

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

November 14, 2025

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Authorize the Chairperson to Issue, Amend, Manage or Revoke Dam Safety Permit No. P86 for the removal of the Kalihiwai Reservoir (KA-0024), to the Kalihiwai Ridge Community Association, CG Utilities LLC, and Porter Irrigation Company; authorize the removal of the Kalihiwai Reservoir (KA-0024) from HRS 179D Inventory of Regulated Dams; and authorize an amendment to the Board of Land and Natural Resources orders from its meeting on April 28, 2023, Item L-1, by allowing 12 months from issuance of permit to start construction.
Anahola, Kauai, TMK (4) 5-2-022:03.

Summary of Request

Application for a Dam Safety Permit to breach the Kalihiwai Reservoir (KA-0024), which will de-regulate the dam and remove it from jurisdictional oversight of the Department of Land and Natural Resources (Department) pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules. (Exhibit 1.) Amend the previous Board of Land and Natural Resources (Board) construction deadline by allowing the Owners of Kalihiwai Reservoir up to one year from the issuance of this permit to begin work.

Background

Kalihiwai Reservoir is located on the north shore of Kauai in Kilauea, Kauai County, Hawaii. The dam was built in the 1920s for agricultural irrigation and currently continues to be used for agricultural irrigation storage as well as recreation. The reservoir has a surface area of 22 acres and a storage capacity of approximately 53.5 acre-feet (15 million gallons) at the current restricted operating level of 10.2 feet measured at the reservoir staff gage. The reservoir has a maximum surface area of 31.8 acres and 242 acre-feet (68 million gallons) of storage capacity. The reservoir receives inflows from the Kalihiwai Ditch in addition to surface runoff from the surrounding 0.32 square mile drainage area. This dam is classified as a high hazard potential dam, as failure of the dam could result in loss of human life. Information on the physical characteristics of the dam is provided in the dam safety overview summary for this structure (Exhibit 2).

Ownership:

The dam and reservoir are owned by the Kalihiwai Ridge Community Association (KRCA), and two easement holders, CG Utilities LLC and Porter Irrigation Company, who also have water rights and operate and manage the water level in the reservoir. KRCA, CG Utilities LLC and Porter Irrigation Company, herein referred to as “Owners”.

Operational History / Enforcement Actions:

Numerous deficiencies including the lack of spillway capacity, stability issues, and seepage issues were identified in previous inspection reports and restated in the 2023 phase I inspection report, concluding that the dam was in POOR overall condition. Poor classification meant that a dam safety deficiency is recognized for loading conditions which may realistically occur. The inspection reports also noted that the dam had overtopped in the 1970s but did not fail. This was prior to the establishment of any dam safety regulation in Hawaii.

In 2017, the Department issued a Notice of Deficiency (NOD) to restrict the stored water level in the reservoir to be at the invert of the mid-level outlet works, stated to be at reservoir gage height = 10.2 feet.

In 2018, during a severe weather event, the dam overtopped by several inches. Although this overtopping did not cause a breach of the dam, it did result in some slumping and an erosion scour gully on the downstream slope of the right embankment, which prompted repairs of the crest and downstream slope. Shortly following this overtopping incident, the mid-level outlet works were removed as an emergency intervention to increase discharge capacity.

On 9/19/2021, a NOD was issued and followed up with a mandate from this Board on 4/28/2023 (Exhibit 3), which required the Owners meet stipulated milestone deadlines leading up to the remediation of the deficiencies at the dam. The following milestones were stipulated:

Description	Date Due	Notes
Start Construction on Kalihiwai Dam Removal Project	6 Months from the date the Board approves the dam safety Permit.	Requesting extension to 12-months from the date Board approves the dam Safety Permit. (Exhibit 4)
Submit Reconnaissance Level Survey	6/30/2023	Completed

The Department concurs with the request to give the Owners 12 months from the date of Board approval to allow the Owners' flexibility to construct during the safest season and follow various permit requirements.

Owners deliberation of actions and community outreach:

The decision to remove Kalihiwai Reservoir has been difficult for the community. Some had hoped the reservoir would provide additional irrigation for the Kilauea Community Agricultural Center and other future agriculture. The reservoir currently provides water for fire suppression at Anaina Hou community park and is used as a recreation area by the association members. Exhibit 5 provided by the reservoir Owners provides a summary of the consultations that took place with various members of the community and the efforts that were supported to find an alternate path than removal.

Because of the high cost of remediating the reservoir, as well as the cost of ongoing maintenance and the difficulty of getting insurance for the facility, the Owners agreed that removal was the only feasible option.

Permit Work Description

The Owners propose to remove the Kalihiwai Reservoir structure by grading a channel in the earthen embankment on the North side of the reservoir. The breach will consist of a 25-foot-wide trapezoidal channel with a bottom width of 15 feet. Once the excavation is done, the reservoir should no longer store water, removing the dam safety hazards. Any flow that still comes through the reservoir will flow into the Kalihiwai Stream below the reservoir site. See Exhibit 6 for selected removal project plan sheets.

Hawaii Revised Statutes Chapter 343-Environmental Assessment

The Department conducted an environmental assessment evaluation for the project based on information provided and concluded the proposed action is exempt from the preparation of an environment assessment because it is a project done on private property with private funds and will have minimal impact on the environment. Removal allows natural drainage through the existing reservoir sites, restoring natural water flow of runoff (Exhibit 7). The Owners of this dam have submitted an application package for this removal project for possible grant award of the State's Dam Appurtenance Improvement or Removal Grant Program. If the Owners are selected as a recipient for this grant, the Chapter 343 requirements will be addressed by the Owners and DLNR prior to proceeding with this removal project.

Hawaii Revised Statutes Chapter 6E-42 Historic Preservation Review

The Department consulted with the State Historic Preservation Division (SHPD) for compliance with Chapter 6E-42 requirements. SHPD reviewed the proposed project, designated as SHPD Project No 2022PR00711, Kalihiwai Reservoir (KA-0024) Removal Project. SHPD required a reconnaissance Level Survey which was completed and accepted as of a July 31, 2023 letter. They further required a Historic American Engineering Record (HAER) short report as mitigation, which was completed and

accepted by the United States Department of the Interior and assigned the record number of HAER HI-174. SHPD accepted the HAER documentation on 3/20/2024. (See Exhibit 8 for SHPD's letter and Exhibit 9 for the United States Department of the Interior Letter concerning the HAER.)

After completion of Chapter 6E-42, the U.S Army Corps of Engineers (USACE) issued their 404 permit on July 11, 2026. To fulfill the requirements of the 404 permit, a 106 consultation was done giving Native Hawaiian Organizations (NHOs) an opportunity to voice concerns about the project. The owner's technical representative coordinated the outreach effort, and no responses were received from the NHOs within the comment period. USACE has not yet submitted paperwork to SHPD concerning the 106 consultation process findings. Completion of the 106 consultation process is a requirement of the USACE permit.

Agency Consultation

The Department distributed notices to various agencies for their comments on this application. A summary of responses is included in Exhibit 10. The Commission on Water Resource Management (CWRM) originally asked for a Stream Diversion Works Permit (SDWP), but after further communication with the Owners and the Owners' consultant, they concluded that the SDWP was not necessary for this project, however they noted that the existing stream diversion was not registered with CWRM and needed to be registered (Exhibit 11). The owners are working with CWRM to complete the diversion registration.

Division of Forestry and Wildlife (DOFAW) also provided comments which addressed some of the potential effects on native species such as Hoary Bats and various endangered waterbirds and seabirds. Specific instructions were included in DOFAW's response detailing constraints that should be adhered to during construction to mitigate harming these species. These comments can be seen in Exhibit 12.

Community Outreach and Ka Pa'akai Analysis

The Owners have conducted community outreach throughout the years leading up to this project, including with the broader community (the association, downstream owners, other interested parties) as well as conversations with descendants of the Hawaiian community residing in the area. These efforts are summarized in Exhibit 5.

Similarly, the Department had discussions with the following persons and did not identify any Ka Pa'akai cultural or customary practices affected by this proposed project. Leimana DaMate (Executive Director, Hawaii State Aha Moku), confirmed a more detailed Ka Pa'akai Consultation Assessment is not required. Presley Wann (Aha Moku representative in the Kalihiwai area) reached out to lineal descendants in the area and concluded that removal of the reservoir did not specifically impact customary traditional and cultural resources or practice. The Aha Moku council has therefore agreed to support this project, and their letter of support will be submitted separately.

Discussion / Remarks

The Applicants/Owners, completed and submitted to the Department a basis of design, plans, and other applicable studies needed. The Department has reviewed the documents and concluded it is sufficient for its intended purposes. Staff recommends approval of this permit application with the Dam Safety Permit Conditions which include that the applicant must begin work within 12 months of Permit Issuance. (See Exhibit 13.) This extension of the construction start date will allow the owner to secure any remaining approvals and schedule construction within the seasonal windows for safe construction during dry weather. Additionally, the Department recommends authorizing the Chairperson to monitor and amend this schedule.

Recommendation

1. Authorize the Chairperson to issue Dam Safety Permit No. P86 for the removal of the Kalihiwai Reservoir (KA-0024), subject to such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
2. Authorize the Chairperson to oversee performance of the permitted work and take appropriate action including, but not limited to, amending the permit, issuing fines and/or revoking the permit, if necessary.
3. Authorize the Chairperson to remove the Kalihiwai Reservoir (KA-0024) from the HRS Chapter 179D Inventory of Regulated Dams, upon satisfactory completion of dam removal project and requirements of the Dam Safety Removal Permit requirements.
4. Authorize an amendment to the Board of Land and Natural Resources orders from its meeting on April 28, 2023, for Item L-1, allowing the Kalihiwai Reservoir dam Owners 12 months to start construction following the approval of a Dam Safety Permit for this work so it will be as follows: "In the event that the Owners have not started construction on **the permitted work within twelve (12) months** from the date the Board approves the dam safety permit, pursuant to HRS §179D and HAR §13-190.1, the Kalihiwai Ridge Community Association, CG Utilities, and Porter Irrigation, the "Owners" of the Kalihiwai Dam (KA-0024) shall be in violation of HRS §179D-6(b)(17) and HAR §13-190.1-4 for failure to address minimum design requirements, and authorize the Chairperson to amend the deadline if delays are beyond the owners' control or to make a finding of violation sufficient to support specified fines, and to issue fines on Owners.
 - a. The Owners will be fined \$20,000 if they fail to start construction within twelve (12) months of permit approval, pursuant to HRS §179D-8(b).
 - b. The Owners will pay all fines within 60 days of missing the deadline to start construction within twelve (12) months of permit approval.
 - c. In the event that the Owners fail to comply with the Board order to pay fines within the time allotted, the owner shall be fined an additional \$5,000 per day until the ordered fine amount is paid.

5. In the event that the above fines should go into effect, the Owners of the Kalihiwai Reservoir (KA-0024) will be jointly and severally liable for payment of those fines."

Respectfully submitted,



DINA U. LAU
Acting Chief Engineer

APPROVED FOR SUBMITTAL:



DAWN N.S. CHANG, Chairperson
Board of Land and Natural Resources

- Exhibit 1 – Permit Application
- Exhibit 2 – Dam Safety Overview
- Exhibit 3 – Board Decision from 4/28/2023
- Exhibit 4 – Letter from Dam Owners Requesting Time Extension
- Exhibit 5 – Summary of community outreach by Owner
- Exhibit 6 – Selected Plan Sheets
- Exhibit 7 – HRS 343 Analysis
- Exhibit 8 – SHPD Letter
- Exhibit 9 – United States Department of the Interior Letter
- Exhibit 10 – Agency Consultation Summary
- Exhibit 11 – CWRM Letter
- Exhibit 12 – DOFAW Comments
- Exhibit 13 – Dam Safety Permit Conditions

**APPLICATION FOR APPROVAL OF PLANS AND SPECIFICATIONS FOR THE
CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF
DAMS IN THE STATE OF HAWAII**

Introduction

The Department of Land and Natural Resources (DLNR) Engineering Division administers the State Dam and Reservoir Program as authorized under Hawaii Revised Statutes Chapter 179D (HRS) and Hawaii Administrative Rules Title 13, Department of Land and Natural Resources, Sub-Title 7 – Water and Land Development, Chapter 190.1 – Dams and Reservoirs, (HAR). Requirements for obtaining an approval for the construction, enlargement, repair, alteration, or removal of dams and reservoirs are derived from the (HRS) and Hawaii Administrative Rules (HAR) and the steps for obtaining a dam safety permit are outlined in this application form. Any omissions or errors in this document do not relieve the Applicant from complying with applicable sections of the HAR.

All applications should be addressed to:

Chairperson, Board of Land and Natural Resources
Department of Land and Natural Resources
Engineering Division
P.O. Box 373
Honolulu, Hawaii 96809
Telephone: (808) 587-0230

Instructions

An Applicant is encouraged to contact the Department to if they are interested in a pre-application meeting. The pre-application meeting allows for discussion of the Applicants conceptual plan and the requirements of the Board for specific applications and gives the Applicant an opportunity to ask questions.

A separate project dam safety permit application form shall be used for each dam structure. All information on the application form should be typed or printed. If a specific item does not apply it should be marked NA (not applicable). All owners of the facility shall sign an “Owners Signature” page for this site and project.

The Department shall accept and take action on applications only if the fee for the application is paid. The fee is based upon two percent of the total project costs associated with the design and construction of the dam and appurtenant works as in accordance with Chapter 13-190.1-50.

Review steps:

1. Administrative completeness review
2. Permit technical review
3. Approval by Board of Land and Natural Resources
4. Issuance of Permit

Any questions pertaining to completion of this form should be directed to the Engineering Division, Dam Safety Program at (808) 587-0254.

Hawaii Dam and Reservoir Safety Program DAM SAFETY PERMIT

Dam Name: **Kalihiwai Reservoir**

Project Type: **Removal**

DAM SAFETY PERMIT APPLICATION FORM

Fill in the following information for the specified dam safety permit project. One application shall be used for each dam or reservoir structure.

Project Information	<i>Application Date</i>	May 1, 2022
	<i>Applicant Name (Attachment 1)</i>	Elizabeth Letcher
Dam Name	Kalihiwai Reservoir	
Dam ID No. (State) (if New Dam enter N/A)	KA-0024	
Type of Project (check one)	<input type="checkbox"/> New Construction <input type="checkbox"/> Improvement (repair/rehabilitation/alteration) <input type="checkbox"/> Reduction (alteration to below regulatory jurisdiction) <input checked="" type="checkbox"/> Removal (breach, no pond)	
Dam/Reservoir Location (City)	Kalihiwai	
Dam/Reservoir Location (Latitude/Longitude)	22.187054, -159.432378	
TMK(s)	(4) 5-2-22:03	
Island/County	Kauai	
State Land Use District (check all applicable)	<input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Rural <input type="checkbox"/> Urban <input type="checkbox"/> Conservation	

Application Package	Included (Y/N)
1. Dam Safety Permit Application Form (with each owner's signature page) [Ref. 13-190.1-20(d)(1)]	Y
2. Design Report(s) [Ref. 13-190.1-20(d)(2)]	Y
3. Documentation for compliance with Chapter 343 Environmental Review	
4. Documentation for compliance with State Historic Preservation Division (SHPD) See SHPD website for HRS 6E Intake form to be submitted with backup documentation and determination. Government entities shall complete the 6E-08 review. (http://dlnr.hawaii.gov/shpd/review-compliance/forms/)	
5. Construction Plans (2 sets) [Ref. 13-190.1-20(d)(3)]	Y
6. Construction Specifications (2 sets) [Ref. 13-190.1-20(d)(3)]	Y
7. Construction Quality Assurance Plan [Ref. 13-190.1-20(d)(4)]	
8. Detailed Cost Estimate [Ref. 13-190.1-20(d)(5)]	Y
9. Filing fee calculation [Ref. 13-190.1-20(d)(6)]	Y
10. Filing fee (check) [Ref. 13-190.1-20(d)(6)]	Y
11. Other Supporting Documents	Y
12. Electronic copy of all of the above on CD/DVD/USB flash drive/other	Y

Hawaii Dam and Reservoir Safety Program DAM SAFETY PERMIT

Dam Name: **Kalihiwai Reservoir**

Project Type: **Removal**

Technical Information	
Drainage Area (sq. miles/acres)	0.39 sq. mi.
Type of Structure (Earthen/Concrete, etc.)	Earthen
Size Classification of Dam	Small
Hazard Classification	High
Purpose of Structure (Water supply, irrigation, recreation, real estate development, etc...)	Water supply, recreation
Maximum Capacity (existing volume)	280.3 ac-ft
Maximum Capacity (revised volume after project completed)	0.0 ac-ft under normal, non-storm conditions
Year completed/last modified	1920 / 2018

Description of Work to be performed (describe construction work to be done on dam and reservoir facility)
The work to be performed includes: breaching the existing reservoir by constructing a notch through the existing embankment and lining the breached section with riprap up to the 100-year flow depth. All material will be spoiled on-site, upstream of the embankment.

Anticipated effect of proposed structure on natural environment:
All work will be performed according to local and federal guidelines relating to stormwater quality. The reservoir will no longer exist and the area will restore to its pre-dam condition. US Fish and Wildlife will perform an endangered species review, the results of which will be used to plan construction activities, as appropriate.

List all parties who share ownership of the parcels where the dam and reservoir are located and identify their interest in the property. All owners herein listed below shall sign **Attachment 2 – Owner Signature** and concur with the work proposed within this application by the applicant.

Owner Information	
Owner 1 Name: Kalihiwai Ridge Community Association Company:	TMK: (4) 5-2-22:03
Owner 2 Name: CG Utilities LLC Company:	TMK: Easement holder
Owner 3 Name: Porter Irrigation Company Company:	TMK: Easement holder
Owner 4 Name: Company:	TMK:

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Kalihiwai Reservoir

Project Type: Removal

Attachment 1

APPLICANT CONTACT INFORMATION

Applicant Information (primary contact for Dam Safety Permit process)	
Applicant Contact Name	Elizabeth Letcher, KRCA President
Firm/Company	Kalihiwai Reservoir Community Assoc.
Mailing Address	5880 Kahiliholo Unit C, Kilauea, HI 96754
Telephone	[REDACTED]
Fax	
Email	[REDACTED]

I, Elizabeth Letcher, the applicant, hereby certify that the information herein is
(print name)
true and factual to the best of my knowledge. Signing below indicates that the applicant understands that, if the permit requested is granted by the Board of Land and Natural Resources, the proposed work is to be initiated and completed within five (5) years of the approval date, unless specifically permitted in the approved permit terms and conditions.



Applicant Signature

Date: 4/27/22

President, KRCA

Applicant Title

Signature subject to reservation of rights in accompanying letter

ENGINEER CONTACT INFORMATION

Licensed Engineer Contact Information	
Registered Hawaii Professional Engineer	Stewart Vaghti
Registration No.	14057-C
Firm/Company	Gannett Fleming, Inc.
Mailing Address	3838 N. Central Ave, #1900, Phoenix, AZ 85012
Telephone	[REDACTED]
Mobile/Other	[REDACTED]
Fax	[REDACTED]
Email	[REDACTED]

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Kalihiwai Reservoir

Project Type: Removal

Attachment 2

OWNER INFORMATION/SIGNATURE

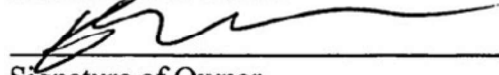
A separate signature page is required for each and all owners of the dam and reservoir for the subject project. The Owner herein listed below concurs with the work proposed within this application by the applicant and by signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190.1, Hawaii Administrative Rules. (Submit copies of this sheet for each owner)

Owner Information	Kalihiwai Reservoir Community Assoc.
Owner Contact Name	Elizabeth Letcher
Firm/Company	President, KRCA
Mailing Address	5880 Kahilihiolo Unit C, Kilauea, HI 96754
Telephone	[REDACTED]
Mobile/Other	[REDACTED]
Fax	
Email	[REDACTED]
TMK for dam/reservoir property	(4) 5-2-22:03

Owner Signature

Elizabeth Letcher, for KRCA

Print Name of Owner



Signature of Owner

4/27/22

Date

Signature subject to reservation of rights in accompanying letter

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Kalihiwai Reservoir

Project Type: Removal

Attachment 2

OWNER INFORMATION/SIGNATURE

A separate signature page is required for each and all owners of the dam and reservoir for the subject project. The Owner herein listed below concurs with the work proposed within this application by the applicant and by signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190.1, Hawaii Administrative Rules. (Submit copies of this sheet for each owner)

Owner Information	
Owner Contact Name	Jennifer Luck, COO
Firm/Company	CG Utilities LLC
Mailing Address	4900 Kuawa Rd, Kilauea, HI 96754
Telephone	
Mobile/Other	
Fax	
Email	
TMK for dam/reservoir property	(4) 5-2-22:03

Owner Signature

Oliver Medenmaier, CG Utilities LLC

Print Name of Owner


Signature of Owner

4-23-22
Date

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Kalihiwai Reservoir

Project Type: Removal

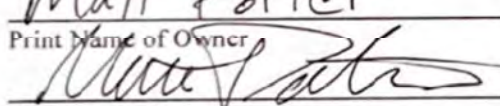
Attachment 2

OWNER INFORMATION/SIGNATURE

A separate signature page is required for each and all owners of the dam and reservoir for the subject project. The Owner herein listed below concurs with the work proposed within this application by the applicant and by signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190.1, Hawaii Administrative Rules. (Submit copies of this sheet for each owner)

Owner Information	
Owner Contact Name	MATTHEW PORTER
Firm/Company	PORTER IRRIGATION, LLC.
Mailing Address	P.O. Box 133, KILAUEA, HI 96754
Telephone	
Mobile/Other	
Fax	
Email	
TMK for dam/reservoir property	(4) 5-2-22-03

Owner Signature

Matt Porter
Print Name of Owner

Signature of Owner
4/28/22
Date

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: **Kalihiwai Reservoir**

Project Type: **Removal**

Attachment 3

FEE REQUIREMENTS/FILING FEE CALCULATION

Payment of the filing fee is required pursuant to HRS §179D-6 and §13-190.1-50 for all applications. The Department shall accept and take action on the following applications and filings only if the fee shown for the application or filing is paid at the time the application or filing is submitted. The fee is based upon two percent of the total project costs associated with construction of the dam and appurtenant works integral to the design and safe operation of the dam.

The applicant or owner shall submit with the application for construction, enlargement, alteration, repair, or removal a fee calculation sheet and the application fee in the amount equal to two per cent of the estimated cost of construction including engineering costs. The estimated cost of the construction, enlargement, alteration, repair, or removal shall include the cost of all labor and materials entering into the construction of the dam and appurtenant works or reservoir, the cost of preliminary investigations and surveys, the cost of the construction plans properly chargeable to the cost of the dam or reservoir, and any and all other items entering directly into the cost of the construction, enlargement, alteration, repair or removal. The costs of right-of-way, detached powerhouses, electrical generating machinery, and roads and railroads affording access to the dam or reservoir shall not be included among the items used in the determination of cost.

An application shall not be considered by the department until the application fee is received. In the event the actual cost exceeds the estimated cost by more than 15 percent, a further fee shall be required by the board before final approval and shall be two per cent of the amount the actual cost exceeded the estimated cost of the construction, enlargement, alteration, repair, or removal. No further fee shall be required, if such fee is to be computed at less than twenty dollars (\$20).

FILING FEE CALCULATION

Engineering costs (studies, plans, specifications, etc...)	<u>\$368,035.00</u>
Estimated Construction cost	<u>\$1,551,100.00</u>
Total estimated costs	<u>\$1,919,135.00</u>
Initial Application fee = 2% x Total estimated costs	<u>\$38,382.70</u>

Hawaii Dam and Reservoir Safety Program

DAM SAFETY PERMIT

Dam Name: **Kalihiwai Reservoir**

Project Type: **Removal**

CONDITIONS OF APPROVAL

Construction work shall commence within five years of the date of the approved application. A licensed engineer in the State of Hawaii shall be in charge of the inspection of the construction.

One set of final plans and specifications with the County approval (signature) shall be submitted to the Department prior to the start of the work.

The Department shall be notified five (5) calendar days prior to the commencement of the construction, and a construction schedule shall be provided, which includes the notice to proceed date and estimated project duration.

Changes and/or modifications to the plans shall be sent to DLNR Dam Safety Program in the form of shop drawings and/or plans that are approved and stamped by a licensed engineer. Changes and/or modifications shall not be implemented until approved by DLNR Dam Safety Program.

The owner or owner's representative shall submit a copy of the dam safety application and the plans and specifications of the proposed improvements to the County Engineer of the County for which the dam resides for compliance with County codes.

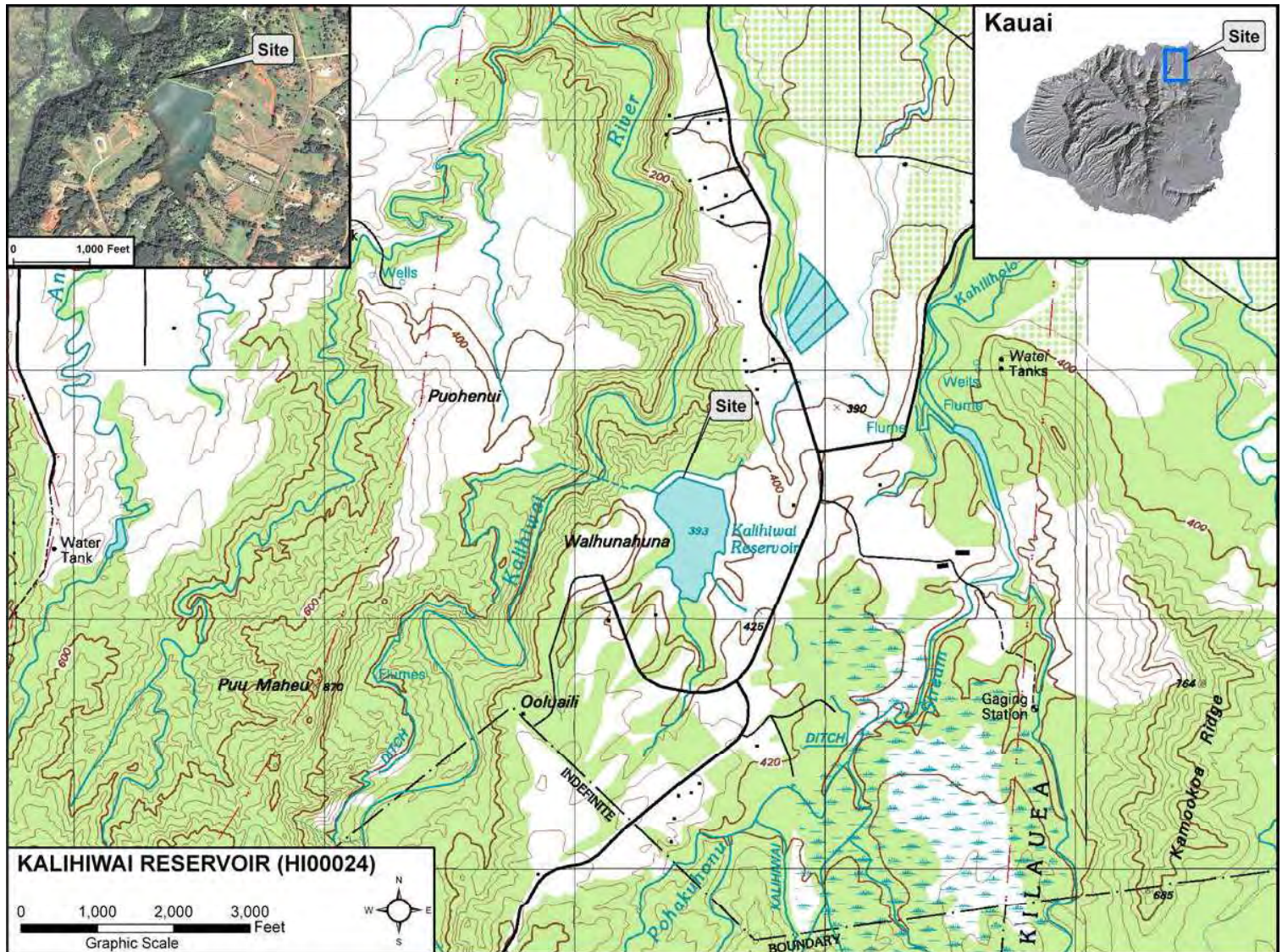
This permit does not relieve the owner or owner's representative of their obligations to comply with all applicable Federal, State, and County regulations. These may include but may not be limited to:

- **National Pollution Discharge Elimination System (NPDES) Permit** – Department of Health (DOH), Environmental Management Division, Clean Water Branch (CWB), Engineering Section.
- **US Army Corps of Engineers Permits (404 Permit)** – USACE, DOH, CWB, Engineering Section
- **Threatened and Endangered Species Review Request** – U.S. Fish and Wildlife Service
- **'No Effects' Letter** – DLNR, State Historic Preservation Division (SHPD)
- **DLNR Stream Channel Permit** – DLNR, Commission on Water Resource Management
- **DOH 401 Permit** – DOH, CWB, Engineering Section
- **Grading Permit** – County, Department of Public Works (DPW), Engineering Division
- **Grubbing Permit** – County, Department of Public Works (DPW), Engineering Division
- **Work Within the County Right-of-Way** – County, Department of Public Works (DPW), Engineering Division
- **Stockpiling Permit** – County, Department of Public Works (DPW), Engineering Division
- **Private Waterline Permit** – County, Department of Public Works (DPW), Engineering Division
- **Building Permit** – County, Department of Public Works (DPW), Building Division
- **Planning Approval** – County, Planning Division
- **Community Noise Permit** – State of Hawaii, DOH, Environmental Management Division, Indoor and Radiological (IRH) Branch

KALIHUWAI RESERVOIR

KA-0024

Kauai



1. General Information

a. State Dam ID	KA-0024
b. National ID	HI00024
c. Dam Name	KALIHUWAI RESERVOIR
d. Other Name(s)	
e. Longitude / Latitude	-159.4324 / 22.1871
f. County / Island	Kauai / Kauai
g. Type of Dam	Earthen
h. Purpose	Irrigation, Recreation
i. Completed / Last Modified	1920 / 2020
j. Nearest City / Town	KALIHUWAI (2 miles)
k. Water Body Type	State Regulated Dam
l. Dam Height	20 ft
m. Dam Length	950 ft
n. Drainage Area	0.32 sq. miles / 205 acres
o. Size Classification	Small

2. Owner Information

a. Name of Owner	CG Utilities LLC, Kalihiwai Ridge Community Association, Porter Irrigation
b. TMK(s)	(4) 5-2-022:003

3. Hazard Potential Classification

a. Hazard Classification	High
b. Emergency Action Plan	Yes
c. Date of Last EAP	01/29/2024



Aerial Photo (12/07/2007)

4. Reservoir

a. Normal Storage	143 ac-ft / 47 MG
b. Maximum Storage	242 ac-ft / 79 MG
c. Surface Area	22.0 acres

5. Primary Spillway

a. Minimum Width	14 ft
b. Length	332 ft
c. Type	Channel
d. Protection	Bare Soil
e. Maximum Discharge	2,412 cfs

6. Primary Outlet Works

a. Works Type	Slide (sluice gate)
b. Maximum Discharge	
c. Size	24 in
d. Control Description	Upstream Control

7. Embankment

a. Type of Dam	Earthen
b. Minimum Crest Width	15 ft
c. Upstream Slope Grade	30° / 1.7:1
d. Upstream Slope Protection	Bare Soil
e. Downstream Slope Grade	22° / 2.5:1
f. Downstream Slope Protection	Vegetation
g. Dam Height	20 ft
h. Dam Length	950 ft

8. Inflow Works

Type	Name	Controlled	Size
Ditch	Kalihiwai Ditch	Yes	8 ft

**State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813**

April 28, 2023

Approved by _____
Land & Natural Resources
At the meeting held on

04-28-23

As Amended

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Authorization for the Chairperson to Extend the Notice of Deficiency
Deadlines and Make a Finding of Violations Sufficient to Support
Specified Fines on Kalihiwai Ridge Community Association,
Common Ground Utilities, and Porter Irrigation Company if
Extended Deadlines are Missed for Kalihiwai Dam Removal Project
(KA-0024), Kilauea, Kauai, Tax Map Key (4) 5-1-005: 25

Background

Kalihiwai Reservoir was constructed in the 1920s as an irrigation reservoir for downstream sugar cane fields. Currently, it is used for irrigation by the easement holders, and for recreation by the Kalihiwai Ridge Community Association (KRCA). Kalihiwai Reservoir is classified as a high hazard potential dam, as failure could result in loss of human life. The overall condition of the dam is currently rated as poor, meaning a dam safety deficiency is recognized for normal operating conditions which may realistically occur. Remedial action is necessary. The dam is currently under a water level restriction of 10.2 feet on the staff gage, but it is generally operated just below 7 feet. The reservoir spillway elevation and top of dam are 14.2 feet and 18.6 feet on the staff gage.

The dam and reservoir is owned by KRCA, and two easement holders (Common Ground Utilities and Porter Irrigation Company) who also have water rights and operate and manage the water level in the reservoir.

Hazard Potential: High Hazard Potential Dam
Population at Risk: 4 (see Figure 1 for current evacuation area)
Overall Condition: Poor
Dept. Restriction: 10.2 feet
Embankment: Earthen
Dam Height: 20 feet
Maximum Storage: Approximately 250 acre-feet

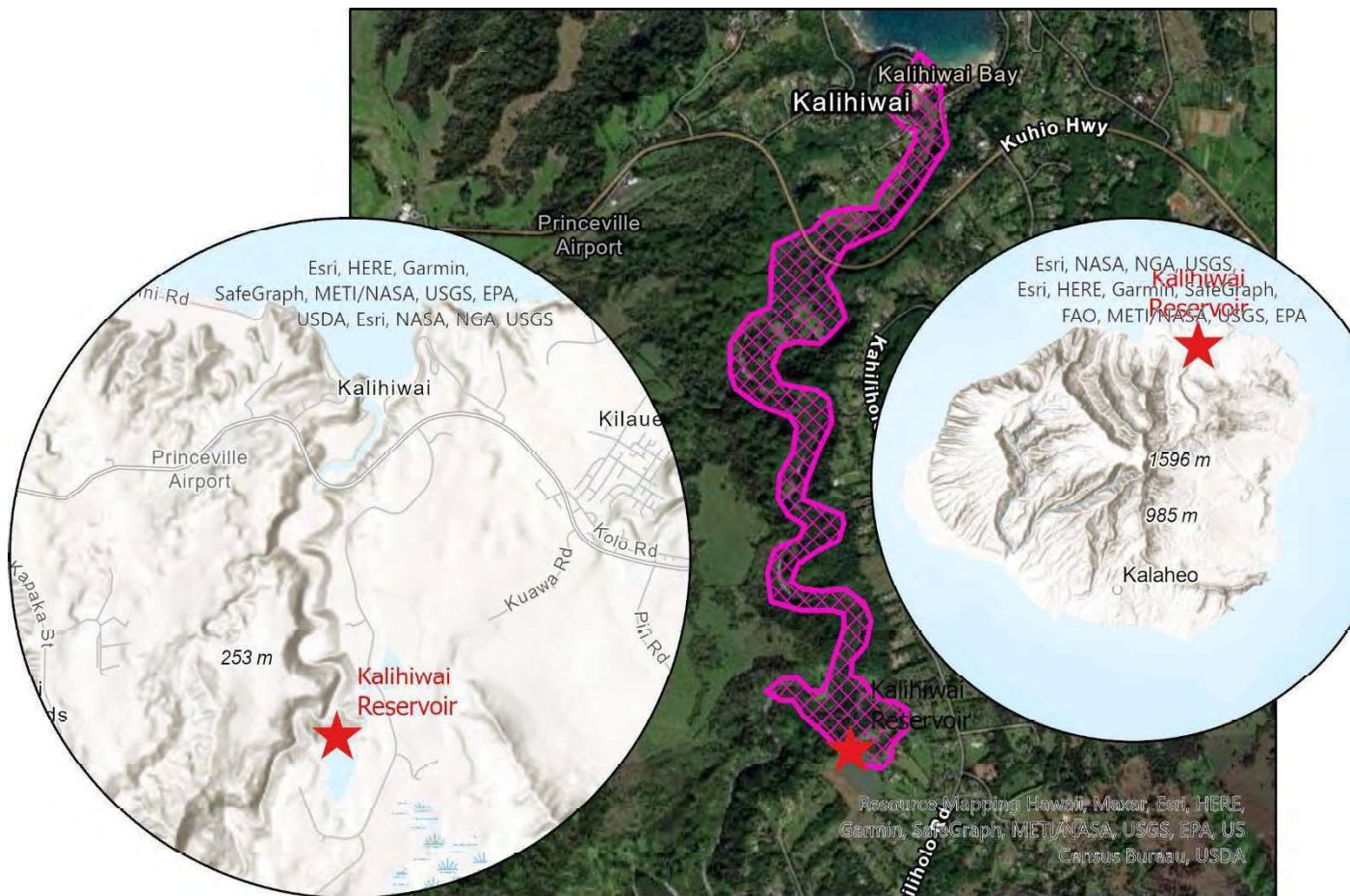


Figure 1. Location Map showing downstream evacuation area

Background and Enforcement Actions

The Department of Land and Natural Resources (Department) has issued four Notice of Deficiencies (NODs) on 5/23/2013, 9/15/2015, 8/24/2017, and 9/19/2021 to the Owners of the Kalihiwai Reservoir. The biggest concern identified in the first three NODs was that the collapsed mid-level outlet structure reduces the ability of the reservoir to discharge water, which could increase the risk of the reservoir overtopping during a flood event. This concern came to fruition during the 2018 flood event. During that emergency, dirt from the upstream slope was used to patch the low spot on the crest where water was overtopping, and the mid-level outlet works was dug out and enlarged, which allowed the water to release at a higher rate. While this emergency fix did address the reservoir's ability to release more water during that flood event, the work was only intended to address the imminent risk posed during that emergency. Broader safety issues, such as stability along the embankment, spillway capacity and known seepage issues, have not been addressed and still pose on-going risks that could contribute to a dam failure. Also, studies to show that the emergency fix fully addressed overtopping issues were still in progress and had not been provided to the Department. As part of this NOD studies were provided that showed that the dam would no longer overtop with

the probable maximum flood, but that it does not yet have sufficient freeboard to handle that event.

When the NOD was issued in 2021, the Owners had already taken the initiative to hire a dam safety engineering consultant who was in the process of developing a plan for rehabilitation of the dam. However, those plans had stalled because the Owners were unable to agree on a path forward. The 2021 NOD superseded previous NODs, and the Owners have diligently met each of the initial milestone in the 2021 NOD (see Table 1). However, the Owners are not going to be able to meet the 5/1/2023 deadline to start construction because a dam safety permit has not been issued yet. Upon seeking review of this proposed project by the State Historic Preservation Division (SHPD), SHPD had determined that they had insufficient information to determine impacts to architectural historic properties. Therefore, SHPD has required the Owners to prepare a Reconnaissance Level Survey Report to be submitted for their review and comment prior to the Board approving the dam safety permit. The Owners have amended their contract with their consultant to include the Reconnaissance Level Survey Report requested by SHPD and anticipate having it completed by June of 2023.

Table 1. Summary of September 19, 2021, NOD Deadlines and owner response

Description	Date Due	Owner Response
Restrict Level to 10.2 ft	Ongoing	Have followed Restriction, and generally kept at 7 ft
Submit Monitoring Reports Monthly	Ongoing	Have submitted reports monthly
Submit interim Monitoring Plan	1/15/2022	Completed
Submit Intent Letter (Remediation or Removal)	2/1/2022	Completed
Submit Permits	5/1/2022	Completed
Start Construction	5/1/2023	Not able to complete since permit has not been issued.

Discussion

In a letter to the Department emailed 3/6/2023 (see Exhibit B), the Owners asked for an extension in the deadline for the start of construction to be set 6 months from the date of issuance of the dam safety permit. The Department believes this request is reasonable given that they will need 6 months to execute a construction contract.

The Department believes a hard deadline should be set for the submittal of the Reconnaissance Level Survey Report, since SHPD's review and comment of that document will be the critical path for the dam safety permit to be issued. Therefore, it is recommended that the deadline for submittal of the Reconnaissance Level Survey Report be set for June 30, 2023.

Recommendations:

1. That the Board of Land and Natural Resources (Board) authorize the Chairperson to revise the Notice of Deficiency deadline for starting construction on Kalihiwai Dam

Removal Project (KA-0010) from May 1, 2023 to 6 months from the date the Board approves the dam safety permit.

2. Set a deadline of June 30, 2023 for the Owners to submit the Reconnaissance Level Survey Report to the Department. In the event that the owners miss the **6/30/2023 deadline to submit Reconnaissance Level Survey Report**, pursuant to HRS chapter 179D and HAR chapter 13-190.1, the Board find that Kalihiwai Ridge Community Association, Common Ground Utilities, and Porter Irrigation Company, the “Owners” of the Kalihiwai Dam (KA-0024) are in violation of HRS §179D-30(5), and HAR §13-190.1-23(a) for failing to provide sufficient information for permit application approval.
 - a. The Owners will be fined \$5,000 if they fail to submit the Reconnaissance Level Survey Report by June 30, 2023, pursuant to HRS §179D-8(b).
 - b. The Owners will pay all fines within 60 days of June 30, 2023 deadline, if Reconnaissance Level Survey Report is not submitted by 5 pm HST on June 30, 2023.
 - c. In the event that the Owners fail to comply with the Board order to pay fines within the time allotted, the Owners shall be fined an additional \$500 per day until the ordered fine amount is paid.
3. In the event that the Owners have not started construction on **the permitted work within six (6) months** from the date the Board approves the dam safety permit, pursuant to HRS §179D and HAR §13-190.1, the staff recommends the Board find that Kalihiwai Ridge Community Association, Common Ground Utilities, and Porter Irrigation Company, the “Owners” of the Kalihiwai Dam (KA-0024) are in violation of HRS §179D-6(b)(17) and HAR §13-190.1-4 for failure to address minimum design requirements.
 - a. The Owners will be fined \$20,000 if they fail to start construction within six (6) months of permit approval, pursuant to HRS §179D-8(b).
 - b. The Owners will pay all fines within 60 days of missing the deadline to start construction within six (6) months of permit approval.
 - c. In the event that the Owners fail to comply with the Board order to pay fines within the time allotted, the owner shall be fined an additional \$5,000 per day until the ordered fine amount is paid.
4. In the event that any of the above fines should go into effect, the Owners of the Kalihiwai Reservoir (KA-0024) will be jointly and severally liable for payment of those fines.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:

A handwritten signature in black ink, appearing to be 'Dawn N.S. Chang', written over a light gray rectangular background.

DAWN N.S. CHANG, Chairperson
Board of Land and Natural Resources

Exhibit A - Enforcement Letters

NOD Letter Dated 9/19/2021

NOD Letter Dated 8/24/2017 (Superseded by 9/19/2021 NOD)

NOD Letter Dated 9/18/2015 (Superseded by 9/19/2021 NOD)

NOD Letter Dated 5/23/2013 (Superseded by 9/19/2021 NOD)

Exhibit B – Extension Letter Request from owners

"BLNR Meeting: April 28, 2023: L-1: Approved as amended. See attached page."

**AMENDMENT
for
THE MEETING OF THE BOARD OF LAND AND NATURAL RESOURCES**

Meeting Date: April 28, 2023

Agenda Item: L-1

Regarding: Authorization for the Chairperson to Extend the Notice of Deficiency Deadlines and Make a Finding of Violations Sufficient to Support Specified Fines on Kalihiwai Ridge Community Association, CG Utilities LLC, and Porter Irrigation if Extended Deadlines are Missed for Kalihiwai Dam Removal Project (KA-0024), Kilauea, Kauai, Tax Map Key: (4) 5-1-005:025.

Approved as Amended.

1. The Board Submittal is amended to add the following item to the recommendations:

The Owners are directed to communicate with the community concerning this project.

2. The Board Submittal is amended to replace all references to "Common Ground Utilities" with "CG Utilities LLC" and "Porter Irrigation Company" with "Porter Irrigation". Kalihiwai Ridge Community Association, CG Utilities LLC, and Porter Irrigation are referred to as "Owners" within the submittal.

DAVID Y. IGE
GOVERNOR OF
HAWAII



EXHIBIT A

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Sep 19, 2021

VIA CERTIFIED MAIL

Mr. Robert Wilson
Hawaiiana Management Co.
4370 Kukui Grove Street, #208
Lihue, HI 96766
robertw@hmcmtg.com

Mr. Oliver Niedermaier
CG Utilities LLC
4900 Kuawa Road
Lihue, HI 96766
oliver@commongroundkauai.com

Ms. Kelly & Mr. Matt Porter
Porter Irrigation Company
3770 Punahale Road
Princeville, HI 96722
Kelly.porter@woodsidecap.com

Mr. Tripp MaCallister
Porter Irrigation Company
3770 Punahale Road
Princeville, HI 96722
tripp@waikoaplantation.com

Kalihiwai Ridge Community Association
c/o Bert Lyon
4370 Kukui Grove Street, #208
Lihue, HI 96766
lyon3@hawaii.rr.com

Dear Mr. Wilson, Mr. Niedermaier, Ms. & Mr. Porter, Mr. MaCallister, and Kalihiwai Ridge Community Association:

KALIHIWAI RESERVOR (KA-0024), KAUAI DAM SAFETY - NOTICE OF DEFICIENCY

The subject regulated dam/reservoir has been classified to be in a poor overall condition and a threat to public safety due to one or more physical / operational conditions and deficiencies identified by the Department of Land and Natural Resources (Department). This Notice of Dam Safety Deficiency supersedes the conditions stipulated in previously issued notice of deficiencies. The subject facility is also classified as a High Hazard Potential dam, as failure could jeopardize the lives of the downstream public.

Pursuant to Hawaii Revised Statutes (HRS) 179D-6, you are required to take the following remediation, and maintenance and monitoring actions, by the deadlines indicated:

1. Remediation Schedule:

A written schedule for a dam remediation plan was requested in a letter from the Department on August 24, 2017. The Department acknowledges that the owner has done some of the studies previously requested by the department, such as a stability study and an H&H study. The results of the studies showed that the stability of the

reservoir needs to be addressed and that the spillway is not adequately sized to pass the Probable Maximum Flood (PMF) as required by Hawaii Administrative Rules (HAR) Chapter 13-190.1. We understand that you have engaged the services of an engineer to assist in the evaluation and design of improvements to your facility.

By 12/1/2021:

- a. **Submit Intent Letter for Dam Remediation, Reduction or Removal:** Submit to the Department the owners' plan to address the safety issues posed by the dam.

By 5/1/2022:

- b. **Submit complete permit application package:** Submit a complete dam safety permit application package to the Department (HAR §13-190.1-20).

By 5/1/2023:

- c. **Start construction:** Start construction of the approved Dam Safety Permit.

2. Submit Interim Operating Plan:

By 1/15/2022:

- a. **Submit an interim operating plan to be followed until remediation is complete. The plan should outline the steps in operation being taken to prevent failure during (at minimum) a 100-year event and mitigate life loss downstream for larger events. Plan should include, but not be limited to, the following:**
 - i. Reservoir water level restrictions-based engineering studies
 - ii. Monitoring requirements
 - iii. Operation requirements
 - iv. Reviewing and updating downstream inundation area and updating EAP for more effective notification of downstream residents in case of evacuation.

3. Immediate Operations and Monitoring Requirements:

From 10/1/2021 until acceptance of Interim Operating Plan:

- a. Once per month (on the first business day of the month), submit daily readings of water level, and seepage measurement (noting flow and water clarity) to DLNR.EN.FCDS@hawaii.gov. This is a continuation of the requirements already set forth in the letter date August 24, 2017.

Starting one week from the send date of this letter until remediation is complete:

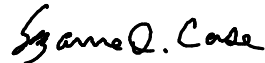
- a. Continue to maintain the operating water level in the reservoir to below 10.2-ft on the electronic gage, as required in the deficiency letter from the

Mr. Wilson, Mr. Niedermaier, Ms. & Mr. Porter, Mr. MaCallister, and Kalihiwai Ridge Community Association
Kalihiwai Reservoir (KA-0024)
Notice of Deficiency
Page 3 of 3
Sep 19, 2021

Department on August 24, 2017, or at an alternate level as determined by the accepted Interim Operating Plan. The water level is being electronically monitored at <https://uhslc.soest.hawaii.edu/reservoir/?stn=EDD067F2>. While fluctuations during large storm events are unavoidable, level should always be dropped as quickly as possible following events. If upcoming events are predicted, the water level should be lowered in anticipation. If the water level is above the 10.2' threshold (or level designated in Accepted Interim Operating Plan) for more than 72 hours, you will be subject to a Civil Resource Violation System (CRVS) penalty of up to \$1000.

Failure to comply with the Remediation and Maintenance and Monitoring actions by the indicated deadlines may result in penalties and other actions by the Board of Land and Natural Resources pursuant to HRS § 179D-6 and 8 and HAR § 13-190.1-5. Please contact Edwin Matsuda of my Engineering Division staff at Edwin.Y.Matsuda@hawaii.gov should you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink that reads "Suzanne D. Case". The signature is written in a cursive, flowing style.

SUZANNE D. CASE
Chairperson

DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

AUG 24 2017

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Mr. Larry Lau
KRCA President
Kalihiwai Ridge Community Association
c/o Hawaiiana Management Co., Ltd
4370 Kukui Grove St., #208
Lihue, HI 96766

Board of Directors
Kalihiwai Ridge Community Association
c/o Hawaiiana Management Co., Ltd
4370 Kukui Grove St., #208
Lihue, HI 96766

Dear Mr. Lau and Board of Directors – KRCA:

**KALIHIWAI RESERVOIR (KA-0024), KAUAI
NOTICE OF DAM SAFETY DEFICIENCY
2017 FOLLOW UP**

The Department of Land and Natural Resources (Department) issued a Notice of Deficiency for the Kalihiwai Reservoir (KA-0024) on May 23, 2013, for concerns about the condition of the mid-level outlet to the right of the spillway, and a September 18, 2015 follow up notice. The Department received a formal letter of response from the Kalihiwai Ridge Community Association dated March 31, 2016

A Dam Safety Inspection was conducted on **June 28, 2017** and although work has been undertaken to address the collapse of the mid-level outlet and the water level lowered, the facility continues to remain in a poor condition and a threat to public safety due to one or more physical / operational conditions and deficiencies.

Your immediate and continued action is required:

1. Continue to keep the reservoir at a restricted water level:
 - a. At a minimum, maintain the operating water level in the reservoir to the invert of Outlet No. 2 – currently understood to be 10.2-ft on gage.
 - b. Continue to take actions to maintain the water level at/or below this maximum operational level.
 - c. Failure to maintain the water level below this restricted level would be subject to civil resource violation penalties in the amount of \$ 1,000 for the first violation.
2. Update and submit a Remediation Schedule (Dam Remediation Plan):
 - a. **UPDATE and submit a written schedule** to the Department detailing when deficient conditions (identified in the latest inspection report) will be corrected, within twenty (20) days of this notice. (A sample Dam Remediation Plan format is attached which outlines some of the various deficiencies to be addressed).

3. Update the Emergency Action Plan:
 - a. If your **EAP** has not been updated in the last 12-months, **update and distribute** updated copies within thirty (30) days of this notice. The Online EZ-EAP tool is available to update the EAP. Please contact the Department if you need assistance.
4. Continue to submit monthly monitoring reports:
 - a. Take daily/weekly readings of applicable water level, seepage rates, etc., and relevant photos. **Submit the monitoring reports** at the beginning of each month for the previous month to the Department assigned engineer's email: denise.m.manuel@hawaii.gov.
 - b. A sample log sheet is attached. The log sheet shall be tailored to the site specific needs for the facility. Please contact the Department for a soft copy to customize.
 - c. The initial report is due the first month following receipt of this notice.

The above listed restricted operation and maintenance of the facility is required until all previously noted deficiencies are addressed or until notified otherwise by the Department. Failure or delinquency to comply with the above-stated actions may result in additional penalties and/or Board of Land and Natural Resources actions. Please contact Ms. Denise Manuel of my staff at (808) 587-0246 should you have any questions regarding this matter.

Sincerely,



CARTY S. CHANG
Chief Engineer

Attachment

Dam Remediation Plan

Dam Inv. No.:

Owner:

Date:

Dam Name:

Contact Person:

Type of Deficiency		Item No.	Item	Previously Completed	Anticipated Date (as applicable)					Comments
					Start Investigation	Complete Investigation	Start Design	Complete Design	Start Construction	
Hydraulic Deficiency										
H&H	H1	H&H Analysis, IDF, Spillway Adequacy (required for all dams)								
	H2	Spillway Construction Modification								
	H3	Spillway Maintenance								
	H4	Ability to maintain reservoir empty								
Stability / Geotechnical Deficiency										
Stability	G1	Stability Analysis (Req'd for High & Significant dams)								
	G2	Seismic Evaluation								
	G3	Embankment Modifications								
Seepage	S1	Seepage Evaluation								
	S2	Seepage Remediation								
Operational / Other Deficiency										
Access	A1	Develop access to Dam Features								
Embankment	E1	Excessive Vegetation								
	E2	Embankment Irregularities/Erosion								
Outlet Works	O1	Outlet works remediation (functional outlet req'd for all dams)								
	O2	Outlet works investigation (ie. Assessment, video)								
	O3	Upstream outlet control								
Documentation	D1	Emergency Action Plan (Req'd for High & Significant dams)								
	D2	O&M Manual (Req'd for all dams)								
	D3	O&M Log / Records (Req'd for all dams)								
	D4	Improvement Records (Copies submitted to State)								
Other	Z1	Instrumentation								
	Z2	Real time Reservoir Water Level Gage								

_____ Reservoir Daily Log
Month/Year: _____

Date	Rainfall	Reservoir Water Level Height (gage)	Intake flow rate:	Outlet flow rate:	Maintenance	Seepage flow rate:	Remarks Top of Dam gage reading = ____ Spillway gage reading = ____
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
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30							
31							
Totals							

DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

SEP 18 2015

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEROA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Mr. Bob Butler
KRCA President
Kalihiwai Ridge Community Association
c/o Associa Hawaii
4-1579 Kuhio Highway, Suite 102A
Kapaa, Hawaii 96746

Mr. Cameron Jaeb
President
Bridgewater Irrigation, LLC
2727 Kauapea Road
Kilauea, Hawaii 96754

Board of Directors
Kalihiwai Ridge Community Association-
Board of Directors
c/o Associa Hawaii
4-1579 Kuhio Highway, Suite 102A
Kapaa, Hawaii 96746

Ms. Sarah Wright
Porter Irrigation Company
3770 Punahale Road
Princeville, Hawaii 96722

Dear Madams and Gentlemen:

**KALIHIWAI RESERVOIR (KA-0024), KAUAI
FOLLOW UP TO NOTICE OF DEFICIENCY**

The Department of Land and Natural Resources (DLNR) issued a Notice of Deficiency on May 23, 2013 for concerns about the condition of the mid-level outlet to the right of the spillway at the Kalihiwai Reservoir (KA-0024). DLNR received a formal letter of response from the Kalihiwai Ridge Community Association on July 30, 2015.

There has not been a comprehensive response to addressing the hazardous conditions at the mid-level outlet. The July 30, 2015 letter did not address all the items that were originally requested in the May 23, 2013. Please see the attached spreadsheet which attempts to clarify specific action items that warrant response.

DLNR acknowledges that a lot of maintenance work has been done at the Kalihiwai Reservoir (KA-0024) over the past years. There is a history of overtopping of the dam. DLNR informally received the Kalihiwai Dam – Seepage and Stability Evaluation of Northeast Embankment, March 2, 2015 by ARCADIS. The report states that the factor of safety (FS) indicated by the stability analyses do not meet typical criteria for larger dam projects and makes a recommendation for improvements to the dam. A remediation project should be initiated and a dam safety permit application would be required for this type of improvement.

In the current state, the embankment continues to fail due to instability. There are known concerns with heavy rain events and the mid-level outlet was a means to help manage and mitigate those heavy rain events when known.

The compromised mid-level outlet area can also be a failure mode if not maintained and monitored appropriately. The mid-level outlet channel can be fixed. A dam safety permit would be required. With the knowledge that the embankment is not stable, a water level restriction may be imposed. If any greater threat is determined - the pond may be required to be drained.

Please note that the deficiencies listed as attached to this letter are in addition to the deficiencies that are identified in the Phase I Inspection reports and Visual Dam Safety Inspection reports under separate cover (last one was from January 13, 2015). The facility is still responsible for addressing those noted deficiencies.

Provide a written response to the original Notice of Deficiency items from the May 23, 2013 correspondence, and as listed on the attached spreadsheet, by September 30, 2015.

Should you have any questions, please feel free to contact Denise Manuel of my staff at (808) 587-0246.

Sincerely,



CARTY S. CHANG
Chief Engineer

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

MAY 23 2013

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA
FIRST DEPUTY DIRECTOR

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONSERVANCIES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT

ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIKOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Mr. Parker Croft
KRCA President
Kalihiwai Ridge Community Association
c/o Certified Management
4-1579 Kuhio Highway, Suite 102A
Kapaa, HI 96746

Dear Mr. Croft:

**KALIHIWAI RESERVOIR (KA-0024), KAUAI
NOTICE OF DAM SAFETY DEFICIENCY**

On May 8, 2013 the Department of Land and Natural Resources, Engineering Division conducted a site visit at the Kalihiwai Reservoir (KA-0024) and our observations and findings are noted below.

During the inspection, the following urgent concerns were noted at the reservoir:

1. The outlet gate and tunnel located right of the spillway is in disrepair;
 - a. The gate guides are missing, rendering the gate to be difficult to operate and unable to stop the flow of water when closed;
 - b. The corrugated metal pipe lining the culvert is substantially collapsed on the upstream and downstream sides of the tunnel in which a full collapse would block the ability to drain the reservoir through this tunnel. Without this mid-level outlet, there is a reduced capacity to drain the reservoir in an adverse weather event.

Based on the above observations and urgent concerns, the following orders are issued for your immediate action:

Within 3 days of the date of this letter:

1. Activate the Emergency Action Plan at a Level 1 and notify the appropriate parties of the unusual condition;
2. Provide DLNR with a current cross section with numeric elevations for the low level drain, mid-level drain, spillway and top of dam; Indicate what water level elevation would trigger an upgrade to a Level 2 emergency response and ensure the staff gage is clearly marked with numbers; and

Mr. Parker Croft
Page 2


3. Provide DLNR with a description of the low level outlet configuration and if there is a capability for a free drain on this line, where the free drain is located, and capacity of that drain line.

Within 20 days of the date of this letter submit to DLNR:

1. A proposal for immediate action to ensure that unexpected flows into the reservoir are able to be drained;
 - a. If the option is taken to remove the overburden section on top of the collapsed tunnel, erosion control measures need to be installed to ensure that flow through the channel will not further erode the embankment.
 - b. If the embankment on top of the collapsed tunnel will be left in place, an appropriately sized excavator shall be reserved and able to be mobilized to the site within two hours to clear the channel if the section were to collapse;
2. An explanation of how the water system will be operated to mitigate unexpected flows into the reservoir;
3. The long term solution for addressing the gate and outlet tunnel in disrepair, which includes a schedule/timeline. A dam safety permit would be required for work on this appurtenant feature;
4. On a weekly basis submit via email to denise.m.manuel@hawaii.gov and mmarshall@kauai.gov, daily water levels, condition of the tunnel/channel, and if the channel has flowed.
5. The flow capacity of the current spillway;
6. The expected timeline for completing a flood routing study for the 100-year event and Probable Maximum Flood (PMF) event using the current configuration of the dam.

Should you have any questions, please feel free to contact Denise Manuel of my staff at Ph. (808) 587-0246.

Sincerely,



CARTY S. CHANG
Chief Engineer

Attachment

c: Mark Marshall, Kauai Civil Defense
Mr. Parker Croft
Mr. Cameron Jaeb
Ms. Samantha Hamilton

DLNR May 23, 203 Notice of Deficiency Within 3 days		July 30, 2015 KRCA letter	DLNR August 14, 2015 Comment	KRCA response date:
1	Activate the Emergency Action Plan at a Level 1 and notify the appropriate parties of the unusual condition		On July 8, 2013 DLNR and Kauai Civil Defense received an email from Samantha Hamilton initiating reporting for the Kalihiwai Reservoir. CLOSED	
2	Provide DLNR with a current cross section with numeric elevation for the low level drain, mid-level drain, spillway and top of dam; Indicate what water level elevation would trigger an upgrade to a Level 2 emergency response and ensure the staff gage is clearly marked with numbers, and	2. The staff gage numbers have been repaired and are clearly marked	Provide response with appropriate elevation information	
3	Provide DLNR with a description of the low level outlet configuration and if there is a capability for a free drain on this line, where the free drain is located, and capacity of that drain line.	3. The low level outlet drains to the nearby Waikoa plantation where there is a free drain	Provide pipeline diameter and capacity of the drain line (i.e. drain line capacity and how long it would take to drain the reservoir when water at elevation of outlet #2)	
Within 20 dates of the date of this letter submit to DLNR:				
1	A proposal for immediate action to ensure that unexpected flows into the reservoir are able to be drained:			
	a. if the option is taken to remove the overburden section on top of the collapsed tunnel, erosion control measures need to be installed to ensure that flow through the channel will not further erode the embankment	1.b. The partially collapsed metal culvert at out mid level outflow (outlet #2) of the Kalihiwai Reservoir was excavated and removed near the end of June 2015, by our Easement Holders to ensure that there will be no further obstructions of this outlet	Provide documentation (photos) and specification of erosion control material used	
	b. if the embankment on top of the collapsed tunnel will be left in place, an appropriately sized excavator shall be reserved and able to be mobilized to the site within two hours to clear the channel if the section were to collapse			
2	An explanation of how the water system will be operated to mitigate unexpected flows into the reservoir	The reservoir is currently being maintained at the low level of approximately 8' to 10' to mitigate any potential of unexpected flows. The mid level outflow (outlet #2) gate is being kept in the open position which gives the greatest safety margin	Include additional detail on how/when low level drain would be utilized	
3	The long term solution for addressing the gate and outlet tunnel in disrepair, which includes a schedule/time. A dam safety permit would be required for work on this appurtenant feature		Provide response	
4	On a weekly basis submit via email to denise.m.manuel@hawaii.gov and mmarshall@kawaii.gov daily water levels, condition of the tunnel/channel, and if the channel has flowed		Reports have been submitted, need to ensure these are being regularly submitted.	
5	The flow capacity of the current spillway		Provide response	
6	The expected timeline for completing a flood routing study for the 100-year event and Probable Maximum Flood (PMF) event using the current configuration of the dam		Provide response	

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

MAY 23 2013

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA
FIRST DEPUTY DIRECTOR

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Mr. Parker Croft
KRCA President
Kalihiwai Ridge Community Association
c/o Certified Management
4-1579 Kuhio Highway, Suite 102A
Kapaa, HI 96746

Dear Mr. Croft:

**KALIHIAI RESERVOIR (KA-0024), KAUAI
NOTICE OF DAM SAFETY DEFICIENCY**

On May 8, 2013 the Department of Land and Natural Resources, Engineering Division conducted a site visit at the Kalihiwai Reservoir (KA-0024) and our observations and findings are noted below.

During the inspection, the following urgent concerns were noted at the reservoir:

1. The outlet gate and tunnel located right of the spillway is in disrepair;
 - a. The gate guides are missing, rendering the gate to be difficult to operate and unable to stop the flow of water when closed;
 - b. The corrugated metal pipe lining the culvert is substantially collapsed on the upstream and downstream sides of the tunnel in which a full collapse would block the ability to drain the reservoir through this tunnel. Without this mid-level outlet, there is a reduced capacity to drain the reservoir in an adverse weather event.

Based on the above observations and urgent concerns, the following orders are issued for your immediate action:

Within 3 days of the date of this letter:

1. Activate the Emergency Action Plan at a Level 1 and notify the appropriate parties of the unusual condition;
2. Provide DLNR with a current cross section with numeric elevations for the low level drain, mid-level drain, spillway and top of dam; Indicate what water level elevation would trigger an upgrade to a Level 2 emergency response and ensure the staff gage is clearly marked with numbers; and

3. Provide DLNR with a description of the low level outlet configuration and if there is a capability for a free drain on this line, where the free drain is located, and capacity of that drain line.

Within 20 days of the date of this letter submit to DLNR:

1. A proposal for immediate action to ensure that unexpected flows into the reservoir are able to be drained;
 - a. If the option is taken to remove the overburden section on top of the collapsed tunnel, erosion control measures need to be installed to ensure that flow through the channel will not further erode the embankment.
 - b. If the embankment on top of the collapsed tunnel will be left in place, an appropriately sized excavator shall be reserved and able to be mobilized to the site within two hours to clear the channel if the section were to collapse;
2. An explanation of how the water system will be operated to mitigate unexpected flows into the reservoir;
3. The long term solution for addressing the gate and outlet tunnel in disrepair, which includes a schedule/timeline. A dam safety permit would be required for work on this appurtenant feature;
4. On a weekly basis submit via email to denise.m.manuel@hawaii.gov and mmarshall@kauai.gov, daily water levels, condition of the tunnel/channel, and if the channel has flowed.
5. The flow capacity of the current spillway;
6. The expected timeline for completing a flood routing study for the 100-year event and Probable Maximum Flood (PMF) event using the current configuration of the dam.

Should you have any questions, please feel free to contact **Denise Manuel** of my staff at Ph. (808) 587-0246.

Sincerely,



CARTY S. CHANG
Chief Engineer

Attachment

c: Mark Marshall, Kauai Civil Defense
Mr. Parker Croft
Mr. Cameron Jaeb
Ms. Samantha Hamilton



****DATE****

Gina Belleau
Dam Safety Unit Engineer
Department of Land & Natural Resources
Engineering Division

by electronic mail to gina.c.belleau@hawaii.gov

re: Kalihiwai Reservoir

Dear Ms. Belleau,

I write you on behalf of the Kalihiwai Ridge Community Association, Porter Irrigation, LLC, and CG Utilities, LLC, to request an extension of time to start construction on the Kalihiwai Reservoir and dam.

In September of 2020, the Board of Land and Natural Resources issued a Notice of Deficiency requiring us to submit a Dam Safety Permit application by May 1, 2022. We timely submitted the application.

The Notice of Deficiency requires us to begin construction of the approved Dam Safety Permit by May 1, 2023. However, as of today, the permit has not yet been approved or issued. The State Historic Preservation Department, in comments dated November 29, 2022, is requiring a Reconnaissance Level Survey of the Kalihiwai Reservoir area.

We have, through our engineering firm Gannett Fleming, engaged a consultant to complete the survey. The survey will take approximately two months, and Gannett Fleming will require a total of four months to complete final permitting work required by relevant [state, local and federal] agencies. (Gannett Fleming's summary of the work it and subcontractors will perform is attached for your reference).

Additionally, we are evaluating a proposal for a project management firm to manage the decommissioning process and the contractor that will perform the work. Our goal is to have a comprehensive plan in place to successfully complete the required decommissioning work on a timely basis.

It will be, therefore, impossible for us to complete this work, be issued a permit, and start construction by the May 1, 2023, deadline.

In the interim, the dam operator is maintaining the reservoir level at a maximum of seven feet, significantly lower than the 10.2 feet required by the DLNR's August 24, 2017 deficiency letter, submitting daily readings, and maintaining the dam appropriately.

Kalihiwai Ridge Community Association
c/o Hawaiiana Management Company, Ltd.
Kukui Grove Executive Center, Suite 208
4370 Kukui Grove Street | Lihue, HI 96766

//

With this letter, we request that the DLNR request that the Board of Land and Natural Resources grant us additional time. Specifically, we would hope that the Board will set a date to start construction that is **not less than six months after** the final permit required for construction is issued.

Thank you for your assistance with your request. Please feel free to contact us or dam operator Tripp McCallister with any questions.

Sincerely yours,



Tony Semedo, President, Kalihiwai Ridge Community Association

enc: Attachment 1: Gannett Fleming Scope of Services
Attachment 2: Schedule
Attachment 3: RLS Scope of Services

*Kalihiwai Ridge Community Association
c/o Hawaiiana Management Company, Ltd.
Kukui Grove Executive Center, Suite 208
4370 Kukui Grove Street | Lihue, HI 96766*

Elizabeth Letcher, Dam Committee
Kalihiwai Ridge Community Association
c/o Kristin Kurz, Management Executive
Hawaiiana Management Company
Watumull Plaza, Suite 101
4334 Rice Street
Lihue, Hawai'i 96766

(415) 860-0323
esl@elizabethletcher.com

Kelly Porter
Matt Porter
Andara Plantation LLC, dba Porter Irrigation
3770 Punahele Road
Princeville, Hawai'i 96722

(650) 81404794 (Kelly)
(408) 655-7514 (Matt)
Kelly.Porter@woodsidecap.com
mattporter328@gmail.com

Gary Moore
CG Utilities LLC
4900 Kuawa Road
Kilauea, Hawai'i 96754

970) 618-5734
gary@commongroundkauai.com

April 18, 2025

via electronic mail to Gina.C.Belleau@hawaii.gov

Gina Belleau
Department of Land & Natural Resources
Engineering Division

Re: Kalihiwai Reservoir (KA-0024), Dam Safety Permit Application

Dear Ms. Belleau:

By this letter, Kalihiwai Ridge Community Association, Porter Irrigation Company, and CG Utilities LLC, the owners of the Kalihiwai Reservoir request that the DLNR and Board of Land and Natural Resources consider and grant their Dam Safety Permit Application.

The Army Corps of Engineers granted us a Nationwide Permit under section 404 of the Clean Water Act on April 10, 2025. A copy of that permit is available here for download. <https://gfnet.sharefile.com/d-s495b4a2ce8c94420be8c1855fbd3be3c>. The verification is currently valid until March 15, 2026.

With this permit, we believe that we have satisfied all requirements for a permit. We therefore request that the Board set the permit application for a hearing.

We additionally request that the DLNR and Board allow the owners of the Kalihiwai Reservoir a year to initiate construction instead of the six months granted by the Board's 2023 decision.

We are eager to make the dam safe and comply with all applicable regulatory standards. However, the Kalihiwai Reservoir has historically experienced over 100 inches a year of rainfall. Earthmoving will be difficult if not impossible during wet periods, and weather patterns have become increasingly unpredictable. Assuming the Board sets a hearing and issues a permit in summer of this year, and several months for the owners to get bids and enter project management and construction contracts, the owners may not be able to start construction within six months if excessive precipitation in the rainy months intervenes. We accordingly request a year after grant of the permit to begin construction.

Should you have any questions, please do not hesitate to contact me.

Sincerely yours,

Elizabeth Letcher
KRCA Dam Committee

Summary of community outreach by Owner

Exhibits A-J that support this Exhibit are available at:

<https://dlnreng.hawaii.gov/dam/training/land-board-resources/>

October 20, 2025

The Honorable Dawn N.S. Chang, Chair
Members of the Board of Land and Natural Resources
Board of Land and Natural Resources State of Hawaii
Honolulu, Hawaii

Gina Belleau, Project Safety Unit Engineer
Department of Land and Natural Resources

re: Kalihiwai Dam Decommissioning Project (KA-0024)

Dear Chair Chang, Members of the Board and Ms. Belleau,

We, the owners of the Kalihiwai Reservoir and dam, respectfully request that the Board consider this letter and attached documentation and issue the requested Permit. We request that the Board find these and other submissions to the Board sufficient to allow the Board to perform its duty to preserve and protect traditional and customary practices, cultural beliefs, practices, and resources of Native Hawaiians to the extent reasonably feasible.

This letter:

- Describes our extensive community engagement and documentation of the cultural, historical, and natural resources potentially affected by removal of the Kalihiwai dam, including the extent to which traditional and customary Native Hawaiian rights are practiced in the area.
- Shows why, to our knowledge, those resources, including traditional and customary Native Hawaiian rights, will not be affected or impaired by dam decommissioning; and
- Discusses what feasible mitigative actions have been taken and will be taken.

This letter also describes our outreach to the Kauai community to discuss the history and future of the Kalihiwai Reservoir and dam, including our cooperation with local efforts to find alternatives to decommissioning.

We believe that the information set out below is sufficient to allow the Board to fully perform the three part analysis, set out in *Ka Pa‘akai O Ka ‘Āina v. Land Use Comm’n*, that the Board should use to consider proposals that may impact the traditional and customary practices exercised by Native Hawaiians.

We recognize that the outreach and documentation set out below, conducted by lay people, does not constitute a formal Ka Pa‘akai Consultation Assessment. However, the extensive, multi-year, multi-stakeholder dialogue that has occurred in the community has reached far beyond what a more formal process would entail. Community communications and histories conveyed, both to the owners and to the DLNR, make clear that decommissioning will not affect Native Hawaiian traditional and customary practices. These communications and histories are all consistent with the finding by the Aha Moku’s September 11, 2024 approval of the Ka Pa‘Akai Screening analysis, agreeing that “while removal changes the immediate community, there are no indications of cultural impacts or downstream effects” that would warrant a full Ka Pa‘akai Consultation Assessment. (Exh. A).

The community has been extensively informed about the plan to decommission the Kalihiwai Reservoir, and has had ample opportunity to provide input. These exchanges have been made as part of an inclusive community conversation about what would be the benefits of keeping the reservoir, weighed against the material safety concerns and directives of the DLNR, financial limitations, regulatory mandates, and the absence of other governmental support which have made decommissioning the only option. We believe these efforts more than fully satisfy the Board’s April 28, 2023 mandate that “The Owners are directed to communicate with the community concerning this project.”

Dam owners and background

There are three owners of the Kalihiwai Reservoir and dam.

Kalihiwai Ridge Community Association (“KRCA”): The Kalihiwai Ridge Community Association owns the land under the reservoir. Kalihiwai Ridge was developed nearly forty years ago in two phases. The KRCA is a nonprofit association of 181 apartment owners, run by an all-volunteer Board. Many of the owners personally cleared the land when they purchased in the early 1990’s; owners include multi-generational families and those on fixed incomes. Although the reservoir was intended for recreation for owners since the start of development, the KRCA only acquired the reservoir lot in 2006. Since the DLNR issued a Notice of Deficiency in 2013, the KRCA has imposed hefty assessments yearly to collect funds to meet the directives of the DLNR.

CG Utilities, LLC: CG Utilities, LLC is an affiliated entity of Common Ground Kaua‘i, maintaining longstanding water easement rights and agricultural water access from the Kalihiwai Dam. The company owns and operates portions of the historic irrigation and water distribution infrastructure developed during the era of the Guava Kai Plantation. CG Utilities LLC is managed by Common Ground’s holding entities and executive team.

Common Ground Kaua‘i is a regenerative farm, hospitality, and lifestyle destination venue with a mission to transform how people interact with nature and community. Its agricultural operations currently include a regenerative agroforestry farm, vegetable gardens, lei gardens, and fruit orchards, with expanded crop and educational areas under development. These practices support regenerative agro-tourism programs such as guided farm tours, island-to-table dinners (featuring 100% Kaua‘i-grown ingredients), retail shop featuring 100% Kauai and Hawaii made products, historical and cultural experiences, and a range of public and private events. Additionally, through their CG Foundation, Common Ground supports local businesses leading incubators and awarding grants through to Kauai agriculture-based businesses.

In late 2025, Common Ground will begin a two-year renovation and reconstruction initiative to transform the former Guava Kai facilities into a modern regenerative hospitality campus. The revitalized property will integrate agriculture, culinary arts, culture, and community, demonstrating the future of regenerative living in Hawai‘i.

Porter Irrigation, LLC: Porter Irrigation, LLC is affiliated with the Porter Family property ownership and along with CG Utilities/Common Ground owns the dam infrastructure, related irrigation facilities and an easement to the water. It is run by the Porter family, which has had a presence on the North Shore for nearly 25 years. When Bill and Joan Porter purchased Wai Koa guava plantation in 2006, they did so with a commitment to sharing their good fortune with the Kauai North Shore community. They built the Anaina Hou Community Park and Porter pavilion as a gathering space; rehabilitated the historic Stone Dam and trail; developed a loop trail that they opened up for public access, which was later placed into a perpetual conservation easement with the Hawaiian Islands Land Trust; and leased land for nominal cost for a dog park and community school. While Wai Koa has been passed down to subsequent generations of the family, the legacy of stewardship remains an important consideration in all decisions made on the property.

Cultural and historical resources and effects on those resources

The history of the Kalihiwai Dam and reservoir has been extensively documented as part of this application process.¹

¹ Others, from historians and authors cited in the studies below, to local educators and the community at large, have histories and knowledge beyond the scope of this letter.

Reconnaissance Level Survey. In June, 2023, the owners completed a Reconnaissance Level Survey (“RLS”) of the Kalihiwai Reservoir. (Exh. B). The survey described the original sources of water, the relationship of the reservoir to the larger ditch and irrigation system, the history of the water’s uses until the 1971 closure of the sugar plantation it then fed. It sets out a detailed architectural description, along with photos of the dam, outlet, and spillway. The survey **concluded that the dam is historically significant for its “association with the development of irrigation facilities of the Kilauea Sugar Company,” and because it “embod[ies] the distinctive characteristics of the method of earthen dam and unlined earthen reservoir construction.”**

Notably, the RLS **did not find a connection between the dam and traditional or customary Native Hawaiian practices or rights.**

Historic American Engineering Record. At the request of the State Historic Preservation Division, a Historic American Engineering Record (“HAER”) of the dam and reservoir was produced in November, 2023. (Exh. C). It again describes how the Kalihiwai Reservoir was **built in the early 1900’s** to supply irrigation water to cane fields. The HAER added extensive, high definition photography of the dam in its current condition. The HAER has been accepted by the Department of the Interior and is filed in the Library of Congress.

Oral Narratives about the Kalihiwai Reservoir. During the permitting process and outreach to the community, multiple oral histories of the reservoir have been recorded and are offered here.

The most extensive histories were offered during a **June 6, 2023 community meeting held as by the Kilauea Neighborhood Association (“KNA”) to specifically discuss the Kalihiwai Reservoir**, the plans to decommission the dam, and the community’s experience with the reservoir. Maka’akala Kaumuoana, a respected kupuna member of the community who is deeply involved in water and conservation issues, advised the KRCA to fulfill the Board’s directive by meeting with the community through the KNA.²

Both the KRCA and Yoshito L’Hote, head of ‘Aina Ho’okupu O Kilauea (“AHK”) and officer of the KNA Board, conducted outreach to community members, including residents of the Kalihiwai River valley. This meeting of nearly an hour and half, attended by over 70 members of the Kilauea community, was recorded on video. Detailed minutes of the meeting, along with a transcript which includes a partial list of those attending and a link to the recording, are attached. (Exh. D and E)

² Conversation with Elizabeth Letcher of KRCA May 19, 2023.

Gary Smith, a longtime Kilauea resident, spoke at length about the history and uses of the Reservoir. (Exh. E at 5-9.) He described in even more detail the ownership and water diversion changes that led to the current state of the reservoir; particularly how water for the reservoir was originally drawn from the Pohakuhonu and Halaulani streams, from the Kalihiwai River itself through a now-defunct redwood siphon, and other sources of water for the reservoir, from watershed runoff to seepage streams. (*Id.* at 21-24, 33-36).

Other community members spoke about their personal histories, growing up fishing, paddling, and playing on the reservoir; one noted that water from the reservoir, along with pumped water from Stone Dam, was also used for prawn farming and guava farming in the past by Kilauea Agronomics International. (Exh. E at 24-25).

Kapua Sproat, a sixth generation resident of the Kalihiwai valley and professor at the University of Hawaii at Mānoa’s William S. Richardson School of Law who focuses on issues of natural and cultural resource management, water law, and Native Hawaiian rights and law, offered a different perspective on the history of the reservoir. She pointed out that the **Kalihiwai Reservoir and the attendant diversions of water used to create it, are a “legacy of plantation infrastructure,”** installed at the turn of the 20th century with **little or no consultation with the impacted communities.** (Exh. E at 30-31).

The Kalihiwai River Valley itself supported agriculture both before the creation of the Kalihiwai Reservoir and after. Mehana Vaughan, Kilauea resident and Associate Professor in the Department of Natural Resources and Environmental Management at the University of Hawaii at Mānoa, explained that **lo’i at one point lined parts of the Kalihiwai Valley**, and those living in the valley would trek daily to tend to the lo’i. (Conversation of Elizabeth Letcher, KRCA with Mehana Vaughan, May 16, 2023) ; *See also* <https://www.kauainuikuapapa.com/kalihiwai> (describing lo’i cultivation in 1800’s).³ **Later, cultivation of those areas turned to rice**, and Ms. Sproat described her grandparents’ recollection of rice paddies. (Exh. E. at 31; *see also* Gary Smith at 35 (**diversions used to create reservoir likely had little impact on rice cultivation** because of the flow of Kalihiwai River)).

Community efforts to understand, preserve, and pass on the rich history of the Kalihiwai river valley continue. For instance, Elizabeth Letcher’s May 16, 2023 meeting with Ms. Vaughan, Dominique Cordy (a Kalihiwai River valley resident, deeply educated and involved in cultural resource management on Kauai), and others took place during field trip for local sixth graders to help them understand the history and ecology of the river and muliwai area. During and before the meeting, Ms. Vaughan described efforts preserve place names and the history of

³ Ms. Vaughan also spoke about the history and context of the dam removal project before the Board of Land and Natural Resources’ April 28, 2023 public meeting.

the river, with means as diverse as compiling the recollections of Jack Gushigen, the former operator of the reservoir, and making story maps of the region with students.

These efforts at community outreach by the dam owners are obviously not an exhaustive exploration of the cultural and historical resources of the Reservoir area, or areas potentially impacted by changes to the flow of water. **However, they indicate that the Kalihiwai Reservoir, built in the early 20th century, did not have a large, if any, role in traditional and customary Native Hawaiian practices or rights exercised in the area.**

These narratives are consistent with the finding in the initial Ka Pa’akai Pre-Assessment that “while removal changes the immediate community, there are no indications of cultural impacts or downstream effects.” Exh. A. The screening is mandated by Section 4.0 of the DLNR’s Ka Pa’akai Guidance Document (v8, September 9, 2023, at 8-9).

After the April, 2023 Board hearing, the owners completed the screening assessment, which was reviewed by the DLNR. **The DLNR recommended that no Ka Pa’akai Consultation Assessment was necessary, commenting that there were no indications of “cultural impacts or downstream effects.”** The recommendation was reviewed by the Director of the Aha Moku, Leimana DaMate, on September 11, 2024, and she concurred with the recommendation. Under the DLNR’s Guidance Document in effect at the time, **no further analysis was required.**

Nonetheless, the DLNR conducted multiple further interviews with members of the Aha Moku, and Kupuna families and individuals with a lineal and cultural link to the project area at the urging of KRCA resident Maka’ala Ka’aumoana.

Ms. Ka’aumoana contacted Ms. Damate on June 20, 2025, expressing concerns about Ka Pa’akai. In a later email, she described how areas just mauka of the reservoir were used to gather maile and bamboo shoots by kupuna of the area until the early 2000s, but **acknowledged “that there are likely no historic preservation assets in or around the reservoir such as iwi kupuna.”**

In a July 8, 2025 call between the DLNR Engineering team and Ms. Ka’aumoana, she explained that her primary concerns were 1) that Hawaiian native endangered water birds use the area daily, and nest there; and 2) that the reservoir can be used to provide potential fire protection, and possible future irrigation.⁴ She again acknowledged that there were **no current traditional and cultural practices that reservoir removal would affect.**

⁴ Ms. Ka’aumoana had earlier raised flood control for taro fields in the valley as a concern; DLNR is unaware of any current taro farming in the area, although a resident Ms. Cordy indicated it might be planned.

On July 24, 2025, The DLNR’s Engineering Division, represented by Dina Lau, Gayson Ching, Edwin Matsuda, Tony Koyamatsu and Gina Belleau, met with Ms. Damate and **Presley Wann, the Aha Moku Representative for the Kalihiwai area**. Although he expressed his concern about the potential effects on agriculture, Mr. Wann **stated that from his initial knowledge of the area, there are no traditional or cultural practices that the removal of the reservoir would affect**. He wanted to consult with the Sproat family and others about the project, but **further consultation would not be needed if his research uncovered no such cultural practices**.

On August 18, 2025, Mr. Wann indicated to Ms. Belleau that **in his conversations with families with lineal and cultural links to the area, no one said that there were traditional or cultural practices that would be impacted**.

On August 21, 2025, Ms. Sproat – again, a sixth-generation lineal descendant in the potentially impacted area – contacted Ms. Belleau by phone and email, and Ms. Damate by email. Her summarizing email concluded that the **Ohana Ms. Sproat was in touch with are “strongly in support of decommissioning the reservoir. And, are opposed to any further delays in permitting as this is already many, many years overdue.”**

These contacts were made by the DLNR as part of their “due diligence” ensuring adequate investigation into the effects of the project on traditional and customary practices.⁵

No formal Native Hawaiian Organizations have offered any input on the project when contacted for consultation. On July 11, 2025, Joshua Moffi of the U.S. Army Corps of Engineers sent letters to the following Native Hawaiian organizations, seeking their “input on potential project-related impacts to cultural resources and appropriate avoidance, minimization and mitigative measures for those impacts in accordance with the provisions of Section 106 of the National Historic Preservation Act.” (See, e.g., consultation letter to Aha Moku Advisory Council, Exh. F).

Aha Malama Corp.
Aha Moku Advisory Council
Aina Momona
Association of Hawaiian Civic Clubs
E Ola Kakao Hawaii
Hale Mua Cultural Group

⁵ Elizabeth Letcher, now head of the KRCA, has since reached out to Ms. Sproat, but they have not been able to communicate about resources, traditional practices or rights in the project area to date.

Historic Hawaii Foundation
Hua Nani Impact
Kamehameha Schools
Kanu o ka Aina Learning Ohana
Kawalaileo Law
Koolau Foundation and Koolaupoko Hawaiian Civic Club
Mahamoku Ohana Council
Na Koa Ikaika Ka Lahui Hawaii
Na Kuliana o Kanaliʻi

There was no response from any organization, including the Aha Moku Advisory Council, by the statutory response date in mid-August, nor has there been a response to date.

Natural resources

The owners are not aware of any natural resources in the project area or inundation area, that are currently part of rights customarily and traditionally exercised by Native Hawaiians for subsistence, cultural or religious practices, such as gathering or access rights.

The permit application itself describes the physical effects of decommissioning on the dam and reservoir itself. See Final Design Report, section 2.3 “Evaluation of Downstream Impacts.” (page 6 of 11).

Decommissioning the reservoir will remove stored water that could serve a number of purposes for the community in the future, and drain lacustrine areas that have served as habitat and nesting area for endangered birds.⁶

Flows downstream will return to their historic (pre-dam) pattern, to the extent that water is no longer diverted from the Pohakuhonu stream. The water will no longer flow over the cliff to the left/west, and will instead flow through the newly-created notch in the dam to the north, where it will meander until arriving at the Kalihiwai River a bit downstream.

⁶ The owners do not minimize or deny these effects. They are, in the words of community members, the unintended result of land transfers over hundreds of years – a shortsighted course that has saddled private owners with unbearable risk and cost, rather than preserving fresh water as a public good and public trust. The Board’s Notices of Deficiency have forced the decommissioning of the dam and draining of the reservoir, even though the DLNR assesses the risk of failure as low under current conditions. Exh. G (risk assessment) at 3-4.

Although decommissioning will clearly have effects on natural resources, the owners are not aware of ways in which those changes would affect or impair Native Hawaiian rights, traditions, or customs. They have no indication that collection of maile or bamboo shoots approximately 1500 feet from the reservoir would be affected. Because the dam's watershed is only 4% of the whole watershed leading into the Kalihiwai River, the volume of flow that arrives in the river will not change much post breach from conditions today, although the timing of flow may change slightly. *Id.* at 6-8. Accordingly, even future taro farming far downstream would be unlikely to be affected or impaired.

Additional Communications with the Community

Kilauea Neighborhood Association Meetings

Over the years, the Kilauea community has received regular updates at meetings of the KNA from Yoshito L'Hote, KNA Board member (and former KRCA Board member) Nathan Myers, as well as many others from KRCA and the community. From summer 2022 to the present, the Kalihiwai Reservoir was discussed at *nineteen* neighborhood association meetings.⁷

In addition to the June 6, 2023 meeting detailed above, Elizabeth Letcher, then head of the KRCA Dam Committee, gave a presentation to the KNA on May 7, 2024 about the removal process. She shared copies of the DLNR's risk assessment for the dam and reservoir (Exh. G) and responded to community questions. State representative Nadine Nakamura was present at this meeting.

An additional (20th) meeting was held on August 23, 2024 at Common Ground in Kilauea, at the request of downstream members of the community. Over 35 people attended, including those who live along the Kalihiwai River. The meeting covered the decommissioning status; other efforts to support remediation; permitting, and multiple community concerns, including safety, the accuracy of prior studies, and the timetable for removal. (Exh. H, meeting summary). After the meeting, Sarah Wright of the KNA gathered follow up questions about the dam and reservoir, to which the KRCA responded, also offering a tour of the area. (Exh. I).

Outreach, Education, and Organizing by Yoshito L'Hote

⁷ June 7, 2022; July 5, 2022; August 2, 2022; September 6, 2022; January 3, 2023; March 7, 2023; April 4, 2023; May 7, 2023; June 6, 2023; July 11, 2023; August 1, 2023; September 5, 2023; October 3, 2023; December 12, 2023; January 4, 2023; February 6, 2024; March 5, 2024; April 2, 2024; May 7, 2024. Minutes for these meetings can be found on the Kilauea Neighborhood Association website.

Local resident and prominent community member Yoshito L'Hote has been deeply involved in efforts to find a solution that would save the reservoir with remediation. Mr. L'Hote is the Director of 'Āina Ho'okupu o Kilauea and the Kilauea Community Agricultural Center, which was planned to rely on agricultural water from the reservoir. Over the past years, Mr. L'Hote has brought attention in multiple forums to the pending removal of the dam, including

- 1) hosting a two hour meeting with KRCA Board members, property owners, others interested in watershed management issues, including Arryl Kaneshiro, a former and current member of the Kauai County Council, and Josh Uyehara, head of the Kekaha Agricultural Association. Mr. Uyehara who spoke about structuring agreements with state authorities to delegate management of water systems to local stakeholders.
- 2) meeting multiple times with KRCA Board members, including a meeting in October 2022 that included State Representative Nadine Nakamura;
- 3) raising funds and lobbying for legislation that would support rehabilitating the reservoir;
- 4) forming a water strategy and planning project that will work with partners like the State CWRM, the Kauai Department of Water, water experts, and other community members.

Kalihiwai Ridge Community Association

Over the past decade, the rehabilitation and, later, removal of the dam have been *the* central topic of communication between the KRCA and the owners of the 181 properties on the ridge where the reservoir and related irrigation systems are located. Details of the dam removal project have been handled by the KRCA Dam Committee, which in turn reports on progress to the broader KRCA community during their board meetings and annual meetings. The membership of KRCA voted to pursue dam removal in late 2021 after remediation proved too expensive, and the community has been regularly updated on the progress and had opportunities for input since that time.

Press and Publicly Available Informational Materials

Former KRCA Board member Maggie Lea created an informational website about the Kalihiwai Reservoir, which is now maintained by the KRCA:

<http://www.kalihiwaireservoir.info/>

The Kalihiwai Reservoir and issues surrounding its removal have appeared in the press and in other publicly available sources:

- <https://www.civilbeat.org/2022/04/saving-kauais-kalihiwai-reservoir-is-an-expensive-problem/>
- <https://www.civilbeat.org/2023/04/an-innovative-kauai-farm-project-may-depend-on-saving-a-100-year-old-reservoir/>
- <https://www.gardenpondskauai.com/water-is-life/>
- <https://www.ainahookupuokilauea.org/kalihiwai-reservoir>

Government Entities

In addition to the meetings with State Representatives Nadine Nakamura mentioned above, Elizabeth Letcher of the KRCA Dam Committee briefed Nick Courson, the chief of staff for Rep. Nakamura, for an hour at his request in January, 2025 on the status of the dam and removal process. Ms. Letcher also met with Ana Espanola, Sustainability Coordinator at the Kauai Office of Economic Development and Niki Kunioka-Voltz, OED Specialist at the County of Kauai to discuss the dam, what led the owners to pursue decommissioning, and possibilities for remediation funding in October, 2024.

Multiple local agencies have been involved in various public meetings on topics from watershed management to fire prevention and suppression to climate sustainability that included discussion of the Kalihiwai Reservoir.

The State of Hawaii itself has involved multiple government entities in the extensive permit approval process, which included reviews by the State Department of Conservation and Water Resource Management, State Department of Health, Division of Aquatic Resources, Division of Forestry and Wildlife, Historic Preservation Division, Land Division, Office of Conservation and Coastal Lands, the Department of Agriculture, Department of Agriculture – ADC, the County of Kauai, and the Kauai Emergency Management Agency.

Cooperation with efforts to find alternatives

The Dam Owners understand that the Kalihiwai Reservoir can potentially serve many important functions for the larger community including wildlife habitat, agricultural irrigation, fire suppression, relieving pressure on county water supply and others. For years, the owners studied and moved toward rehabilitating the dam. After extensive effort and exploration, it became clear in 2020 that rehabilitation was not economically feasible.

The owners were forced to pivot to decommissioning once the DLNR issued its final, deadline-setting Notice of Deficiency, and the costs of repairing, maintaining, and insuring (if insurance is even obtainable) the dam proved insurmountably high.

Nonetheless, to the extent possible while moving toward making the dam safe by decommissioning, the owners have cooperated with community efforts – spearheaded by ‘Āina Ho’okupu o Kīlauea -- to find a way to rehabilitate the dam structure. KRCA Board members have helped create fundraising materials. The owners shared the 90% complete design plans for rehabilitation with AHK, and all reports that had been completed prior to the owners’ required change of course to pursue removal of the dam. In 2023, the owners entered into a Memorandum of Intent, evincing their continued willingness to cooperate with rehabilitation by a different entity if possible. Exh. J.

The owners expressed throughout, however, that given 1) the public health and safety concerns, 2) the Notices of Deficiency, and 3) the DLNR’s indication that the Board would not approve any significant extensions of the permitting process, they could not slow or delay the permitting process. Although the process has stretched for years, the owners are unaware of any material progress toward figuring how to fund, maintain, manage, transfer, or insure the reservoir, dam, and ditch and tunnel system⁸ consistent with the DLNR requirements. To date there remains no economically viable alternative to decommissioning.

Conclusion: Historical, Cultural and Natural Resources and the Exercise of Traditional and Customary Native Hawaiian Practices

The dam is historically significant as part of Kauai’s history with sugar cultivation, and specifically with the Kilauea Sugar Company’s history in Kilauea. It is also an exemplar of an earthen dam and unlined reservoir consistent with the type of construction of the era. Creating a notch in the dam to decommission will change the physical manifestation of that history, and Kauai will lose an intact example of such early 20th century earthen dam and reservoir construction.

The loss of the historical value has been mitigated to the extent possible. The HAER study was required precisely to document and preserve high quality images of the dam. The architectural survey and other histories cited above, both in reports created during permitting and by local residents, further preserve this history for future generations.

⁸ Mr. L’Hote at one point indicated to the owners that AHK received part of a Flood Mitigation grant earmarked to develop a legal framework for potentially transferring the ownership of the Kalihiwai Reservoir to a nonprofit entity that could manage a rehabilitated reservoir, but that avenue has not been pursued.

Neither that research, nor further community outreach to kupuna families and individuals with a lineal or cultural link to the area, nor communications with the Aha Moku and other Hawaiian organizations has shown that traditional and customary Native Hawaiian practices or rights are practiced in or around the Kalihiwai Reservoir.

To the owners' best understanding, removal of a reservoir built in approximately 1910 will not affect rights "possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778." (Article XII, section 7 of the Hawai'i Constitution). If anything, removal of the dam will potentially bring the natural resources of the Kalihiwai River, Pohakuhonu Stream, and related water ways closer to their state when Native Hawaiians did exercise traditional practices in the area.

Finally, the State Department of Historic Preservation has mitigated the potential harm of unexpected discoveries during decommissioning by requiring the following stipulation be included in the permit itself:

In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sinkholes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 462-3225.

State Historic Preservation Division Letter dated May 24, 2024, accepting Historic American Engineering Record, at 2.

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Accordingly, we respectfully request that the Board find that the owners have satisfied their burden of providing facts sufficient for it to perform its Ka Pa'akai analysis, find that the owners have sufficiently communicated with the community about decommissioning, and grant the permit for decommissioning.

Respectfully submitted,

Elizabeth Letcher, KRCA Board President
Kalihiwai Ridge Community Association

Gary Moore, President
Common Ground Kauai, on behalf of CG Utilities

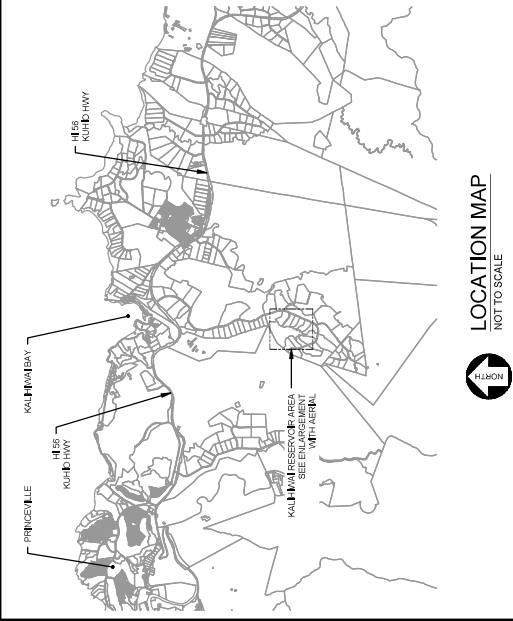
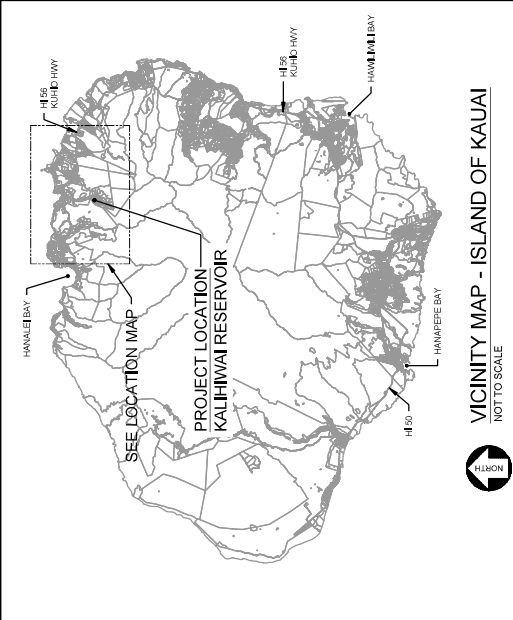
Matt Porter
Manager, Porter Irrigation, LLC

- Exh. A: Ka Pa'akai Pre-Assessment Form
- Exh. B: Reconnaissance Level Survey of the Kalihiwai Reservoir
- Exh. C: Historic American Engineering Record
- Exh. D: Minutes of June 6, 2023 Kilauea Neighborhood Association Meeting
- Exh. E: Transcript of June 6, 2023 Kilauea Neighborhood Association Meeting
- Exh. F: Section 106 consultation letter to Aha Moku Advisory Council
- Exh. G: Screening Level Risk Assessment
- Exh. H: Report of August 23, 2024 Meeting
- Exh. I: September, 2024 Community Questions and Responses
- Exh. J: March 6, 2023 Memorandum of Intent

KALIHUWAI DAM REMOVAL

TAX MAP KEY: (4) 5-2-22:03
KALIHUWAI, HANAIEI, KAUAI, HAWAII
HAWAII STATE DAM INVENTORY ID: KA-0024
PRE-FINAL
FOR PERMIT APPROVAL

DRAWING NO.	DRAWING TITLE
G1	COVER SHEET
G2	ABBREVIATIONS AND LEGEND
G3	GENERAL NOTES AND SPECIFICATIONS (1 OF 3)
G4	GENERAL NOTES AND SPECIFICATIONS (2 OF 3)
G5	GENERAL NOTES AND SPECIFICATIONS (3 OF 3)
G6	GENERAL NOTES AND SPECIFICATIONS (4 OF 3)
G7	GENERAL NOTES AND SPECIFICATIONS (5 OF 3)
G8	GENERAL NOTES AND SPECIFICATIONS (6 OF 3)
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G10	GENERAL NOTES AND SPECIFICATIONS (8 OF 3)
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G51	GENERAL NOTES AND SPECIFICATIONS (49 OF 3)
G52	GENERAL NOTES AND SPECIFICATIONS (50 OF 3)



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KALIHUWAI DAM REMOVAL		
COVER SHEET		
1-800-423-7287		
GANNETT FLEMING		
3000 Kalia Road, Suite 100, Honolulu, HI 96811		
Phone: (808) 551-2811 Fax: (808) 551-2812 Email: info@gannettfleming.com		
DATE: 4/30/2024		
TERMS: SEE BACK PAGE		
Copyright 2022		

1. CONSTRUCT 6" DEEP CONCRETE CHAMFER SLAB PER KALAM COUNTY STANDARD DETAILS AND SPECIFICATIONS. FINAL SURFACE SHALL BE BROOM-FINISHED WITH GROOVES APPROXIMATELY 1/8" DEEP AND RUNNING PARALLEL TO THE DIRECTION OF TRAFFIC. GROOVES SHALL BE SPACED AT 12" ON CENTER. JOINTS SPACED MAXIMUM 16' ON-CENTER. LENGTH OF CONCRETE SLAB.
2. PLACE 2" PAVER OVER GEOTEXTILE (500 - 12' DEPTH + 2
3. REPLACE TOPSOIL 6" MIN AND ACCORDANCE WITH KALAM COUNTY STANDARD
4. AFTER FINISH GRASS AND ACCORDANCE WITH KALAM COUNTY STANDARD SPECIFICATIONS SECTION 511 (INCLUDING STABIL AND OTHER DISTURBED AREAS).
5. 4 HYPOXISED NON-SATURATED AREAS WITH ORIGINAL RESIDUAL POOL SEDIMENT ASPECT FOR FINAL STABILIZATION IN ACCORDANCE WITH KALAM COUNTY STANDARD SPECIFICATIONS SECTION 511. SEE HYPOXIMATIVE POOL SEDIMENTATION TABLE IN THIS SHEET.

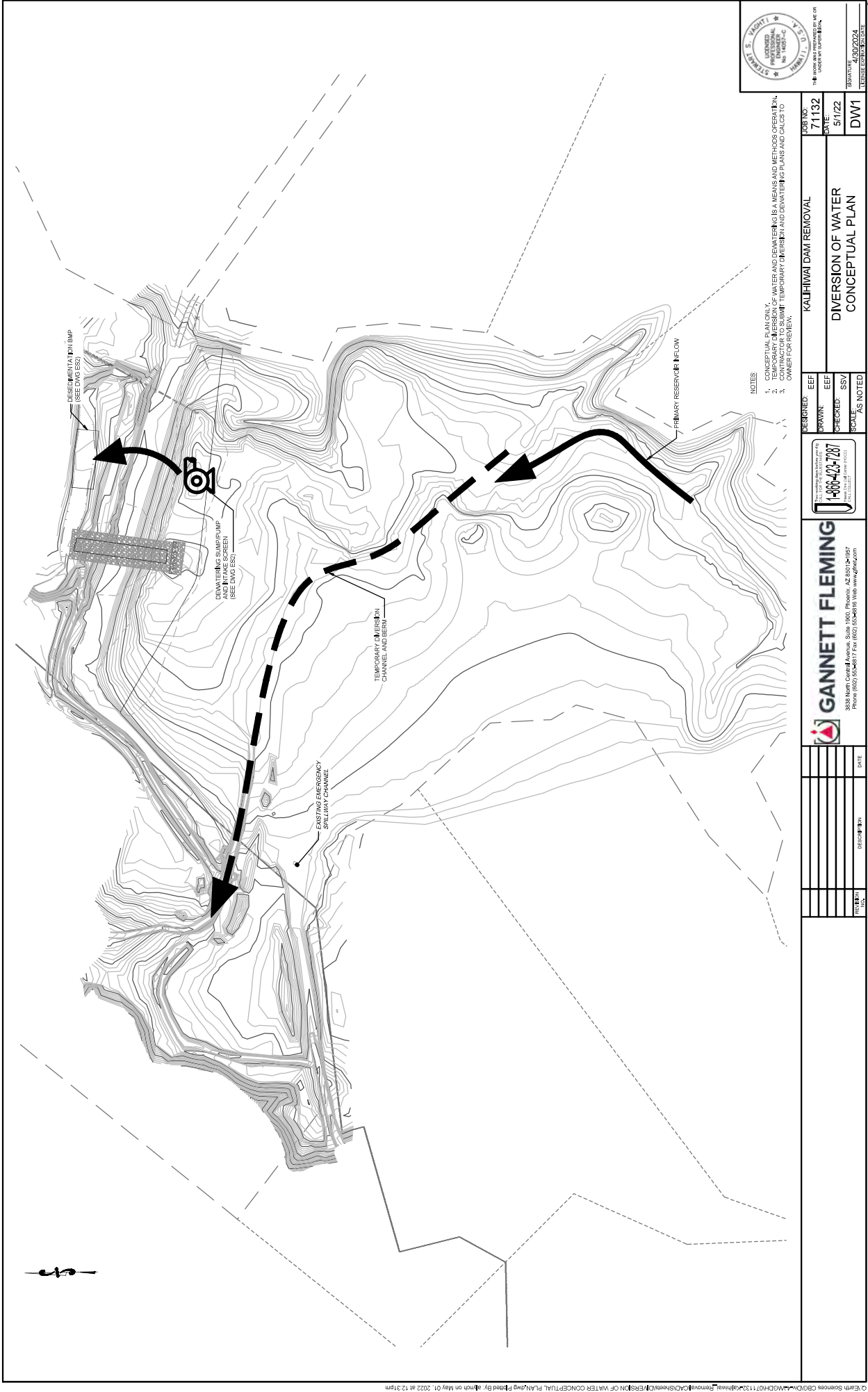


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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER

REGISTERED PROFESSIONAL ENGINEER
NO. 14282-C
HAWAII
4/30/2024

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TESTEES FOR PLANS

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KALUHIWA DAM REMOVAL
DIVERSION OF WATER
CONCEPTUAL PLAN

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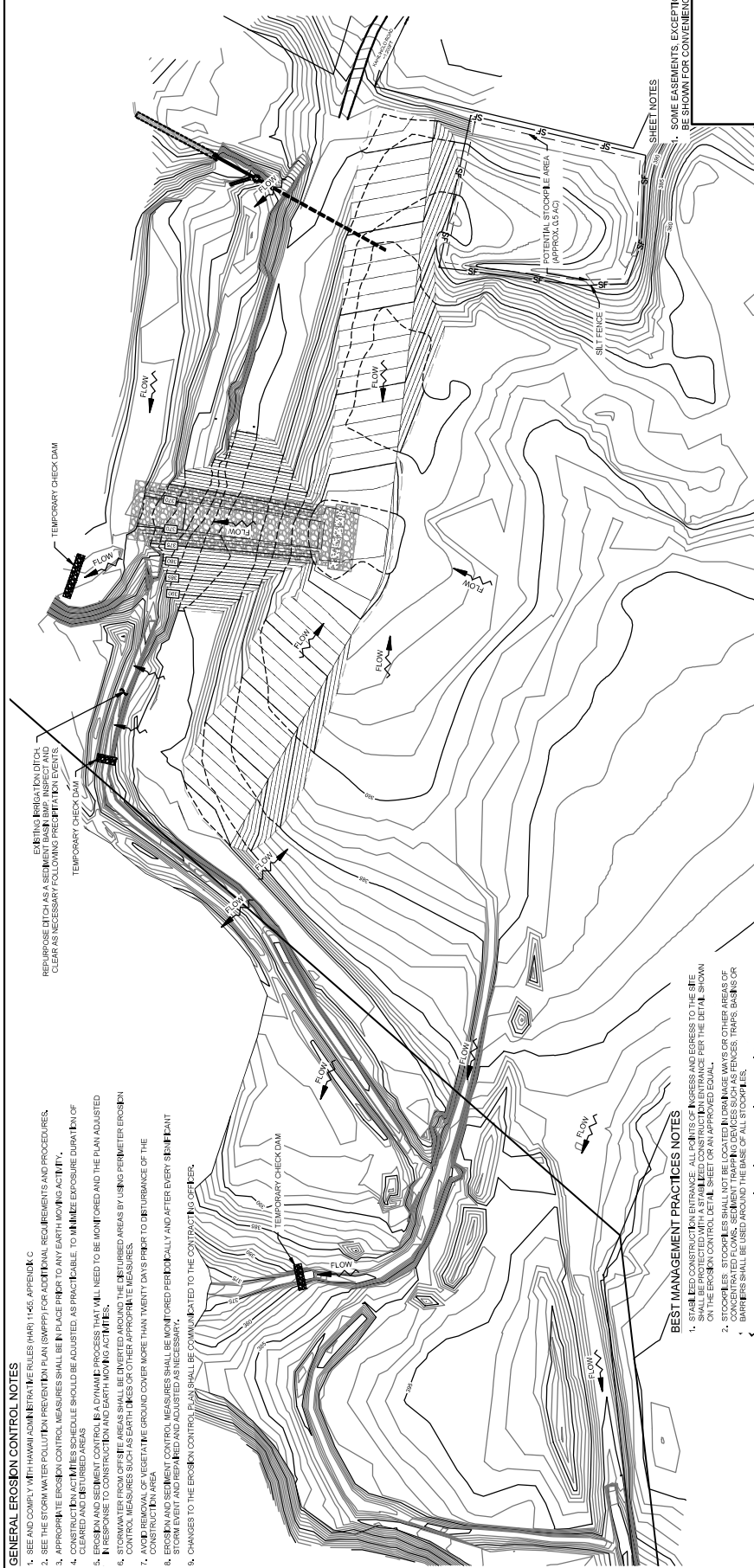
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1. SEE AND COMPLY WITH HAWAII ADMINISTRATIVE RULES PART 1-46, APPENDIX C.
2. PREPARE AND SUBMIT TO THE HAWAIIAN LAND AND NATURAL RESOURCES DEPARTMENT A STORM WATER MANAGEMENT PREVENTION PLAN (SWPPP) FOR ANY ADDITIONAL REQUIREMENTS AND PROCEDURES.
3. APPROPRIATE EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EARTH MOVING ACTIVITY.
4. CONSTRUCTION ACTIVITIES SCHEDULE SHOULD BE ADJUSTED, AS PRACTICABLE, TO MINIMIZE EXPOSURE DURATION OF CLEARED AND DISTURBED AREAS.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED AND THE PLAN ADJUSTED AS NECESSARY.
6. STORMWATER FROM OFF-SITE AREAS SHALL BE DIVERTED AROUND THE DISTURBED AREAS BY USING PERIMETER EROSION CONTROL MEASURES SUCH AS EARTH CHECKS OR OTHER APPROPRIATE MEASURES.
7. AROUND REMOVAL OF VEGETATIVE GROUND COVER MORE THAN TWENTY DAYS PRIOR TO DISTURBANCE OF THE CONSTRUCTION AREA.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED PERIODICALLY AND AFTER EVERY SIGNIFICANT STORM EVENT AND REPAIRED AND ADJUSTED AS NECESSARY.
9. CHANGES TO THE EROSION CONTROL PLAN SHALL BE DOCUMENTED TO THE CONTRACTING OFFICER.



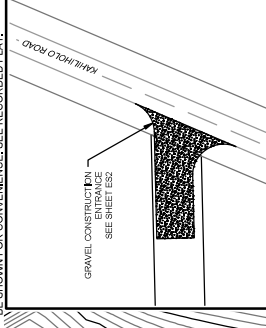
BEST MANAGEMENT PRACTICES NOTES

1. **STABILIZED CONSTRUCTION ENTRANCE.** ALL POINTS OF INGRESS AND EGRESS TO THE SITE SHALL BE PROTECTED WITH A STABILIZED CONSTRUCTION ENTRANCE PER THE DETAIL SHOWN ON THE EROSION CONTROL DETAIL SHEET OR AN APPROVED EQUAL.
2. **STOCKPILES.** STOCKPILES SHALL NOT BE LOCATED IN DRAINAGEWAYS OR OTHER AREAS OF CONCENTRATED FLOWS. SEEDMENT TRAP DEVICES SUCH AS FENCES, TRAPS, BAINS OR DRAINAGE BASINS SHALL BE LOCATED UPSTREAM OF STOCKPILES, ETC., SHOULD BE APPLIED TO REDUCE DUST EMISSIONS. THE CONTRACTOR, AT THEIR EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST IN EXCESS. THE WORK SHALL BE IN COMPLIANCE WITH THE AIR QUALITY CRITERIA CONTAINED IN HAWAII COUNTY ORDINANCE 1-10.0.
3. **SEEDMENT TRAPS.** SEEDMENT TRAP DEVICES SUCH AS FENCES, TRAPS, BAINS OR DRAINAGE BASINS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS AND AROUND THE BASE OF ALL MATERIAL STOCKPILES.
4. **SLOPE PROTECTION.** SURFACE FLOW FROM ABOVE AN EXPOSED SLOPE SHALL NOT BE ALLOWED TO COME DOWN THE SLOPE WITHOUT PROTECTION. SUCH PROTECTION SHALL BE USED ON SLOPES GREATER THAN 15% AND ON AREAS OF AGGREGATE SURFACES THAT ARE PRONE TO EROSION.
5. **EROSION PROTECTION.** ALL DRAIN LINES ON SITE AND THOSE OFF SITE WHICH MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN EROSION PROTECTION DEVICE.
6. **TEMPORARY STABILIZATION.** TEMPORARY STABILIZATION IS NOT REQUIRED WHEN THE DISTURBED AREA WILL BE WORKED WITHIN A RAINY PERIOD. STABILIZATION IS REQUIRED FOR A RAINY PERIOD, AFTER THE RAINY PERIOD, OR WHEN THE AREA WILL NOT BE WORKED WITHIN A RAINY PERIOD.

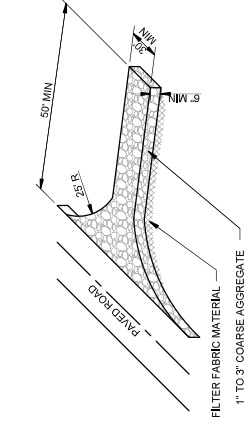
SUGGESTED SEQUENCE OF CONSTRUCTION

1. INITIAL STABILIZED CONSTRUCTION ENTRANCE FOR DURGESS RESSER.
2. INSTALL FENCES ALONG DOWNSTREAM EXTENTS OF DISTURBANCE.
3. INSTALL TEMPORARY CHECK DAMS AT COLLECTION OF NON-CONTAMINATED FLOW LEAVING THE SITE (SEE SUGGESTED LOCATIONS ON PLAN).
4. EXHIBITATE A WASHOUT AREA FOR COLLECTION OF NON-CONTAMINATED DISCHARGES FROM VEHICLE WASHING (IF NECESSARY).
5. PERMITTEE TO BE OPEN FOR STOCKPILING OF EXCAVATED EARTH AND POWDER EXCAVATED FROM VEHICLE WASHING (IF NECESSARY).
6. PREVENT OFF-SITE FLOWS FROM ENTERING THE STOCKPILE AREA AND THE EXCAVATED EARTH FROM LEAVING THE AREA.
7. CONSTRUCT TEMPORARY DEPRESSION CHANNEL AND BERM (SEE DRAWING DW#1).
8. CONSTRUCT DEWATERING SLUMP AND PUMPS TO DENAMER RESERVOIR.
9. ALLOW RESERVOIR BOTTOM TO DRY.
10. CLEAR AND GRUB THE AREAS TO BE DISTURBED.
11. EXCAVATE BRUSH SECTION AND PLACE EXCAVATED MATERIAL ON UPSTREAM SIDE OF EMANKMENT.
12. CONSTRUCT DRIVABLE CONCRETE BASIS.
13. PLACE GEOTEXTILE AND GRAVEL WITHIN BRUSH SECTION.
14. CONSTRUCT TEMPORARY STABILIZATION MATRIX WITH APPROPRIATE VEGETATIVE CONTROLS FOR GRAZED AREAS THAT WILL REMAIN UNDISTURBED FOR MORE THAN FOURTEEN DAYS.
15. WHERE TEMPORARY STABILIZATION CAN BE CHANNELS AND BANKS PRIOR TO THE GRADING.
16. AFTER THE REMOVAL OF STABILIZATION MATERIALS AND BACKFILLING AS SOON AS FEASIBLE AFTER THE GRADING.

• SOME EASEMENTS, EXCEPTIONS OR EXCLUSIONS MAY NOT BE SHOWN FOR CONVENIENCE. SEE RECORDED PLAT.



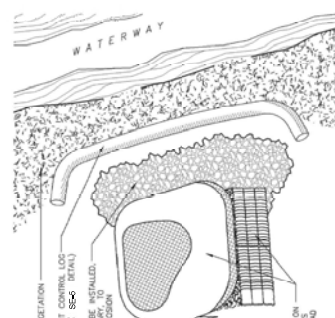
 GANNETT FLEMING 3838 North Central Avenue, Suite 1900, Phoenix, AZ 85018-1957 Phone (602) 556-6177 Fax (602) 556-6115 Web www.gannett.com		7/13/2024 5/1/22 ES1	
JOB NO. 71132 DATE: 5/1/22 ES1		KALHIWAI DAM REMOVAL EROSION AND SEDIMENT CONTROL PLAN (1 OF 2)	
DESIGNED: _____ DRAWN: _____ CHECKED: _____ SCALE: _____ AS NOTED		1-866-426-7287 For more information, please call or visit our website. 1-866-426-7287 1-866-426-7287	
REVISIONS NO. DATE DESCRIPTION		1-866-426-7287 1-866-426-7287 1-866-426-7287	



NOTE:
- ALTERNATE TRACK-OUT DEVICE MAY BE USED WITH APPROVAL.



background



COMPARING INSTALLATION NOTES

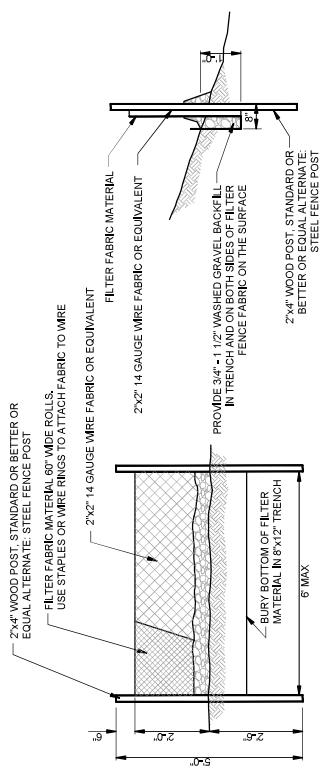
DEWATERING INSTALLATION NOTES

1. SEE PLAN FOR LOCATION OF DOWNTIGHT EQUIPMENT.
-TYPE OF DOWNTIGHT EQUIPMENT (DW-1 TO DW-4).

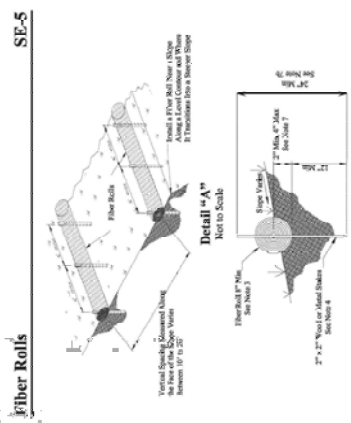
2. THE CHIEF OR CONTRACTOR SHALL OBTAIN A CONSTRUCTION DISCHARGE (DOWATERING) PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES. THE PERMIT SITE ALL DOWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

3. THE CHIEF OR OPERATOR SHALL PROVIDE OPERATE, AND MAINTAIN DOWATERING SYSTEMS IN SUCH A MANNER AS TO PREVENT ANY UNDESIRABLE EFFECTS TO THE SURROUNDING AREAS IN DRY CONDITIONS AND TO LOFTEN AND MAINTAIN THE GROUNDWATER LEVEL. A MINIMUM OF 10% OF THE WATER USED SHALL BE RECYCLED TO MAINTAIN THE GROUNDWATER LEVEL. THE PRICE OF WATER USED SHALL BE PAID TO THE LOCAL AGENCY.

SOURCE- URBAN DRAINAGE AND FLOOD CONTROL DISTRICT



SILT FENCE
NTS



Section A-A
Not to Scale

[illegible]

NTS
SOURCE: CITY AND COUNTY OF HONOLULU DEPARTMENT OF
ENVIRONMENTAL SERVICES

<div><div><p>GANNETT FLEMING</p><p>3838 North Central Avenue, Suite 1000, Phoenix, AZ 85018-1857 North (602) 355-4817 Fax (602) 355-4818 Web www.gannett.com</p></div><div><p> 1-800-423-7287 <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p><p><small>PHOTOGRAPHY, VIDEO, AND DESIGN</small> <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div></div>	<div><p> DESIGNED <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p><p> DRAWN <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p><p> CHECKED <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p><p> SCALE <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div>	<div><p> AS NOTED <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div>	<div><p> DATE <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div>	<div><p> REVISION <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div>	<div><p> DESCRIPTION <small>PHOTOGRAPHY, VIDEO, AND DESIGN</small></p></div>
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KALHWA DAM REMOVAL		JOB NO. 71132
EROSION AND SEDIMENT CONTROL PLAN (2 OF 2)		DATE 5/1/22
		ES2

THE WORK WAS PERFORMED BY OR UNDER THE SUPERVISION OF: SIGNATURE 4/30/2024
--

**Dam Safety Program
CHAPTER 343 ANALYSIS**

EXHIBIT 7

Dam Name: Kalihiwai Reservoir
Dam ID Number: KA-0024
Type of Project: Dam Removal
Brief Description of Project: Dam embankment to be removed by excavating a notch within
The north embankment section
TMK's: (4) 5-2-022:003

Reviewer Name: Gina Belleau Date of Review: 8/5/2024
Reviewer Title: Civil Engineer V
Reviewer Company: DLNR Engineering Division

TRIGGERS (HRS §343-5(a))

Is there an "action" that triggers the need for an EA?

Action

An "action" is a program or project:

 Initiated by an agency

 X Initiated by an "applicant"

Any person who, pursuant to statute, ordinance, or rule, officially requests "approval" for a proposed action (discretionary consent required from an agency prior to actual implementation of an action, distinguished from a ministerial consent)

 Statute

 Ordinance

 X Rule

Triggers

Yes	No	
<u> </u>	<u> X </u>	Use of state or county lands or funds
<u> </u>	<u> X </u>	Use of conservation district lands
<u> </u>	<u> X </u>	Use within shoreline setback area
<u> </u>	<u> X </u>	Use of historic site designated on the National or Hawaii registers
<u> </u>	<u> X </u>	Use of land in the Waikiki Special District
<u> </u>	<u> X </u>	Amendment to county general plan which would result in designations other than agriculture, conservation, or preservation unless initiated by a county
<u> </u>	<u> X </u>	Reclassification of conservation lands by the Land Use Commission
<u> </u>	<u> X </u>	Construction or modification of helicopter facilities that may affect conservation district lands, a shoreline setback area, or a historic site
<u> </u>	<u> X </u>	Wastewater facilities, waste-to-energy facility, landfill, oil refinery, or power-generating facility

Triggers summary:

Is there a trigger? Yes No X

If Yes, **Go to Exemptions**

If No, Environmental Assessment is NOT required. **Go to Summary.**

Dam Safety Program
CHAPTER 343 ANALYSIS

EXEMPTIONS

Two sources of exemptions: exemption lists or exemptions contained in HAR §11-200.1-15

1. Exemption Lists

- ☐ Division exemption lists
- ☐ Department-wide exemption list

Explain (which exemption list, which exemption, how it applies):

2. HAR §11-200.1-15 exemptions

- ☐ Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving *minor expansion or minor change of use* beyond that previously existing
- ☐ Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have *substantially the same purpose, capacity, density, height, and dimensions* as the structure replaced
- ☐ Construction and location of single, new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small equipment or facilities and the alteration and modification of the equipment or facilities, including, but not limited to:
 - (A) *Single family residences less than 3,500 square feet*, as measured by the controlling law under which the proposed action is being considered, if not in conjunction with the building of two or more such units;
 - (B) Multi-unit structures designed for *not more than four dwelling units* if not in conjunction with the building of two or more such structures;
 - (C) Stores, offices, and restaurants designed for total occupant load of *twenty persons or less* per structure, if not in conjunction with the building of two or more such structures; and
 - (D) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions *to serve such structures* or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements
- ☐ *Minor alterations* in the conditions of land, water, or vegetation
- ☐ Basic data collection, research, experimental management, and resource and infrastructure testing and evaluation activities that *do not result in a serious or major disturbance* to an environmental resource
- ☐ Demolition of structures, *except* those structures that are listed on the national register or Hawaii Register of Historic Places

**Dam Safety Program
CHAPTER 343 ANALYSIS**

_____ Zoning variances *except shoreline* set-back variances

_____ Continuing administrative activities;

_____ Acquisition of land and existing structures, including single or multi-unit dwelling units, for the provision of *affordable housing*, involving *no material change of use* beyond that previously existing, and for which the *legislature has appropriated* or otherwise authorized *funding*

_____ New construction of affordable housing, where affordable housing is defined by the controlling law applicable for the state or county proposing agency or approving agency, that meets the following: (A) Has the use of state or county lands or funds or is within Waikiki as the sole triggers for compliance with chapter 343, HRS; (B) As proposed conforms with the existing state urban land use classification; (C) As proposed is consistent with the existing county zoning classification that allows housing; and (D) As proposed does not require variances for shoreline setbacks or siting in an environmentally sensitive area, as stated in section 11-200 .1-13 (b) (11).

Explain (how the exemption indicated above applies):

Exemptions summary:

Does the Project qualify for an exemption? Yes _____ No _____

 If Yes, Exemption noted above, No Environmental Assessment required

 If No, Project does not qualify for exemption and requires an Environmental Assessment

CUMULATIVE IMPACT

Exemptions are inapplicable when the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.

SUMMARY

Is Environmental Assessment required?

Yes _____

 Has an Environmental Assessment been completed?

 Yes _____ OEQC Published date: _____

No X

Comments: _____

Reviewer Printed Name: _____ Gina Belleau

Reviewer Signature: *Gina Belleau*

Date: 8/5/2024

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

July 31, 2023

Carty S. Chang
Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street
Honolulu, HI 96813
c/o Gina Belleau
gina.c.belleau@hawaii.gov

IN REPLY REFER TO:
Proj. No: 2022PR00711
Doc. No: 2307MK19
Architecture

Dear Mr. Chang:

RE: **Hawaii Revised Statutes (HRS) § 6E-42 Historic Preservation Review
Kalihiwai Reservoir (KA-0024) Removal Project
Reconnaissance Level Survey
Kalihiwai Ahupua'a, Halele'a District, Island of Kaua'i
TMK: (4) 5-2-022:003**

This letter provides the State Historic Preservation Division's (SHPD's) review of the Reconnaissance Level Survey (RLS) Report, titled, *Reconnaissance Level Survey, Kalihiwai Reservoir, Kilauea, Kauai, TMK [4] 5-2-022: 003* (MASON, June 2023). SHPD had insufficient information to determine the impact of the project to historic properties and requested an RLS report (Project No. 2022PR00711, Doc. No. 2211SCH08). SHPD received the RLS report on July 10, 2023, and a revised report on July 26, 2023.

The proposed Kalihiwai Reservoir (KA-0024) Removal Project includes cutting a large notch through the dam embankment. The removal design breaches the existing embankment along the northern (right) leg to prevent water retention behind the dam. Slope protection will be added to the sides and bottom of the notch to prevent erosion.

MASON determined that the Kalihiwai Reservoir (ca. 1910) is significant pursuant to HAR § 13-284-6 under Criterion **a** for its association with the development of irrigation facilities of the Kīkauea Sugar Company and Criterion **c** as embodying the distinctive characteristics of the method

of earthen dam and unlined earthen reservoir construction. SHPD agrees with MASON's significance evaluation.

The RLS Report meets the minimum requirements of HAR § 13-284-5. **It is accepted.** Please send one hard copy of the RLS Report, clearly marked FINAL, and a copy of this review letter to the Kapolei SHPD office, attention SHPD Library and submit a digital text-searchable PDF copy to the SHPD Library at dlnr.hp.library@hawaii.gov.

Based on the above information, SHPD's determination is "**Effect, with proposed mitigation commitments**" pursuant to HAR §13-284-7(a)(1) for the current project and requests the following:

1. Historic American Engineering Record (HAER) short report for the Kalihiwai Reservoir. Information about HAER can be found at: <https://www.nps.gov/hdp/standards/haerguidelines.htm>. Please contact Mary McPartland (mary_mcpartland@nps.gov) at the National Park Service for any additional information concerning the HAER report. The HAER report is considered an architectural survey report and therefore subject to filing fees per HAR §13-284-4(a)(3).
2. The HAER report and notification that NPS has accepted the HAER report can be submitted to HICRIS Project No. 2022PR00711 using the Project Supplement option.
3. HAER report must be completed by a qualified professional per HAR §13-281-5.
4. The HAER report will be submitted to SHPD within 6 months of project initiation.
5. Please note that the *photographic documentation* for the HAER must be completed *prior to project initiation*.

SHPD requests written concurrence to SHPD's mitigation stipulations (#1-5) **prior to project initiation**.

Please attach to the permit: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sinkholes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 692-8015.

Mr. Chang
July 31, 2023
Page 3

Please contact SHPD if there is a change of scope as this *may* result in a change to our determination and/or mitigation stipulations. Please contact Mary Kodama, Historic Architect, at mary.kodama@hawaii.gov for any matters involving architectural resources or this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Elizabeth Letcher, KRCA President, esl@elizabethletcher.com
Andrew Lynch, alynch@gfnet.com
Polly Tice, pt@masonarch.com
Dee Ruzicka, dr@masonarch.com



United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, NW
Washington, DC 20240

7 March 2024

Dee Ruzicka
Mason Architects, Inc.
119 Merchant Street, Suite 501
Honolulu, HI 96813

Dear Dee Ruzicka,

On behalf of the National Park Service's Heritage Documentation Programs, I acknowledge the receipt and acceptance of the Historic American Engineering Record documentation of Kalihiwai Reservoir (HAER HI-174).

The completed documentation will be transmitted to the Prints and Photographs Division of the Library of Congress. The records are in the public domain and will be accessible through the library.

Sincerely,

MARY MCPARTLAND Digitally signed by MARY MCPARTLAND
Date: 2024.03.07 10:33:30 -05'00'

Mary McPartland

Collections Manager
Heritage Documentation Programs (HABS/HAER/HALS)

cc: Polly Tice, Mason Architects, Inc.

Permit #86
 Kalihiwai Reservoir KA-0024
 Removal
Agency Consultation:

EXHIBIT 10

Agency	Date Sent	Date Returned	No Comments	Comments Attached	No Reply
DLNR agencies					
Division of Aquatic Resources	6/30/2022				X
Commission on Water Resources Management	6/30/2022	9/30/2022		X	
Division of Forestry and Wildlife	6/30/2022	10/10/2025 (Revised)		X	
Historic Preservation Division	6/3/2022 HICRIS #2022PR00711	7/31/2023			
Land Division	6/30/2022	7/6/2022	X		
Office of Conservation and Coastal Lands	6/30/2022				X
Other Agencies					
Department of Agriculture	6/30/2022	7/1/2022	X		
Department of Agriculture – ADC	6/30/2022	7/1/2022	X		
County of Kauai – NFIP	6/30/2022				X
Kauai Emergency Management Agency	6/30/2022	7/1/2022	X		
HI EMA	6/30/2022				X



STATE OF HAWAII | KA MOKUʻĀINA ʻO HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA ʻŌIHANA KUMUWAIWAI ʻĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

February 10, 2023

Ref: RFD.5939.2

Andy Lynch, P.E.
Gannett Fleming
6400 S. Fiddlers Green Circle, Suite 1750
Greenwood Village, CO 80111
Email: alynch@gfnet.com

Aloha Mr. Lynch:

Update on Dam Safety Permit No. 86 Comments
Dam Removal of Kalihiwai Reservoir (KA-0024), Kīlauea, Kauaʻi

On September 30, 2022, in response to a request for comments on the subject Dam Safety Permit, the Commission on Water Resource Management (Commission) responded to the Department of Land and Natural Resources' Engineering Division, in part, that "a Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered." Furthermore, the Commission recommended "that the Kalihiwai Ditch diversion which feeds the Kalihiwai Reservoir should also be abandoned and water returned to its natural stream channel if the water from Kalihiwai Stream will no longer be actively used. Abandonment of the stream diversion will require a Stream Diversion Works Permit (SDWP) to be obtained from the Commission."

Following meetings with Gannett Fleming, under contract by the Kalihiwai Ridge Community Association (KRCA), on January 27, 2023, and a follow-up meeting with KRCA on January 30, 2023, the Commission understands that the plans for the Kalihiwai Reservoir are still being discussed and finalized. However, based on those meeting discussions, we understand that the Kalihiwai Reservoir Dam is expected to be breached to remove it from regulatory oversight by the Engineering Division, but that KRCA intends to continue use of the water from Pohakuohonu Stream. Plans currently under consideration are for KRCA to seek funding to maintain the reservoir, or alternatively breach the reservoir and create a series of smaller flow-through ponds to maintain some waterbird habitat.

The Commission staff also notified KRCA and Gannett Fleming that the Pohakuohonu Stream diversion that currently feeds the Kalihiwai Reservoir was never registered, but it has clearly been in existence prior to the enactment of the State Water Code in 1987 when it was formerly used for agricultural purposes. As discussed, the Commission will require a back-registration

Mr. Andy Lynch, P.E.

February 10, 2023

Page 2

including the submission of a Registration of Stream Diversion Works and Declaration of Water Use Form (enclosed) along with supporting evidence that the diversion was in existence prior to May 27, 1988 (Effective date of Hawaii Administrative Rules (HAR) §13-168-31). This will allow for the continued use of the diversion by KRCA and others for agricultural purposes.

Please bear in mind that upon acceptance of the Registration of Stream Diversion Works, the Commission will require the submission of monthly water use reports in accordance with HAR §13-168-7, Report of water use, as follows:

- (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. If a well or stream diversion works is one of a battery of interconnected water sources, a centralized measuring device or facility may be approved by the commission;
- (b) The owner or operator of any well or stream diversion works or battery of such water sources shall file a report of total water usage on a regular monthly (calendar or work schedule) basis to the commission on forms provided by the commission on or before the end of the month following the month for which water usage is to be reported. The reports may include other use-related information such as type of use, salinity, and water level, as may be deemed appropriate and reasonable by the commission.

Furthermore, the Commission may initiate proceedings for the establishment of a measurable interim instream flow standard to protect the public interest and insure that natural streamflows are sufficient to adequately protect fishery, wildlife, recreational, aesthetic, scenic, or other beneficial instream uses in the stream in light of existing and potential water developments including the economic impact of restriction of such use. We will be sure to work with KRCA and the surrounding community in any efforts to establish an interim instream flow standard.

If you have any questions, please contact Dean Uyeno of the Commission staff via email at dean.d.uyeno@hawaii.gov or by phone at (808) 587-0234.

Ola i ka wai,



M. KALEO MANUEL
Deputy Director

Enclosure

cc. Tony Semedo, Kalihiwai Ridge Community Association, tony_semedo@me.com

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

EXHIBIT 12

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

October 10, 2025

Andy Lynch
Sr. Project Engineer, Dams & Hydraulic
GFT
6400 S. Fiddlers Green Circle, Suite 1750
Greenwood Village, CO 80111

SUBJECT: Consultation for Dam Safety Permit (No. 86) for the Dam removal of the
Kalihiwai Reservoir (KA-0024) located in Kalihiwai, on the island of Kaua'i

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your consultation request regarding the Dam Safety Permit (No. 86) for the dam removal of the Kalihiwai Reservoir (KA-0024) located in Kalihiwai, on the island of Kaua'i; TMK: (4) 5- 2-022:003. The proposed project consists of breaching the existing reservoir by constructing a notch through the existing embankment and lining the breached section with riprap up to the 100- year flow depths. All material will be spoiled on-site, upstream of the embankment.

The State listed Hawaiian Hoary Bat or 'Ōpe'ape'a (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea. If nighttime construction is required during the seabird fledgling season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off.

If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting <https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/>. Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit <https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf>.

State-listed waterbirds such as the Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian coot (*Fulica alai*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian Duck (*Anas wyvilliana*), and Hawaiian Goose (*Branta sandvicensis*) could potentially occur at or in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, then all activities within 100 feet (30 meters) should cease, and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the Kaua'i Branch DOFAW Office at (808) 274-3433.

The endemic pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*) could potentially nest in the project area. Pueo nest on the ground and active nests have been found year-round. Before any potentially disturbing activity like clearing vegetation, especially ground-based disturbance, DOFAW recommends a qualified biologist conduct surveys during crepuscular hours. Observation surveys should be done at those times from vantage points where they can see the whole project area for 2-3 nights before construction is to start. If any breeding displays are observed, it is likely there could be a nest. If pueo nests are detected in the area, a buffer zone should be established in which no activity occurs within a minimum buffer distance of 100 meters until the nesting cycle is complete and the chicks are capable of flight. DOFAW staff should be notified of any nests or adult displayed breeding behavior.

DOFAW is concerned about impacts to vulnerable birds from nonnative predators such as cats, rodents, and mongooses. We recommend taking action to minimize predator presence; remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles.

The endangered Newcomb's snail (*Erinna newcombi*) are freshwater obligate snails. Today, the species is restricted to approximately ten very small sites located on seven streams in the interior of the island of Kauai. Biologists should scan low level vegetation and submerged rocks for live snails. If shells are found, it is recommended that the area be further inspected. Special attention should be paid to remnant native vegetation. If Newcomb's snails are found during surveys, or at any other point, activities in that area should stop and DLNR should be notified immediately.

DOFAW recommends using native plant species for landscaping that are appropriate for the area; e.g., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain detrimental fungal pathogens (e.g., Rapid 'Ōhi'a Death, Coffee Leaf Rust), vertebrate and invertebrate pests (e.g., Coqui Frogs, Little Fire Ants, Coffee Berry Borer, etc.), or invasive plant parts (e.g., Barbados Gooseberry, False Kava, Giant Reed, etc.) that could harm our native species and ecosystems. We recommend consulting the Kaua'i Invasive Species Committee (KISC) at (808) 821-1490 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. To prevent the spread of Rapid 'Ōhi'a Death (ROD), DOFAW requests that removal, pruning/trimming, and potentially injury to 'ōhi'a trees be avoided as much as possible. Wounds serve as entry points for ROD fungus and increase the odds that the tree will be infected and die. Also, clean gear/tools, clothes, footwear, and vehicles before and after use. Make sure to remove all loose soil from the aforementioned items, spray gear/tools with 70% rubbing alcohol, and wash clothes with hot water and soap. Wash tires and undercarriages of all vehicles/machinery with a high-pressure water source. If 'ōhi'a trees must be removed or pruned/trimmed, please conduct these activities on a still day to minimize blown sawdust and use a sharp saw to create chips rather than dust. Seal all wounds to these trees with a stump seal product (e.g. Spectricide, etc.). For more information, please consult <https://cms.ctahr.hawaii.edu/rod>.

The invasive coconut rhinoceros beetle (*Oryctes rhinoceros*) or CRB is widespread on the island of O'ahu. CRB have been detected on other islands with moderate infestation on Kaua'i, one incipient site on Hawai'i Island, and only one positive site on Maui in 2023. Hawai'i Department of Agriculture interim rule 24-1 restricts the movement of CRB-host material from the island of O'ahu, which is defined as the Quarantine Area. Regulated material (host material or host plants) is considered a risk for potential CRB infestation. Host material for the beetle specifically includes 1) entire dead trees; 2) mulch, compost, trimmings, fruit and vegetative scraps, and 3) decaying stumps. CRB host plants include the live palm plants in the following genera: *Washingtonia*, *Livistona*, and *Pritchardia* (all commonly known as fan palms), *Cocos* (coconut palms), *Phoenix* (date palms), and *Roystonea* (royal palms). When such material or these specific plants are moved there is a risk of spreading CRB because they may contain CRB in any life stage. Inspection and/or treatment approved by HDOA is mandatory before inter-island transport. For more information regarding CRB, please visit <https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/coconut-rhinoceros-beetle/>.

We recommend that Best Management Practices are employed during and after construction to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Protected Species Habitat Conservation Planning Associate Kinsley McEachern at (808) 583-0597 or Laurinda.k.mceachern@hawaii.gov.

Sincerely,



JASON D. OMICK
Wildlife Program Manager

Signature:

Email: [3] jesse.w.adams.researcher@hawaii.gov,kelli.yamaguchi.researcher@hawaii.gov,laurinda.k.mceachern.researcher@hawaii.gov

DAM SAFETY PERMIT CONDITIONS**APPROVAL OF PLANS AND SPECIFICATIONS FOR DAM AND RESERVOIR
CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION OR REMOVAL**

The following General Conditions shall be adhered to for all Dam Safety permits unless otherwise authorized in writing.

1. Actual construction, enlargement, repair, alteration or removal shall be completed within 5 years of issuance of the permit application approval unless an extension authorized in writing by the Board is issued. Construction shall begin within 12 months of issuance of this permit.
2. Prior to the start of work the owner or applicant shall provide a construction engineer to ensure compliance with the approved plans and specifications and who shall have ultimate responsibility for the supervision of all inspection tasks. The construction engineer may assign some inspection tasks to a duly authorized agent under the construction engineer's supervision. The engineer shall be licensed in the State of Hawaii.
3. The construction engineer shall maintain a record of construction that at a minimum, shall include, daily activity, and progress reports, all test results pertaining to construction; photographs sufficient to provide a record of foundation conditions and various stages of the construction through completion, all geologic information obtained; and construction problems and remedies.
4. A construction quality assurance plan shall be prepared and submitted to the Department for approval prior to the start of construction, which details the minimum requirements of the construction engineer's observation of construction.
5. A construction schedule, which includes the notice to proceed date and estimated project duration and a construction emergency action plan shall be submitted prior to the preconstruction meeting.
6. A preconstruction meeting shall be held subsequent to submitting the quality assurance plan, construction schedule and construction emergency action plan, but not later than 14 days prior to the start of construction. All parties actively involved in the construction should be requested to attend, such as the dam owner, the design engineer, the construction engineer, the contractor and the Department.
7. The Department shall be notified 5 calendar days prior to the commencement of construction.
8. Any changes from the approved plans and specifications shall be approved by the design engineer and a change order, including details and supporting calculations, must be provided to the Department. Major changes must be submitted in writing with supporting documentation and approved in writing by the Department. No work shall be initiated until the approval by the Department or Board is received. Minor changes may be transmitted verbally and approved by the Department verbally provided that documentation of the change is provided to the Department within 10 days of the approval.

9. For new dam construction and for dams and reservoirs that have lowered the water level or have been drained to facilitate construction, the construction engineer shall file and obtain approval of a filling plan with the Department. The applicant/owner shall not proceed with the filling of the reservoir until it receives permission from the Department. The construction engineer shall provide documentation of monitoring during the filling operation.
10. Prior to the filling of the reservoir, the construction engineer shall submit one copy each of the approved Operations Manual and the approved Emergency Action Plan for the facility upon completion of the project as applicable.
11. The construction engineer shall give the Department at least ten days advanced notice of initial materials placement of the dam's foundation, in the cutoff trench, outlet backfill, outlet foundation, and any appurtenance requested by the Department in the approval of the plan for construction observation, to allow for observation by the Department.
12. Notice of substantial completion shall be issued by the construction engineer to the Department stating that the permitted improvements are functionally complete such that filling of the reservoir can be initiated with an approved filling plan.
13. The construction engineer shall give the Department fifteen (15) calendar days advance written notice prior to the project's final construction inspection. The construction engineer shall coordinate with the Department to conduct this inspection in the presence of the Department's dam safety personnel.
14. The construction engineer shall provide notice at least ten (10) days prior to initiating filling the reservoir, unless agreed at the final inspection.
15. If conditions are revealed which will not permit the construction, enlargement, repair, alteration, or removal of a safe dam or reservoir, the application for approval for construction, enlargement, repair, alteration, or removal shall be revoked.
16. A topographic survey of completed work including all monuments, inverts, crest alignment, spillways, and significant appurtenant features, when required by the Department shall be completed.
17. The applicant/owner shall utilize appropriate erosion control best management practice measures during construction to minimize turbidity (such as scheduling of work during period of low stream flow) and prevent debris and construction materials, including concrete, petroleum products, and other pollutants from enter the waters of the State. Construction related water and debris should be properly disposed of in a legal and environmentally safe manner and in accordance with the Department of Health and other Federal regulations.
18. The applicant/owner shall submit a copy of the dam safety application and the plans and specifications of the proposed improvements to the County Engineer of the County for which the dam resides for compliance with County codes.
19. Within fifteen (15) calendar days of completing the project, the applicant/owner or its representative shall provide the Department with a confirmation letter of compliance, signed and stamped by the construction engineer, indicating that the construction

was completed in accordance to approved plans and specifications including any field changes. The construction engineer shall submit the remaining construction completion documents which may include, but not be limited to, as-constructed drawing, final construction report, topographic survey, record of the location of permanent monuments, log of recorded water levels and other readings from the refilling operation, long-term instrumentation monitoring plan, and affidavit showing the actual cost of construction including engineering costs, within 60 calendar days of the submittal of the final construction inspection.

20. Construction completion documents and the construction engineer's certification shall be provided to the Department within 60 days of the final construction inspection. The Department will review the submitted items and furnish acceptance or denial within 60 days of receipt of satisfactorily completed construction completion documents and close out the dam safety permit.
21. This permit does not relieve the applicant/owner of their obligations to comply with all applicable Federal, State, and County regulations.
22. In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division at (808) 692-8015.
23. Compliance with Hawaii Revised Statutes 179D, and Hawaii Administrative Rules 13-190.1.