
Fire Chief

EB/mo

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
345 KEKUANAOA STREET, SUITE 20 • HILO, HAWAII 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 9, 2001

Hawi Agricultural and Energy Corporation
P.O. Box 1656
Kamuela, HI 96743

DRAFT ENVIRONMENTAL ASSESSMENT FOR DIRECT LEASE FOR AQUACULTURAL PURPOSES TO HAWI AGRICULTURE AND ENERGY CORPORATION AND TROPICAL PONDS OF HAWAII
TAX MAP KEY: 5-5-007:005

We have reviewed the subject document and have the following comment.

We understand that water for the proposed project will not be required from the Department's existing water system facilities but will be completely supplied from the Kohala Ditch as noted on Page 26 in the subject document.

Should it be desired, water service from an existing 8-inch waterline along Akoni-Pule Highway is available. However, subject to change, this service is limited to a 5/8-inch meter and 600 gallons per day and payment of applicable installation and facilities charges.

We have no further comments and are returning the subject document to you.

Should there be any questions, please call our Water Resources and Planning Branch at 961-8070.

Sincerely yours,

Milton D. Pavao, P.E.
Manager

WA:jh

Enc.

...Water brings progress...

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

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

August 28, 2001

Mr. Bob Kern
Hawi Agricultural and Energy ~~Corporation~~
P.O. Box 1656
Kamuela, HI 96743

Dear Mr. Kern,

Draft Environmental Assessment for Aquaculture Activities
TMK: 5-5-7: 5

This is to acknowledge receipt of your letters dated July 19, 2001 and July 31, 2001 and Draft Environmental Assessment regarding the establishment and operation of a freshwater aquaculture farm and hatchery on the above-referenced property. The EA is being prepared pursuant to Chapter 343, Hawaii Revised Statutes and Title 11, Chapter 200, Hawaii Administrative Rules, as the proposed improvements include the use of State lands.

The County zoning for the property is Agricultural (A-20a) and the General Plan Land Use Pattern Allocation Guide (LUPAG) Map designation is Intensive Agricultural. Thus, an aquaculture farm and hatchery is a permitted use under the current County zoning and LUPAG Map designation.

If you have any questions, please call Phyllis Fujimoto or Earl Lucero of this department at 961-8288.

Sincerely,

CHRISTOPHER YUEN
Planning Director

PF:pak
p:\wpwin60\ch343\2001\DEA01-09.doc

cc: Long Range Planning

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EMD/SDWB

September 5, 2001

Mr. Bob Kern
Tropical Ponds Hawaii
P. O. Box 1750
Keaau, Hawaii 96749

Dear Mr. Kern:

SUBJECT: 01HD-138 AQUACULTURE FARM

The report with your letters, dated July 19, 2001 and August 29, 2001, indicate the project will be supported by two different sources of water. Potable water will be supplied by the County of Hawaii, Department of Water Supply. Aquaculture and farming activities will be supported by water from the Kohala Ditch. The presence of both potable and nonpotable water systems in close proximity naturally raises concerns over the potential for cross-connections. The Safe Drinking Water Branch recommends the following:

1. The two systems must be either physically separated, or if interconnected, must be equipped with properly installed air gap or approved backflow prevention devices located at every interconnection.

2. The two systems must be clearly identified. Color coding or labeling of the pipes are means of accomplishing this identification.

3. All non-potable spigots and irrigated areas should be clearly labeled with warning signs to prevent inadvertent consumption of non-potable water.

I hope this information will be useful to you. Should you have further questions, please contact me at 586-4258.

Sincerely,

WILLLIAM WONG, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

WW:MH:la

TROPICAL PONDS HAWAII
BOB KERN
P.O. BOX 1750
KEAAU, HI. 96749

808-982-9052

email kern@ilhawaii.net

8/29/01

TO: William Wong
Safe Drinking Water Branch
Department of Health
P.O. Box 3378
Honolulu, HI. 96809

REF: 01HD-138
AQUACULTURE FARM

Aloha Mr. Wong,

The ditch water used at the aquaculture farm will be used for raising the fish only. None of this water will be used for human consumption.

Any water that may be used for human consumption will be from the County DWS.

Also, all appropriate bio-security measures will be used in this aquaculture operation.

Thanks for your consideration in this matter.

Best regards,

Bob Kern

Bob Kern, Tropical Ponds Hawaii.

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

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

September 21, 2001

Mr. Bob Kern
Hawi Agricultural & Energy Corporation
P.O. Box 1656
Kamuela, Hawai'i 96743

Ms. Trudy Hanohano
Department of Land and Natural Resources, State of Hawai'i
P.O. Box 936
Hilo, Hawai'i 96721

Mr. Steve Bowles
Waimea Water Services, Inc.
P.O. Box 326
Kamuela, Hawai'i 96743

Dear Messrs. Kern & Bowles, and Ms. Hanohano:

Thank you for your submittal of a draft environmental assessment for Tropical Ponds Hawai'i Aquaculture Farm, TMK 5-5-07: 5 in the district of north Kohala. We have reviewed the documents and submit the following comments for your consideration and response in the final environmental assessment.

1. HISTORIC SITE, ARCHAEOLOGY AND CULTURAL IMPACTS. Section 3.1.0 speaks of historic sites and archaeological resources and mentions that Paul Rosendahl has yet to provide a documented historical opinion of the parcel. This must be done before the final environmental assessment is compiled. Also, the document does not assess culturqal impacts. What impacts (if any) will the proposed action have on cultural practices and resources in the region? Chapter 343, Hawai'i Revised Statutes now requires that cultural impacts be assessed (see enclosed copy of Act 50, SLH 2000). A copy of the Environmental Council's guidelines for assessing cultural impacts is enclosed for your use.
2. LISTING OF THE SPECIES AND QUANTITY OF FISH TO BE CULTURED: Please disclose the common and scientific names of the species to be cultured, as well as the estimated numbers of fish on site.
3. WATER FLOW FROM THE KOHALA DITCH: Please disclose the estimated volume of water needed on a daily basis from the Kohala ditch.
4. SURFACE AND GROUNDWATER QUALITY: In Section 4.1.4, the document notes that impacts on surface and groundwater are expected to be insignificant as the site was previously irrigated for sugar cane. Please consult with the Department of Health Environmental Management Division as to possible impacts from nitrogen-laden waste effluent on groundwater quality in the region.
5. PROTECTIVE DEVICES TO PREVENT ACCIDENTAL RELEASE OF SPECIES: Please describe any protective devices (netting over tanks, etc.) to prevent accidental release (such as through birds carrying fish and dropping them in the Kohala ditch or nearby surface water bodies). Release of alien species into the native environment may adversely impact stream biota and ecosystems.

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

Sincerely,

GENEVIEVE SALMONSON
Director

Enclosures

TROPICAL PONDS HAWAII, LLC
BOB KERN
P.O. BOX 1750
KEAAU, HI. 96749

PHONE & FAX 808-982-9052

kern@ilhawaii.net

9/26/01

TO: OFFICE OF ENVIRONMENTAL QUALITY CONTROL
ATTN GENEVIEVE SALMONSON
235 SOUTH BERETANIA STREET
HONOLULU, HI. 96913

Aloha Ms. Salmonson,

This is in response to your letter dated 09-21-01 reference our submittal of a draft environmental assessment on 08-23-01.

I have enclosed copies of the HISTORIC SITE, ARCHAEOLOGY AND CULTURAL IMPACTS, which have been prepared and submitted.

The listing of species is on the State of Hawaii approved species list, and is tremendously long. It can be obtained on the Hawaii Department of Agriculture website. All scientific and common names are listed. We also have obtained our import permit from the Department of Agriculture.

The numbers and species of fish on site will be variable, due to seasonality of sales, and market demand in the tropical ornamental fish industry.

Water flow from the Kohala Ditch, usage is estimated at .5mgd at full build out and operation.

Surface and ground water quality has been addressed in our reply to Mr. William Wong of the Environmental Management Division.

Protective devices to prevent accidental release of species, will be managed by the application of all appropriate bio-security measures. The goal of this aquaculture facility is to be certified bio-secure by international standards and inspection procedures.

Thank you for observations and comments. We welcome all opportunities to improve our facility and create an environmentally friendly , export industry that will help to provide more jobs to our citizens and bring in outside revenue to our state.

Regards,

Bob Kern

Bob Kern
Tropical Ponds Hawaii

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Krauss Annex 19 · 2500 Dole Street · Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 · Facsimile: (808) 956-3980

September 21, 2001
EA:0270

Bob Kern
Hawi Agricultural & Energy Corporation
P.O. Box 1656
Kamuela, Hawaii 96743

Draft Environmental Assessment
Tropical Ponds of Hawaii Aquaculture Farm
North Kohala, Hawaii

Hawi Agriculture & Energy Corporation (HA&E) and Tropical Ponds Hawaii, L.L.C, is proposing to establish and operate a freshwater aquaculture farm and hatchery near Hawi, on the island of Hawaii. The purpose of the farm is to produce and export freshwater tropical aquarium fish for export to the U.S. mainland and Asia. Water will be supplied via an existing pipeline from Kohala Ditch. Water discharge will be used to irrigate existing pasture on HA&E land. The applicant also plans to establish a mentor and training program for potential farmers and facilitate growth of the industry on the island of Hawaii. Initially, 30 pools are proposed with the possibility of further expansion with increase market demand. The cost for this project is estimated at $340,000.

This review was conducted with the assistance of Edward Laws, Oceanography; and Renee Thompson, Environmental Center.

Aquaculture operations

The draft EA states on p. 5 that water for the farm will be supplied from the Kohala Ditch and that discharged water will be used to irrigate existing pasture on HA&E lands. However, there is no mention of how much water will be involved, nor are aspects of the proposed activity relevant to effluent water quality discussed. A comprehensive review would require that the following questions be addressed. What is the flow in the Kohala Ditch? How much water will the facility be using? What is the expected biomass production rate, and what nutrient byproducts are likely to be present in effluents from the facility? How much water can HA&E realistically use to irrigate its pasture? Will HA&E include wastewater from the facility in effluent used to irrigate pasture? Do anticipated costs include setting up the irrigation system and maintaining it? In the absence of answers to these questions, the reviewer is forced to assume, (a) that there is plenty of water in the Kohala Ditch and that other users of Kohala Ditch water will not be adversely affected by the facility's use of the Kohala Ditch water and, (b) that HA&E has agreed

to use all the wastewater from the facility to irrigate pasture and that some agreement has been struck concerning who will pay to construct and maintain the irrigation system.

In addition, our reviewers note that without identifying species proposed for cultivation, it must be assumed that none of the cultivated organisms constitute a potential hazard to endemic fresh water fauna of Hawaii. Given past proposals to establish aquaculture facilities in Hawaii for cultivation of fresh water eels (Anguilla sp.), which pose a serious threat to local endemic species, our reviewers would welcome reassurances that no such plans are contemplated.

Archaeological survey

Section 3.10 on p. 18 asserts that an archaeological survey of the parcel on which this project is proposed is planned. However, our reviewers cannot assess potential impacts of the project because as of the date of filing of the draft EA, the survey had not yet been performed. We suggest that under these circumstances, filing of the draft EA was premature.

Finding of No Significant Impact

Chapter 343, HRS, was amended by Act 61 of the 1996 Legislature to replace the term, "Negative Declaration", with "Finding of No Significant Impact".

Thank you for the opportunity to comment on this Draft Environmental Assessment.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

cc: OEQC
Trudy Hanohano, DLNR
Steve Bowles, Waimea Wastewater Services
Ed Laws
Renee Thompson

TROPICAL PONDS HAWAII, LLC
BOB KERN
PO BOX 1750
KEAAU, HI 96749

October 2, 2001

John T. Harrison, Ph.D.
Environmental Coordinator
University of Hawaii at Manoa
Krause Annex 19
2500 Dole Street
Honolulu, HI 96822

Subject: **Draft Environmental Assessment**
Tropical Ponds Hawaii, LLC Aquaculture Farm

Dear Dr. Harrison:

This is in response to your letter dated September 21, 2001, regarding our project.

The assumptions of the reviewers are correct. In summary:

- Tropical Ponds Hawaii (TPH) will have adequate water from Kohala Ditch; usage is estimated at 0.5 mgd at full build out and operation.
- TPH has an agreement with Hawi Ag & Energy will supply all the water needed to operate the aquaculture farm. HA&E in turn has an agreement with Chalon International to take water from the Kohala Ditch, which is sufficient to meet the needs of TPH.
- TPH will be recycling all the water used for pasture irrigation.
- The numbers and species of fish on site will vary due to seasonality of sales and market demand in the tropical ornamental fish industry. TPH are raising only fish specified on the approved State Species List.
- Protective devices of the bio-security process and procedures will be used to manage the facility and any effluents.

The goal of this aquaculture facility is to be certified bio-secure by international standards and inspection procedures, and to provide more job opportunities to the community as well as bring in outside revenue to our State.

Thank you for your comments on the Draft Environmental Assessment.

Sincerely,

Bob Kern

Bob Kern
Tropical Ponds Hawaii, LLC