HO'ALA LOKO I'A APPLICATION

FISHPOND NAME: Kuualii Fishpond

APPLICANT NAME: Waikoloa Beach Association

Pond location: Anaehoomalu Bay, Waikoloa, South Kohala, Hawaii

Nearest Tax Map Key(s): (3) 6-9-007:011

Ahupua`a: Waikoloa District: South Kohala

Island: Hawaii

Commencement Date: January 2016 Completion Date: June 2016

Wall length: 690 feet along the ocean (makai) side Pond surface area: 150,000 sqf

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WORK SUMMARY

☐ **Maintenance**: Invasive species removal (less than one acre), minor repair (less than 10% damage), landscaping with native species, operations only, research and data collection

☐ **Tier 1**

- ☐ Invasive species removal (greater than one acre)
- ☐ Manual restoration of 'auwai, mākāhā, etc.
- ☐ Accessory structures less than 600 square feet
- ☐ Emergency repair of breeches
- ☐ Dredging by non-mechanized means

☒ **Tier 2**

- ☒ Dredging using mechanized equipment
- ☒ Major wall restoration
- ☐ Accessory structures greater than 600 square feet
- ☒ Moderate change (10% - 50%) in the dimensions of the original structure

☐ **Tier 3**

- ☐ Activity might impact wetlands, protected species, critical habitat, or beach processes

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☐ Major change (over 50%) in dimensions of original structure

We recommend that you consult with the U.S. Army Corps of Engineers on all Tier 2 and 3 projects.

REQUIRED SIGNATURES

Applicant

Name / Hui: Waikoloa Development Company
Street Address: 69-152 Waikoloa Beach Drive
Waikoloa, Hawaii 96738
Contact Person & Title: Scott Head, Vice President
Phone: (808) 866-1000
Email: shead@waikoloaland.com
Interest in Property: Managing entity for the beach and fishpond resources

Signature: [signature] **Date:** 10/28/15

Landowner (if different than the applicant)

Name: Same as the applicant
Title: Agency: DLNR
Mailing Address:

Phone:
Email:

Signature: **Date:**

For State-owned ponds, the government entity with management control over the parcel shall sign as landowner.

Agent

Agency: Sea Engineering, Inc.
Contact Person & Title: Scott Sullivan, Vice President
Mailing Address: Makai Research Pier
Waimanalo, HI 96795
Phone: 808.259.7966 x 22
Email: ssullivan@seaengineering.com

Signature: [signature] **Date: 10/28/2015**

For DLNR Managed Lands

State of Hawai`i
Chairperson, Board of Land and Natural Resources
Department of Land and Natural Resources

P.O. Box 621
Honolulu, Hawaii 96809-0621

Signature: **Date:**

DESCRIPTION OF THE LOKO I'A

Please discuss the current physical and environmental conditions of the loko i'a. Please also note if any endangered or threatened species are found in the pond.

Kuualii Fishpond, and the adjacent smaller Kahapapa pond, are located at the head of Anaehoomalu Bay, on the west coast of the island of Hawaii. The ponds lie behind a sand beach inner bay shoreline flanked by rocky lava basalt shorelines on both sides of the 1,100 foot long sand beach. Because of their relationship with the adjacent beach and dune, which form the makai protection for the ponds, Kuualii and Kahapapa fishponds classified as loko i'a pu'uone pond, or sand dune ponds. The protective beach was breached during the 2011 tsunami, and emergency repairs were made to close the breach and the beach subsequently partially recovered. The tsunami also pushed beach sand into Kuualii pond, and the stone pond boundary wall along the makai side was heavily damaged. Kuualii and Kahapapa ponds are connected by a narrow, stone walled channel, and a channel through the shore at the north end of Kahapapa pond connects both ponds to the sea and allows for some circulation and flushing of the pond waters. As Kuualii does not have a direct connection to the ocean, its only direct seawater circulation and exchange mechanism is through its connection with Kahapapa pond. However, there is a significant groundwater flow into the pond which aids in water exchange and pond flushing. Kuualii pond is approximately 4 acres in size, about 600 feet long north to south and 250 feet wide east to west. The water depth is typically 3 feet to 4 feet. The pond bottom is composed of fine sediment, typically about 2 feet thick, over firm substrate.

Please see sections 1 and 2 of the attached "Waikoloa Beach and Kuualii Fishpond Tsunami Damage Restoration" report (October 2013) for more detailed information on the condition and characteristics of Kuualii fishpond.

HISTORY OF THE LOKO I'A

The pond and vicinity has been altered and modified over the years. This Loko I'a Pu'uone was left untouched for many decades until the 1980's when development at Waikoloa Resort began. Restoration and stabilization work on the pond has included maintenance of the pond shoreline, changes in backshore practices to improve pond water quality and construction of a rock wall on the makai side of the pond to form a backstop for the beach and prevent its migration into the pond abutting the beach.

Currently, Waikoloa Beach Association (WBA) is responsible for maintaining both Kuualii and Kahapapa fishponds. WBA works in partnership with the state and the USACE on execution of the approved pond management plan. This plan includes preservation of the pond borders, water quality, and environmental monitoring.

Waikoloa has one of the most comprehensive environmental monitoring programs on the West Hawaii coast, beginning in 1977 and continuing today. Quarterly water quality monitoring is conducted along all ponds in the Waikoloa resort as required by the state, and following State Department of Health (HAR, Chapter 11-54) water quality parameters.

On March 11, 2011, a tsunami generated by a massive earthquake in Japan struck the Hawaiian Islands. The tsunami severely eroded the beach fronting Kuualii pond, tearing a 200-foot wide gap through the beach and into the pond, and destroying about 220 linear feet of the makai rock fishpond wall and severely damaging the rest of the wall. Emergency repair work was

accomplished in July 2011 as an intermediate step to protect the fishpond, including closing the breach through the beach and removal of some sand from the pond. Development of a permanent repair plan for the pond was a condition of both the State and Army Corps of Engineers approval of emergency repairs.

Approval and authorization for permanent fishpond repairs have been obtained from Army Corps of Engineers (Department of the Army Permit, Section and Section 404), State DLNR (approval for work in the Conservation District and a Small-Scale Beach Nourishment project permit) and State Coastal Zone Management Program consistency concurrence.

Please see sections 1 and 2 of the attached "Waikoloa Beach and Kuualii Fishpond Tsunami Damage Restoration" report (October 2013) for more detailed information on the history of of Kuualii fishpond.

PROPOSED WORK PLAN

Please provide a summary of the work that is being proposed under this permit. Please note any use of mechanized equipment.

The beach repair plan consists of replacement of approximately 690 linear feet of pond wall, recovery of 800 cy of beach sand remaining in the pond, and placement of up to 4,800 cy of sand on the beach crest above the mhhw (+2.16 feet) elevation, at +2.3 feet and higher.

The wall would be of standard gravity wall design, and the first course of wall stone would be carefully placed to key it into the boulder foundation. The wall is designed to replicate the existing feature and tie in to the undamaged portions of the remaining pond walls.

The land based excavator will be positioned on the beach at the edge of the sand recovery sites, above the waterline, and will not enter the pond water. The excavator will reclaim beach sand, washed into the pond, during and after the 2011 tsunami. The excavator will scoop sand with the bucket and deposit it on the beach berm. The reclaimed sand will be moved along the wall using a front end loader, and deposited against the beach side of the wall, filling the depression between the wall and the beach berm.

A onetime addition of sand to the beach berm and dune, is intended to replace some of the subaerial sand lost to the marine environment as a direct result of the tsunami. Placement higher on the profile, to increase berm elevation and create a minor dune feature at the mauka edge of the beach, is intended to minimize future sand losses resulting from normal wave conditions.

The wall and beach act together to provide the necessary protection for the pond, the wall provides a fixed barrier for the beach to abut and to stop its landward migration, and the beach provides for wave energy dissipation to protect the wall. Restoration of both the wall and beach is necessary for maintenance and long-term stewardship of the pond resource.

Mechanized equipment to be used for the repair work include an excavator to remove sand from the pond and place wall foundation stone, a front end loader and small bulldozer to move and spread sand on the beach crest, and trucks to bring stone and sand to the project site. Please see section 3 of the attached "Waikoloa Beach and Kuualii Fishpond Tsunami Damage Restoration" report (October 2013) for more detailed information on the proposed permanent tsunami damage repair plan.

PROPOSED OPERATIONS PLAN

Please discuss what species you intend to raise in the pond, and your proposed methods of stocking, raising, and harvesting these species.

Kuualii fishpond is preserved and protected as an example of native fishponds that were prevalent in the region prior to contact. Kuualii fishpond is an archaeological site eligible for the National Register of Historic Places, and is an excellent example of a loko pu'uone, or sand dune pond. CDUP HA-315, issued in 1972 as part of the resort development, recognized the importance of the pond and permit condition #5 states that the permittee or any future suceesors to the project shall be responsible for the maintenance of the pond and beach areas. Department of the Army permits issued for resort improvements also require maintenance of the ponds.

Kuualii fishpond is adjacent to an ancient house and shrine that also preserved, and all three are part of the education program at the site. Waikoloa hosts various primary and secondary schools from around the State, as well providing self guided tours for tourists and residents alike. Group excursions to the ponds are periodicaly conducted, accompanied by the resort's environmental manager to explain the historical operation of the pond. In addition, numerous universities researching anchialine pond water quality and biota access and study Kuualii fishpond. These educational programs highlight the importance of traditional Hawaiian fishponds. Waikoloa's ongoing preservation and protection of Kuualii fishpond and adjacent cultural sights provides unique historical, cultural, archaeological, and educational services for the region.

PREVIOUS LANGUAGE ----------

Kuualii fishpond is located in the middle of a destination resort area, and thus it is not practical to have a commercial or even subsistenance fishpond operation. It's importance is the historical/archaeological value of the pond and it's value as an educational tool for residents and visitors. Kuualii fishpond is an archaeological site eligible for the National Register of Historic Places, and is an excellent example of a loko pu'uone, or sand dune pond. CDUP HA-315, issued in 1972 as part of the resort development, recognized the importance of the pond and permit condition #5 states that the permittee or any future suceesors to the project shall be responsible for the maintenance of the pond and beach areas. Department of the Army permits issued for resort improvements also require maintenance of the ponds.

Recognizing the educational value of the pond, the Waikoloa Resort maintains signage around the pond discussing/describing hawaiian fishponds, how they function, and their importance as a sustainable food source. Group excursions to the ponds are periodicaly conducted, accompanied by the resort's environmental manager to explain the historical operation of the pond.

ADD INFO FROM WAIKOLOA RESORT WHEN WE GET IT - ADDED ABOVE

CONSISTENCY WITH HO'ALA LOKO I'A PROGRAM

Please discuss how this proposal is consistent with Conservation District Use Permit (CDUP) ST-3703 (available online at dlnr.hawaii.gov/special-projects) **and which tier-level the project falls under.**

The proposed repair plan is consistent with the CTUP ST-3703, with the directive to maintain, restore, and protect pond while still allowing access to beach and submerged lands makai of the pond and shoreline. No new structures will be constructed. Work proposed will repair structure from damages incurred during the 2011 tsunami. Repairs will reconstruct the damaged wall, remove sand displaced into the pond by the tsunami, and replace sand on the dune/beach crest to provide improved natural protection and conservation of for pond. No unauthorized construction activities are proposed.

The CDUP ST-3703 categorizes fish ponds into six main types, with each being specific to a particular geographic area. Type II fish pond:
"Loko I'a Pu'uone: An isolated shore fishpond usually formed by the development of barrier beaches building a single, elongated sand ridge parallel to the coast and containing one or more ditches and sluice gates."
The fronting dune stretching across the Kuualii and Kahapapa fish ponds creates a barrier parallel to the ponds with a single ditch connecting the Kahapapa pond to the ocean. This regional and local setting categorizes the Kuualii pond as a Type II.

CDUP ST-3703 defines three (3) tiered permits for fish pond work based on severity of activity proposed. Work defined in this proposal is classified under Tier II, involving "fishpond repair, restoration, maintenance, and operation involving work that is in excess of 10 percent, but less than 50 percent of the original fishpond structure." This also includes "dredging with mechanized equipment" and "major wall restoration".

Please see sections 3.1, 3.2, and 3.3 in the attached "Waikoloa Beach and Kuualii Fishpond Tsunami Damage Restoration" project report for more detailed information on the fishpond repair plan.

Proposal activities are also authorized under the 'Final Programmatic Environmental Assessment and Finding of No Significant Impact (FPEA-FONSI) for a Statewide Programmatic General Permit and Programmatic Agreement that facilitates the restoration, repair, maintenance and reconstruction of traditional Hawaiian fishpond systems across Hawai'i', done by the Honua Consulting for the State of Hawaii DNLR.

Section 2.3.2 of the document mentions activities eligible for application under the program including "Reconstruction, restoration, repair and maintenance of fishpond walls and sluice gates", "Placement of temporary structures within fishponds, which are necessary to conduct restoration activities", and "Use of hand and/or mechanized equipment to conduct fishpond restoration activities". The proposal activities are within these approved activities as defined by the FPEA-FONSI.

Please see section 2.3 in the attached 'Final Programmatic Environmental Assessment and Finding of No Significant Impact (FPEA-FONSI)' for more detailed information.

BEST MANAGEMENT PRACTICES

Please discuss the BMPs that will be followed to protect both the environment and the integrity of the pond (users' guide forthcoming).

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

Scott P Sullivan

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize Scott P. Sullilvan, Vice President Sea Engineering, Inc. to act as my representative and to bind me in all matters concerning this application.

Signature of applicant(s)