



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

June 15, 2021
Honolulu, Hawai'i

Approve the After-the-Fact Stream Diversion Works Permit Application (SDWP.5510.8) for Up to 3.23 million gallons per day (mgd) for Hydropower to Palm Valley Farm LLC and Amend the Interim Instream Flow Standard for Ka'ie'ie Stream, Pāpa'ikou, Hawai'i
TMKs: (3) 2-7-006:017, 024, 028, and (3) 2-7-013:025

APPLICANT

Palm Valley Farm LLC
Keith Hammond
27-712 Ka'ie'ie Road
Pāpa'ikou, HI 96781

LANDOWNER

Matthew and Alicia Wills
P.O. Box 5185
Topeka, KS 66605
TMK (3) 2-7-006:017, 024 and 028

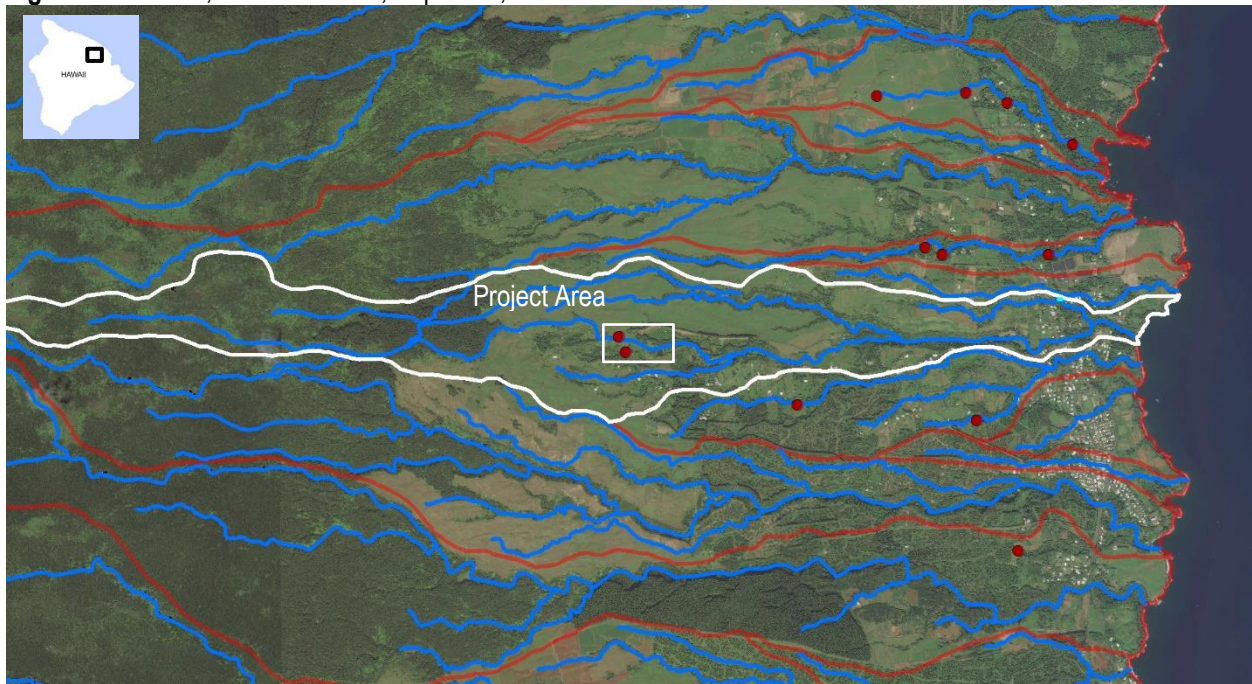
Meikun Jiang, et al
Beijing, China
TMK (3) 2-7-013:025

SUMMARY OF REQUEST

Commission staff is seeking approval for an after-the-fact Stream Diversion Works Permit (SDWP.5510.8) Application to divert up to 5.0 cfs (3.23 mgd) from Ka'ie'ie Stream for the purpose of hydropower generation. All water is returned back to Ka'ie'ie Stream approximately 0.5 miles downstream of the diversion (penstock) intake. The stream diversion, a repurposed sugar plantation diversion, and associated hydropower plant were constructed by the previous landowner with work initiated prior to the adoption of the State Water Code. However, certain modifications to the diversion structure, required by the U.S. Army Corps of Engineers in 1985, were not implemented. In addition, Commission staff is asking that these modifications to the diversion structure be constructed and an interim instream flow standard of 1.0 cfs (0.65 mgd), equivalent to the Q85 flow, located immediately downstream of the intake be adopted for Ka'ie'ie Stream.

LOCATION: Ka'ie'ie Stream, Pāpa'ikou, Hawai'i. See **Figure 1**.

Figure 1: Location, Ka'ie'ie Stream, Pāpa'ikou, Hawai'i.



BACKGROUND

In 1985, two years before the adoption of the State Water Code in 1987, the previous landowner Liloa Willard (Ho'owaiwai Farms) began the permitting process with the U.S. Army Corps of Engineers (USACE) and the Board of Land and Natural Resources (BLNR) to modify and repurpose an allegedly existing flume intake built during the sugar cane era. The purpose of the modification was to divert water for a new hydropower plant for agricultural uses on the property. The construction process began, as evidenced by an approved USACE permit. Sugar production ceased in the early 1990s. Construction of the hydropower plant was completed about 1995.

In a letter dated January 7, 1985, the U.S. Fish and Wildlife Service (USFWS) refers to an attached letter from Pacific Hydroelectric Co., dated December 12, 1984, (See **Exhibit 1**). Here, Mr. John Wehrheim, of Pacific Hydroelectric Co. references a phone conversation with John Ford of the USFWS, agreeing that “instream migration of *Atyoida bisulcata* (opae kalaole) will best be served by releasing the conservation flow over the filter screen and down the spillway of the intake box--and thus, eliminating the pipe release outlet in the diversion weir.” Pacific Hydroelectric proposes that a 4-foot by 0.15-foot rectangular notch be built into the filter box spillway to release the conservation flow of 0.78 cfs, also noting that “Ka'ie'ie Stream is a 'gainer' with significaiton [sic] spring inflows along the proposed diversion we estimate that during generation there will be a flow of approximately 1.0-1.5 cfs in the stream by the time it reaches the tailwater flow.”

In March 1985, the Chair of the BLNR had no objections to the USACE request for comments to construct a small hydropower facility and environmental assessment that addressed certain

aquatic resource concerns, biological survey of the stream, hydrology, and redesign and construction of the diversion weir. See **Exhibit 2**. The 2-page environmental assessment prepared by Pacific Hydroelectric Co. is provided in **Exhibit 3**.

In April 1985, the USACE approved permit application (PODCO-O 1823-S) filed by the previous landowner Mr. Liloa Willard to modify an old flume intake to generate hydropower for use on his farm. The intake was constructed on the adjacent landowner property (TMK 3-2-7-013:025). The return flow (TMK 3-2-7-006:024) was on Mr. Willard's property. See **Exhibit 4**.

The USACE permit issued places a special condition requiring that "a conservation flow of no less than 0.78 cubic feet per second or 10% of the average annual flow shall be allowed to pass downstream of the intake during power generation. A rectangular notch with the sufficient dimensions shall be built into the filter box spillway to provide this conservation floor." See **Exhibit 1**.

In 1989, Mr. Willard submitted a Registration of Stream Diversion Works and Declaration of Water Use to the Commission that described a "not yet built concrete and wood diversion to divert up to 3.23 mgd through a 42-inch opening for hydropower." The Commission notified Mr. Willard that his declaration did not reflect an existing use of water but a future use of water. See **Exhibit 5**.

In 1994, in a letter from Mr. Willard to the USACE regarding permit number PODCO-96858-5440 (note: a different number than the 1985 permit above), Mr. Willard stated the subject hydropower diversion would be completed in 1995. See **Exhibit 6**.

In 2005, Mr. and Ms. Wills purchased TMK (3) 2-7-006:017, 024 and 028 from Mr. Willard and continued to use the existing fishpond and hydropower diversions. The Wills entered into a Grant of Exclusive Easement for Hydroelectric Intake Facility with the (then) landowner of TMK 2-7-013:025 (location of the dam and diversion). The easement states that the Wills, "shall be allowed the sole right to apply for permits, extensions, modifications, and approvals relating to the construction, reconstruction, installation, maintenance, operation, replacement and repair of the intake within the easement area, and that the Grantor shall not oppose such efforts by the Grantee provided that it is in furtherance of the intent and purpose of the intake and the easement."

In 2010, an after-the-fact Stream Diversion Works Permit (SDWP.2529.8) application for a different stream diversion works (Diversion ID: 1415) was filed by landowner Wills and approved by the Commission for an unstated amount of water on an unnamed tributary of the Ka'ie'ie Stream for aquaculture use (fishpond). All water was returned to the Ka'ie'ie Stream. The application included a map that showed the subject hydropower dam and diversion; however, no action was taken by the Commission at that time.

In 2020, a site visit by Commission staff found that the subject hydropower dam and diversion had no Stream Diversion Works Permit on file.

On January 12, 2021, the Applicant, Palm Valley Farm LLC, filed a complete after-the-fact Stream Diversion Works Permit (SDWP) application for the hydropower dam and diversion. It can be viewed at https://files.hawaii.gov/dlnr/cwrm/swreview/SDWP_5510_8.pdf. Note that in the SDWP application, the applicant notes that Ka‘ie‘ie Stream was “also known previously as the Aleamai Stream.” However, U.S. Geological Survey maps indicate that Aleamai Stream is located 0.75 miles to the south of Ka‘ie‘ie Stream.

STREAM DESCRIPTION

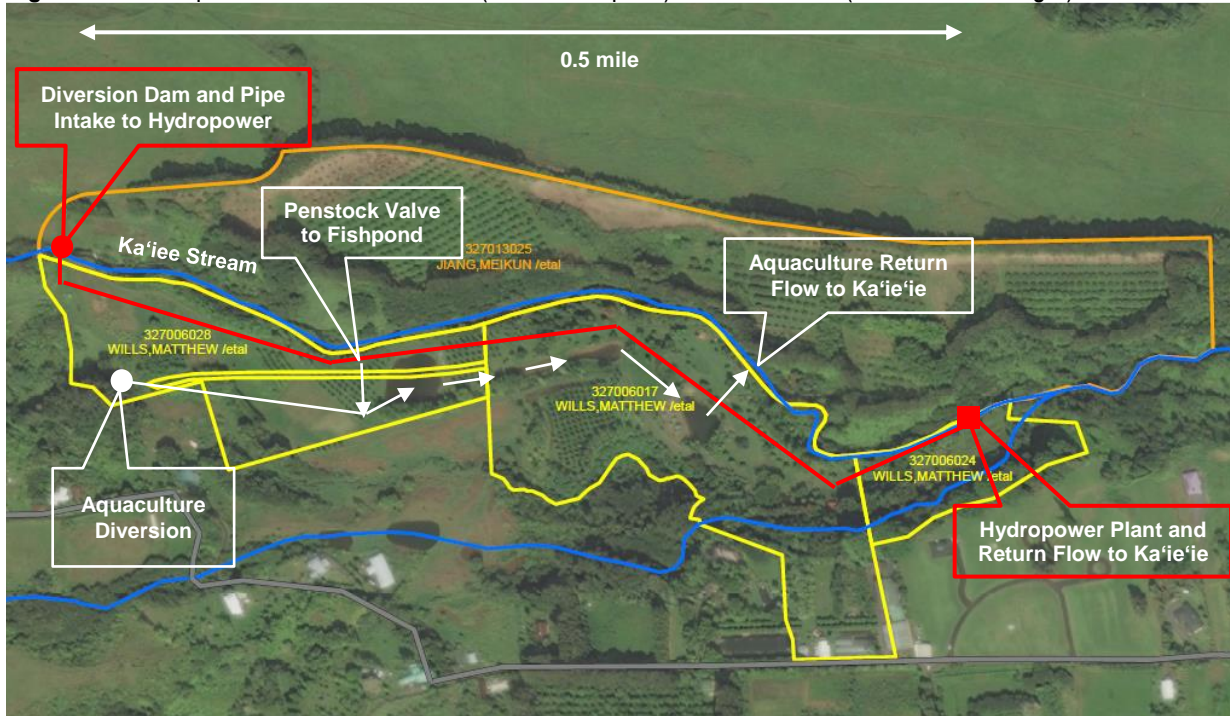
Ka‘ie‘ie Stream is a perennial stream about 16 miles long. The watershed is about three square miles. The stream is about 10-feet wide at the diversion dam. According to a study done in 1985 as part of the USACE permit application, the average annual flow of the stream is approximately 5.0 mgd.

There are numerous native and non-native crustaceans, fish, and snails located in the lower, middle, and upper reaches of the stream. For a complete list, see the Division of Aquatic Resources’ Hawaii Watershed Atlas (<https://www.hawaiiwatershedatlas.com/watersheds/hawaii/82049.pdf>). The Hawaii Watershed Atlas gave Ka‘ie‘ie Stream an overall rating of a 7 on a scale of 10. The overall rating is a combination of its total watershed and biological ratings, and reflects the quality of the stream in comparison to other streams on the same island and statewide. The 1990 Hawaii Stream Assessment assigned a qualitative value of “Limited” to Ka‘ie‘ie Stream, indicating a limited presence of native gobies. However, the Hawaii Watershed Atlas utilized additional biotic surveys from 1990, 2002, and 2004.

PROJECT DESCRIPTION

The diversion dam is approximately 10-feet wide by 4-feet high by 60-feet long. The hydropower intake pipe diameter is 12-inches. All water returns to the same stream about 0.5 miles downstream. See **Figures 2** thru **5**. The intake is located at the site of an allegedly abandoned agricultural flume diversion weir at an elevation of 1,100 feet. It was reconstructed using redwood planks for the weir and a 4-foot by 10-foot concrete intake box. According to the Applicant, the hydropower plant requires between 1.25 to 3.23 mgd of water, and generates an average of 25 kilowatts (kw). Electricity is used for processing agricultural goods and household needs, with excess energy transmitted to the local electric utility’s lines. A 3,300-foot long, 12-inch diameter PVC penstock is used to convey water to the powerhouse. Return flow from the powerhouse is conveyed through a pipe that extends over a ledge.

Figure 2: Site map of stream diversion dam (red circle top left) and return flow (red box bottom right).



Site photos in **Figure 3**, taken in 2020 by Commission staff, show that the weir has no notch as required by the USACE permit. The 1987 Registration described the proposed weir at 42-inches high. According to the Applicant, all work was done by the previous landowner. Under low-flow conditions, the intake diverts all of the water. Under high-flow conditions, the water spills over the dam/weir near the intake pipe.

Figure 3: Site photos. Diversion dam, reservoir and 12-inch pipe intake to hydropower, looking downstream.



Figure 4: Site photos. Diversion dam and reservoir, looking upstream.



Diversion dam and weir, looking upstream. Reservoir is to the right.



Figure 5: Site photos.

Upstream view of Ka'ie'ie before hydro return flow.



Downstream view of Ka'ie'ie after hydro return flow.



AGENCY REVIEW COMMENTS

County of Hawaii Planning Department: No comments received.

Department of Hawaiian Home Lands (DHHL): No comments received.

Department of Health, Clean Water Branch (DOH-CWB): No comments received.

Department of Land and Natural Resources (DLNR), Aha Moku: No comments received.

DLNR, Aquatic Resources: No comments received.

DLNR, Engineering: The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards. The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiiinfip.org/FHAT>). If there are questions regarding the local flood ordinances, please contact the Hawaii County, Department of Public Works at (808) 961-8327.

CWRM Staff Response: The subject parcels are located within Flood Zone X, Areas determined to be outside the 0.2% chance floodplain. Zone X is considered a Non-Special Flood Hazard Area, which is an area in a low-to-moderate risk flood zone. No

mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

DLNR, Forestry and Wildlife (DOFAW): No comments.

DLNR, State Historic Preservation Division (SHPD): No comments received.

DLNR, Land Division: No comments received.

DLNR, State Parks: No objections.

Office of Hawaiian Affairs: No comments received.

US Army Corps of Engineers: No comments received.

US Fish and Wildlife Service (FWS): No objections.

PUBLIC COMMENTS

No public comments were received.

TRADITIONAL AND CUSTOMARY PRACTICES / KA PA'AKAI ANALYSIS

- 1) The identity and scope of cultural, historical, or natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

The Applicant stated “The latest published version of the National Register of Historic Places has been consulted and there are no registered properties or properties determined eligible for inclusion therein in the proposed permit area. This notice has been sent to the State of Hawaii Historic Preservation Officer and the National Park Service. Any comments they may have on cultural resources will be considered before a final decision is made on the application. (Taken from original application dated October 17, 1984).”

CWRM Staff Response: The subject parcels occur within the ahupua'a of Ka'ie'ie. The Office of Hawaiian Affairs' Kipuka database, shows no historic sites, land awards, or crown lands existing within the subject parcels or the ahupua'a. The 1990 Hawaii Stream Assessment indicated that there was no survey coverage related to Ka'ie'ie Stream and the ability to predict what historic sites might be in unsurveyed areas was considered low. No comments were received from the Office of Hawaiian Affairs, DLNR Aha Moku, or the public.

DAR's Hawaii Watershed Atlas gave Ka'ie'ie Stream an overall rating of a 7 on a scale of 10. Native stream animals present in Ka'ie'ie Stream include 'ōpae kala'ole (Atyoida bisulcata), 'ōpae 'oeha'a (Macrobrachium grandimanus), 'o'opu 'akupa (Eleotris

sandwicensis), 'o'opu nākea (*Awaous guamensis*), 'o'opu 'alamo'o (*Lentipes concolor*), and hīhīwai (*Neritina granosa*).

- 2) The extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action.

The Applicant stated, "None."

CWRM Staff Response: The Commission staff recommends an amendment to the interim IFS and that the Applicant take action, consistent with the USACE permit special condition, to construct a rectangular notch into the filter box weir to release a "conservation flow" to provide for stream connectivity and instream migration of 'ōpae kala'ole.

- 3) What feasible action, if any, could be taken by the Commission in regards to this application to reasonably protect native Hawaiian rights.

The Applicant stated, "None."

CWRM Staff Response: Recognizing the additional biotic surveys utilized by DAR in their Hawaii Watershed Atlas and the sightings of 'o'opu in addition to 'ōpae, the Commission staff proposes that the Applicant take action to construct a rectangular notch into the filter box, as required by the 1985 USACE permit, and sufficient to comply with a proposed amendment to the interim IFS of 1.0 cfs. Further analysis is provided in the Staff Review section below.

HRS CHAPTER 343 – ENVIRONMENTAL ASSESSMENT (EA) COMPLIANCE

In accordance with HRS §343-5(a), an environmental assessment (EA) shall be required for actions, as summarized in part below, that propose:

- (1) use of state land or county lands, or the use of state or county funds;
- (2) use within any land classified as a conservation district;
- (3) use within a shoreline area;
- (4) use within any historic site as designated in the National Register or Hawaii Register;
- (5) use within the Waikiki area of O'ahu;
- (6) any amendments to existing county general plans where the amendment would result in designations other than agriculture, conservation, or preservation;
- (7) any reclassification of any land classified as a conservation district;
- (8) construction of new or the expansion or modification of existing helicopter facilities within the State, that may affect: (A) any land classified as a conservation district; (B) a shoreline area; or (C) any historic site as designated in the National Register or Hawaii Register;
- (9) any (A) wastewater treatment unit, except an individual wastewater system or a wastewater treatment unit serving fewer than fifty single-family dwellings or the

equivalent; (B) Waste-to-energy facility; (C) Landfill; (D) Oil refinery; or (E) Power-generating facility.

CWRM Staff Response: The action does not trigger an environmental assessment under Chapter 343, HRS.

STAFF REVIEW

HAR §13-168-32(d) sets out the general criteria for ruling on Stream Diversion Works Permit applications.

- (1) The quantity and quality of the stream water or the stream ecology shall not be adversely affected.

CWRM Staff Response: The Hawai‘i Department of Health, Clean Water Branch did not provide any comments. The stream diversion works structure has been in existence for 25 years and does not appear to be adversely affecting water quality. The proposed setting of a measurable interim IFS and requirement for the Applicant to construct a notch in the filter box weir, as required by the USACE in 1985, should address stream ecology concerns.

- (2) Where instream flow standards or interim instream flow standards have been established pursuant to HAR Chapter 13-169, no permit should be granted for any diversion works which diminishes the quantity or quality of stream water below the minimum established to support identified instream uses, as expressed in the standards.

CWRM Staff Response: HRS §174C-71, requires the Commission to protect stream channels from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses. The current interim IFS for Hawai‘i Island is an unmeasured amount and the status quo of streamflow conditions on the effective date of this standard (October 8, 1988), and as that flow may naturally vary throughout the year (HAR §13-169-46). The identified instream uses include fish habitat, hydropower, and streamflow contribution to the nearshore waters, among others.

*Per the 1985 USACE Permit (**Exhibit 4**), “a conservation flow of no less than 0.78 cubic feet per second (cfs) or 10% of the average annual flow shall be allowed to pass downstream of the intake during power generation. A rectangular notch with the sufficient dimensions shall be built into the filter box spillway to provide this conservation floor.”*

Earlier biotic assessments by the USFWS and the 1990 Hawaii Stream Assessment appear to indicate that the primary species of concern was ‘ōpae kala‘ole, with limited sightings of ‘o‘opu. However, additional biotic surveys included as part of DAR’s Hawaii Watershed Atlas identify additional ‘o‘opu species present in Ka‘ie‘ie Stream.

In order to ensure connectivity across the intake and to maintain downstream habitat for native amphidromous species, specifically 'ōpae kala'ole, 'o'opu nākea, 'o'opu 'akupa, and 'o'opu 'alamo'o, an instream flow standard of 1.0 cfs (0.65 mgd) is proposed, representing the Q85 flow. Ka'ie'ie Stream is gaining below the diversion from numerous springs, resulting in at least a 1.0 cfs gain between the diversion and the hydropower tailrace. Combined with the proposed interim IFS, the resulting streamflow should adequately protect aquatic biota.

- (3) The proposed diversion works shall not interfere substantially and materially with existing instream or non-instream uses or with diversion works previously permitted.

CWRM Staff Response: There are no diversions located above or below the Applicant's diversion on Ka'ie'ie Stream.

RECOMMENDATION

That the Commission:

1. Approve the after-the-fact Stream Diversion Works Permit (SDWP.5510.8) Application to divert up to 3.23 mgd from the Ka'ie'ie Stream and return all water back to the stream subject to the standard conditions in **Exhibit 7** and the special conditions below:
 - a. Develop plans to construct a notch in the diversion weir to allow for fish passage and meet the interim instream flow standard of 1.0 cfs (0.65 mgd). Construction plans shall be submitted to the Commission staff for approval within 120 days. Photos of the final notch construction shall be included with the Construction Notice of Completion.
 - b. Report monthly water use pursuant to §13-168-7, Hawaii Administrative Rules.
2. Amend the interim instream flow standard for the Ka'ie'ie Stream to 1.0 cfs, or 0.65 mgd, equivalent to the Q85 flow, immediately downstream of the diversion (penstock) intake to ensure connectivity across the intake weir and to maintain downstream habitat for native amphidromous species.
3. No fines are recommended for this after-the-fact permit application by the current landowner, since all work was done by the previous landowner and initiated prior to the adoption of Chapter 174C, Hawaii Revised Statutes.

Ola i ka wai,



M. KALEO MANUEL
Deputy Director

Exhibits:

1. Letter from U.S. Fish and Wildlife to U.S. Army Corps of Engineers, dated January 7, 1985.
2. Letter from the Chair of the Board of Land and Natural Resources to the U.S. Army Corps of Engineers, dated March 20, 1985.
3. Letter from Pacific Hydroelectric Co. on the Ho'owaiwai Hydro Environmental Assessment, dated August 22, 1984
4. Department of the Army permit, dated April 9, 1985.
5. Registration of Stream Diversion Works and Declaration of Water Use, filed by Liloa Willard and dated May 25, 1989.
6. Letter from Mr. Liloa Willard to U.S. Army Corps of Engineers, dated October 12, 1994.
7. Standard Stream Diversion Works Permit Conditions.
8. Legal Authorities.

APPROVED FOR SUBMITTAL:

Suzanne D. Case

SUZANNE D. CASE
Chairperson



United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 ALA MOANA BOULEVARD
P. O. BOX 50167
HONOLULU, HAWAII 96850

JAN 7 1985

IN REPLY REFER TO:

ES
Room 6307

Mr. William Paresa, Acting Chief
Construction-Operations Division (PODCO-O)
U.S. Army Engineer District, Honolulu
Bldg. 230
Ft. Shafter, Hawaii 96858

Dear Mr. Paresa:

We have reviewed the attached response to our concerns regarding construction and operation of a small hydroelectric power facility on Kaieie Stream near Papaikou, Hawaii, and wish to express our approval of the applicant's revised proposal. Both Mr. Wehrheim and Mr. Willard have been most considerate in addressing the need for appropriate conservation measures. The Service has no objections to issuance of a DA permit for this action provided that the features described in the attached letter are incorporated into the project.

Sincerely,

Original signed by
Ernest Kosaka
Project Leader
Environmental Services

Enclosure

cc: ✓ Mr. Liloa Willard, Ho'owaiwai Farm
Mr. John Wehrheim, Pacific Hydroelectric Co.

Rec 1/2/85



Save Energy and You Serve America!

EXHIBIT 1



PACIFIC HYDROELECTRIC CO.
INCORPORATED

December 12, 1984

Mr. John Ford
U.S. Dept. of the Interior
Fish & Wildlife Service
300 Ala Moana Boulevard
P. O. Box 50167
Honolulu, HI 96850

SUBJECT: KAIEIE STREAM HYDROELECTRIC PROJECT NEAR PAPAIKOU,
HAWAII

Dear John:

Thank you so much for the information and advise you provided concerning the redesign of the intake structure for our project.

As we determined in our phone conversation of Dec. 11, 1984, instream migration of the *Atyoida bisulcata* (opae kalaale) will best be served by releasing the conservation flow over the filter screen and down the spillway of the intake box-- and thus, eliminating the pipe release outlet in the diversion weir. This design will create a continuous waterfall over the rock slope below the intake box which the opae will be able to climb.

INTAKE SCREEN

The intake screen will be made from a 4x10ft. sheet of 11 ga. stainless steel with .25 inch perforations on 3/8" centers (40% open). At the 5 cfs upper limit of turbine flow velocity through the intake screen will be .3125 feet per second and should not interfere with the movement of the opae across the screen.

P. O. BOX 3600 • LIHUE, HI 96766
(808) 245-9601

Mr. John Ford
December 12, 1984
Page 2

CONSERVATION FLOW RELEASE OUTLET

A 4 ft. x .15 ft. rectangular notch will be built into the filter box spillway to release conservation flow. An automatic flow control device will maintain water level in the intake works and assure a continuous flow across the screen and over the spillway.

CONSERVATION FLOW RATE

A 4 ft. x .15 ft. rectangular notch will allow for the release of a minimum conservation flow of .78 cfs to pass downstream of the intake during power generation. Since the Kaieie Stream is a "gainer" with significant spring inflows along the proposed diversion we estimate that during generation there will be a flow of approximately 1.0-1.5 cfs in the stream by the time it reaches the tailwater inflow.

CONSTRUCTION

A temporary coffer will be placed in the stream to send the water into the old flume diversion, over the intake box and back into the stream during construction. This will provide a continuous and unbroken migratory route for the opae using the same route as that proposed for our conservation flow described above.

Since this project is essentially a restoration of an abandoned system no excavation will be done other than that required to clean out the loose rock and gravel from the old flume diversion and build a foundation for the intake box. Therefore we do not anticipate any significant soil erosion, sedimentation or disturbance to the stream bed.

FOLLOW UP

We would greatly appreciate a letter from you, addressed to Mr. Paresa of the Army Corps of Engineers, confirming receipt of this letter and commenting on our proposed redesign and construction procedure. Please send copies to Mr. Willard and our office.

Thanks again for your design assistance, John. Looking forward to receiving any preliminary work you may have on

Mr. John Ford
December 12, 1984
Page 3

microhabitate preferences and instream flow studies that would help us with the design of future projects.

Sincerely,

PACIFIC HYDROELECTRIC CO.

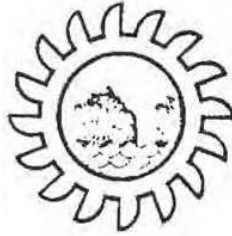


John Wehrheim

JW:ro

cc: Mr. Liloa Willard, Ho'owaiwai Farm
Mr. W. J. Paresa, U.S. Army Corps of Engineers

RR1
100-C
Pepeeekoo, Hawaii 96783 964-5781



PACIFIC HYDROELECTRIC CO.

August 22, 1984

Ho'owaiwai Hydro

ENVIRONMENTAL ASSESSMENT

PLAN FEATURES

The old flume intake at the 1100 ft. elevation on the Kaieie stream will be restored and fitted with an intake box and screen. This intake will divert water through a 12" PVC penstock approximately 3300 ft. long with a net head of 285 ft. Penstock route will run over the old flume route and down the State owned abandoned flume right-of-way to a powerhouse. The powerhouse will be located at the bottom of the flume right-of-way at the junction of the Kaieie and a minor tributary. Turbine flow limits are 1.25-5.00 CFS. with a design capacity of 60 K.W.

LAND USE AND OWNERSHIP

All lands in the project area are zoned agriculture and have a history of sugar cane and pasture use. Pasture lands are presently abandoned and overgrown.

The State owns from the center to 10 ft. beyond the edge of the stream as well as the abandoned flume right-of-way through the Neville and Ferreira property. Willard purchased the flume right-of-way through his property and Neville and Ferreira have given Willard written permission to lay the pipeline on the old flume routes that cross their property.

ENVIRONMENTAL EFFECTS

LAND USE: There will be no impact on land use. Scrub and brush will be cleared from the flume route and the pipe will be layed on the surface until it enters Willards parcel where it will be buried.

WATER QUALITY: There will be no significant effect on the quality diverted from the stream, though dissolved

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(808) 245-9601

EXHIBIT 2

Ho'owaiwai Hydro; Environmental Assessment
August 22, 1984
Page 2

oxygen levels may increase slightly. The water will be returned to the stream in virtually the same condition and quantity that it was taken out, however, the temperature of the water remaining in the stream between the weir and the powerhouse may be elevated during periods of low flow.

The intake works and penstock will not require any grubbing, grading, or excavation in or near the streambed. The powerhouse will require excavation for a 12x16 ft. concrete pad above the streambed. Every precaution will be taken to prevent soil from being pushed, or eroding, into the stream during the construction of the powerhouse.

The powerhouse will be built on a rocky outcropping and tailwater will be routed through a conduit and out over a ledge, thus minimizing tailwater erosion and eliminating the possibility of confusing stream organism migration patterns.

AQUATIC RESOURCES: The Kaieie is habitate for opae, tahitian prawns and mosquito fish. Because the hydro plant will cause longer periods of low flow in the reach between the diversion and the powerhouse, the water temperature may become elevated and activity in the food chain reduced in this area. However, the native opae, which tend to gather in the plunge pools, may be stressed less because the deeper waters will change temperature more slowly and the natural inflows from springs and seeps combined with the conservation flow will provide a continuous supply of fresh water.

AESTHETICS: The repair and restoration of the old flume diversion and intake works will have little effect on this quiet, remote location. The intake works, penstock and powerhouse will not be readily visible except from close vantage points and the above ground section of the penstock will quickly be overgrown and covered by vegetation.

The sounds made by the turbine and generator will be muffled by the powerhouse and it is doubtful that they will be heard over the sound of the water flowing in the stream.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96808

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES
EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

March 20, 1985

Colonel Michael M. Jenks
District Engineer
U.S. Army Corps of Engineers
Building 230
Ft. Shafter, Hawaii 96858

Dear Colonel Jenks:

RE: PODOO-O 1823-SD

On December 4, 1984, we responded to your request for comments on the referenced proposal to construct a small hydroelectric facility on Kaieie Stream, Island of Hawaii. We pointed out then the need for an environmental assessment to address certain aquatic resource concerns relative to a biological survey of the stream, the hydrology of the stream, and the design and construction of the diversion weir.

We find these concerns are satisfactorily discussed in an Environmental Assessment prepared by Pacific Hydroelectric Company.

We have no objections to issuance of a Department of Army permit for the proposed project and have no further comments on this matter.

Very truly yours,

SUSUMU ONO, Chairperson
Board of Land and Natural Resources

cc: Mr. Liloa Willard

Application No. PODCO-0 1823-S
Name of Applicant Mr. Liloa Willard
Effective Date 9 APR 1988
Expiration Date (If applicable) December 31, 1988

**DEPARTMENT OF THE ARMY
PERMIT**

Referring to written request dated September 10, 1984 for a permit to:

Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344);

Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 108 of the Marine Protection, Research and Sanctuaries Act of 1972 (88 Stat. 1052; P.L. 92-532);

Mr. Liloa Willard
RR1, 100C
Pepeekeo, Hawaii 96783

is hereby authorized by the Secretary of the Army:
to construct a hydropower structure

in Kaieie Stream

at Papa'ikou, Island of Hawaii, State of Hawaii

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings, give file number or other definite identification marks.) entitled "Proposed Weir Reconstruction and hydroelectric Intake, Kaieie Stream, Kaieie Homesteads, Hawaii County, Hawaii", dated 28 August 1984 (3 sheets);

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (33 U.S.C. 1344), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1062), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, or any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall allow the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in reasonable accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

j. That this permit does not obviate the requirement to obtain state or local assent required by law for the activity authorized herein.

k. That this permit may be either modified, suspended or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be materially false, materially incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not completed on or before 31st day of Dec, 19 88, (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

u. That if the permittee during prosecution of the work authorized herein, encounters a previously unidentified archeological or other cultural resource within the area subject to Department of the Army jurisdiction that might be eligible for listing in the National Register of Historic Places, he shall immediately notify the district engineer.

II. Special Conditions: *(Here list conditions relating specifically to the proposed structure or work authorized by this permit):*

a. A conservation flow of no less than 0.78 cubic feet per second, or 10% of the average annual flow, shall be allowed to pass downstream of the intake during power generation. A rectangular notch with the sufficient dimensions shall be built into the filter box spillway to provide this conservation floor.

b. Continuous downstream flows shall be provided during the construction of the intake structures.

c. All construction activities shall be conducted so as to avoid excessive disturbance to the streambed and to minimize soil erosion and sedimentation.

The following Special Conditions will be applicable when appropriate:

~~STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES:~~

- ~~a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.~~
- ~~b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.~~
- ~~c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.~~
- ~~d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.~~
- ~~e. Structures for Small Boats: That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.~~

~~MAINTENANCE DREDGING:~~

- ~~a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for _____ years from the date of issuance of this permit (ten years unless otherwise indicated);~~
- ~~b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.~~

~~DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES:~~


- ~~a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the Clean Water Act and published in 40 CFR 230;~~
- ~~b. That the discharge will consist of suitable material free from toxic pollutants in toxic amounts.~~
- ~~c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution.~~

~~DISPOSAL OF DREDGED MATERIAL INTO OCEAN WATERS:~~

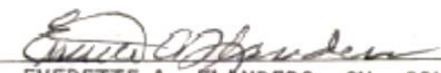
- ~~a. That the disposal will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.~~
- ~~b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or disposal of the dredged material as authorized herein.~~

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

 _____ **MARCH 28, 1985**
 Name & Title PERMITTEE DATE

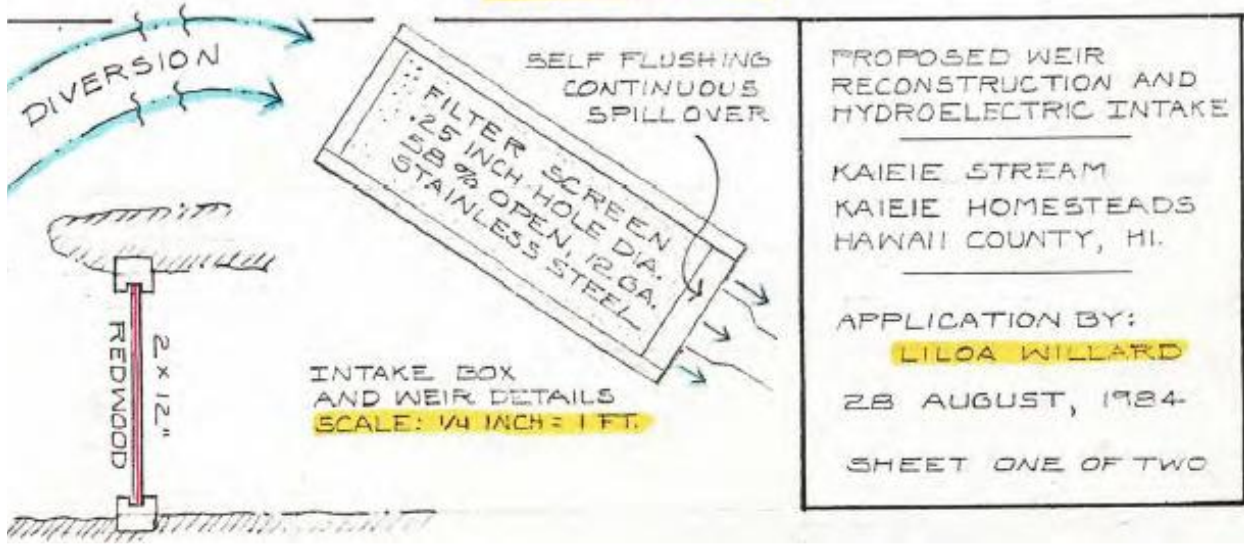
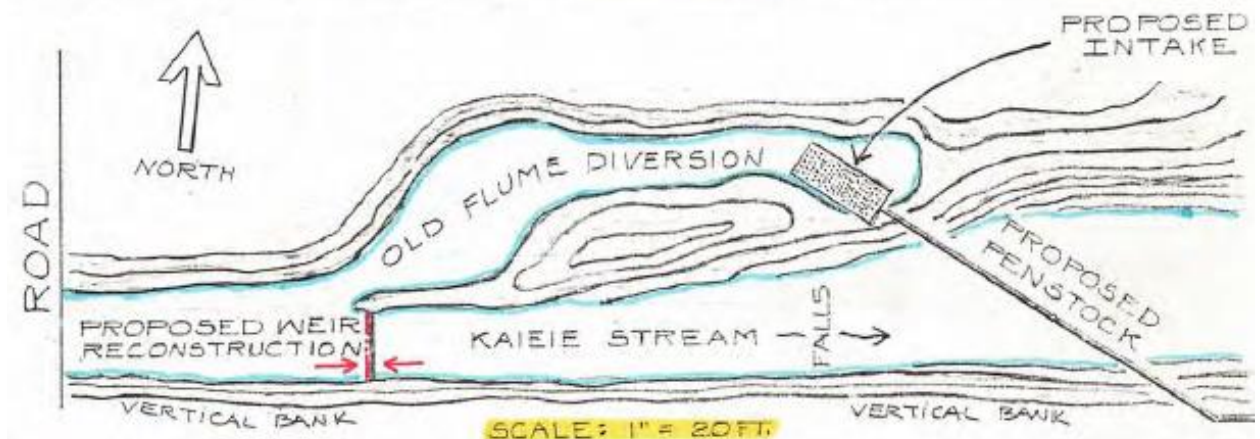
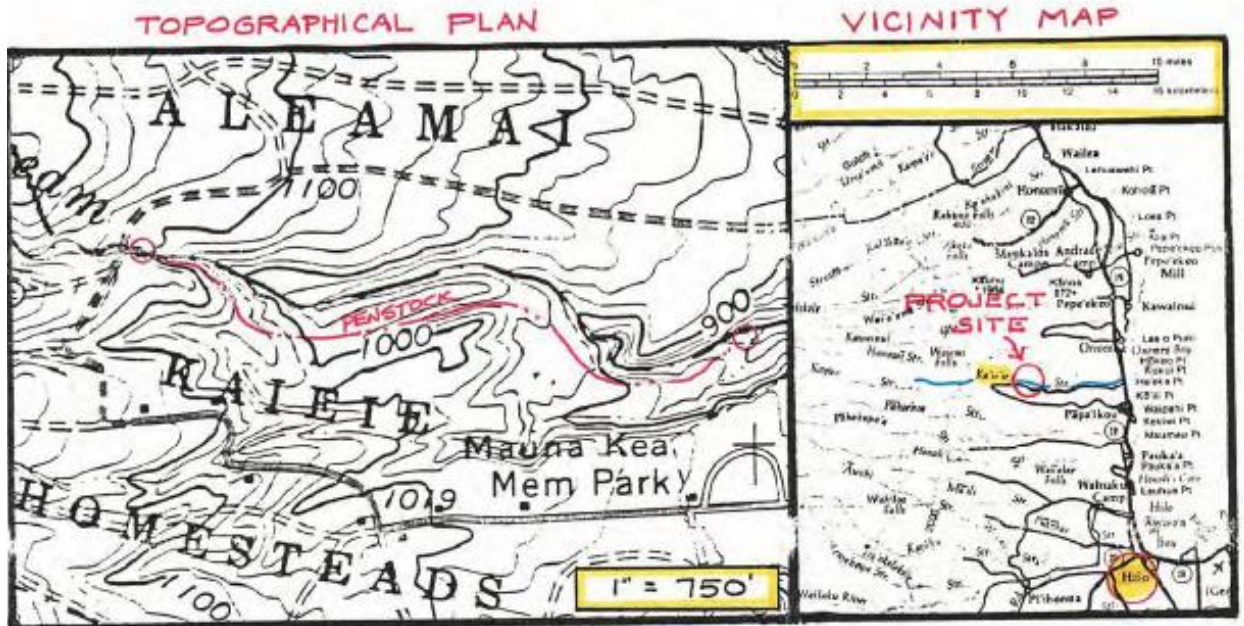
BY AUTHORITY OF THE SECRETARY OF THE ARMY:

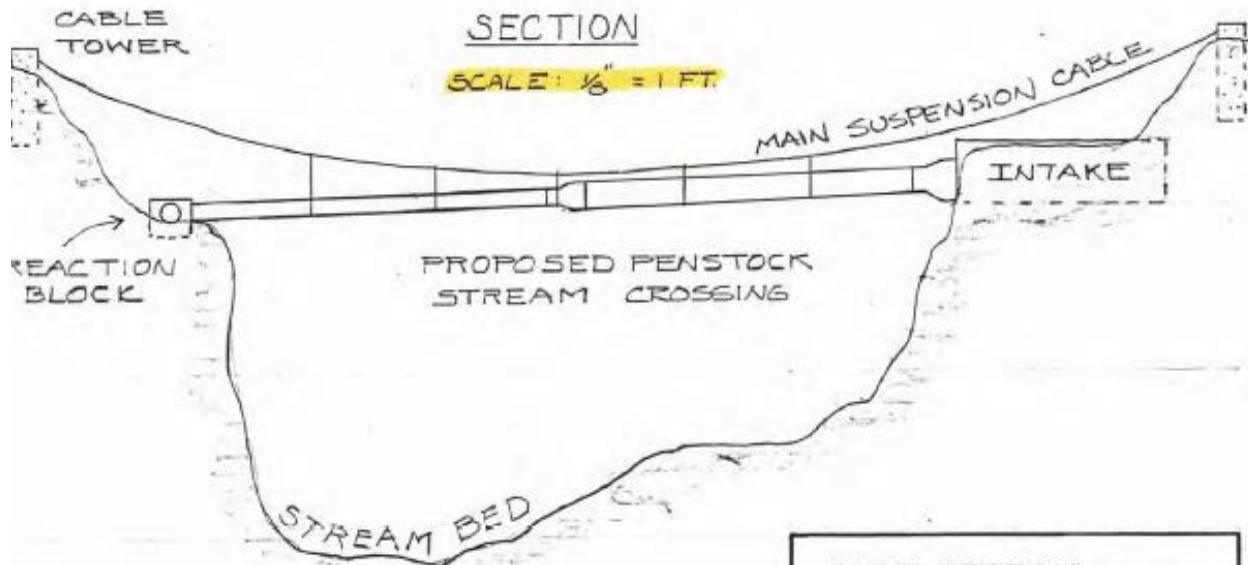
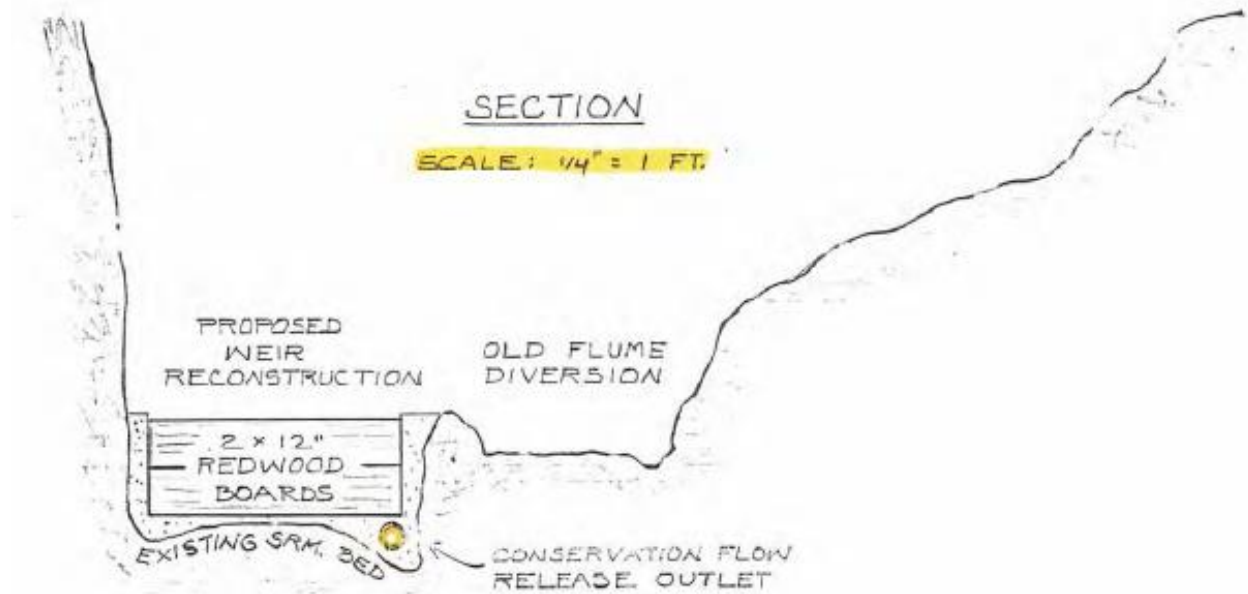
 _____ 
 EVERETTE A. FLANDERS, CH, CONST-OPS DIV, FOR AND IN BEHALF DATE

F DISTRICT ENGINEER, MICHAEL M. JENKS, COLONEL, CE
 U.S. ARMY, CORPS OF ENGINEERS

Transferee hereby agrees to comply with the terms and conditions of this permit.

 TRANSFEREE DATE





KAIEIE STREAM
KAIEIE HOMESTEADS
HAWAII COUNTY, HI.

APPLICATION BY:
LILLOA WILLARD

28 AUGUST, 1984
SHEET TWO OF TWO

Form 0810-2



STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF STREAM DIVERSION WORKS
AND
DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and mail form to the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-3948 or 548-7543 for assistance.

MULTI-SOURCE SYSTEMS: For a system of two or more diversion structures, submit a single package to describe the complete system. Include a single location map (or a set of maps if required) showing all diversion structures and measurement points, and a separate copy of this form for each structure and measurement point. On forms describing diversion structures, complete parts A, B, D, and E. On forms describing measurement points, complete parts A, B, and F.

STREAM NAME: KAIEIE (ALSO KNOWN AS ALEMAI) ISLAND: HAWAII
DIVERSION STRUCTURE NAME: N/A
DIVERSION SYSTEM NAME: HODOWAIYAI FARMS

A. DIVERSION WORKS OPERATOR

Firm name: HODOWAIYAI FARMS
Contact person: LILOA WILLARD
Address: RR1, 199-A
PAPA'IKOU, HAWAII
Zip: 96781 Phone: 964-5222

B. OWNER OF DIVERSION WORKS SITE

Firm name: HODOWAIYAI FARMS
Contact person: LILOA WILLARD
Address: RR1, 199-A
PAPA'IKOU, HAWAII
Zip: 96781 Phone: 964-5222

C. STREAM DIVERSION LOCATION

Tax Map Key: 2-7-06-17 Town, Place, District: KAIEIE, HODOWAIYAI, PAPA'IKOU, HAWAII
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the diversion location.

D. STREAM DATA

Streamflow at diversion site is: Perennial (Water is always flowing) Intermittent (Channel is sometimes dry)
Is streamflow gaged? Yes No
If yes, provide gage name, and show location on map. Name: NO NAME
Average flow before diversion: 7.8 mgd gpm cfs

E. DIVERSION STRUCTURE DATA

Year constructed: N/A Elevation (Above mean sea level): 1000 FEET
Diversion structure is: Concrete Wood Pipe Other (Describe): STAINLESS STEEL SCRA
Diverted flow is: Controlled Uncontrolled
Divertable capacity is: 1.25 to 5.0 mgd gpm cfs

Submit an "as-built" drawing and dated photograph of the diversion works, if available.

PROJECT NOT CONSTRUCTED AS YET... (continued over)

For Official Use Only:

Date received: _____ Date accepted: _____
Field checked by: _____ Date: _____ Latitude: _____ Hydrologic Unit: _____
Comments: _____ Longitude: _____ State Diversion No.: _____

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-167 to 13-171.

NOTE: The purpose of the Declaration of Water Use is to obtain information necessary for the management of the State's water resources. The Declaration does not confer a legal right to water or its use.

Location and name of measurement point (Show on location map): 2-7-04-17

Water use data are recorded: Continuously Daily Other: WEEKLY

Method of measurement (Check box and describe below): Weir Rating flume Other

Description: VOLUME OF WATER MEASURED AS IT FLOWED THROUGH A 42" OPENING -

Quantity of Use (Report gaged or estimated monthly water use from the diversion described on the reverse side of this form, for the calendar years 1983 through 1987):

WATER USE, IN N/A (unit of measurement)

	1983	1984	1985	1986	1987
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
ANNUAL					

Typical times of usage: 24 HRS PER DAY

Type of Use (Check all category boxes that apply and provide additional information as indicated.):

Category	Additional Information
<input type="checkbox"/> Municipal (including resorts, hotels, businesses)	<u>N/A</u>
<input type="checkbox"/> Domestic (systems serving 25 people or less)	Number of service connections: <u>N/A</u>
<input type="checkbox"/> Irrigation	Acres Irrigated: <u>N/A</u> Crop(s): <input type="checkbox"/> Sugar <input type="checkbox"/> Pineapple <input type="checkbox"/> Other (specify): <u>N/A</u> Non-Crop: <input type="checkbox"/> Landscape <input type="checkbox"/> Golf Course <input type="checkbox"/> Other (specify): <u>N/A</u> Method: <input type="checkbox"/> Drip <input type="checkbox"/> Furrow <input type="checkbox"/> Sprinkler <u>N/A</u>
<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling <input type="checkbox"/> Manufacturing <input type="checkbox"/> Mill <u>N/A</u> <input type="checkbox"/> Other (specify): <u>N/A</u>
<input type="checkbox"/> Military	<u>N/A</u>
<input checked="" type="checkbox"/> Other	Specify (livestock, hydroelectric, aquaculture, etc.): <u>HYDROELECTRIC</u>

THIS PROJECT IS YET TO BE BUILT.

Location of Use (Describe the location of water use, relative to the diversion, and indicate on location map. If water is used by others, submit a list of their names and addresses.):
HONAIWAI FARMS, KAIEIE (METU) RD, PAPA'IKOU HILLO, HAWAII

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User's Signature: [Signature] Date: 5.25.89
 Printed Name: L. LOA WILLARD

October 12, 1994

Mr. Michael T. Lee
Chief of Regulatory Branch
U.S. Army Corps of Engineers
Building T-1
Fort Shafter, Hi 96858

SUBJECT: UPDATE ON HYDROELECTRIC PROJECT UNDER ARMY PERMIT NO.
PODCO-96858-5440

Dear Mr. Lee

A few weeks ago I contacted your office by telephone and communicated with Ms. Ruby Mizue to confirm the expiration date of the subject permit. She informed me that it was December 31, 1994. About a year ago I telephoned Mr. Warren Kanai, with whom I have communicated several times in the past, and Mr. Kanai informed me that it was March 31, 1995. I suspect that he came to that conclusion because of the bold "March 28, 1985" on page four of the permit or, hopefully, because on page two, paragraph o. it states "three years from date of issuance of this permit unless otherwise specified".

In any case, Mr. Lee, the situation is that all of the necessary elements to complete the project are in order and we have reactivated the project. Two of the greatest problems have been solved. One being title to the outfall site . . . I have enclosed the Quitclaim and supporting foreclosure documents showing that we have gained clear title.

In early September we entered into an agreement with Pacific Hydroelectric Co., which was the company that helped us obtain our Corps Permit ten years ago. I have enclosed a signed proposal with them as well as a letter from Pacific Hydro to Wallace Oki, our electrical engineer, bringing him up to date with Pacific Hydros progress. Wallace Oki has reactivated the project with Helco. (see enclosed doc.) I have also enclosed preliminary specs and price for the turban and generator from Canyon Industries to whom I sent a Pelton wheel for re-building.

We have consulted with a contractor and have arranged for them to start work within the next sixty days. As I write our surveyor is taking the final survey on the penstock that Pacific Hydro has laid out so that it can be located to scale on paper for the final design. By next week we should have the survey map in the hands of Pacific Hydro, and they will move quickly so that we can order the project materials. We should be able to start work in December and figure it will take 90 days to complete the project.

You can see that by my schedule it will take us to the end of March

Army Corps of Engineers Page two

if everything goes well . . . the biggest problem being weather. You can also see that the difference between the Permit ending in December or March makes a big difference to me. In any case we will move as quickly as possible to get as far into the project as possible by December.

What I would hope is that you folks make a determination that the actual expiration date is in fact March. If it is not I would hope that you could give us until June of 1995 to complete the project.

Thank you very much for your time and consideration of this situation.

With my warmest aloha,

Liloa Willard

STANDARD STREAM DIVERSION WORKS PERMIT CONDITIONS
(Revised December 15, 2020)

1. The permit application and staff submittal approved by the Commission at its meeting on the above date shall be incorporated herein by reference.
2. The permittee, owner and/or operator of the stream diversion works shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage on a monthly (calendar or work schedule) basis to the Commission per HAR §13-168-7 Report of Water Use.
2. The project may require other agency approvals regarding wetlands, water quality, grading, stockpiling, endangered species, and floodways. The permittee shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and county governments, including, but not limited to, instream flow standards.
3. The permittee, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the permittee or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.
4. The permittee shall notify the Commission, by letter, of the actual dates of project initiation and completion. The permittee shall submit a set of as-built plans and photos in pdf format of the completed work to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.
5. Before proceeding with any work authorized by the Commission, the permittee shall submit one set of construction plans and specifications in PDF format to determine consistency with the conditions of the permit and the declarations set forth in the permit application.
6. The permittee shall implement site-specific, construction Best Management Practices in consultation with the DOH Clean Water Branch and other agencies as applicable, that are designed, implemented, operated, and maintained by the permittee and its contractor to properly isolate and confine activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting State waters per HRS Ch. 342D Water Pollution; HAR §11-54-1 through §11-54-8 Water Quality Standards; and HAR Ch. 11-55 Water Pollution Control, Appendix C.
7. The permittee shall protect and preserve the natural character of the stream bank and stream bed to the greatest extent possible. The permittee shall plant or cover lands denuded of vegetation as quickly as possible to prevent erosion and use native plant species common to riparian environments to improve the habitat quality of the stream environment.
8. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the permittee shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.

LEGAL AUTHORITIES

Water as a Public Trust. The four public trust purposes are:

1. Maintenance of waters in their natural state.
2. Domestic water use of the general public, particularly drinking water.
3. The exercise of Native Hawaiian and traditional and customary rights, including appurtenant rights. *Waiahole*, 94 Hawaii 97; 9 P.3d 409 (2000).
4. Reservations of water for use on Hawaiian home lands. *Waiola O Molokai, Inc.*, 103 Hawaii 401; 83 P.3d 664 (2004).

HRS §174C-71 Protection of instream uses. The commission shall establish and administer a statewide instream use protection program. In carrying out this part, the commission shall cooperate with the United States government or any of its agencies, other state agencies, and the county governments and any of their agencies. In the performance of its duties the commission shall:

- (2) Establish interim instream flow standards;
 - (D) In considering a petition to adopt an interim instream flow standard, the commission shall weigh the importance of the present or potential instream values with the importance of the present or potential uses of water for noninstream purposes, including the economic impact of restricting such uses;
- (3) Protect stream channels from alteration whenever practicable to provide for fishery, wildlife, recreational, aesthetic, scenic, and other beneficial instream uses;
 - (A) The commission shall require persons to obtain a permit from the commission prior to undertaking a stream channel alteration; provided that routine streambed and drainageway maintenance activities and maintenance of existing facilities are exempt from obtaining a permit;
 - (C) The commission shall establish guidelines for processing and considering applications for stream channel alterations consistent with section 174C-93;

HRS §174C-93 Permits for construction or alteration. No person shall construct or alter a stream diversion works, other than in the course of normal maintenance, without first obtaining a permit from the commission.

HAR §13-168-2 Definitions.

“Interim instream flow standard” means a temporary instream flow standard of immediate applicability, adopted by the commission without the necessity of a public hearing, and terminating upon the establishment of an instream flow standard.

“Instream use” means beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to:

- (1) Maintenance of aquatic life and wildlife habitats;
- (2) Outdoor recreational activities;
- (3) Maintenance of ecosystems such as estuaries, wetlands, and stream vegetation;
- (4) Aesthetic values such as waterfalls and scenic waterways;
- (5) Navigation;
- (6) Instream hydropower generation;

- (7) Maintenance of water quality;
- (8) The conveyance of irrigation and domestic water supplies to downstream points of diversion; and
- (9) The protection of traditional and customary Hawaiian rights.

“Stream diversion” means the act of diverting, pumping or otherwise removing water from a stream into a channel, ditch, pipeline, or other conduit.

“Stream diversion works” means any artificial structure, excavation, pipeline, or other conduit constructed singly or in combination, for the purpose of diverting or otherwise removing water from a stream into a channel, ditch, tunnel, pipeline, etc.

HAR §13-168-7 Report of water use. (a) The owner or operator of any well or stream diversion works from which water is being used shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage on a monthly (calendar or work schedule) basis.

HAR §13-168-32 Stream diversion permits. (a) No person shall construct or alter a stream diversion works, other than in the course of normal maintenance, without first obtaining a stream diversion permit from the commission...

(b) Each application for a stream diversion permit shall be made on forms provided by the commission and shall contain the following:

- (1) Name and address of the applicant;
- (2) Name and address of the owner or owners of the land upon which the works are to be constructed and a legal description of such land;
- (3) Location of the works;
- (4) Engineering drawings showing the detailed plans of construction;
- (5) Detailed specifications of construction;
- (6) Name and address of the person who prepared the plans and specifications for construction;
- (7) Name and address of the person who will construct the proposed work;
- (8) General purpose of the proposed works; and
- (9) Such other information as the commission may require.

(c) The commission may issue or cause to be issued a stream diversion permit if the proposed construction complies with all applicable laws, rules, and standards. The commission shall approve or disapprove an acceptably completed application within ninety calendar days of receipt by the commission. The commission may approve in whole, approve in part, approve with modifications, or disapprove an application for a stream diversion permit.

(d) In reviewing an application for a permit, the commission shall cooperate with persons having direct interest in the stream diversion works and be guided by the following general considerations:

- (1) The quantity and quality of the stream water or the stream ecology shall not be adversely affected.
- (2) Where instream flow standards or interim instream flow standards have been established pursuant to chapter 13-169, no permit should be granted for any diversion works which diminishes the quantity or quality of stream water below the minimum established to support identified instream uses, as expressed in the standards.

- (3) The proposed diversion works shall not interfere substantially and materially with existing instream or non-instream uses or with diversion works previously permitted.

HAR §13-169-36 Modifying instream flow standards. The modification of an existing instream flow standard by the commission may be initiated by the commission or by a petition to the commission by any interested person. The petition for modifying instream flow standards shall be made on forms provided by the department. The procedure for modifying an existing instream flow standard shall be similar to that for the establishment of an instream flow standard; provided that insubstantial modification may be determined and authorized without notice or hearing by the commission and provided, further, that the commission shall hold a hearing upon the written request of any person adversely affected by such order.

HAR §13-169-46 Interim instream flow standard for Hawaii. The Interim Instream Flow Standard for all streams on Hawaii, as adopted by the commission on water resource management on June 15, 1988, shall be that amount of water flowing in each stream on the effective date of this standard, and as that flow may naturally vary throughout the year and from year to year without further amounts of water being diverted offstream through new or expanded diversions, and under the stream conditions existing on the effective date of the standard.