

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

February 23, 2018

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

**APPLICATION FOR A DLNR DAM SAFETY
PERMIT NO. 80 – ELIMA RESERVOIR (KA-0105)
DAM IMPROVEMENT, KALAHEO, KAUAI, HAWAII**

The Engineering Division (Division) hereby submits an application for your approval and authorization for the Chairperson and Department to stipulate conditions and issue a Dam Safety Permit for the subject application, ELIMA RESERVOIR (KA-0105) – DAM IMPROVEMENT, pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

APPLICANT:

Mr. Daniel Sargent
McBryde Resources Inc.
P.O. Box 8
Eleele, HI 96705

LAND OWNER:

Mr. Nelson Chun
McBryde Sugar Company, LLC, Series T
822 Bishop Street
Honolulu, HI 96813

SUMMARY OF REQUEST:

Application for a Dam Safety Permit for the dam improvement of the Elima Reservoir (KA-0105), Kalaheo, Kauai, Hawaii. (See Exhibit 1)

LOCATION: Kalaheo, Kauai, Hawaii, TMK: (4) 2-007-020 (See Exhibit 2)

BACKGROUND:

The Elima Reservoir, built around 1901 (modified in 1957), is used for irrigation purposes and is owned by the McBryde Sugar Company. The Elima Reservoir, an off-stream storage reservoir is fed from Alexander Reservoir through the Kalaheo Powerhouse and by surface drainage from the surrounding watershed. The earthen embankment is approximately 700-ft long and 38-ft high with a minimum crest width of 23-ft. The reservoir has a normal storage capacity of 91 ac-ft and maximum storage of 126 ac-ft. The spillway is a 45-ft wide earth-lined channel, located at the left abutment. The outlet works is an 18-in diameter concrete conduit controlled by a sluice gate off a vertical bend at the upstream end. The gate stem travels alongside the upstream slope to a control hand wheel located on the crest. The downstream end of the outlet conduit exits at a

deteriorated headwall into a plunge pool. No documentation relating to the original design, construction, or subsequent repair or maintenance work is available for this structure.

The outlet works conduit has been leaking. The upstream slide gate was replaced in 2016, but the seepage continued. A video of the inside of the conduit identified several locations where seepage was entering the damaged conduit.

DESCRIPTION:

The proposed project will slipline the existing outlet works with a high density polyethylene (HDPE) conduit to prevent seepage through the embankment from entering the conduit and exiting unfiltered downstream. The repair will also consist of a new downstream headwall which will be incorporated with a concrete valve box. A knife gate valve downstream of the outlet will allow for emergency flows to be discharged at the current location but will allow for flows to be directed through a conduit which bypasses the Mau Reservoir. Riprap will be installed at the outlet of both discharge conduits to prevent damaging erosion. (See Exhibit 3)

CHAPTER 343-HRS – ENVIRONMENTAL ASSESSMENT:

The Division conducted a HRS-343 environmental assessment evaluation of the project. The project is entirely on privately owned lands and does not trigger a requirement for completion of an environmental assessment. (See Exhibit 4)

HAWAII REVISED STATUTES CHAPTER 6E-8 HISTORIC PRESERVATION REVIEW

The Division consulted with the State Historic Preservation Division (SHPD) for compliance with Chapter 6E-8 requirements. A SHPD review indicates that an archaeological inventory survey (AIS) was conducted which included portions of the subject property (Morawski and Dega 2004). The AIS was conducted of Lots 4, 18, 20, 23, 24, 25 & 26, an area totaling 336 acres. The survey identified three archaeological historic properties; a plantation-era complex of seven features (Site 50-30-10-389), a WWII military site with five (5) features (Site 50-30-10-390), and a terrace site (Site (50-30-10-391). However, these historic properties are located well outside the work limits and upslope of Elima Reservoir. Additionally, aerial images indicate that the project area has been previously graded, and landscaped with a buffer of trees surrounding the reservoir. Based on the available information, SHPD determined no historic properties are affected and the permitting process may continue. SHPD also requested that the following shall be attached to the permit. “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.” (See Exhibit 5)

AGENCY CONSULTATION:

The Division distributed notices to various agencies for their comments on this application. A summary of their responses is included in Exhibit 6.

REMARKS:

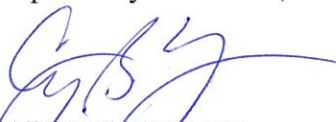
The applicant and owner, McBryde Resources, Inc. /McBryde Sugar Company have completed a basis of design, plans and specifications and requests for the approval of a dam safety permit. The Division has reviewed the documents and concluded that it is sufficient for its intended purposes. Staff recommends approval of this permit application with the Dam Safety General Permit Conditions. (See Exhibit 7)

RECOMMENDATION:

That the Board:


1. Authorize the approval and issuance of the Dam Safety Permit for this project;
2. Authorize the Chairperson to issue a Dam Safety Permit for the improvement of the Elima Reservoir (KA-0105) (DLNR Dam Safety Permit No. 80) subject to such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State; and
3. Authorize the Department to oversee performance of the permitted work and take appropriate action including but not limited selecting and procuring testing or professional services to verify the integrity of the construction work, approval of minor revisions and changes, issuance of fines and/or revocation of the permit, if necessary.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE
Chairperson

- Exhibit(s):
1. Owner Permit Application
 2. Location map
 3. Construction Drawing pages
 4. Chapter 343-HRS Review
 5. HRS Chapter 6E-8 Review
 6. Agency Consultation
 7. General permit conditions

Hawaii Dam and Reservoir Safety Program *17 MAY -4 PM 3 35 ENGINEERING
DAM SAFETY PERMIT

Dam Name: Elima Project Type: Improvement

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>	4/20/17
	<i>Applicant Name</i>	Daniel Sargent
Dam Name	Elima	
Dam ID No. (State) (if New Dam enter N/A)	KA-0105	
Type of Project (check one)	<input type="checkbox"/> New Construction <input checked="" type="checkbox"/> Improvement (repair/rehabilitation/alteration) <input type="checkbox"/> Reduction (alteration to below regulatory jurisdiction) <input type="checkbox"/> Removal (breach, no pond)	
Dam/Reservoir Location (City)	Kalaheo	
Dam/Reservoir Location (Latitude/Longitude)	159.5317/21.9300	
TMK(s)	(4) 2-007-020	
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 owners signature page)	Y
2. Design Report(s)	Y
3. Documentation for compliance with Chapter 343 Environmental Review	Y
4. Documentation for compliance with State Historic Preservation Division (SHPD)	TBD
5. Construction Plans (2 sets)	Y
6. Construction Specifications (2 sets)	Y
7. Construction Quality Assurance Plan	Y
8. Detailed Cost Estimate	Y
9. Filing fee calculation	Y
10. Filing fee (check)	Y
11. Other Supporting Documents	
12. Electronic copy of all of the above on CD/DVD	N

Exhibit 1

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

Dam Name: Elima Project Type: Improvement

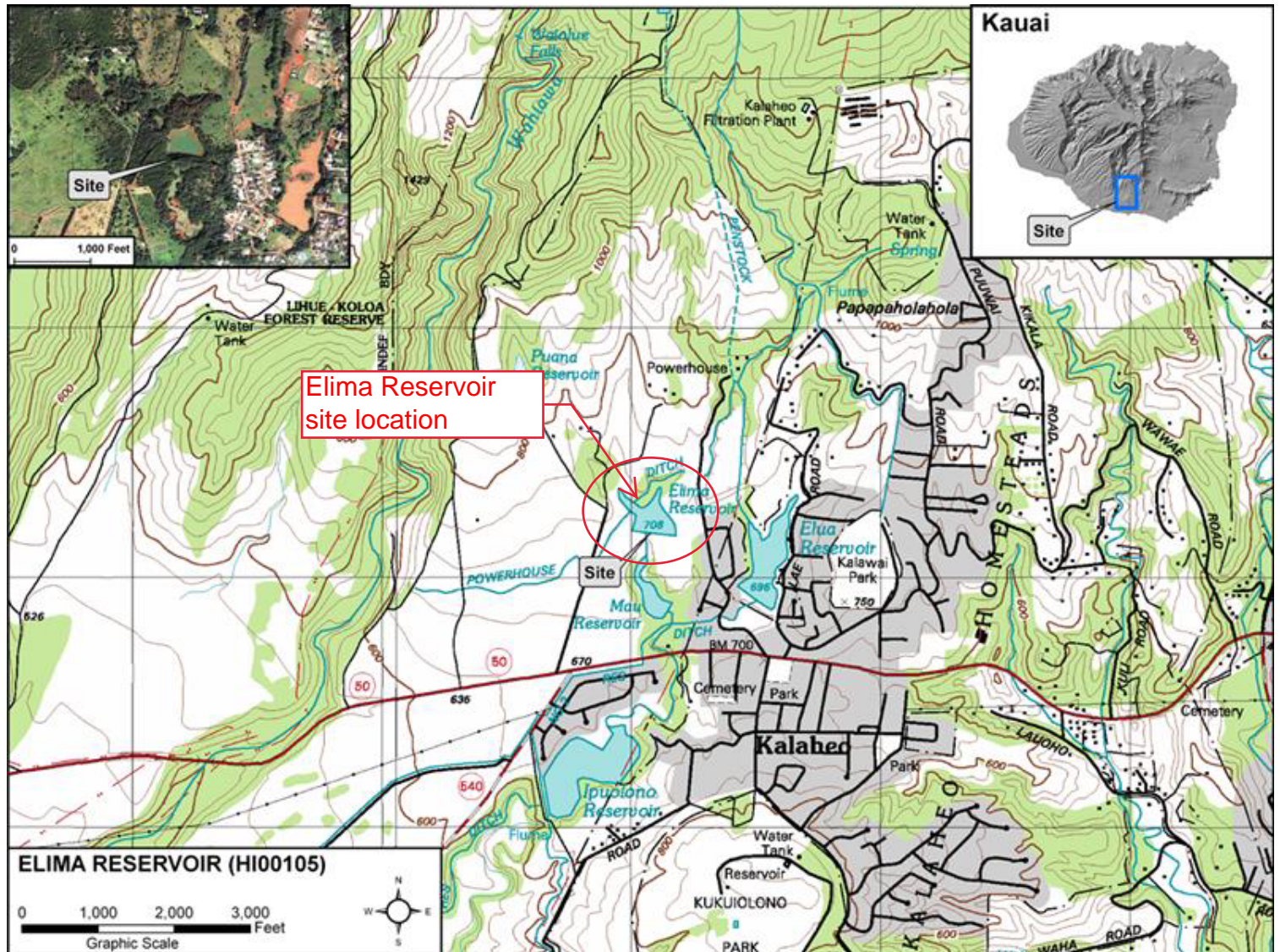
Technical Information	
Drainage Area (sq. miles/acres)	.24 square miles/154 acres
Type of Structure (Earthen/Concrete, etc.)	Earthen
Size Classification of Dam	Small
Hazard Classification	High
Purpose of Structure (Water supply, irrigation, recreation, real estate development, etc...)	Irrigation
Maximum Capacity (existing volume)	26.5 MG
Maximum Capacity (revised volume after project completed)	26.5 MG
Year completed/last modified	1901

Description of Work to be performed (describe construction work to be done on dam and reservoir facility)
Repair leaking outlet works. (See attached design justification and drawings).

Anticipated effect of proposed structure on natural environment:
None

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: Company: McBryde Sugar Company, LLC, Series T	TMK: (4) 2-007-020
Owner 2 Name: Company:	TMK:
Owner 3 Name: Company:	TMK:
Owner 4 Name: Company:	TMK:



1. General Information

a. State Dam ID	KA-0105
b. National ID	HI00105
c. Dam Name	ELIMA RESERVOIR
d. Other Name(s)	No. 5 Reservoir
e. Longitude / Latitude	-159.5317 / 21.9300
f. County / Island	Kauai / Kauai
g. Type of Dam	Earthen
h. Purpose	Irrigation
i. Completed / Last Modified	1901 / -
j. Nearest City / Town	Kalaheo (0.1 mile)
k. Water Body Type	State Regulated Dam
l. Dam Height	38 ft
m. Dam Length	700 ft
n. Drainage Area	0.24 sq. miles / 154 acres
o. Size Classification	Small

2. Owner Information

a. Name of Owner	Alexander & Baldwin, Inc. (Morvis); McBryde Resources Inc.
b. TMK(s):	(4) 2-4-007:020

3. Hazard Potential Classification

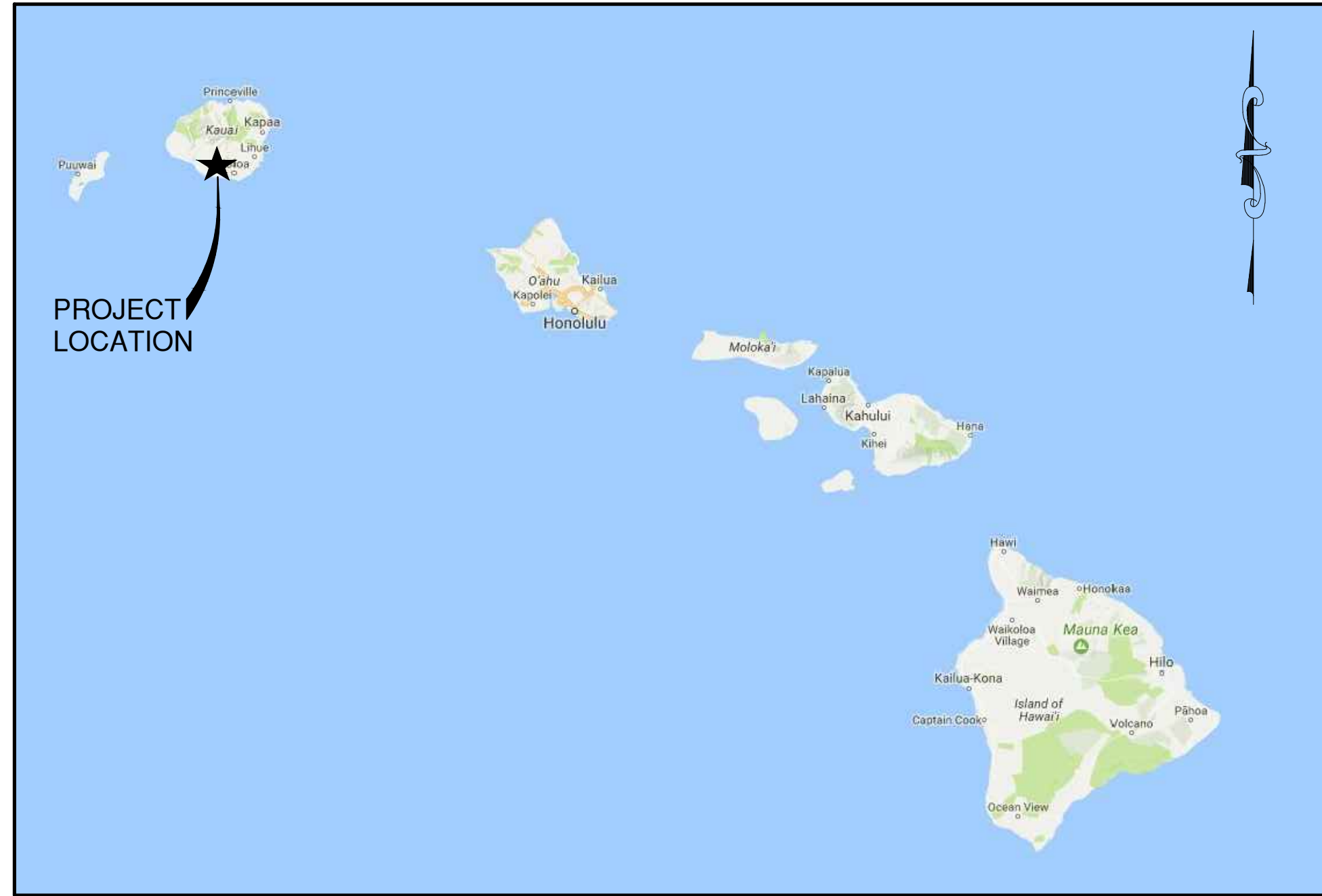
a. Hazard Classification	High
b. Emergency Action Plan	Yes

Exhibit 2

MCBRYDE RESOURCES 'ELE'ELE, HAWAII' ELIMA RESERVOIR OUTLET WORKS REPAIR PROJECT

KALAHEO KAUA'I COUNTY HAWAII
TMK: (4) 2-4-007:020

STATE DAM ID NO. KA-01015



KAUA'I COUNTY HAWAII



ELIMA RESERVOIR

KLEINSCHMIDT DRAWING LIST

SHEET NO.	SHEET DESCRIPTION	DATE	REVISION	STATUS
001	COVER SHEET	12-13-17	-	-
002	GENERAL - NOTES SHEET 1 OF 2	12-13-17	-	-
003	GENERAL - NOTES SHEET 2 OF 2	12-13-17	-	-
004	EXISTING CONDITIONS - PLAN AND CROSS SECTION	12-13-17	-	-
005	EXCAVATION PLAN AND MODIFIED EMBANKMENT - CROSS SECTION	12-13-17	-	-
006	MODIFIED EMBANKMENT - DETAILS	12-13-17	-	-
007	INLET - DETAIL, SECTION, & VIEW	12-13-17	-	-
008	OUTLET - SECTIONS	12-13-17	-	-
009	KAUA'I COUNTY NOTES - FOR GENERAL CONSTRUCTION SHEET 1 OF 2	12-13-17	-	-
010	KAUA'I COUNTY NOTES - FOR GENERAL CONSTRUCTION SHEET 2 OF 2	12-13-17	-	-


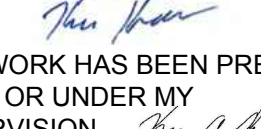
REFERENCE SHEET DRAWING LIST

SHEET NO.	SHEET DESCRIPTION	DATE	REVISION	STATUS
11	FVC - MEDIUM DUTY GATES INSTALLATION DRAWING - 1 OF 3	06-10-15	-	-
12	FVC - MEDIUM DUTY GATES INSTALLATION DRAWING - 2 OF 3	06-10-15	-	-
13	FVC - MEDIUM DUTY GATES INSTALLATION DRAWING - 3 OF 3	06-10-15	-	-

PREPARED FOR:
MCBRYDE RESOURCES
A SUBSIDIARY OF ALEXANDER AND BALDWIN, INC.
P.O. BOX 8
'ELE'ELE, HI 96705

PREPARED BY:
KLEINSCHMIDT ASSOC.
1500 N.E. IRVING ST, SUITE 500
PORTLAND, OR 96732

APPROVALS:	SIGNATURES:
AGENCY:	


 THIS WORK HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION

 MY LICENSE EXPIRES 12/20/2018

No.	Revision	Date	Drawn	Checked
-	-	-	-	-
Designed	Drawn	Checked		
RA	JDS	KAH		

MCBRYDE RESOURCES 'ELE'ELE, HAWAII'				
ELIMA RESERVOIR OUTLET WORKS REPAIR PROJECT				
COVER SHEET				
Kleinschmidt		888-224-5942 KleinschmidtGroup.com		
Project No.	Date Revised	Drawing No.	001	
1940-007	12-13-17			

3"
2"
1"
0
22x34 = FULL SCALE

REMOVE AND STORE EXISTING GATE, GATE FRAME, AND OPERATING SYSTEM FOR REUSE

CL GATE OPENING EL. 655'±

DEMOLISH EXISTING CONCRETE CONDUIT TO ELBOW AND EXCAVATE TO EXPOSE CONCRETE OUTLET CONDUIT.

RESERVOIR VALVE OPERATOR
DAM CREST EL. 709'± (NOTE 1)
EXISTING EARTHEN DAM

SPILLWAY CREST EL. 703'±
NORMAL POND EL. 699.0'±

3.5±

EXISTING EMBANKMENT

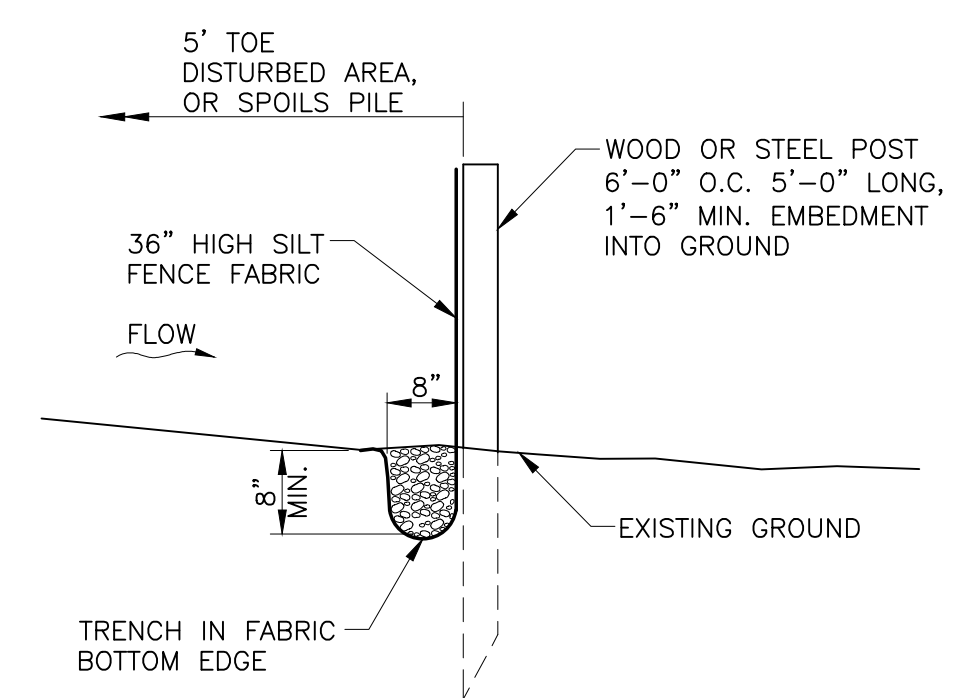
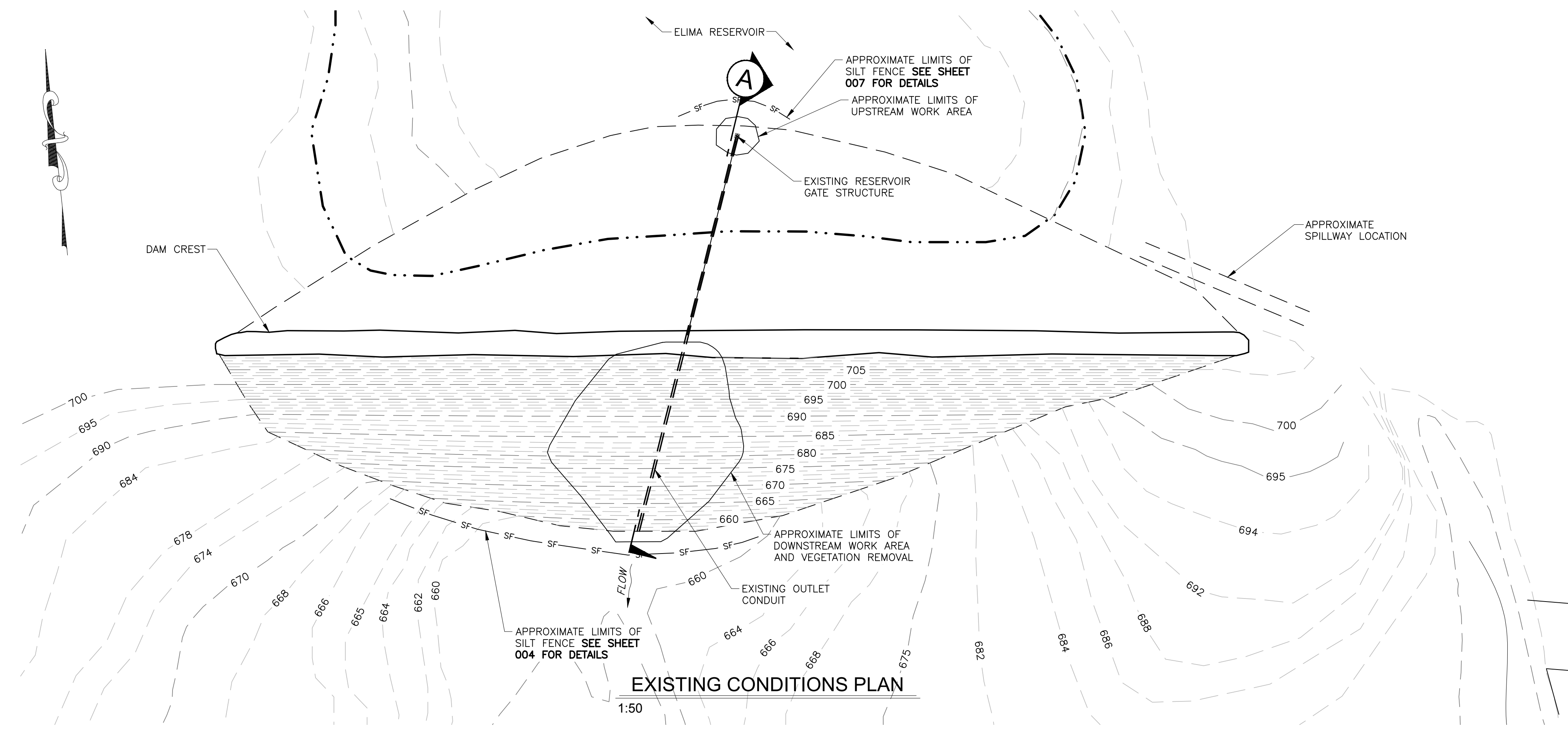
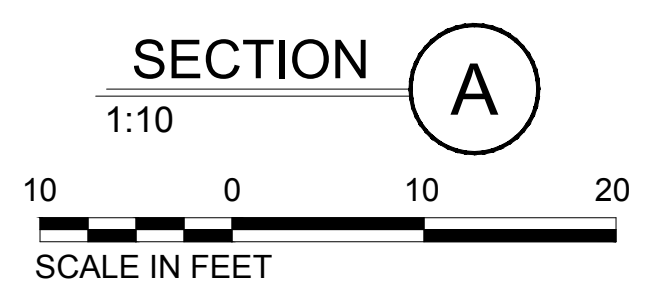
2±

3±

EXISTING OUTLET CONDUIT

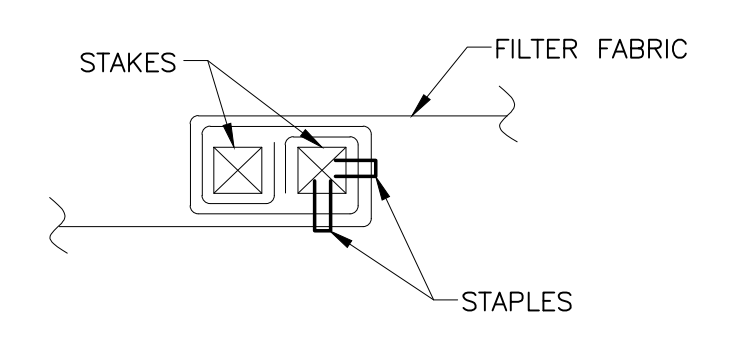
ESTIMATED 1% SLOPE

ESTIMATE OF SCOUR LIMITS



SILT FENCE DETAIL
N.T.S.

NOTE: PROVIDE SILT FENCE ON DOWNSLOPE SIDE OF SOIL DISTURBANCES OR ALL STOCKPILES UNTIL PERMANENT VEGETATION IS ESTABLISHED.



JOINING FENCE SECTION
N.T.S.

CUT & FILL AREA	0.3 ACRES
FILL VOLUME	2,714 CY
EXCAVATION VOLUME	1870 CY

- NOTES:
- CREST ELEVATION TAKEN FROM THE 2006 LFR REPORT TITLED "PHASE 1 DAM INSPECTION REPORT, ELIMA DAM AND RESERVOIR, KALAHEO, KAUAI COUNTY, HAWAII." ALL ELEVATIONS ARE ESTIMATES.
 - PLAN VIEW ESTIMATED FROM INSPECTION NOTES FROM 2006 LFR REPORT DISCUSSED IN NOTE 1 AND GOOGLE EARTH. EXISTING GROUND ELEVATION CONTOURS ELEVATIONS ARE ESTIMATED BASED ON PLAN VIEW.
 - EMBANKMENT HEIGHT IS ESTIMATED FROM THE INSTALLED GATE VALVE STEM LENGTH PROVIDED ON THE FRESNO VALVES AND CASTINGS DRAWING DATED 6/10/15.

APPROVALS:

AGENCY: _____

SIGNATURES: _____

KOLA HANSEN
LICENSED PROFESSIONAL ENGINEER
No. 12738-C
HAWAII U.S.A.

THIS WORK HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION

MY LICENSE EXPIRES 12/20/2018

No.	Revision	Date	Drawn	Checked
-	-	-	-	-
Designed	Drawn	Checked	RA	JDS
			KAH	

MCBRYDE RESOURCES
ELE'ELE, HAWAII

ELIMA RESERVOIR
OUTLET WORKS REPAIR PROJECT

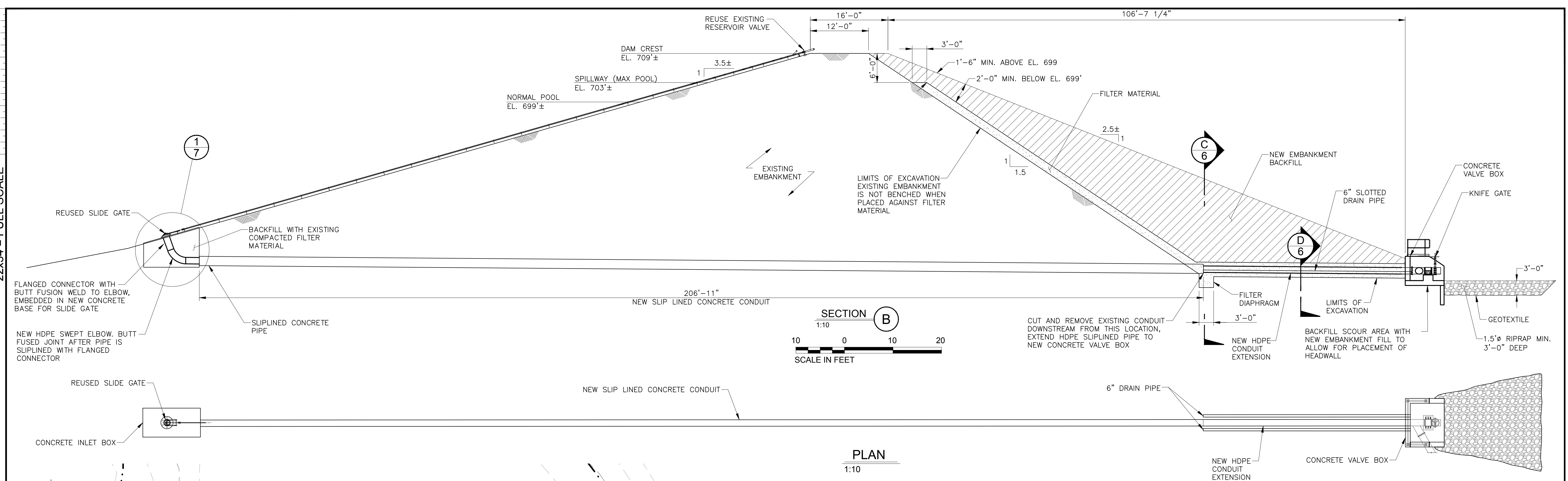
EXISTING CONDITIONS
PLAN AND CROSS SECTION

Kleinschmidt 888-224-5942
KleinschmidtGroup.com

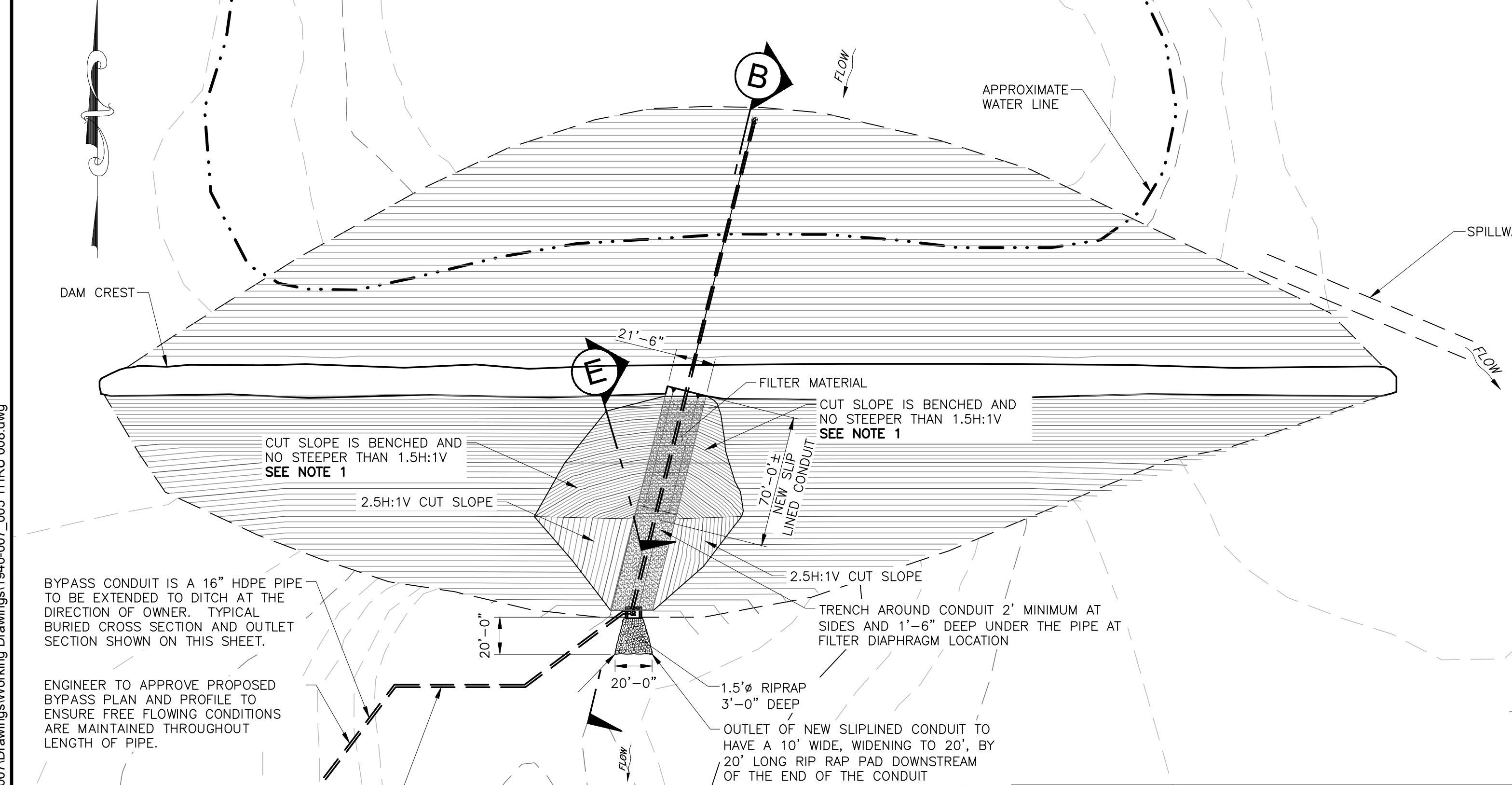
Project No. 1940-007 Date Revised 12-13-17 Drawing No. 004

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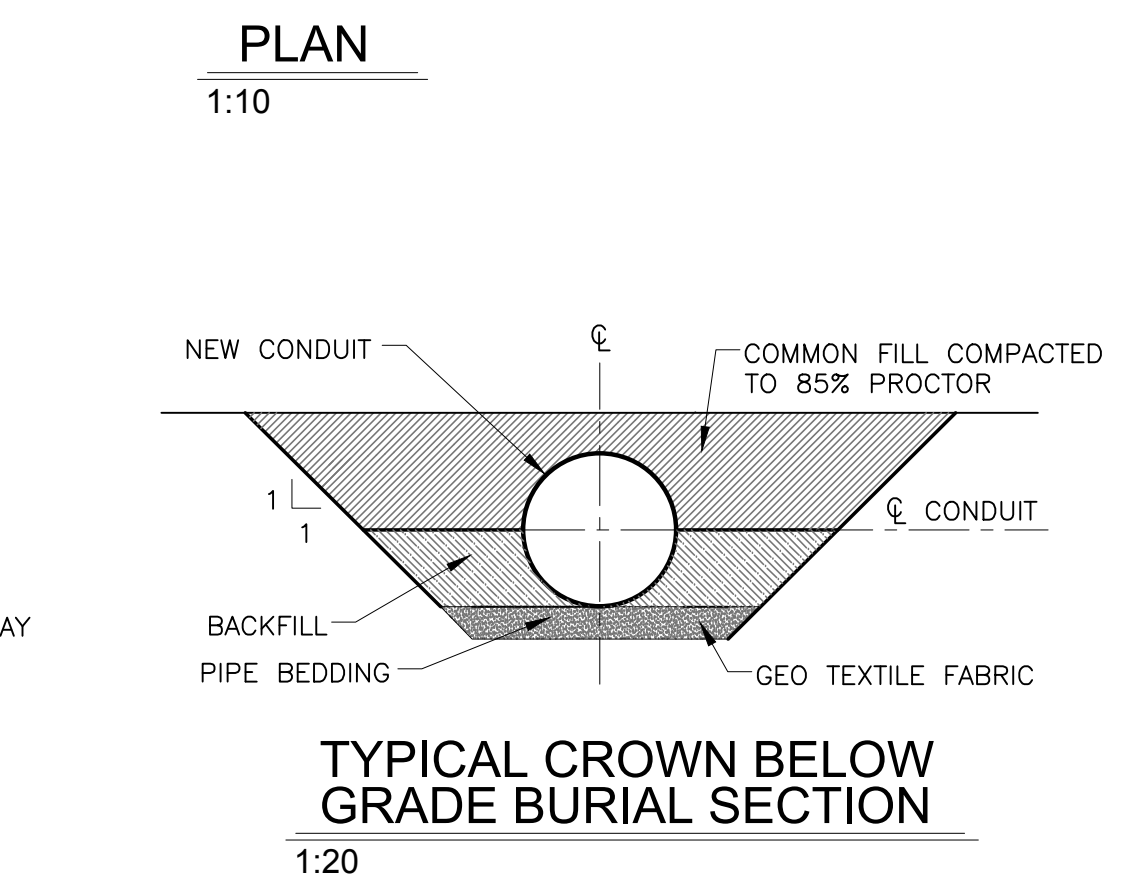
3"
2"
1"
0
22x34 = FULL SCALE



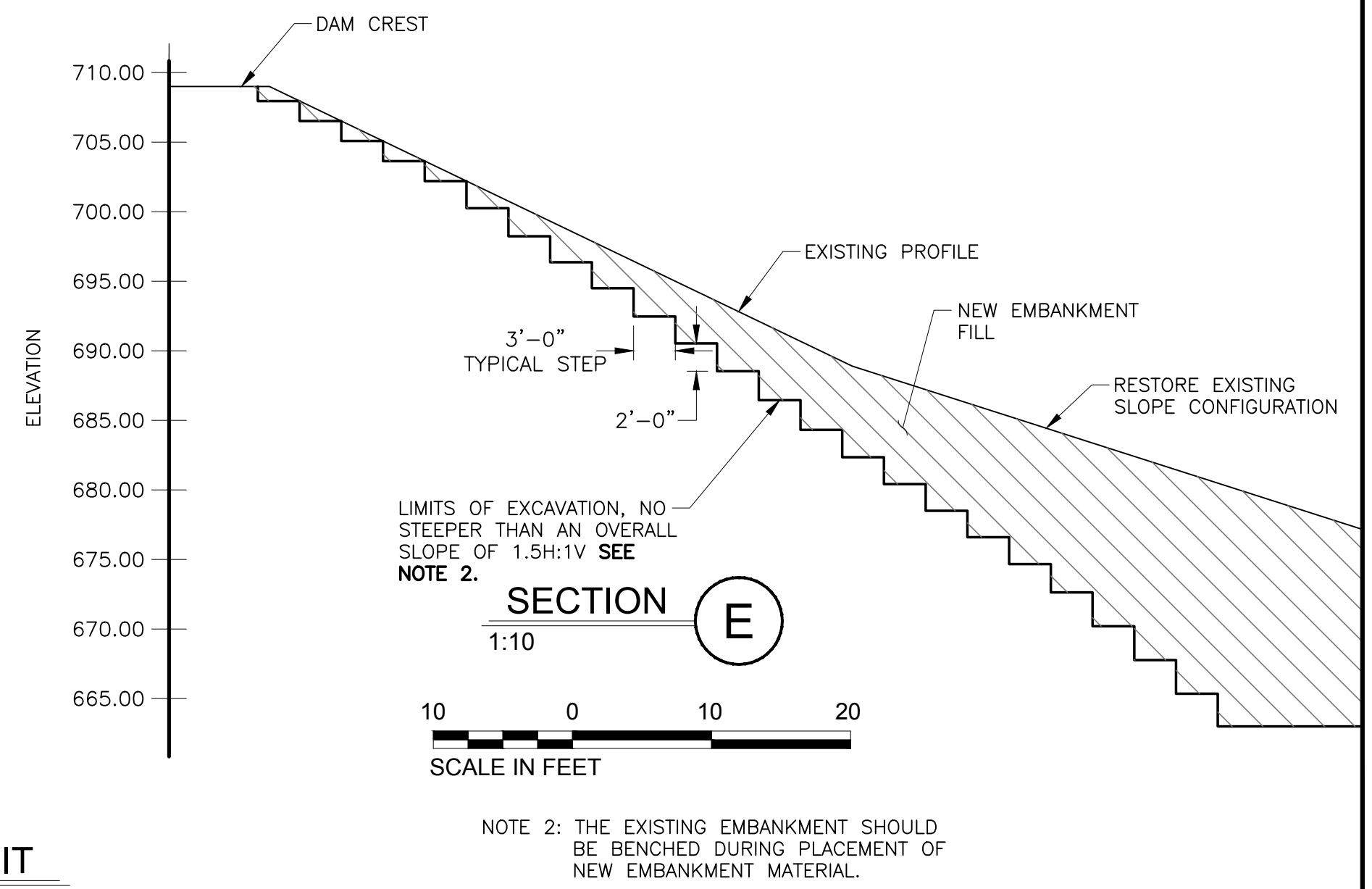
SECTION B
1:10
SCALE IN FEET



EXCAVATION PLAN
1:50
SCALE IN FEET



TYPICAL CROWN BELOW GRADE BURIAL SECTION
1:20
TYPICAL SECTION OF BURIED BYPASS CONDUIT
1:20
SCALE IN FEET



SECTION E
1:10
SCALE IN FEET

NOTE 2: THE EXISTING EMBANKMENT SHOULD BE BENCHED DURING PLACEMENT OF NEW EMBANKMENT MATERIAL.


NOTE: BYPASS CONDUIT TO MAINTAIN A POSITIVE 1% DOWNWARD SLOPE FROM EMBANKMENT TO BYPASS DITCH AND PREVENT BACKWATER PRESSURES IN CONDUIT THROUGH EMBANKMENT

NOTE 1:
WHEN THE NEW EMBANKMENT MATERIAL IS PLACED AGAINST THE EXISTING EMBANKMENT, THE EXISTING EMBANKMENT MATERIAL SHALL BE SCARIFIED, MOISTURE CONDITIONED, AND BENCHED WITH 3' WIDE BY 2' TALL BENCHES TO PROVIDE A HOMOGENOUS EMBANKMENT.

APPROVALS:	SIGNATURES:
AGENCY:	


 THIS WORK HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION
 MY LICENSE EXPIRES 12/20/2018

No.	Revision	Date	Drawn	Checked

MCBRYDE RESOURCES
 'ELE'ELE, HAWAII
 ELIMA RESERVOIR
 OUTLET WORKS REPAIR PROJECT
EXCAVATION PLAN AND MODIFIED EMBANKMENT CROSS SECTION

 888-224-5942
 KleinschmidtGroup.com
 Project No. 1940-007
 Date Revised 12-13-17
 Drawing No. 005

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CHAPTER 343 ANALYSIS

Project Name: Elima Reservoir – dam improvement (outlet works repair)

Reviewer: Denise Manuel Date of Review: January 24, 2018

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)

 X Statute

 Ordinance

 Rule

Triggers

Yes No

 x Use of state or county lands or funds

 x Use of conservation district lands

 x Use within shoreline setback area

 x Use of historic site designated on the National or Hawaii registers

 x Use of land in the Waikiki Special District

 x Amendment to county general plan which would result in designations other than agriculture, conservation, or preservation unless initiated by a county

 x Reclassification of conservation lands by the Land Use Commission

 x Construction or modification of helicopter facilities that may affect conservation district lands, a shoreline setback area, or a historic site

 x 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.**

EXEMPTIONS

Two sources of exemptions: exemption lists or exemptions contained in HAR §11-200-8(a)

1. Exemption Lists

 Division exemption lists

 Department-wide exemption list

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

CHAPTER 343 ANALYSIS

2. HAR §11-200-8(a) exemptions

- _____ Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving *negligible or no expansion or 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 a single, *new, small facilities* or structures and the alteration and modification of the same and installation of new, small, equipment and facilities and the alteration and modification of same, including, but not limited to:
 - (a) *Single family residences less than 3,500 square feet* 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 evaluation activities that *do not result in a serious or major disturbance* to an environmental resource

- _____ Construction or placement of *minor structures accessory* to existing facilities

- _____ *Interior alterations* involving things such as partitions, plumbing, and electrical conveyances

CHAPTER 343 ANALYSIS

- _____ Demolition of structures, *except* those structures located on any *historic site* as designated on the National or Hawaii registers
- _____ Zoning variances *except shoreline* set-back variances
- _____ Continuing administrative activities including, but not limited to purchase of supplies and personnel related actions; and
- _____ 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*

Explain (how the exemption indicated above applies):

Exemptions summary:

Does the Project qualify for an exemption? Yes ___ No ___ N/A ___

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 _____
 No X

DAVID Y. IGE
GOVERNOR OF
HAWAII



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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

August 31, 2017

Carty Chang, Chief Engineer
Engineering Division, Department of Land and Natural Resources
P.O. Box 373
Honolulu, HI 96809
carty.s.chang@hawaii.gov

IN REPLY REFER TO:
Log No. 2017.01099
Doc. No. 1708GC14
Archaeology

Dear Mr. Chang:

SUBJECT: **Chapter 6E-42 Historic Preservation Review –
Elima Reservoir Outlet Works Repair Project
Wahiawa Ahupua‘a, Kona District, Island of Kaua‘i
TMK: (4) 2-4-007:020**

Thank you for the opportunity to comment on the following two submittals for the *Elima Reservoir Outlet Works Repair Project*: a request for agency consultation for a Dam Safety Permit No. 80, submitted by the Department of Land and Natural Resources (DLNR), Engineering Division (received May 23, 2017; Log No. 2017.01099), and a request for a historic properties determination submitted by the applicant, McBryde Resources Inc. (received August 2, 2017; Log No. 2017.01675).

McBryde Resources Inc. proposes to conduct repairs to a leaking outlet works conduit within the Elima Reservoir (KA-0105). The proposed repair should reduce seepage into the conduit and reduce internal erosion to the dam. The proposed scope of work involves excavating, refilling and scouring approximately 0.3 acres of the existing reservoir embankment; removing existing vegetation within proposed excavation limits and removing existing 18-inch diameter conduit pipe; and installing new 16-inch conduit pipe, drainage pipes and riprap. The reservoir is currently drained of all water.

A SHPD records review indicates that an archaeological inventory survey (AIS) was conducted which included portions of the subject property (Morawski and Dega 2004). The AIS was conducted of Lots 4, 18, 20, 23, 24, 25, & 26, an area totaling 336 acres. The survey identified three archaeological historic properties: a plantation-era complex of seven features (Site 50-30-10-389), a WWII military site with 5 features (Site 50-30-10-390), and a terrace site (Site 50-30-10-391). However, these historic properties are located well outside the work limits and upslope of Elima Reservoir. Additionally, aerial images indicate that the project area has been previously graded, and landscaped with a buffer of trees surrounding the reservoir.

Based on the available information, **SHPD’s determination is no historic properties affected. The permitting process may continue.**

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 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.

Exhibit 5

Mr. Chang
August 31, 2017
Page 2

Please contact me at (808) 692-8019 or at Susan.A.Lebo@hawaii.gov for any questions or concerns regarding this letter.

Aloha,

A handwritten signature in black ink that reads "Susan A. Lebo". The signature is written in a cursive, flowing style.

Susan A. Lebo, PhD
Archaeology Branch Chief

cc: Denise Manuel – DLNR-Engineering (denise.m.manuel@hawaii.gov)
Dan Sargent, McBryde Resources, Inc. (dsargent@abinc.com)

Dam Safety Permit - Agency Consultation summary:

Permit No. 80 – Elima Reservoir (KA-0105) – Dam Improvement

Agency	Date Sent	Date Returned	No Comments	Comments	No Reply
Division of Aquatic Resources	3/24/17				X
Commission on Water Resources Management	3/24/17				X
Division of Forestry and Wildlife	3/24/17	6/22/17		X	
Historic Preservation Division	3/24/17	8/31/2017		X	
Land Division	3/24/17	6/5/17	X		
Office of Conservation and Coastal Lands	3/24/17	5/24/17	X		
Department of Agriculture	3/24/17	5/24/17	X		
Department of Agriculture – ADC	3/24/17	6/9/17	X		
County of Kauai– NFIP	1/26/18	pending			
Hawaii EMA	3/24/17				X
County of Kauai Emergency Management	3/24/17		X		

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

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

KEKOA KALUHIWA
FIRST DEPUTY

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

AQUATIC RESOURCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

June 22, 2017

TO: Carty Chang, Chief Engineer
Engineering Division

ATTN: Denise Manuel

FROM: James Cogswell
Wildlife Program Manager

SUBJECT: Division of Forestry and Wildlife Comments on the Elima Reservoir (KA-0105) Dam Safety Permit No. 80, Dam Improvement

The Department of Forestry and Wildlife has received your inquiry regarding the Elima Reservoir (KA-0105) Dam Safety Permit No. 80 located in Kalaheo, Kauai, TMK: (4) 2-007-020. The proposed action includes repair leaking outlet works.

The State and Federally listed Hawaiian hoary bat or 'Ōpe'ape'a (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the proposed project. Hawaiian hoary bats roost in both exotic and native trees. If any trees are planned for removal during the bat breeding season there is a risk of injury or mortality to juvenile bats. To minimize the potential for impacts to this species, site clearing should be timed to avoid disturbance to breeding Hawaiian hoary bats; woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).

DOFAW would like to ensure that effective avoidance measures are in place to prevent adverse impacts to native seabirds. DOFAW strongly recommends the use of only "seabird-friendly lighting" during the seabird nesting season beginning in March through mid-December. DOFAW Wildlife Biologists will be able to provide technical assistance in developing "seabird-friendly lighting."

The Hawaiian goose, or Nēnē (*Branta sandvicensis*) has the potential to occur in the project vicinity. To minimize the potential for take, surveys for Nēnē by a qualified biologist are recommended before any land clearing or excavation activities occur, and should be repeated if these activities are delayed more than three days. If a nest is discovered at any point, please contact DOFAW staff. If a bird is present during ongoing activities, then all activities within 100 feet (30 m) of the bird should cease, and the bird should also not be approached. Work may continue after the bird leaves the area of its own accord.

We appreciate your efforts to work with our office for the conservation of native species. If you have any questions, please contact Kate Cullison, Conservation Initiatives Coordinator at Katherine.cullison@hawaii.gov or (808) 587-4148.

DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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ROBERT K. MASUDA
FIRST DEPUTY

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

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STATE PARKS

August 31, 2017

Carty Chang, Chief Engineer
Engineering Division, Department of Land and Natural Resources
P.O. Box 373
Honolulu, HI 96809
carty.s.chang@hawaii.gov

IN REPLY REFER TO:
Log No. 2017.01099
Doc. No. 1708GC14
Archaeology

Dear Mr. Chang:

SUBJECT: **Chapter 6E-42 Historic Preservation Review –
Elima Reservoir Outlet Works Repair Project
Wahiawa Ahupua‘a, Kona District, Island of Kaua‘i
TMK: (4) 2-4-007:020**

Thank you for the opportunity to comment on the following two submittals for the *Elima Reservoir Outlet Works Repair Project*: a request for agency consultation for a Dam Safety Permit No. 80, submitted by the Department of Land and Natural Resources (DLNR), Engineering Division (received May 23, 2017; Log No. 2017.01099), and a request for a historic properties determination submitted by the applicant, McBryde Resources Inc. (received August 2, 2017; Log No. 2017.01675).

McBryde Resources Inc. proposes to conduct repairs to a leaking outlet works conduit within the Elima Reservoir (KA-0105). The proposed repair should reduce seepage into the conduit and reduce internal erosion to the dam. The proposed scope of work involves excavating, refilling and scouring approximately 0.3 acres of the existing reservoir embankment; removing existing vegetation within proposed excavation limits and removing existing 18-inch diameter conduit pipe; and installing new 16-inch conduit pipe, drainage pipes and riprap. The reservoir is currently drained of all water.

A SHPD records review indicates that an archaeological inventory survey (AIS) was conducted which included portions of the subject property (Morawski and Dega 2004). The AIS was conducted of Lots 4, 18, 20, 23, 24, 25, & 26, an area totaling 336 acres. The survey identified three archaeological historic properties: a plantation-era complex of seven features (Site 50-30-10-389), a WWII military site with 5 features (Site 50-30-10-390), and a terrace site (Site 50-30-10-391). However, these historic properties are located well outside the work limits and upslope of Elima Reservoir. Additionally, aerial images indicate that the project area has been previously graded, and landscaped with a buffer of trees surrounding the reservoir.

Based on the available information, **SHPD’s determination is no historic properties affected. The permitting process may continue.**

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 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.

Mr. Chang
August 31, 2017
Page 2

Please contact me at (808) 692-8019 or at Susan.A.Lebo@hawaii.gov for any questions or concerns regarding this letter.

Aloha,

A handwritten signature in black ink that reads "Susan A. Lebo". The signature is written in a cursive, flowing style.

Susan A. Lebo, PhD
Archaeology Branch Chief

cc: Denise Manuel – DLNR-Engineering (denise.m.manuel@hawaii.gov)
Dan Sargent, McBryde Resources, Inc. (dsargent@abinc.com)

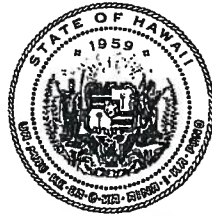
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GOVERNOR OF HAWAII

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2017 MAY 23 AM 10:36



DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

MAY 23 2017

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

KEKOA KALUHIWA
FIRST DEPUTY

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

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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
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TO:

	DLNR agencies		Other Agencies
X	Division of Aquatic Resources	X	Department of Agriculture
X	Commission on Water Resource Management	X	Department of Agriculture-ADC
X	Division of Forestry & Wildlife		County of Kauai – NFIP
X	Historic Preservation Division		City & County of Honolulu – NFIP
X	Land Division		County of Maui – NFIP
X	Office of Conservation & Coastal Lands		County of Hawaii - NFIP
	Other Agencies	X	HI EMA
X	Kauai Emergency Management Agency		Maui County Emergency Management Agency
	City & County of Honolulu - DEM		County of Hawaii – Civil Defense

FROM: Carty Chang, Chief Engineer

SUBJECT: Dam Safety Permit – Agency Consultation
Elima Reservoir (KA-0105)
Dam Safety Permit No. 80, Dam Improvement

LOCATION: Kauai, TMK: (4) 2-007-020

APPLICANT: McBryde Resources Inc.

Transmitted for your review and information are the attached documents on the subject Dam Safety Permit application.

1. Dam Safety Permit Application
2. Plan set (selected sheets)
3. DLNR Dam Facility Data sheet

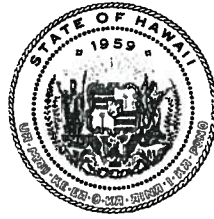
Please return to our office a signed copy of this transmittal with one of the choices below checked along with any comments by **June 30, 2017**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Denise Manuel of my staff at (808) 587-0246 or denise.m.manuel@hawaii.gov.

- We have no comments
- Comments are attached

Signed: Wesley T. Matsuyaga
Print name: Wesley T. Matsuyaga
Agency: DLNR Land Div.
Date: 6/5/17

Cor: KA 17-233

DAVID Y. IGE
GOVERNOR OF HAWAII



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

KEKOA KALUHIWA
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JEREMY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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2017 MAY 23

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NATURAL RESOURCES
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809
MAY 23 2017

TO:

	DLNR agencies		Other Agencies
X	Division of Aquatic Resources	X	Department of Agriculture
X	Commission on Water Resource Management	X	Department of Agriculture-ADC
X	Division of Forestry & Wildlife		County of Kauai - NFIP
X	Historic Preservation Division		City & County of Honolulu - NFIP
X	Land Division		County of Maui - NFIP
X	Office of Conservation & Coastal Lands		County of Hawaii - NFIP
	Other Agencies	X	HI EMA
X	Kauai Emergency Management Agency		Maui County Emergency Management Agency
	City & County of Honolulu - DEM		County of Hawaii - Civil Defense

FROM: Carty Chang, Chief Engineer

SUBJECT: **Dam Safety Permit - Agency Consultation**
Elima Reservoir (KA-0105)
Dam Safety Permit No. 80, Dam Improvement

LOCATION: Kauai, TMK: (4) 2-007-020 2-4-007.020

APPLICANT: McBryde Resources Inc.

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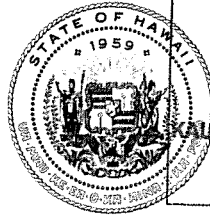
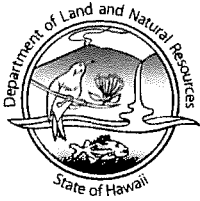
- () We have no comments *
- () Comments are attached

* Not in the Conservation District

Signed:
Print name: K. Tiger Mills
Agency: OLL
Date: 5/24/2017

17 MAY 25 PM 02:14 ENGINEERING

DAVID Y. IGE
GOVERNOR OF HAWAII



RECEIVED
MAY 25 2017
KAWAII EMERGENCY MANAGEMENT AGENCY
County of Kauai
Lihue, HI 96766

SUZANNE D. CASE
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KEKO A KALUHIWA
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LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

MAY 23 2017

TO:

	DLNR agencies		Other Agencies
X	Division of Aquatic Resources	X	Department of Agriculture
X	Commission on Water Resource Management	X	Department of Agriculture-ADC
X	Division of Forestry & Wildlife		County of Kauai – NFIP
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	Other Agencies	X	HI EMA
X	Kauai Emergency Management Agency		Maui County Emergency Management Agency
	City & County of Honolulu - DEM		County of Hawaii – Civil Defense

FROM: Carty Chang, Chief Engineer

SUBJECT: **Dam Safety Permit – Agency Consultation**
Elima Reservoir (KA-0105)
Dam Safety Permit No. 80, Dam Improvement

LOCATION: Kauai, TMK: (4) 2-007-020

APPLICANT: McBryde Resources Inc.

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We have no comments

Comments are attached

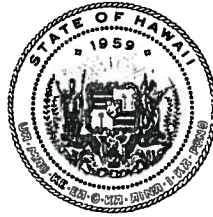
Signed:

Print name: Eitan Usher

Agency: KE MA

Date: 6/30/17

DAVID Y. IGE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

MAY 23 2017

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

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Elima Reservoir (KA-0105)
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LOCATION: Kauai, TMK: (4) 2-007-020

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- We have no comments
 Comments are attached

Signed: _____

Print name: Brian Kau, P.E.

Agency: Dept. of Agriculture, Agricultural Resource Management Division

Date: 5/24/17

RECEIVED MAY 24 2017

17 MAY 26 PM 03:55 ENGINEERING

DAVID Y. IGE
GOVERNOR OF HAWAII



HI DEPT OF AGRICULTURE
AGRIBUSINESS DEV CORP

2017 MAY 26 A 6:56

SUZANNE D. CASE
CHAIRPERSON
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DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809
MAY 23 2017

TO:

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X	Kauai Emergency Management Agency		Maui County Emergency Management Agency
	City & County of Honolulu - DEM		County of Hawaii - Civil Defense

FROM: Carty Chang, Chief Engineer

SUBJECT: **Dam Safety Permit - Agency Consultation**
Elima Reservoir (KA-0105)
Dam Safety Permit No. 80, Dam Improvement

LOCATION: Kauai, TMK: (4) 2-007-020

APPLICANT: McBryde Resources Inc.

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- We have no comments
- Comments are attached

Signed:

Print name: James J. Nakatani

Agency: ADC

Date: June 9, 2017

17 JUN 14 PM 10:54 ENGINEERING

DAM SAFETY PERMIT GENERAL 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.
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.

Exhibit 7

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.