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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 20, 2016

Ref. No.: 13KD-074
Author: LD-MM

MEMORANDUM

FILE COPY

AUG 08 2016

TO: Scott Glenn, Director
Office of Environmental Quality Control

FROM: Suzanne D. Case, Chairperson
Board of Land and Natural Resources

SUBJECT: Draft Environmental Assessment (DEA) for Stream Bank Stabilization Project, Hanalei Traders, Inc., por Ld. C. App 1160, Hanalei, Halelea, Kauai, Hawaii, Tax Map Key: (4) 5-5-010:067.

The Department of Land and Natural Resources, Land Division, has reviewed the enclosed draft environmental assessment for the above referenced project and anticipated finding of no significant impact (DEA-AFONSI) determination.

Please publish the notice of availability for this project on the next publication date of the Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form, one (1) hard copy of the DEA, and one (1) CD with a pdf. file of the DEA and the publication form.

If you have any questions, please feel free to contact Marvin Mikasa at (808) 274-3491. Thank you.

RECEIVED
'16 JUL 21 P2:50
OFC. OF ENVIRONMENTAL QUALITY CONTROL

Enclosures

cc: Central Files
District Files

17-032

FILE COPY
AUG 08 2016

APPLICANT
PUBLICATION FORM

Project Name:	Draft Environmental Assessment: Hanalei Traders Bioengineed River Bank Stabilization
Project Short Name:	Bioengineed River Bank Stabilization
HRS §343-5 Trigger(s):	HRS §343-5 (1) "Propose the use of state or county lands"
Island(s):	Kauai
Judicial District(s):	Hanalei Judicial District
TMK(s):	(4) 5-5-010:067
Permit(s)/Approval(s):	CWA Section 401 Water Quality Certification, Dept. of the Army Permit, CZM, SMA, SCAP
Approving Agency:	
Contact Name, Email, Telephone, Address	Hawai'i Department of Land and Natural Resources Land Division Marvin Mikasa, marvin.t.mikasa@hawaii.gov, (808) 274-3491 DLNR-Land Division, Kauai District, 3060 Eiwa St., Room 208, Lihue, HI 96766
Applicant:	
Contact Name, Email, Telephone, Address	Roger Ross, hanaleidolphin1@yahoo.com, (808) 326-2561 Hanalei Traders, 5-5016 Kuhio Highway, Hanalei, HI 96714
Consultant:	
Contact Name, Email, Telephone, Address	Sustainable Resources Group Intn'l, Inc. Andrew Hood, comments@srgii.com, (808) 356-0552 111 Hekili Street, Suite A373, Kailua, HI 96734

Status (select one)	**Submittal Requirements**
__X__ DEA-AFNSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
____ FEA-FONSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
____ FEIS Acceptance Determination	The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
____ FEIS Statutory Acceptance	The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.
____ Supplemental EIS Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that

a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.

____ Withdrawal — Identify the specific document(s) to withdraw and explain in the project summary section.

____ Other — Contact the OEQC if your action is not one of the above items.

Project Summary

Mr. Roger Ross owns the Hanalei Traders property located on the west bank of the Hanalei River at river mile one in Hanalei, Kaua'i (Tax Parcel ID (4) 5-5-010:067). The 2.3 acre property hosts the Dolphin Restaurant, a fish market, gift shop, and five river front cottages. In total, 720 feet of the lot fronts the river. Along 450 feet of the river frontage the bank is eroding at an accelerated rate due in part to offsite impacts to the river system. The accelerated erosion has shifted the top of the river bank horizontally approximately 28 feet inland over the past 25 years. River bank erosion threatens structures on the property and is a chronic source of sediment into the river. In order to address erosion problems and to protect private property and existing infrastructure, the project proposes to stabilize the eroding areas by installing a bioengineered design. The project will install a 450 foot long bioengineered wall (biowall) along the eroding river bank comprised of boulders, geogrid fabric, geotextile bags, and native vegetation plantings.

Draft Environmental Assessment: Hanalei Traders Bioengineered River Bank Stabilization

TMK (4) 5-5-010:067
Hanalei, Island of Kaua‘i, State of Hawai‘i

Draft
July 2016

CLASS OF ACTION:

Use of State Land
Use of Land in the Special Management Area

APPLICANT:

Hanalei Traders, Inc.
P.O. Box 511
Hanalei, HI 96714

APPROVING AGENCY:

Hawai‘i State Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

CONSULTANT:

SUSTAINABLE RESOURCES GROUP INTN'L, INC.
111 Hekili Street, Suite A373
Kailua, HI 96734
Tel/Fax: 808-356-0552 • www.srgii.com

This document is prepared pursuant to:
The Hawai‘i Environmental Policy Act,
Chapter 343, Hawai‘i Revised Statutes (HRS), and
Title 11, Chapter 200, Hawai‘i Department of Health Administrative Rules (HAR).

Cover Page

Applicant	Mr. Roger Ross Hanalei Traders, Inc. P.O. Box 511 Hanalei, HI 96714 Phone: 808-346-2561
Agent:	Sustainable Resources Group Intn'l, Inc. 111 Hekili Street, Suite A373 Kailua, HI 96734 Tel/Fax: 808-356-0552 • www.srgii.com
Tax Map Key	(4) 5-5-010:067
Lot Area	2.32 acres
Proposed Action	River bank stabilization along the Hanalei River at the Hanalei Traders property
Consulted Agencies	Federal: US Fish and Wildlife Service; US Army Corps of Engineers, National Oceanic and Atmospheric Administration State: Hawai'i Department of Land and Natural Resources – Division of Forestry and Wildlife, Land Division, Commission on Water Resource Management, and State Historic Preservation Division; Hawai'i Department of Health, Clean Water Branch; Hawai'i Office of Planning, Coastal Zone Management Program County of Kaua'i: Planning Department
Type of Statement	Environmental Assessment
Abstract	Mr. Roger Ross proposes to install a bioengineered river bank stabilization design along 450 feet of the Hanalei River in the State Land Use Urban District in Hanalei. The proposed installation is comprised of a bioengineered wall that will be constructed using boulders, and geosynthetic bags filled with washed sand and compost. The project will remove non-native species and plant native species. Endemic waterbirds are known to frequent the area, however, none including rare, threatened, or endangered, have been observed to nest on the project property. Threatened green sea turtles have been known to utilize the river. This property does not contain any sensitive cultural resources. Impacts to the Hanalei River will be avoided by use of best management practices that are required as conditions of the necessary permits and that will be employed during construction. If left unaltered, the river bank will continue to erode at an accelerated rate, threatening infrastructure and the livelihood of the property owner.

Contents

Cover Page i
Tables iii
Figures iii
Photos iii
Acronyms iii
1. PURPOSE OF AND NEED FOR ACTION 1
1.1 Project Summary 1
1.2 Environmental Assessment Process 2
1.3 Required Permits and Approvals 2
1.4 Scoping and Consultation 1
1.4.1 National Historic Preservation Act Consultation 2
2. ALTERNATIVES INCLUDING THE PROPOSED ACTION 3
2.1 Alternative 1 (Proposed Action). Bioengineered River Bank Stabilization 3
2.2 Alternative 2. No Action 4
2.3 Alternatives Considered but Eliminated from Further Analysis 4
2.4 Summary of Consequences 13
3. AFFECTED ENVIRONMENT AND CONSEQUENCES OF THE ALTERNATIVES 14
3.1 Physical Factors 14
3.1.1 Location, Land Use, and Infrastructure 14
3.1.2 Topography, Geology, and Soils 16
3.1.3 Water Resources 17
3.1.4 Air Quality 20
3.1.5 Noise 20
3.1.6 Scenic Resources 21
3.2 Biological Factors 21
3.2.1 Vegetation 21
3.2.2 Fish and Wildlife 22
3.2.3 Habitat 26
3.3 Socioeconomic and Cultural Factors 27
3.3.1 Socioeconomic Characteristics 27
3.3.2 Recreational Resources 28
3.3.3 Historical and Cultural Resources 29
3.4 Secondary and Cumulative Effects 31
4. CONSISTENCY WITH GOVERNMENT PLANS AND POLICIES 32
5. DETERMINATION, FINDINGS, AND REASONS 33
5.1 Determination 33
5.2 Significance Criteria 33
6. REFERENCES 35
7. LIST OF PREPARERS 36
Appendix A. Consultations A-1

Tables

Table 1. Required Permits and Approvals 2
Table 2. Summary of Environmental Consequences 13
Table 3. Fauna that Potentially Occurs at Project Site 23

Figures

Figure 1. Project Location 5
Figure 2. Site Map 6

Photos

Photo 1. Hanalei River Looking Upstream at Lower Section of Project Site 7
Photo 2. Hanalei River Looking Downstream at Upper Section of Project Site 8
Photo 3. Hanalei River Looking Upstream at Project Site 9
Photo 4. Vertical River Bank along Hanalei Dolphin Center 10
Photo 5. Hanalei River Bank Close-up 11
Photo 6. Hanalei River Bank 12

Acronyms

BMP	Best Management Practices
CFS	Cubic Feet Per Second
CWA	Clean Water Act
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DA	Department of the Army
DAR	Division of Aquatic Resources
DLNR	Department of Land and Natural Resources
DO	Dissolved Oxygen
DOFAW	Division of Forestry and Wildlife
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FONSI	Finding Of No Significant Impact
HAR	Hawaiʻi Administrative Rules
HDOH	Hawaiʻi Department of Health
HRS	Hawaiʻi Revised Statutes
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level
NHPA	National Historic Preservation Act
NPDES	National Pollution Discharge Elimination System
NWR	National Wildlife Refuge
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
SHPD	State Historic Preservation Division
SMA	Special Management Area
SRGII	Sustainable Resources Group Intn'l, Inc.
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WQC	Water Quality Certification

1. PURPOSE OF AND NEED FOR ACTION

1.1 Project Summary

Mr. Roger Ross of Hanalei Traders, Inc. owns the Hanalei Traders property located on the west bank of the Hanalei River at river mile one[1] in Hanalei, Kaua'i (Tax Parcel ID (4) 5-5-010:067).[2] The 2.3 acre property hosts the Dolphin Restaurant, a fish market, gift shop, and five river front cottages.[3] In total, 720 feet of the lot fronts the river. Along 450 feet of the river frontage the bank is eroding at an accelerated rate due in part to offsite impacts to the river system including its floodplain and channel. The accelerated erosion has shifted the top of the river bank horizontally approximately 28 feet inland over the past 25 years. The erosion of the river bank threatens structures on the property and is a chronic source of sediment into the river.

The property is located on the outside bend at the apex of a large river meander, commonly known as an oxbow. This meander begins approximately 3,700 feet upstream of the property and ends 3,600 feet downstream of it. The adjacent floodway is primarily flat with low topographic relief and is inundated during high river flows that create flood conditions. The floodway on the east side of the river, across from the project site, was historically prone to flooding over its entire area. Approximately 20 years ago the land owner created a berm to function as a causeway. This feature is aligned roughly perpendicular to the apex of the river meander bend and extends from the inside of the meander back inland away from the river approximately 3,000 feet. As a result, flood waters that leave the river during flood events upstream of the project area flow across the inside of the meander bend where they encounter the berm, which then deflects the flow back to towards the channel instead of across the inside of the meander. The result is that water is cutoff from a portion of the floodway, which results in larger volumes forced back to the river channel and the outside of the meander bend. The hydrodynamics of the river along the project site have been altered by encroachment of hau bush (*Hibiscus tiliaceua*) into its channel and placement of riprap along the left bank upstream of the subject property. Hau bush growth into the river channel, especially along the opposite bank of the subject property, has reduced the channel width, resulting in forcing flow into the river bank fronting the subject property.

In order to address erosion problems and to protect private property and existing infrastructure, the project proposes to stabilize the eroding areas by installing a bioengineered design. The project will install a 450 ft. long bioengineered wall (biowall) along the eroding river bank, comprised of boulders, and stacks of geotextile roll bags filled with grow medium. Native plants will be installed between the geotextile rolls and along the upper portion of river bank. The installation is necessary to control accelerated river bank erosion in this section of the river which, if left unchecked, will continue to remove land and contribute sediment discharges into the river. Continued erosion and property loss threatens infrastructure and existing uses of property, potentially jeopardizing Hanalei Traders Inc. revenue.

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[1] As measured upstream from the mouth of the Hanalei River.

[2] The property being stabilized is referred to throughout this EA as the 'project site' or the 'subject property'. The term 'project area' is used to describe the general environs of Hanalei on Kaua'i.

[3] http://www.hanaleicottages.com/

This Environmental Assessment (EA) was requested by the Department of Land and Natural Resources (DLNR) Land Division. The EA describes, analyses, and discloses the potential environmental consequences of the Proposed Action and a No Action Alternative. Under the Proposed Action, the project would use a bioengineering approach to stabilize the eroding banks (Section 2.1). The EA also evaluates the No Action Alternative, under which no stabilization would be conducted (Section 2.2).

1.2 Environmental Assessment Process

This EA process is being conducted pursuant to the Hawaiʻi Environmental Policy Act, Chapter 343, Hawaiʻi Revised Statutes (HRS), and its implementing regulations, Title 11, Chapter 200, Hawaiʻi Department of Health (HDOH) Administrative Rules (HAR). According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria. Section 5 lists each criterion and presents the findings by the DLNR, the approving agency. In the EA process, if the approving agency determines after considering comments to the Draft EA that no significant impacts would likely occur, then the agency issues a Finding of No Significant Impact (FONSI), and the action is permitted to occur. If the agency concludes that significant impacts are expected to occur as a result of the proposed action, then an Environmental Impact Statement is prepared.

1.3 Required Permits and Approvals

Table 1 identifies the permits and approvals required for project construction. Notes are included below.

Table 1. Required Permits and Approvals

Permit or Approval	Regulation(s)	Administrative Authority	Status
Water Quality Certification (1)	Clean Water Act Section 401	State of Hawaiʻi, Department of Health, Clean Water Branch	To be submitted
Department of the Army Permit (2)	Clean Water Act Section 404	U.S. Army Corps of Engineers	Provisional permit secured October 2010: POH-2009-0354. Additional permit requirements to be submitted
Stream Channel Alteration Permit	HRS Chapter 174C, HAR Chapters 13-169	Hawaiʻi DLNR Land Division, CWRM	Processed after Final EA has been accepted and findings published by OEQC
CZM Consistency Determination	Section 307 Coastal Zone Management Act	State of Hawaiʻi, Office of Planning	To be submitted
Special Management Area Permit	County of Kauaʻi Special Management Area Rules and Regulations	County of Kauaʻi Planning Department	To be submitted
Right of Entry	HRS Chapter 174C-71	Hawaiʻi DLNR Land Division, CWRM	To be submitted
Environmental Assessment	HRS Chapter 343	Hawaiʻi DLNR	This document
Section 106 Consultation (State Historic Preservation Compliance) (3)	National Historic Preservation Act Section 106	State Historic Preservation Division	In process
Completion Report	HRS Chapter 174C-94	Hawaiʻi DLNR Land Division, CWRM	To be submitted upon completion of the project

(1) Hawai‘i DOH Clean Water Branch [Section 401 Water Quality Certification]

Since implementation of the Proposed Action has the potential to result in discharge into a navigable water (Hanalei River), a Water Quality Certification (WQC) is required under Section 401 of the Clean Water Act (CWA). The certification, issued by the HDOH Clean Water Branch, grants permission to conduct the proposed activities based on statements that assert that the proposed discharge will not violate water quality standards. The CWA Section 401 WQC for the proposed project details discharge activities; pertinent physical, chemical, biological and thermal characteristics of the discharge activity potential effects; and details specific BMPs to be employed.

(2) Department of the Army [CWA Section 404 Permit]

A Department of the Army (DA) permit is required under Section 10 because the work will be completed within a navigable water of the U.S., namely the Hanalei River.[4] A Department of the Army (DA) permit is required under Section 404 as the project activity has the potential to result in discharge of fill material into a water of the U.S.

(3) Section 106 Consultation [State Historic Preservation Compliance]

Consultation is required for this project under Section 106 of the National Historic Preservation Act (NHPA). The project has a Federal nexus through the DA permit requested from the U.S. Army Corps of Engineers (USACE). The NHPA requires the USACE to take into account a project’s potential to impact resources of historic or cultural significance when evaluating a request for a DA permit. The USACE encourages applicants for DA permits to contact the State Historic Preservation Division (SHPD) as early as possible during project planning to address any issues relevant to Section 106. Additionally, for the proposed project Section 106 consultation must be completed as part of acquiring the Stream Channel Alteration Permit.

(4) Kaua‘i County [Sediment and Erosion Control Ordinance No. 808]

Ordinance No. 808 requires that all grading, grubbing, and stockpiling shall incorporate Best Management Practices (BMP) to the maximum extent practicable. All applicable BMPs outlined in the *Interim Construction Best Management Practices for Sediment and Erosion Control for the County of Kaua‘i* are to be employed.

1.4 Scoping and Consultation

An interdisciplinary team of hydrologists and environmental scientists from Sustainable Resources Group Intn’l, Inc. (SRGII) (Kailua, HI) conducted the site visits, document reviews, interviews, and data analyses necessary to prepare this EA. The biowall conceptual design was developed by SRGII. The hydraulic analysis and engineering design were developed by Wagner Engineering Services, Inc. (Hanalei, HI).

Initial project scoping with State and Federal agencies began in 2010. Early consultation was conducted by Wagner Engineering Services, Inc with U.S. Fish and Wildlife Service (USFWS), Hawai‘i DLNR Division

[4] Navigable waters of the U.S. are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

of Aquatic Resources (DAR), Hawaiʻi DLNR Land Division and the USACE to solicit early input or concerns about the proposed project. USACE issued a provisional DA permit which did not provide for the proposed work to begin but rather outlined the outstanding elements required for a valid DA permit.

Between January 2014 and May 2015, SRGII interviewed individuals regarding the proposed river bank stabilization and gathered and reviewed documents relevant to the analysis of the affected environment and potential environmental consequences of implementing the Proposed and No Action Alternatives. A range of agencies, organizations, and individuals were consulted in development of the EA (Appendix A).

1.4.1 National Historic Preservation Act Consultation

Consultation with the SHPD began in August 2015 and continued throughout the development of this EA. SRGII consulted with SHPD Kauaʻi to determine if there were any historic or cultural features present within the project area or on the subject property. In October 2015 the lead archeologist from the SHPD Kauaʻi office performed a field inspection at the subject property. SRGII worked closely with SHPD Kauaʻi to develop appropriate measures to protect any historic or cultural features that may be discovered during the course of implementing the proposed project. On August 12, 2015, the Office of Environmental Quality Control (OEQC) advised that a Cultural Impact Assessment is not required for this project. In the issuance of the original DA provisional permit in 2010, the USACE requested "consultation with native Hawaiian organizations and individuals to gather any information on historic properties as well as ethnographic and historic or uses in the proposed permit area". Information related to the field inspection conducted by SHPD Kauaʻi, as well as historic and cultural uses gathered from public scoping conducted by SRGII, is included in Section 3.3.3.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section describes the Proposed and No Action Alternatives (Sections 2.1 and 2.2), and compares their environmental consequences (summarized from Section 3) (Section 2.4). Alternatives considered and eliminated from detailed analysis are also described (Section 2.3).

2.1 Alternative 1 (Proposed Action). Bioengineered River Bank Stabilization

Mr. Roger Ross of Hanalei Traders Inc. proposes to stabilize 450 feet of river bank by installing a bioengineered design. The river bank along the Hanalei Traders Inc. property (also known as the Hanalei Traders property)(Tax Parcel ID (4) 5-5-010:067) is on the outside of a river bend with an unstable bank that is nearly eight to twelve feet vertical from its top down to the bed of the river. During high flows the bank erodes inland resulting in loss of land and narrowing the distance between the top of the bank and structures. Figure 1 shows the property location along the Hanalei River. Figure 2 is a close up of the site. Photos 1 – 6 illustrate the existing conditions of the project site.

The property lies within the State-designated Urban Land Use District. Counties have the responsibility for zoning in the Urban Land Use District. The property lies within the commercial zoning district (County of Kaua‘i County Zoning Ordinance). It is designated by the Kaua‘i General Plan as open space, as are all properties along the Hanalei River. The project is located entirely within the Special Management Area as administered by the County of Kaua‘i Planning Commission. Section 1.3 provides detail on all permits or approvals required for implementation of the proposed project.

The proposed construction will occur over a ten week period, with construction expected to take eight weeks total. The biowall will be comprised of boulders, geogrid fabric, geotextile bags, and native vegetation plantings. Two hundred sixteen (216) cubic yards of washed boulders (two to three foot in diameter) will be placed on the bed of the river channel against the toe of the bank up to the normal base flow water level (0 feet Mean Sea Level (MSL)). Boulders will provide protection of the toe from erosion and provide the foundation for placement of other materials. Approximately 180 cubic yards of a growth medium consisting of 80% washed sand and 20% compost (with no additional fertilizer of soil amendments) will be placed into geotextile bags and installed from the top of boulders up to the top of the existing bank.[5] Individual geotextile bags will measure four feet long by one foot diameter. Each bag is fitted with a pin that is used to connect to adjacent bags to form a monolith structure. Geogrid fabric will be used to secure and anchor the interlocking geotextile bags to the bank of the river.[6] Soil pins (7 feet long x 0.4 inches diameter) and galvanized pipes (6 feet long x 1.5 inches diameter) will be used to secure and anchor the geogrid fabric and geotextile bags to the river bank. The boulders placed along the toe of the bank are sized to withstand entrainment under all flows and do not require additional anchoring.[7]

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[5] Geotextiles are permeable fabrics that may be used to stabilize loose soil and prevent erosion. They have the ability to filter, reinforce, and drain.

[6] Geogrid is a synthetic material used to reinforce soils and other similar materials. Geogrid fabric is characterized by woven bands that occur in a regular grid-like pattern with large voids between the bands. The tensile strength of the woven bands and the voids in between provide stabilizing strength as they do not pull apart as readily under tension as soils alone.

[7] Entrainment is the process by which surface sediment is incorporated into a fluid flow (i.e. air, water) as part of the operation of erosion.

Three species of native sedges, uki grass (*Cladium jamaicense*), ‘ahu‘awa (*Cyperus javanicus*), and makaloa (*Cyperus polystachyos*), will be planted between the geotextile bags from the top of the boulders to the top of the existing bank. Plants installed as part of the design are expected to root into the geotextile bags and existing bank material. Native or Polynesian shrub or tree species will be planted along the top of the existing bank. Under normal base flows the geotextile bags and plants will be above the water level. After the vegetation grows in, the geosynthetic bags will be covered and not be visible. The plants will provide tensional strength and are expected to root into both the grow medium inside the bags and the native bank materials, increasing the overall structural integrity of the biowall.

Construction of the biowall on the property will not alter the existing infrastructure or topography. No utilities or waste disposal will be required to support the final installation. Construction of the biowall will occur along the top of the west bank of the Hanalei River; no construction equipment will enter the river. Clearing of the construction site will be limited to removing existing non-native vegetation growing on the west bank of the river within the limits of the project. Construction equipment will be staged in the gravel parking lot adjacent to the cottages along the driveway into the site. Access to the river bank will be across the grassed areas between the various buildings on site.

The proposed construction will occur over a ten week period, with construction expected to take eight weeks total. The proposed project will be paid for using private funds from Hanalei Traders Inc.

2.2 Alternative 2. No Action

The No Action Alternative maintains the status quo, which means no river bank stabilization measures will be taken and the river will continue to erode the bank along the Hanalei Traders property. Under this alternative, and at the current rate of erosion, it is expected that Cottages 1, 2 and 3 will be deemed unsafe for occupancy within two to five years due to instability of the ground beneath them.

2.3 Alternatives Considered but Eliminated from Further Analysis

The alternative of hardening (e.g. lining the banks with concrete and riprap) this area of the river was considered and dismissed. During initial consultations about the proposed project, Hawai‘i DLNR DAR expressed concern regarding the effects hardening would have on the adjacent downstream land owner, by increasing potential flood damage to that property. There was also concern that hardening the river along this stretch would set a precedent that other land owners along the river could reference as a viable method for flood control, not just erosion control. Hardening river banks is a less than desirable method for controlling erosion.

The alternative of moving Cottages 1, 2, and 3 farther away from the eroding river bank was considered and dismissed. Moving the cottages would be cost prohibitive and would not solve the overall problem of property loss and continued encroachment of the river.

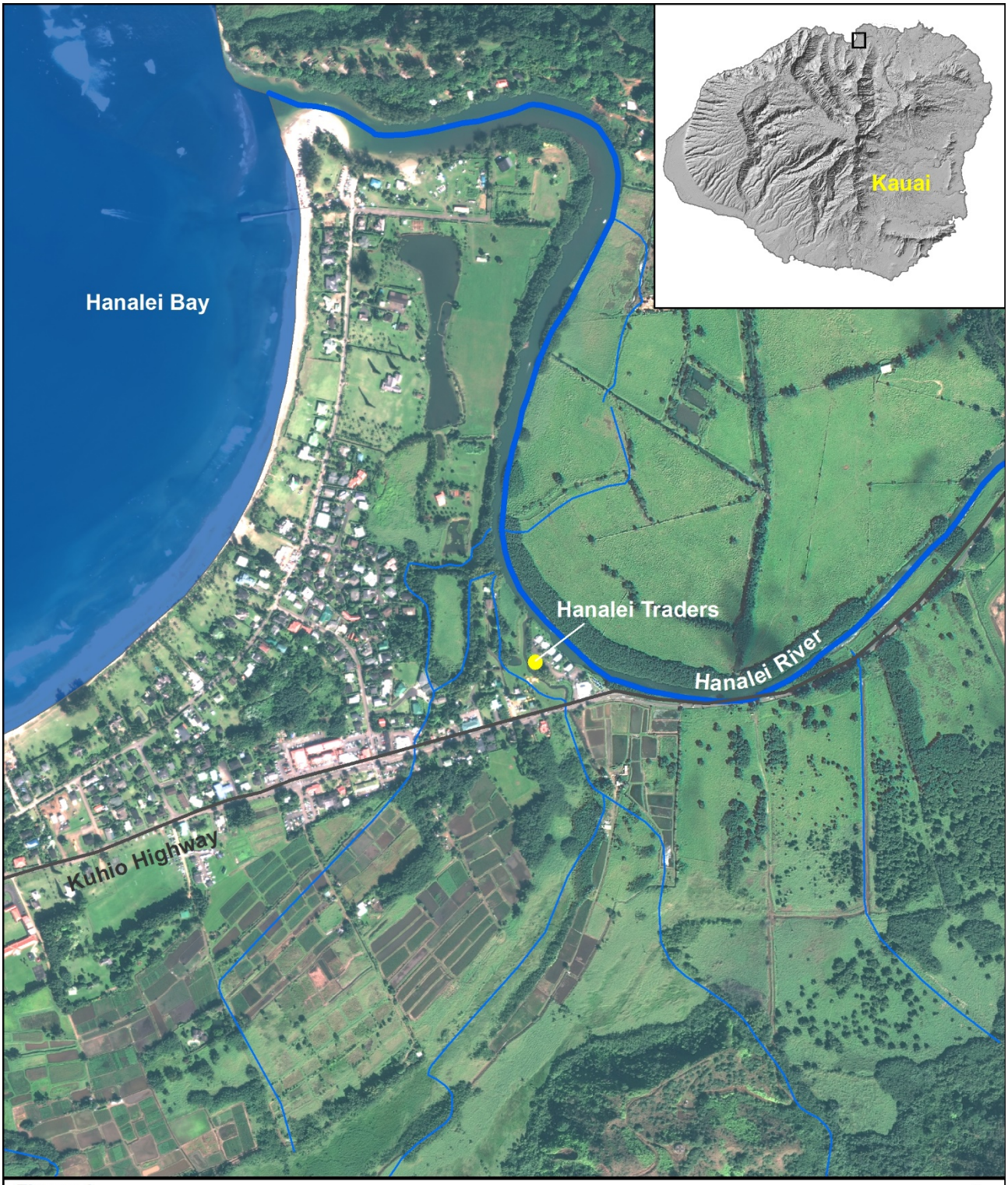

Figure 1.
Project Location

Source: State of Hawaii Data Repository
Satellite image, 1.10.2010

N

0 0.05 0.1 0.2 Miles

October 2015

Figure 2. Site Map

Photo 1. Hanalei River Looking Upstream at Lower Section of Project Site

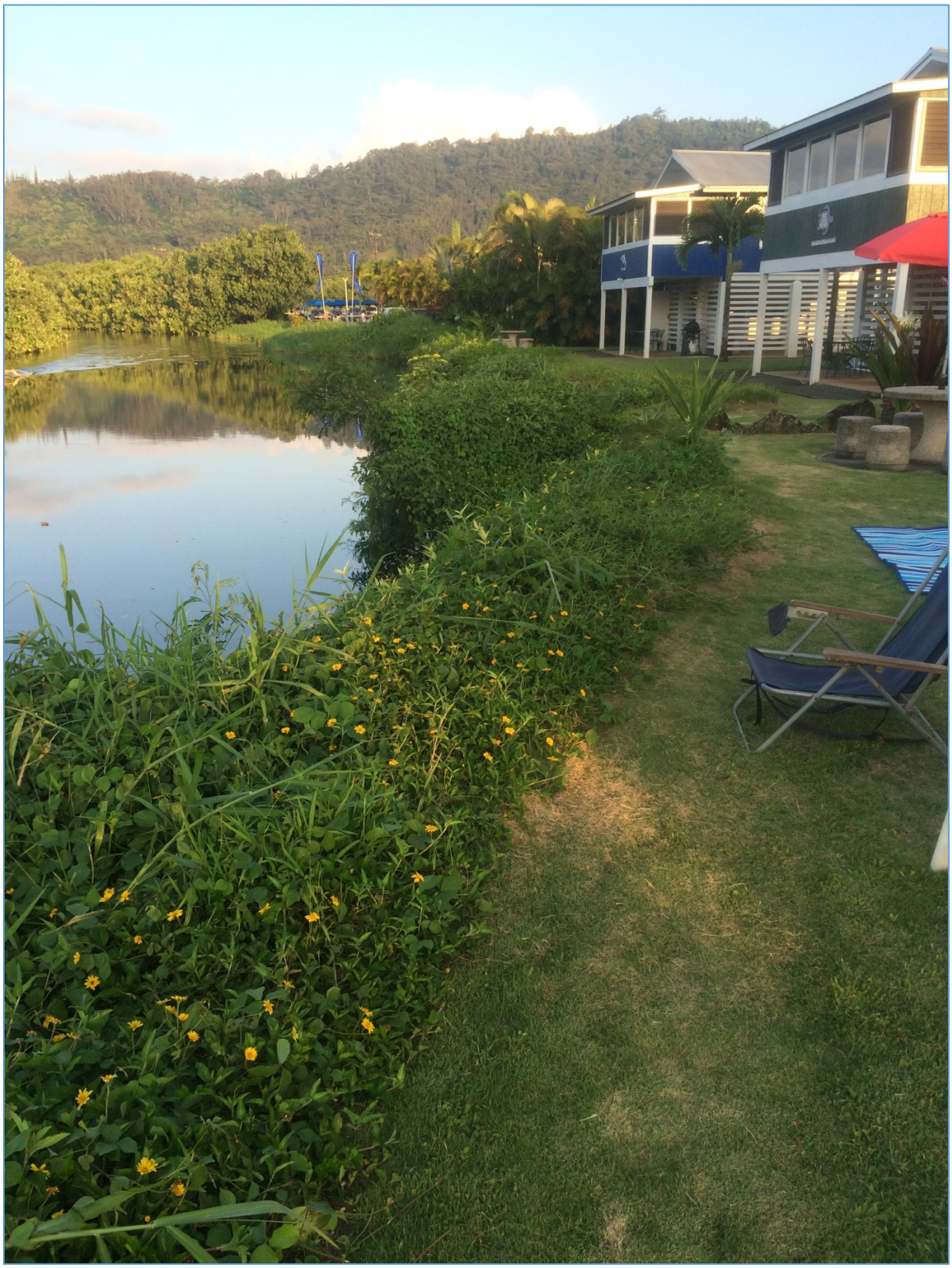

Photo 2. Hanalei River Looking Downstream at Upper Section of Project Site

Photo 3. Hanalei River Looking Upstream at Project Site

Photo 4. Vertical River Bank along Hanalei Dolphin Center

Photo 5. Hanalei River Bank Close-up

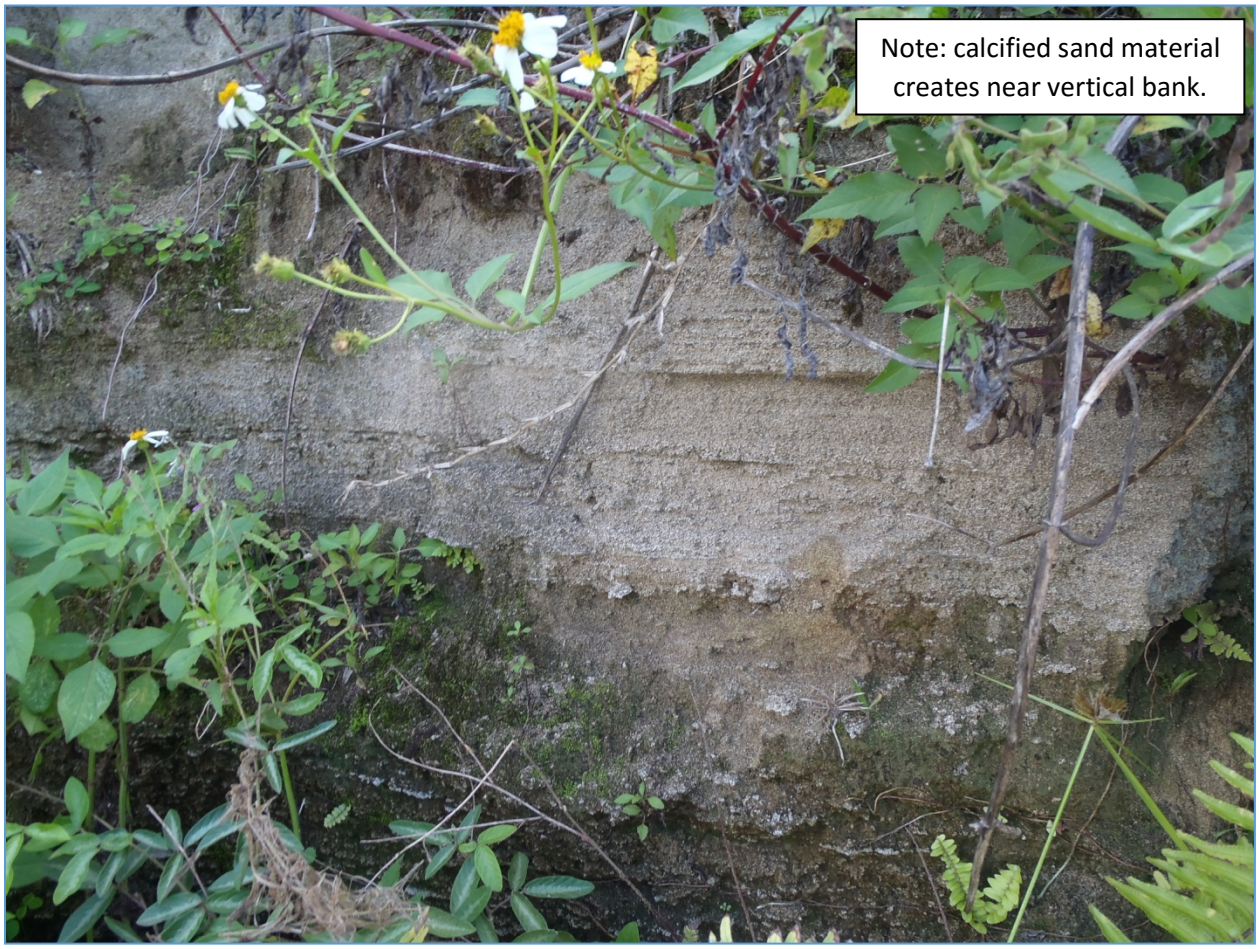

Photo 6. Hanalei River Bank

2.4 Summary of Consequences

No adverse environmental impacts are anticipated as a result of implementation of the Proposed Action. The potential for creating adverse impacts, which have been identified in this EA, will be minimized through construction BMPs, negating the need for mitigation measures. The Proposed Action, in conjunction with other actions on and in the project site vicinity, will not result in adverse cumulative effects. Table 2 summarizes the environmental consequences by environmental variable for the alternative actions. The beneficial effects of employing BMPs and the proposed project are included in the determination of overall effects.

Table 2. Summary of Environmental Consequences

Environmental Variable	Alternative 1: Proposed Action	Alternative 2: No Action
	Effect	Effect
Physical Factors		
Location, Land Use, and Infrastructure	Provide protection of existing infrastructure.	Instability of river bank poses threat to infrastructure and land use.
Topography, Geology, and Soils	Greatly reduce erosion.	Continuing erosion.
Water Resources	Negligible effect due to employment of BMPs.	Continuing adverse impacts of increased sedimentation and turbidity.
Air Quality	Negligible effect due to employment of BMPs.	No impacts or changes.
Noise	Small and temporary increase in noise at the subject property.	No impacts or changes.
Scenic Resources	Create a more desirable scenic state both on the river bank and in the water clarity.	Continuing adverse impacts of increased turbidity in the river and lack of vegetation on the river bank.
Biological Factors		
Vegetation	Removal of non-native vegetation and installation of native and Polynesian vegetation.	Continuing removal of existing vegetation from river bank.
Fish and Wildlife	Beneficial effects due to habitat improvements, primarily for fish and native water birds.	Continuing adverse impacts of increased sedimentation.
Habitat	Habitat improvements.	Continuing adverse impacts of increased sedimentation.
Socioeconomic and Cultural Factors		
Socioeconomic Resources	Several benefits to local economy including temporary contractor jobs, maintaining employment status of current employees, long term income for property owners and supporting continued tourism providing input into the local economy. Benefits residents and tourists through improvements to scenic resources, water quality, and habitat improvement.	Loss of infrastructure value and income. Loss of tax and tourist revenue. Jeopardizes employment of some locals
Recreational Resources	Beneficial due to decreased sedimentation and turbidity.	No impacts or changes.
Historical and Cultural Resources	No impacts or changes.	No impacts or changes.

3. AFFECTED ENVIRONMENT AND CONSEQUENCES OF THE ALTERNATIVES

This section describes the affected (baseline) environment that is relevant to the potentially significant environmental consequences. The source of information for the affected environment is government and contractor reports, site surveys, and interviews and consultations. Although all environmental resource areas were considered, those that would not be impacted by the proposed project are not addressed in this EA. Impacted resources are presented by general categories: Physical Factors, Biological Factors, and Socioeconomic and Cultural Factors.

Following the description of the existing condition of each resource, the environmental consequences (impacts) that could result from implementation each of the alternatives are analyzed. For each potential impact, actions to mitigate them to make them negligible, if possible, are presented. Impacts to the river, including its water quality, biological habitat, and recreational activities, will be prevented via the design of the biowall, and the use of BMPs during construction. These BMPs are proposed as conditions of the Stream Channel Alteration Permit, the CWA Section 401 WQC, and required per Kaua‘i County Sediment and Erosion Control Ordinance No. 808 (Section 1.3). *There are no identified adverse impacts to resources derived from the Proposed Action for which BMPs cannot be employed to avoid or minimize to a negligible status.*

3.1 Physical Factors

3.1.1 Location, Land Use, and Infrastructure

3.1.1.1 Existing Conditions

The Hanalei Traders property is located on the north shore of the island of Kaua‘i, Hawai‘i in the town of Hanalei along the west bank of the Hanalei River. It lies within the State-designated Urban Land Use District and the County of Kaua‘i commercial zoning district.

The Hanalei area in general includes lands used for agriculture, wildlife habitat, urbanization/residential development, and tourism. Agriculture includes both ranching and taro cultivation, with farmers in the Hanalei/Princeville area producing over 70% of the state’s taro. Ranching (cattle and/or buffalo) is conducted on two properties adjacent to the Hanalei Traders property, the Princeville Ranch directly upstream, and the Mowry property across the river. Princeville Ranch also contains some taro lo‘i in the portion of property closest to the Hanalei Traders property. A 3.2 acre parcel of land owned by Halele‘a Investment Company abuts the Hanalei Traders property to the south and west, and is directly downstream of the project site. It contains three structures, one of which is a residential home. The structures are approximately 130 ft inland from the west bank of the river. Further west of the Hanalei Traders property is a residential area. Within the surrounding area are the Hanalei National Wildlife Refuge (NWR), Kaua‘i County beach parks, and private land holdings. The Federal government owns and manages the Hanalei NWR, a 917 acre parcel in the Hanalei Watershed. The refuge was established in 1972 as a nesting and feeding habitat for endangered Hawaiian water birds.

The subject property, located one mile upstream from the river mouth at Hanalei Bay, is 2.32 acres and mostly level with elevations ranging from +7.5 to +5 ft. MSL. The property borders consist of Kuhio Highway on the south/southeast, Hanalei River on the north and east, and a privately owned parcel on the west/northwest. The property line along the Hanalei River is the top of the river bank. The property on the river side of the top of the bank is owned by the State. This boundary line is transient, and over

approximately 25 years the property line has shifted nearly 20 feet to the west, resulting in a reduction of the area owned by Hanalei Traders. The property consists of one large building (Hanalei Dolphin Center), five cottages, a small shed, landscaped grounds with walking paths, and several permanent cement outdoor eating tables scattered on the lawn area between the restaurant and the Hanalei River. Four of the cottages are licensed as short term transient vacation rentals, and one is leased long-term to the property caretaker. The Hanalei Dolphin Center lies on the southern portion of the property approximately 20 feet from Kuhio Highway and houses a restaurant and fish market as well as a gift shop. There are two gravel parking areas that service the Center, located to the east (adjacent to the highway) and north (adjacent to the river). The cottages are located north of Center and are aligned along the top of the west bank of the river. Each cottage has designated parking off the gravel driveway that provides access to the cottages from the Center's north parking lot. The west boundary of the property is aligned along an ʻauwai that drains taro loʻi mauka of Kuhio Highway. The ʻauwai empties into the Hanalei River at the northern most tip of the property. It is used to access the Hanalei River by kayakers and paddlers who rent water equipment from the neighboring property. Figure 2 depicts the lot layout including property lines, lot size, elevations and existing structures.

Waste water from the Center and the cottages is treated onsite via a series of septic tanks. A leach field located to the west of the cottages is used to dispose of the treated effluent. Solid waste is disposed into onsite dumpsters and transferred to the County of Kauaʻi transfer station. There are no petro chemicals or hazardous wastes stored on the property. A high voltage line carries electricity into the property from the Kauaʻi Island Electric Utility lines located along Kuhio Highway.

3.1.1.2 Environmental Consequences, Alt 1: Proposed Action

Under the Proposed Action, there would not be any impacts or changes to location or land use. This action would not directly change existing infrastructure. It would, however, provide protection of existing infrastructure (Cottages 1, 2, and 3). The design is compatible with conforming uses for the open space under the Kauaʻi General Plan and the North Shore Development Plan (Section 4).

The immediate downstream neighbor of the subject property has communicated their support of the shoreline stabilization project both verbally and in writing. "I have witnessed the continuous erosion of the [subject] property...I am in support [of] the proposed plan to stabilize the river bank" (K. Sheehan 2010).

3.1.1.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative, there would not be any impacts or changes to the location or immediate changes to current land use. Over the longer term, some of the infrastructure of the subject property would be jeopardized by the continuing erosion of the river bank. It is highly likely that Cottages 1, 2 and 3 would eventually be deemed unsafe for habitation due to instability, changing the land use of the subject property. At present 230 feet of river bank fronting the cottages is eroding at an annual rate of approximately one to two feet per year. However, along some sections the bank erosion occurs in large chunks with bank loss of two to four feet per year. At the current rates of erosion, the cottages will be damaged within two to five years. The 220 feet of river bank fronting the Hanalei Dolphin Center is eroding at one half to one foot per year. The erosion is undermining the bank and decreasing the area usable for outdoor dining and parking. The undermining of the bank makes it unsafe for people to walk to edge of the river as the overhanging material can fail unexpectedly.

3.1.2 Topography, Geology, and Soils

3.1.2.1 Existing Conditions

Topography at the project site is relatively flat, as is normal within a floodplain area. The river bank is a near vertical drop of between eight and twelve feet from the subject property edge down to the river. The subject property consists of soils from the Hanalei series of the Inceptisols order, specifically Hanalei HmA, and the Mokuleia series of the Mollisols order, specifically Mokuleia Mta.[8]

Inceptisols are poorly developed soils with minimal development of soil horizons. The Hanalei series of the Inceptisols order are somewhat poorly drained to poorly drained soils occurring in areas where the mean annual rainfall is about 80 inches and from near sea level to 300 feet elevation. Hanalei series soils formed in alluvium derived from igneous rock. Hanalei HmA soils are silty clay loams found on bottom land and low terraces along some portions of the streams. They have a very fine particle size, moderate permeability, and a slow runoff rate.

Mollisols are moderately weathered, fertile soils with high organic carbon and high base saturation. The Mokuleia series, of the Mollisols order, are well drained soils that occur in coastal plains in areas with a mean annual rainfall of 40 inches and from sea level to 100 feet elevation. The Mokuleia series formed in recent alluvium deposited over coral sand. Mokuleia Mta soils are clay loams that occur on Kaua‘i and are nearly level. Mokuleia Mta soils are poorly drained, which is different than other soils in the Mokuleia series. Mokuleia Mta soils are described as a dark clay loam surface layer over sandy or sandy skeletal soils. The surface layer of Mokuleia Mta soils are moderately permeable and have a very slow runoff rate. They are one of the dominant types of soil found in this area.

Within the river itself, this reach has a low gradient with bed slope of 0.08% and its channel geometry is mostly uniform, comprised of steep banks and a plane channel bed. Bed material is primarily comprised of silts, sand, and gravel particles. The soil on the river bank at the proposed project site can be described in profile as one to two feet of alluvial sediment laid on top of old calcareous sand.

3.1.2.2 Environmental Consequences, Alt 1: Proposed Action

Implementation of the Proposed Action will not adversely affect topography, geology, or soils. Localized ground disturbance will occur during construction. BMPs will be used to minimize erosion during construction and planting. Over the long term, the construction of the biowall and plantings will greatly reduce the potential for erosion, allowing for retention of the existing soil.

3.1.2.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative, there would be no impacts or changes to the topography, geology, or soil types of the project site or surrounding areas. Under this alternative, current, ongoing, adverse effects of loss of soil and land into the river would continue.

[8] As classified by the Natural Resources Conservation Service.

3.1.3 Water Resources

3.1.3.1 Existing Conditions

The Hanalei River is a perennial river that flows approximately 16 miles north from its headwaters on the eastern slopes of Mount Waiʻaleʻale to its outlet at Hanalei Bay just north of Black Pot Beach. Its headwaters receive extremely heavy rainfall (380 in/yr) and it is the largest river in the state in terms of water flow (volume) with an annual mean daily discharge of 129 cubic feet per second (cfs).[9] This translates into a long term average discharge of 83 million gallons per day. The mean daily discharge varies by month, with the lowest values occurring June - August, and an annual maximum in March.

Sustained rains and/or flash flooding in the precipitous interior can generate flooding in the coastal zone. "The Hanalei River, which most directly drains the wettest region of Mount Waiʻaleʻale, overflows its banks at the coast nearly every year" (Fletcher et al. 2002). Areas subject to coastal flooding or tsunami inundation are identified on Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency, Federal Insurance Administration. The FIRM FM1500020055E (9/16/05) shows that the subject property is within Flood Zone AEF (the Special Flood Hazard Area) and the Tsunami Inundation Zone. Zone AEF is within the 100-year floodplain, with a 1% annual chance of a 100-year flood occurring or being exceeded annually. The subject property is also located in the Floodway Area of Zone AEF: "The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights."

Water velocities and depths along the subject property are effected by a number of factors. The river is tidally influenced resulting in an estuary that extends approximately 3.5 miles upstream from the mouth of the river. At one mile upstream of the river mouth, the subject property is located in this estuary and water velocities and depths vary with tidal flux and discharges. Water surface elevations are highest when high discharges are coincident to rising tide levels, and lowest during base flow discharges at mean low low tides. The river channel geometry in this stretch has been altered due to growth of hau bush into the channel, predominantly from the east side of the river. A review of historic air images finds that the channel cross section surface, in the stretch where the subject property is located, has decreased in sections where hau bush has encroached by 20 to 30 feet, thus increasing velocity. A berm located on the property across the river from the subject property forces the flow of water back towards the channel during flood events resulting in larger volumes and higher velocities along the subject property than would be otherwise. Surface velocities along the subject property in general (not including flooding discharges) do not appear to exceed three feet per second.

The river and estuary are listed under Kauaʻi stream and marine waters on Hawaiʻi CWA 303(d) list of impaired waters based on water quality data that indicates the Hanalei River estuary does not meet Hawaiʻi's water quality standards for *Enterococcus* bacteria and turbidity (HDOH 2014).[10] A Total

[9] Nine year average calculated from 2007 to 2015. Source: http://hi.water.usgs.gov/.

[10] Under CWA Section 305(b), states are required to periodically report to the Environmental Protection Agency on the quality of all water resources in the state and whether these waters are fully supporting water supply use, recreation activities and aquatic life. Section 303(d) requires states to identify waters of the state where water quality standards are not met and where uses are not supported.

Maximum Daily Load (TMDL) report for the streams and estuaries of the Hanalei Bay Watershed was prepared (Tetra Tech and HDOH 2008). Hanalei River TMDLs for turbidity and enterococci were approved in 2008. State water quality data that reflects the status of the Hanalei estuary is currently collected at the end of Weke Road (Site 000839).

In November of 2011, AECOS, Inc., an environmental consulting firm, collected water samples from the proposed project site. The purpose of the sample collection and corresponding analysis was to characterize the existing aquatic environment, not to establish compliance with Hawai‘i’s water quality standards. AECOS determined that the samples suggest that the water quality in this area was very good at that particular time. They noted that in particular, nutrient concentrations were quite low, but turbidity exceeded two of the three not to exceed values set by HDOH. The nearest HDOH water quality monitoring station where continuous monitoring occurs is at the end of Weke Road. This site is downstream from the subject property near the mouth of the river, but within the estuary. Measurements taken over the past five years at the Weke Road site are frequently above the same two of the three not to exceed values for turbidity set by HDOH.

3.1.3.2 Environmental Consequences, Alt 1: Proposed Action

The potential for short-term adverse impacts would be greatest during the construction phase of the proposed project but are expected to be negligible due to the project design and BMPs to be employed. Over the long term the project will result in beneficial effects in the form of improved water quality directly adjacent to the project site and in the estuary as a whole.

As required for any development within a Special Flood Hazard Area, the project will comply with the rules and regulations of the National Flood Insurance Program presented in Title 44 of the Code of Federal Regulations. Specifically, implementation of the proposed action will not increase the flood hazard on other properties and all required federal and state permits will be obtained prior to execution.

Several BMPs will be employed during the construction phase to reduce the potential for releasing sediment, which would result in increased turbidity in the river. Excavation work on the river bank will be done only during low tides and during the months of April through August (outside of the flood season). A silt curtain, made of a polystyrene geotextile fabric, with a top floatation device and an anchor chain, will be temporarily placed in the river to catch sediments that may be released during construction. It will be attached to the downstream and upstream project boundaries, forming an arc with a maximum distance from the bank of ten feet. All exposed excavated slopes will be protected at the end of each work day until construction of the biowall has been completed.

Equipment that requires petroleum products for operation could cause accidental release of petroleum products into the river. No equipment will be placed within the bed or the banks of the river channel. Any parts of the mechanical equipment, such as the bucket of the tracked excavator used to place the boulders, will be cleaned of pollutants including any petroleum products such as grease and oil that could be released into the river water.

Additional BMPs related to the construction phase of the proposed project are detailed in the BMP Plan required by CWA Section 401 WQC. All applicable BMPs outlined in the *Interim Construction Best Management Practices for Sediment and Erosion Control for the County of Kaua‘i* will be employed.

Long term adverse impacts due to potential leaching of nitrogen and phosphorus from compost placed inside geotextile bags will be negligible. Compost will provide sedges that are planted between the bags with the proper ratio of carbon to nitrogen to provide microbes dwelling in the grow mixture to assist plant roots with uptake of essential elements, e.g. nitrogen. The grow mixture will not contain soil amendments such as fertilizer, so concentrations of biologically available nitrogen in the forms of nitrate and ammonium, as well orthophosphate, will be at concentrations less than those routinely found in water samples collected from sections of the Hanalei River. Further, all three species of native sedges take up dissolved organic nitrogen in the form of nitrate (NO_3^-) and ammonia (NH_3), thereby reducing loads of nitrogen carried in the river water (Unser et al. 2010). It is expected that, over time, these plants will assist in reducing loads of nitrogen in the Hanalei Estuary. The small amount of nitrogen contained in the compost that may leach out of the bags will be offset by the nitrogen taken up by plants over time. A feature of the design is that, in the long term, a net decrease of nitrate in the river will result via uptake of water and dissolved nutrients flowing against the biowall.

Water quality monitoring will occur prior to and during construction per the requirements of the Applicable Monitoring and Assessment Program for CWA Section 401 WQC. General Monitoring Guidelines for Section 401 WQC projects specify the basic water quality monitoring parameters that should be included in before and during construction sampling as: pH; turbidity; total suspended solids (TSS); dissolved oxygen (DO); salinity; temperature, and photo documentation.[11, 12] The water quality monitoring will be done to assess the adequacy of BMPs being employed and the potential impacts of the project on the Hanalei River water quality. If it is shown to be necessary by the monitoring, BMPs will be modified during construction to protect water quality.

Over the long term, implementation of the proposed project will reduce erosion and sedimentation from the Hanalei Traders property into the river, which will have beneficial results on water quality. The biowall will have minimal to no effect on riverine and estuarine hydrodynamics. Hydraulic analysis conducted using the HEC-RAS one-dimensional hydraulic model indicates that banks downstream on both sides of the river and upstream from the biowall will not be impacted with respect to erosion or deposition. Cross section stations used in the model were derived from 2009 and 2014 topographic surveys of the project reach. The stations extend from approximately 150 feet downstream of the downstream most limit of the project area, to 100 feet upstream of the upstream limit. The model was run under existing site conditions at a range of discharges (minimum: 70 cfs, maximum: 6,500 cfs). Model output evaluated includes velocity and water surface elevations for each discharge. The model was run a second time with the same discharges and geometry at the stations changed to reflect the proposed geometry. Roughness values were also changed to reflect the biowall. Comparison of model outputs for the two models runs were made at all stations including those upstream and downstream of the project on both sides of the river. Changes to water surface elevations and velocities were minimal at all discharges. Shear stress exerted by the flowing water against bed and bank surface would not change appreciably, and rates of sediment deposition and erosion are not expected to occur from implementation of the design.

[11] Pre-construction sampling for TSS and turbidity of ten samples over two weeks for projects that impact bottom sediment.

[12] During construction monitoring is limited to length of “in-water” work period.

3.1.3.3 Environmental Consequences of Alt 2: No Action

Under the No Action Alternative, impacts or changes to the water resources would remain the same. These impacts include erosion of the banks of the Hanalei River, which contributes to sedimentation and high turbidity in the river. Excessive turbidity is one of the reasons that the Hanalei River is included on Hawai‘i’s CWA 303(d) list of impaired waters.

3.1.4 Air Quality

3.1.4.1 Existing Conditions

Air quality in the area is generally excellent, due to its rural nature and minimal amount of human activity. There are no identified sources of air pollution at the proposed project site that would result in non-compliance with National Ambient Air Quality Standards. Motor vehicle emissions are the primary source of air pollutants. Traffic in the region is generally light and pollutant concentrations are assumed to be well below Federal and State ambient air quality standards.

3.1.4.2 Environmental Consequences, Alt 1: Proposed Action

Under the Proposed Action, air quality impacts (emissions and dust) would be generated from the use of large equipment, light grubbing activities, and an increase in vehicular traffic at the site. The small amount of emissions and dust would be temporary and easily dispersed. All vehicles and equipment will be properly maintained to minimize emissions during the time of construction. The contractor will incorporate measures required by the HDOH Rules and Regulations in Chapter 43, Section 10 and the HAR Chapter 11-60.1 “Air Pollution Control”, Section 11-60.1-33 related to Fugitive Dust emissions. The specific BMPs to minimize construction related dust will include:

- Irrigate the construction site during periods of drought or high winds.
- Clean roads of construction dirt from the construction vehicles.
- Cover open beds of trucks hauling grow medium to the site.
- Disturb as small of an area as possible when accessing the site.

Adverse impacts to air quality are expected to be negligible.

3.1.4.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative there would be no impacts or changes to the air quality of the project site or surrounding areas.

3.1.5 Noise

3.1.5.1 Existing Conditions

The ambient noise environment at the proposed project site is low and is influenced by several factors. The river is a constant but naturally occurring noise. Wind and wildlife are intermittent but naturally occurring noises. There is also intermittent noise from traffic, both passing on the road and vehicles on site. Humans working at or visiting the site, as well as those using the river, account for some noise present. Loud noise is not common at the site.

3.1.5.2 Environmental Consequences, Alt 1: Proposed Action

Under the Proposed Action changes to the existing noise level would be generated from the temporary use of large equipment, light grubbing activities, and an increase in vehicular traffic at the site. The small increase in the level of noise would be easily dispersed. In the event that complaints arise due to excessive noise, the hours of construction could be limited to address the impact. Adverse impacts are expected to be negligible and no mitigation measures would be required.

3.1.5.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative there would be no impacts or changes to the ambient noise level of the project site or surrounding areas.

3.1.6 Scenic Resources

3.1.6.1 Existing Conditions

The Hanalei River is designated as an American Heritage River based in part on its value as a scenic resource. The river is valued by locals and tourists alike for its scenic beauty as well as other resources. The meandering river and lush, green surroundings are valued by recreationalists partially because of the scenic beauty. The view of the river and surrounding rural landscape represents a scenic resource enjoyed by residents of and visitors to the Hanalei Traders property.

3.1.6.2 Environmental Consequences, Alt 1: Proposed Action

The Proposed Action would benefit scenic resources both within the subject property and along a portion of the lower river reach. The biowall would convert an eroding muddy river bank to a stretch of native plant species, which is a more desirable scenic state. Native plants may also improve scenic resources by providing improved habitat for native fauna in the river to linger near the subject property. The visual quality of the water adjacent to the project area, and just downstream, would improve.

3.1.6.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative there would continue to be impacts to scenic resources. Continued erosion to the river bank reduces the potential for vegetation to become established, impacting the view shed. Continued deposition of soil into the Hanalei River affects the visual appearance of the water.

3.2 Biological Factors

3.2.1 Vegetation

3.2.1.1 Existing Conditions

Vegetation at the subject property consists of non-native emergents and riparian species along the bank and in the river, and landscape plants and grassy lawn above the bank and throughout the rest of the property. Species occurring along the bank are all non-native and include: California grass (*Brachiria mutica*), wedelia (*Sphagneticola trilobata*), Chinese violet (*Asystasia gangetica*), Hilo grass (*Paspalum conjugatum*), napier grass (*Pennisetum purpureum*), and several sedges. Landscape plants include non-native, Polynesian introduction, and a few native plants, though the natives do not necessarily represent vegetation that was at the site prior to development. The property does not contain any sensitive vegetation such as rare, threatened, endangered, or proposed for listing species.

3.2.1.2 Environmental Consequences, Alt 1: Proposed Action

Under the Proposed Action some light grubbing will be required to remove some of the existing vegetation. In order to reduce erosion, river bank vegetation shall be protected except where its removal is absolutely necessary for completion of the work.

Native plants will be installed between the geotextile rolls and on top of the river bank as part of the bioengineered solution and will help compensate for the function lost with vegetation removal. Three species of native sedges, uki grass (*Cladium jamaicense*), ʻahuʻawa (*Cyperus javanicus*), and makaloa (*Cyperus polystachyos*) will be planted between the geotextile rolls. Native sedges are the most appropriate species for the site due to their rapid growth, ability to prevent soil loss, and because they are a potential food source for native waterbirds. Native or Polynesian woody shrubs or trees will be planted on the top of the existing river bank. Installation of native plants will result in direct, long-term benefits as they will provide increased stabilization (limiting erosion), provide native fauna habitat, and enhance scenic resources.

The DA permit requires that no non-native plant species introductions to the river shall result from project related activities. Construction BMPs will be used to avoid spreading or introducing invasive non-native plants. The project description for the CWA 401 WQC specifies that all rocks imported to the site will be washed clean before installation to minimize the chance of importation of non-native plant species.

3.2.1.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative the adverse impact of removal of river bank vegetation along the subject property would continue as part of the ongoing erosion process.

3.2.2 Fish and Wildlife

3.2.2.1 Existing Conditions

The Hanalei River and adjacent properties contain both native and non-native animals, including mammals, birds, reptiles, amphibians, crustaceans, mollusks, insects, and fish. Most of the animals that potentially utilize the project site and river adjacent to the project site are transients through the area (Table 3). This includes: one federally listed endangered bat species; four endemic waterbirds federally listed as endangered; one State listed endangered bird; several migratory waterbirds protected under the Migratory Bird Treaty Act (MBTA); and one species of sea turtle listed as federally threatened.

The endangered Hawaiian hoary bat (ōpeʻapeʻa, *Lasiurus cinereus*), Hawaiʻi's only native terrestrial mammal, has been detected flying and likely feeding along this stretch of the Hanalei River. Due to the nature of the vegetation at the project site, as well as due to the amount of suitable habitat in nearby areas, it is unlikely that the Hawaiian hoary bat would attempt to roost within the project site or adjacent area.

Areas near the project site that are utilized heavily by birds, and would be the largest source of any transient birds, include Hanalei Bay to the north and the Hanalei NWR to the south. Seabirds forage off-shore in Hanalei Bay but are not known to linger for feeding or nest at or near the project site. The Hanalei NWR provides habitat for at least 32 species of native birds, five of which are classified as endangered. None of the native birds known to utilize the NWR nest or linger for long foraging periods

at or near the project site. The four endangered waterbirds [Hawaiian duck (Koloa maoli, *Anas wyvilliana*), Hawaiian coot (ʻAlae keʻokeʻo, *Fulica alai*), Hawaiian common moorhen (ʻAlaeʻula, *Gallinula chloropus sandvicensis*), and Hawaiian stilt (Aeʻo, *Himantopus mexicanus knudseni*)] and the other MBTA protected waterbirds that utilize the downstream and upstream areas (the river mouth and the NWR) may occur around the project site, however this would be only temporarily and intermittently, mainly passing by along the river. These bird species have not been known to utilize the project site or adjacent areas for nesting (the habitat is not conducive), and if foraging nearby, are only present for a short period. The Hawaiian common moorhen is the only one of these species that has been confirmed to forage intermittently in the area. The Kauaʻi Branch Manager of the DLNR Division of Forestry and Wildlife (DOFAW) noted that during a site visit on October 26, 2015 no listed waterfowl were observed and there was no evidence of nesting activity in the area (Appendix A). He concluded that the heavy presence of human activity along that section of the river is most likely the reason for the absence of waterbirds.

Table 3. Fauna that Potentially Occurs at Project Site

Species	Common / Hawaiian Name	Origin[13]	Status	Occurs at Project Site[14,15]
Mammals				
Felis catus	Cat	Introduced	None	Confirmed
Lasiurus cinereus	Hawaiian hoary bat / ʻŌpeʻapeʻa	Endemic	Endangered	Potentially
Mus musculus	Mouse	Introduced	None	Confirmed
Rattus sp.	Rat	Introduced	None	Potentially
Birds				
Anas acuta	Northern pintail / Koloa mapu	Migratory	Protected MBTA	Potentially
Anas clypeata	Northern shoveler / Koloa moha	Migratory	Protected MBTA	Potentially
Anas wyvilliana	Hawaiian duck	Endemic	Endangered / Protected MBTA	Potentially
Asio flammeus sandwichensis	Hawaiian short-eared owl / Pueo	Endemic	State listed Endangered	Potentially
Bulbulcus ibis	Cattle egret	Introduced	Protected MBTA	Confirmed
Fulica alai	Hawaiian coot / ʻAlae keʻokeʻo	Endemic	Endangered / Protected MBTA	Potentially
Gallinula chloropus sandvicensis	Hawaiian common moorhen / ʻAlae ʻula	Endemic	Endangered / Protected MBTA	Confirmed*
Tringa incana (formerly Heteroscelus incanus)	Wandering tattler / ʻUlili	Migratory	Protected MBTA	Potentially
Himantopus mexicanus knudseni	Hawaiian stilt / Aeʻo	Endemic	Endangered / Protected MBTA	Potentially
Nycticorax nycticorax hoactli	Black-crowned night-heron / ʻAukuʻu	Native	Protected MBTA	Confirmed*

[13] Endemic means occurs only in the Hawaiian Islands.

[14] Species that are transient past the project site are listed as occurring even though their presence may be temporary and intermittent. This is especially true of species of birds, some crustaceans, and fish.

[15] AECOS, Inc. conducted a survey of aquatic fauna in and around the project site in 2011. This is the most recent aquatic survey for this area. However, the survey covered an area that extended from the mouth of the river to approximately 2.5 miles upstream, so confirmed presence does not necessarily indicate it was found at or adjacent to the project site, but does indicate the potential. All species found present in this survey are identified with an *. All information from surveys that date from 2005 or earlier are listed as potentially occurring.

Species	Common / Hawaiian Name	Origin[13]	Status	Occurs at Project Site[14,15]
Pterodroma sandwichensis	Hawaiian petrel	Endemic	Endangered / Protected MBTA	Confirmed
Puffinus a newelli	Newell's shearwater	Endemic	Threatened / Protected MBTA	Confirmed
Reptiles				
Chelonia mydas	Green sea turtle / Honu	Native	Threatened	Confirmed*
Trachemys scripta elegans	Red-eared slider	Introduced	None	Confirmed*
Amphibians				
Bufo marinus	Cane toad	Introduced	None	Potentially
Rana catesbeiana	Bull frog	Introduced	None	Potentially
Crustaceans and Mollusks				
Atyoida bisulcata	'Opae kala'ole	Endemic	None	Likely (transient)*
Cipangopaludina chinensis	Chinese mystery snail	Introduced	None	Confirmed*
Corbicula fluminea	Asian clam	Introduced	None	Potentially
Macrobranchium grandimanus	'Opae 'oeha'a	Endemic	None	Likely (transient)*
Neritina granosa	Hīhīwai	Endemic	None	Likely (transient)*
Pomacea bridgesi	Spiketop applesnail	Introduced	None	Confirmed*
Pomacea canaliculata	Channeled applesnail	Introduced	None	Confirmed*
Procambarus clarkii	Red swamp crayfish	Introduced	None	Likely (transient)*
Insects				
Megalagrion sp.	Damselflies	Endemic	None	Likely (transient)*
Chironomid sp.	Non-biting midge	Introduced	None	Likely (transient)*
Enallagma civile	Familiar bluet	Introduced	None	Likely (transient)*
Ischnura posita	Fragile forktail damselfly	Introduced	None	Likely (transient)*
Ischnura ramburi	Rambur's forktail damselfly	Introduced	None	Likely (transient)*
Fish				
Acanthuridae				
Acanthurus blochii	Ringtail surgeonfish / Pualu	Native	None	Potentially
Acanthurus triostegus	Convict surgeonfish / Manini	Native	None	Potentially
Ctenochaetus strigosus	Goldring bristlytooth / Kole	Native	None	Potentially
Carangidae				
Caranx ignobilis	Giant trevally / Ulua	Native	None	Confirmed
Caranx melampygus	Bluefin trevally / Omilu	Native	None	Confirmed
Scomberoides lysan	Largemouthed leatherskin	Native	None	Potentially
Chaetodontidae				
Chaetodon lunula	Raccoon butterfly fish / Kikakapu	Native	None	Potentially
Chaetodon militaris	Milletseed butterfly fish / Lau wiliwili	Native	None	Potentially
Chanidae				
Chanos chanos	Milklfish / Awa	Introduced	None	Confirmed
Cichilidae				
Sarotherodon melanotheron	Black-chin tilapia	Introduced	None	Confirmed*
Tilapia zillii	Redbelly tilapia	Introduced	None	Confirmed*
Clupeidae				
Herklotsichthys quadrimaculatus	Goldspot herring	Introduced	None	Potentially
Elotriadae				
Eleotris sandwicensis	Akupa sleeper / O'opu akupa	Endemic	None	Confirmed*
Engraulidae				
Encrasicholina purpurea	Anchovy / Nehu	Native	None	Potentially
Gobiidae				

Species	Common / Hawaiian Name	Origin[13]	Status	Occurs at Project Site[14,15]
Awaous guamensis	Pacific River goby / Oʻopu nākea	Native	None	Confirmed*
Lentipes concolor	Goby / Oʻopu alamoʻo	Endemic	None	Confirmed*
Sicyopterus stimpsoni	Goby / Oʻopu nōpili	Endemic	None	Confirmed*
Stenogobius hawaiiensis	Naniha goby / Oʻopu naniha	Endemic	None	Confirmed*
Kuhlidae				
Kuhlia xenura	Flagtails / Aholehole	Endemic	None	Confirmed*
Kuhlia sandvicensis	Flagtails / Aholehole	Native	None	Confirmed
Lut Janidae				
Lutjanus fulvus	Blacktail snapper / Toʻau	Introduced	None	Confirmed
Muglidae				
Mugil cephalus	Mullet / Amaʻama	Native	None	Confirmed*
Neomyxus leuciscus	Sharp nose mullet / Uouoa	Native	None	Potentially
Valamugil engeli	Mugil engeli	Introduced	None	Potentially
Mullidae				
Mulloides flavolineatus	Yellowstripe goatfish / Weke	Native	None	Confirmed
Mulloidicthys vanicolensis	Yellowfin goatfish / Wele ʻula	Native	None	Potentially
Parapeneus porphyreus	Whitesaddle goatfish / Kumu	Native	None	Potentially
Poeciliidae				
Gambusia affinis	Western mosquitofish	Introduced	None	Confirmed*
Xiphophorus helleri	Green swordtail	Introduced	None	Likely (transient)*
Pomacentridae				
Abudefuf abdominalis	Hawaiian sergeant / Mamo	Native	None	Potentially
Abidefuf sordidus	Blackspot sergeant / Kupipi	Native	None	Potentially
Sphyraenidae				
Sphuraena barracuda	Great barracuda / Kaku	Native	None	Potentially
Synodontidae				
Synodus ulae	Ulae / ʻUlae	Native	None	Potentially

The State listed endangered Hawaiian short eared owl, (Pueo, *Asio flammeus sandwichensis*), which are more common on Kauaʻi than other islands, have been seen in the Hanalei area, but not recorded at the project site.

The federally listed threatened green sea turtle (Honu, *Chelonia mydas*) has been seen utilizing the river, likely foraging, in the vicinity of the project site (Don Heacock, pers. comm. 2015). Although green turtles are not commonly seen this far up the Hanalei River, it is not rare for them to be here either.

Hawaiʻi has five species of native fish (four gobies and an eleotrid), and two species of native crustaceans that are diadromous, meaning they migrate between salt and fresh waters. These species travel from river to ocean as newly hatched larvae and return from the ocean to the river as juveniles. All seven of these species utilize the Hanalei River and estuary.

Introduced mammals present in the lowland areas of Hanalei, potentially and likely utilize the subject property as include cats (*Felis catus*), house mice (*Mus musculus*), and rats (*Rattus* sp.). Small Indian mongoose (*Herpestes javanicus*) are not thought to be present in the Hanalei area as only a few have ever been sighted or trapped on Kauaʻi.

3.2.2.2 Environmental Consequences, Alt 1: Proposed Action

Implementation of the proposed project would not result in any adverse effects to native wildlife species, including those protected under the Endangered Species Act (ESA) and the MBTA. Construction BMPs will be employed to avoid any adverse impacts on fish and wildlife. All of the BMPs described to protect water resources afford protection for fish and wildlife (Section 3.1.3.2). Additionally, as recommended by DLNR DOFAW, the following practices to avoid any adverse impacts specifically to birds and bats will occur. Two weeks prior to the start of construction a knowledgeable wildlife biologist will inspect the site to determine if there are any nesting waterbirds. In the unlikely event that nesting waterbirds are present, construction will be delayed until all chicks have fledged and left the area. The project will not entail any night time work or the use of night construction lights, which if used could attract Newell's shearwaters or Hawaiian petrels and result in birds becoming disoriented and falling to the ground. The removal of any trees greater than 15 ft in height will not occur.

In the long term, implementation of the proposed project would likely be beneficial to fish and wildlife (primarily water birds) due to improved habitat conditions in the immediate vicinity of the subject property, as well as decreasing sedimentation in the river in general.

3.2.2.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative current adverse impacts to wildlife would continue due to ongoing erosion and increased sedimentation into the river from this site.

3.2.3 Habitat

3.2.3.1 Existing Conditions

The subject property is a landscaped area with several buildings used for commercial purposes. Aside from the river and low areas of the river bank, within the property as a whole there is little to no habitat suitable for native species to permanently inhabit. The vegetation on the river bank provides some forage for transient bird species but no nesting areas. Both native and non-native fauna utilize the estuary, even though instream habitat conditions are not ideal, mainly due increased sedimentation and turbidity associated with land use along the lower reach of the river. Neither the project site nor the nearby surrounding areas contain any designated critical habitat for plants or wildlife.

3.2.3.2 Environmental Consequences, Alt 1: Proposed Action

Implementation of the proposed project would not adversely affect designated essential fish habitat (EFH) that is located downstream of the subject property at Hanalei Bay.[16] Beneficial effects to EFH would occur as a result of less sediment being entrained in the river with the potential for deposition in EFH.

Implementation of the proposed project would result in beneficial effects to fish habitat adjacent to the subject property. The installation of boulders below the normal low water level are expected to provide habitat for native fish. Boulders will enhance instream habitat by increasing surface area for algae and other vegetative matter that grows on rock surfaces, which may be utilized by native and endemic

[16] Essential Fish Habitat, as defined by the Magnuson-Stevens Act, is those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.

fishes. The boulders will provide cover for fish and additional spawning areas for ʻoʻopu nakea that spawn in this area of the river and prefer smooth boulders as their substrate.

Implementation of the proposed project would result in beneficial effects for native water birds. Plants installed as part of the design are expected to become established by rooting into the geotextile bags and existing bank material. The sedges will provide food source and cover for native water birds that periodically utilize this section of the river, some of which are federally listed as endangered.

3.2.3.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative current adverse impacts to habitat, specifically increased sedimentation in the river, would continue.

3.3 Socioeconomic and Cultural Factors

3.3.1 Socioeconomic Characteristics

3.3.1.1 Existing Conditions

During the 2010 census, the State of Hawaiʻi registered a population of 1,360,301, with Kauaʻi claiming 67,090 residents. In 2010 the population of Hanalei was recorded as 450 residents. Hanalei is a small, tight knit community with residents of all ages. The median age in 2010 was 45, with 19% of the population being age 19 or younger, 14.3% being between age 35-44 and 25.2% being age 60 or older. Over 26% of the households have individuals under the age of 18, and nearly 30% of them have individuals age 65 or older. The local population is racially diverse. Just over 13% of residents are Asian, around 7.6% are Pacific Islander, just over 60% are White, and over 17% are from two or more races.

Although Kauaʻi County in general has seen regular and rapid growth in the previous decades, the north shore area of Hanalei has retained a distinctly rural character. It is popular for both its taro and for the beautiful beaches and parks. Although the Hanalei Valley produces over 70% of Hawaiʻi's taro, the main source of income for the local government and residents is tourism and tourism related activities including construction, maintenance and repair, food service, and sales office support (County of Kauaʻi 2000). At least 35% of the housing in Hanalei is open for seasonal recreational or occasional use (Hawaiʻi Tourism Authority 2014). Although some people stay in the tourist facilities available in the Hanalei area, many tourists staying at other parts of the island travel to the north shore to enjoy the scenic amenities.

The median household income in Hanalei for 2009-2013 was $38,594, lower than the median household income for the State of Hawaiʻi of $67,402. The median per capita income in Hanalei in 2013 was $28,072, lower than the State median per capita income of $29,305.[17] As of December 2014, the State unemployment rate was 4%, lower than the national average of 5.8% (Bureau of Labor Statistics 2015). For the past ten years, unemployment in Hanalei was slightly higher (approximately 1%) than the State average, but lower than the national average.

Hanalei Traders, Inc. owns the subject property. They lease the Hanalei Center to the proprietors of the restaurant, gift shop, and fish market. Hanalei Traders, Inc. derives income from leases at Hanalei Center and rental of the five cottages (four short-term and one long-term). All persons employed to work in various positions on the property are Kauaʻi residents. The restaurant employs approximately 24 people.

[17] From www.census.gov (2015).

The fish market buys directly from local fisherman, providing residents and businesses with fresh caught fish and contributing to the local economy.

Four of the cottages are licensed by the County as transient vacation rentals and provide tax revenue. Occupancy varies, but on average they are occupied 42 weeks per year. Hanalei Traders, Inc. employs housekeeping, landscaping, and facility maintenance staff to maintain the cottages and grounds. Additionally the cottages themselves are valued at approximately $425,000 each. All businesses located on the subject property pay General Excise Tax to the State of Hawaiʻi.

3.3.1.2 Environmental Consequences, Alt 1: Proposed Action

Under the Proposed Action, there would be no impacts or changes to the State and local resident population size or median household income. Completion of the Proposed Action would have economic benefits. The construction activities will be contracted out to Hanalei based contractors and will provide a temporary benefit to the local economy. The rental cottages will continue to provide income for the property owners, some of which will be spent in the local community for goods and services. Additionally, maintaining the cottages as available rental properties supports continued tourism in the area, a major contributor to the local economy of Hanalei and north shore Kauaʻi. Visitors to the Hanalei Dolphin cottages usually spend money for other goods and services while visiting Hanalei, including at the Hanalei Center. The Hanalei Center, including the Dolphin Restaurant, gift shop, and fish market, would continue to operate, and the employment these businesses provide for local residents would continue. Completion of the proposed project would provide socioeconomic benefits in that both residents and tourists utilizing the river adjacent to the proposed project site would experience improvements to scenic resources, water quality, and potentially improved habitat in the immediate vicinity for subsistence fishing and gathering.

3.3.1.3 Environmental Consequences, Alt 2: No Action

It is highly probable that the No Action Alternative will have adverse effects on the livelihood of the owners of the Hanalei Traders property and potentially some of the employees. Under this alternative it is highly likely that the rental properties would be undermined by the eroding river bank and be deemed unsafe for occupancy. In this case the owner would lose not only the value of the structures, but also the income provided by the rental of these units. Additionally, there would be a loss of tax and tourist revenue. If any of the structures on the subject property are deemed unsafe for human occupation it may be necessary to decrease the number of employees that provide services at the property.

3.3.2 Recreational Resources

3.3.2.1 Existing Conditions

The Hanalei River is actively used for cultural, recreational, and regulated commercial activities including subsistence fishing and gathering, paddling and swimming. Currently, signs posted along the Hanalei River by HDOH warn people not to swim due to water pollution issues. The rental cottages and restaurant provide for recreation on the subject property. The subject property is not used as a launching point for recreational activities in the river.

3.3.2.2 Environmental Consequences, Alt 1: Proposed Action

Implementation of the Proposed Action would not result in any adverse effects to recreational resources. Although implementation will reduce the amount of sediment being released into the river, thus deceasing turbidity, the proposed project alone is unlikely to significantly decrease the water quality issues.

3.3.2.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative there would be no change to recreational resources.

3.3.3 Historical and Cultural Resources

3.3.3.1 Existing Conditions

A review of the National and State Registers of Historic Places and consultation with SHPD revealed that there are no historic properties listed or eligible for listing within or directly adjacent to the subject property. The closest landmarks listed on the State Register of Historic Places to the subject property are the Haraguchi Rice Mill and the Bridge over the Hanalei River along Kuhio Highway. The subject property does not support any traditional resource uses, nor are there any Native Hawaiian customary and traditional rights or practices known to be associated with it.

On October 19, 2015 the lead archeologist from the DLNR SHPD Kauaʻi office conducted a field inspection of the site. Although this was not a formal archeological survey, the field inspection did not reveal any positively identified historic or cultural features. The presence of some vertically aligned rocks set perpendicular to the river bank between and adjacent to Cottages 4 and 5, as well as a pile of rocks fronting Cottage 5 just inland from the top of the river bank, was noted. Although the origin of the rocks is not known, they are likely landscaping features that were placed on the property for aesthetic reasons.

The Hanalei River contains resources that have been traditionally used and retain cultural significance for some. Subsistence fishing is still conducted in areas along the river, mainly near the mouth. Although subsistence fishing may occasionally occur in the river along the subject property, fisher people commonly remain further downstream as that the best location to catch fish. Fishing from the bank of the subject property is not permitted nor is accessing the river from the subject property.

Oʻopu (gobies), which utilize this portion Hanalei River, have cultural significance as well as being a food source. Oʻopu nōpili were traditionally used in certain ceremonies such as the weaning ceremony for first-born children and house warming feasts. Oʻopu alamoʻo were considered kapu (sacred) and believed to be related to the moʻo gods and bad luck if caught.

During the initial review of the DA permit in 2010, USACE requested consultation with native Hawaiian organizations and individuals. During September and October 2015, sixteen non-governmental organizations and individuals, as well as the Office of Hawaiian Affairs (OHA) and DLNR SHPD, were contacted via email and mailed letters to inquire if they had any knowledge of on-going traditional activities, rights, or resources that might occur in the vicinity of the proposed project, specifically within and along this section of the Hanalei River. Activities were defined to include, but not be limited to, cultural practices, subsistence activities, and religious and spiritual customs. SRGII received one written response to this inquiry, from the Hanalei Canoe Club. The Canoe Club comments were mainly

ecological in nature, however they did remark that the installation work should not impede river access for the Club or any other river users. SRGII responded that the installation will not impede river access. The Canoe Club comments and responses are included in Appendix A. Both OHA and SHPD responded via phone that they did not have any knowledge of on-going traditional activities, rights or resources that might occur in the vicinity of the proposed project.

3.3.3.2 Environmental Consequences, Alt 1: Proposed Action

There will be no excavation on the land area where equipment and supplies will be staged prior to and during construction or along the 450 ft. of river bank to be stabilized via installation of a biowall. Light grubbing to remove non-native plants will occur along 450 ft. of river bank followed by construction of the biowall. As required by the DLNR State Historic Preservation Division, if historic remains (e.g. artifacts, burials, concentrations of shell or charcoal) are encountered during construction activities, the contractor will cease work immediately in the vicinity of the find and notify the proper government offices (the County Planning Department and the SHPD) for an assessment of significance and recommendations of the appropriate mitigation measures. If by chance there are archeological features located in the substrate of the river bank below grade, over the long term they will be protected from erosion and exposure by the biowall.

The two rock structures located on the property will not be moved or otherwise impacted during any construction work. To insure no damage occurs to the rocks, the construction documents that the contractors will review and sign off on before commencing work will identify the location of the features and show equipment ingress and egress paths that avoid the rock features. Any other rock features encountered on the property that have not been identified will also be protected from any construction impacts.

To ensure that any historic or cultural features will be properly identified, an archeologist will be onsite to monitor the construction and inspect the project site, including the river bank, during the first two days of project implementation, which would include the entire grubbing phase. Safeguards and mitigation strategies to avoid any impacts to potential historic or cultural features will be included on construction drawings and site plans, to include narrative describing the features and avoidance measures. The construction contractor and their personnel will be required to acknowledge understanding of any safeguards and mitigation strategies before commencing work.

Both the Haraguchi Rice Mill and the Bridge over the Hanalei River are upstream of the Hanalei Traders property and implementation of the proposed project would not have any effects on these landmarks.

Implementation of the proposed project will not affect any Native Hawaiian customary and traditional rights protected under Article XII, Section 7 of the Hawaiʻi State Constitution. The proposed project will not change existing access to the river, adversely affect any natural resources (e.g. plants, wildlife, water quality) or hinder in any fashion the ability of Native Hawaiians to continue to exercise all rights, customarily and traditionally employed for subsistence, cultural, and religious purposes.

3.3.3.3 Environmental Consequences, Alt 2: No Action

Under the No Action Alternative the river bank will continue to erode. Although there are no known historical or cultural features, some may potentially exist below the surface and with continued erosion

would be at risk for being exposed or washed away by the river. There would be no impacts or changes to Native Hawaiian customary and traditional rights or practices within the project or surrounding areas.

3.4 Secondary and Cumulative Effects

Cumulative impacts can result from individually minor but collectively significant actions taking place over time (40 CFR Sec 1508.7). Analyzing cumulative effects requires identification of the range (or type) of actions that have or may occur in the same area as the Proposed Action and assessing their potential impacts in combination with the Proposed Action. It is important to determine what the overall result would be if individual impacts were allowed to accumulate.

Little information is available on specific plans for future land use in Hanalei including those properties along the Hanalei River. Future land use is guided by the Kaua‘i General Plan (County of Kaua‘i 2000), which puts forth a framework for future land use that includes “preserving Kaua‘i’s rural character”; maintaining and preserving historic structures such as the Hanalei one lane bridge; and ensuring that policies relating to land, waters, and culture are in place “for managing human activities to maintain the quality of the environment - particularly the quality of Kaua‘i’s waters and watersheds”. Current landholdings in the vicinity of the subject property are not likely to change in the near future and thus infrastructure and use of the adjacent properties is unlikely to change either. The most substantial cumulative effect to consider is any changes to water quality that may result due to implementation of the proposed project that would further impair water quality in the Hanalei River. Adverse effects to water quality are unlikely due to employment of BMPs.

4. CONSISTENCY WITH GOVERNMENT PLANS AND POLICIES

Hawai‘i State Land Use Law. Lands in the State of Hawai‘i are classified into one of four land use categories: Urban, Rural, Agricultural, and Conservation. The subject property is in the Urban District. Activities and uses within the Urban District are governed by ordinances or regulations of the county in which the Urban District is situated.

Kaua‘i General Plan. The Kaua‘i General Plan, adopted in 2000, provides a 20 year planning vision for the location and character of new development and facilities and planning details for County and State facilities and services. The Kaua‘i General Plan sets forth policy for its six county urban land use designations. The policies for these designations primarily cover development of these lands. The subject property is designated Open Land. The proposed project does not conflict with the goals and objectives described for the Open Land designation in the Kaua‘i General Plan.

North Shore Development Plan. The North Shore Development Plan is an addendum to the Kaua‘i General Plan for the larger north shore region from Kilauea through the Na Pili coast. It establishes development plans, zoning maps, and design criteria to guide and regulate future development and protect physical and social characteristics that are found to be of particular public value. The proposed project is consistent with the goals and objectives described in the North Shore Development Plan.

County of Kaua‘i Comprehensive Zoning Ordinance. The proposed project is consistent with County Zoning Ordinances.

Coastal Zone Management Program / Special Management Area. The state-wide Coastal Zone Management (CZM) Program is administered by DBEDT, Office of Planning. The CZM Program has delineated Special Management Areas (SMA) throughout the state, which are areas of land extending inland from the shoreline in which development is regulated. Each county has been given local authority, and the County of Kaua‘i Planning Department is responsible for issuing permits for activities on Kaua‘i. This project requires a SMA Minor Permit, applicable to actions “with a valuation that does not exceed $500,000; and which has no substantial adverse environmental effect, taking into account potential cumulative effects”.

Department of the Army. The USACE is charged with protecting the aquatic resources of the United States, which includes navigable waters and wetlands. The USACE is responsible for issuance of permits for work, including construction, above, below or within these waters. A provisional DA permit was issued in October 2010. This provisional DA permit did not authorize the proposed work but rather described the permit conditions and the additional permit requirements to be satisfied before issuance.

5. DETERMINATION, FINDINGS, AND REASONS

5.1 Determination

Based on the findings (Section 5.2), and upon consideration of comments to the Draft EA, the Hawai‘i State Board of Land and Natural Resources is expected to determine that the Proposed Action will not significantly alter the environment, as impacts will be minimal, and is expected therefore to issue a FONSI.

5.2 Significance Criteria

Section 11-200-12, Hawai‘i Administrative Rules, outlines those factors agencies must consider when determining whether an action has significant effects. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

1. *Involves an irrevocable commitment or loss or destruction of any natural or cultural resource.*
   The proposed project will not cause a loss or destruction any natural or cultural resources as discussed in Sections 3.2 and 3.3.4.

2. *Curtails the range of beneficial uses of the environment.*
   The proposed project in no way curtails beneficial uses of the environment in this area.

3. *Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders*.
   The broad goals of the long-term environmental policies are to conserve natural resources and enhance quality of life. The proposed action is minor and basically environmentally benign, and is thus consistent with all elements of the State's long-term environmental policies.

4. *Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.*
   The project will not have any substantial effect on the economic or social welfare or the cultural practices of the Kaua‘i North Shore community or the State of Hawai‘i.

5. *Substantially affects public health.*
   No effects to public health are anticipated.

6. *Involves substantial secondary impacts, such as population changes or effects on public facilities*.
   No adverse secondary effects are expected to result from the river bank stabilization project, which is not significant enough to directly or indirectly tax public infrastructure or facilities.

7. *Involves a substantial degradation of environmental quality*.
   The proposed action is minor and is being regulated by permits to avoid environmental degradation, and thus would not contribute to environmental degradation.

8. *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.*
   The biowall will cover only a small amount of the overall river bank in the lower reach of the Hanalei River and is a self-sustaining structure. Preventions will be in place to avoid any adverse effects to water quality during and after construction. Beneficial effects to the Hanalei River due to decreased

sedimentation will occur over the long term. The overall project will not result in any adverse cumulative effects nor will it create a situation where commitment for larger actions is necessary.

9. *Substantially affects a rare, threatened or endangered species, or its habitat.*
   The proposed project will not substantially affect any rare, threatened or endangered species or their habitat as discussed in Section 3.2.

10. *Detrimentally affects air or water quality or ambient noise levels.*
    Due to the character and density of the proposed action, no adverse effects on these resources would occur. Brief, temporary effects would occur during construction and will be mitigated.

11. *Affects or is likely to suffer damage as a result of being located in environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.*
    The project site is located along the Hanalei River in an area prone to erosion. The proposed action is planned to reduce the potential for erosion.

12. *Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.*
    The proposed project is in a low lying area and the biowall would only be visible to residents and visitors from the subject property and to the general public from the river for a short time period along a small stretch of river. Over time, plants in the biowall will grow and obscure the view of the structure. Since the project is very small, and plants will be placed within the project site, there will not be any substantial adverse effects to scenic vistas and viewplanes.

13. *Requires substantial energy consumption*.
    No additional energy consumption is expected as a result of this project.

For the reasons above, the proposed action will not have any significant effect in the context of Chapter 343, Hawaiʻi Revised Statues and Section 11-200-12 of the State Administrative Rules.

6. REFERENCES

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7. LIST OF PREPARERS

Kristin N. Duin, Principal
M.S. Energy and Resources (Resource Management Planning)
Experience: 20 years

Andrew P. Hood, Principal
M.S. Civil and Environmental Engineering (Water Resources Engineering)
Experience: 24 years

Michelle Roberts, Natural Resources Management Specialist
M.S. Ecosystem Science (Restoration Ecology)
Experience: 15 years

Appendix A. Consultations

The following agencies, citizen groups, and individuals were contacted by telephone, mail, email, or in-person during the preparation of this assessment. Copies of correspondence follow.

Federal:
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- NOAA NFMS

State of Hawaiʻi:
- Department of Land and Natural Resources:
  - Commission on Water Resources Management
  - Division of Aquatic Resources
  - Division of Boating and Ocean Resources
  - Division of Forestry and Wildlife
  - Engineering Division
  - Land Division
  - Office of Conservation and Coastal Lands
  - Office of Environmental Quality Control
  - Office of Hawaiian Affairs
  - State Historic Preservation Division

County of Kauaʻi:
- Planning Department
- Department of Public Works

Private:
- Hanalei Hawaiian Civic Canoe Club
- Hanalei Land Company LLC
- Hanalei River Heritage Foundation
- Hanalei Watershed Hui
- Hale Halawai ʻOhana ʻO Hanalei
- Hawaiian Islands Land Trust Kauaʻi Office
- Hui Makaʻāinana o Makana
- Kaʻieʻie Foundation
- Kauaʻi North Shore Community Foundation
- Kuaʻāina Ulu ʻAuamo
- Waipa Foundation
- Bob Butler
- Allan Hoe
- Rubillite Johnson
- Mike Sheehan
- Randy Wichman
- Ralph Young

SUSTAINABLE RESOURCES GROUP INTN'L, INC.

September 17, 2015

Organization or Individual
Address

Dear XX,

Sustainable Resources Group Intn'l Inc. has been contracted by Hanalei Traders, Inc., the owners of the Hanalei Dolphin Restaurant and the Hanalei Dolphin Cottages, to conduct an Environmental Assessment (EA) to assess impacts of conducting a river bank stabilization project for the Hanalei Dolphin property located at river mile #1 of the Hanalei River at 5016 Kuhio Highway, Hanalei (TMK: (4) 5-5-010:67).

The proposed project would install a bioengineered wall comprised of boulders, coarse gravel backfill, geotextile roll bags filled with grow medium, and native plants along 450 ft. of the property's river bank. The project would also remove non-native plants along this section of river bank. Native plants will be installed to stabilize the river bank, beautify the site, and as a potential food source for native waterbirds. The proposed design will not harden the river bank, but rather result in a vegetative cover. The goal of the project is to stabilize the severely eroding river bank and reduce the risk of property loss, including rental cottages. The construction of the project will be done in two phases during the dry season: 230 ft. in year one and 220 ft. in year two. Each construction phase is expected to take four weeks.

As part of the development of the EA, impacts to cultural resources will be assessed. We are asking you for any knowledge of on-going traditional activities, rights, or resources that might occur in the vicinity of this project, specifically within and along this section of the Hanalei River. These can include cultural practices, subsistence activities, and religious and spiritual customs.

The analysis of impacts to cultural resources are dependent on the response and contributions made by individuals and organizations such as yours. Please send any information or comments within 30 days to Sustainable Resources Group Intn'l Inc., 111 Hekili St, Suite A373, Kailua, HI 96734; fax: 808-356-0552; or email: contact@srgii.com. Comments are requested by October 17, 2015.

Before including an address, phone number, email address, or other personal identifying information, anyone providing written comment should be aware their entire comment – potentially including their personal identifying information – may be included in the EA, which will be open to public review. Please request that personal information be omitted if that is your preference.

Please contact us if you have questions or would like more information. Mahalo in advance for your assistance.

Sincerely,

Andrew P. Hood

Andrew Hood
Principal

111 Hekili Street, Suite A373
Kailua, HI 96734
Tel/Fax: 808-356-0552 • www.srgii.com

SUSTAINABLE RESOURCES GROUP INTN'L, INC.

17 September 2015

Dr. Alan Downer
Hawai'i Department of Land and Natural Resources
State Historic Preservation Office
Kakuhihewa Building
601 Kamokila, Suite 555
Kapolei, HI 96707

Subject: Request to Initiate Formal Consultation under Section 106 of the National Historic Preservation Act for Proposed River Bank Stabilization Measures along the Hanalei River

Dear Dr. Downer:

Sustainable Resources Group Intn'l Inc. (SRGII) has been contracted by Mr. Roger Ross of Hanalei Traders, Inc., to prepare an Environmental Assessment (EA) in accordance with the Hawai'i Environmental Policy Act, Chapter 343, Hawai'i Revised Statutes (HRS), and its implementing regulations, Title 11, Chapter 200, Hawai'i Department of Health Administrative Rules (HAR) to perform river bank stabilization measures on the Hanalei Dolphin property (Tax Parcel ID (4) 5-5-010:067) along 450 feet of the Hanalei River. In addition to the EA, SRGII is assisting with other permits required to implement proposed project including a Section 401 Water Quality Certification (WQC) permit and a Department of the Army (DA) permit from the Army Corps of Engineers. Both the EA and the DA permit require that the potential for impacts to Historical and Cultural Resources be evaluated.

The 2.3 acre privately owned Hanalei Dolphin property, hosts a fish market, gift shop, and five river front cottages. The bank along the Hanalei River has been experiencing accelerated erosion for several years due to offsite impacts to the river system. The stabilization is necessary to control the river bank erosion which, if left unchecked, will continue to result in sediment discharges and eventually cause damage to some of the buildings on the property. The EA analyzes two alternatives:

> *Proposed Action*: Construction of a bioengineered wall comprised of (1) placement of two to three foot diameter boulders along the base of the river bank below the ordinary low water level to provide for toe protection and foundation support; (2) placement of coarse gravel backfill; (3) placement of stacks of geotextile roll bags filled with grow medium; and (4) planting of native plants between the roll bags. Grow medium will be comprised of 80% washed sand and 20% compost; no additional fertilizer or other soil amendments will be added. The project will involve removal of non-native species and planting of native and Polynesian species already found in the area.
>
> *No Action*: No river bank stabilization measures will be taken and the river will continue to erode the bank along the Hanalei Dolphin property. Under this alternative, and at the current rate of erosion, it is expected that in the not too distant future, three of the five cottages will be deemed unsafe for occupancy due to instability of the ground beneath them.

111 Hekili Street, Suite A373
Kailua, HI 96734
Tel/Fax: 808-356-0552 • www.srgii.com

Issues that will be analyzed in depth in the EA include the project's effect on: land use and infrastructure; topography, geology and soils; water resources; air quality; noise; scenic resources; vegetation; fish and wildlife; habitat; cultural and historic resources; recreational resources; socioeconomic resources; site specific economic resources; and any cumulative effects.

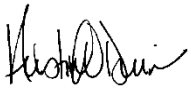
The area of potential effect (APE) includes the Hanalei Dolphin property as well as the Hanalei River adjacent to and downstream of the property. A review of the National and State Register of Historic Places indicates that there are no historic properties listed or eligible for listing within the project site or the subject property. The portion of the Hanalei River contained in the APE may be used for cultural activities, including subsistence fishing, but it is believed the proposed project is unlikely to adversely affect any cultural activities and may result in beneficial effects to any cultural resources subsequently identified due to a reduction in the amount of sediment being released into the Hanalei River. Impacts to the Hanalei River, and thus Hanalei Bay, will be avoided by employing best management practices that are fully described and included as conditions of the WQC permit.

The purpose of this correspondence is to formally initiate consultation with the Hawaiʻi Department of Land and Natural Resources State Historic Preservation Division (SHPD) under Section 106 of the National Historic Preservation Act on the proposed river bank stabilization measures, inquire if the SHPD has any knowledge about the property, and to solicit any early input or concerns that you may have regarding this proposed action. The U.S. Army Corps of Engineers encourages applicants for DA permits to contact the local SHPD office as early as possible during project planning to address any issues relevant to Section 106. SRGII is contacting SHPD on behalf of the DA permit applicant, Mr. Roger Ross, and as part of the development of the EA.

SRGII will be conducting the analysis of impacts to cultural resources based on information gained from investigation of historic records and verbal and written feedback from State agencies, community organizations, kupuna and kamaʻāina. Outreach is being made via email and letters to individuals and agencies. A copy of the EA (along with any other supporting documents) will be provided to your office for review when available. SRGII has been advised by the Office of Environmental Quality Control that a Cultural Impact Assessment is not required for this project.

We look forward to your comments and response in your role as a consulting agency on this project. If you have any questions or require additional information please contact me at 808-356-0552 (phone) or kduin@srgii.com (email). Thank you in advance for your assistance.

Sincerely,



Kristin Duin
Principal

cc: Mary Jane Naone
Hawaiʻi Department of Land and Natural Resources
State Historic Preservation Division, Kauai
P.O. Box 1729
Lihue, HI 96766

SUSTAINABLE RESOURCES GROUP INTN'L, INC.

23 October 2015

Mr. Russell Y. Tsuji (Administrator)
Hawai'i Department of Land and Natural Resources
Land Division
Kalanimoku Building
1151 Punchbowl St., Room 220
Honolulu, HI 96813

Subject: Proposed River Bank Stabilization Measures along the Hanalei River

Aloha:

Sustainable Resources Group Intn'l Inc. (SRGII) has been contracted by Mr. Roger Ross of Hanalei Traders, Inc., to prepare an Environmental Assessment (EA) in accordance with the Hawai'i Environmental Policy Act, Chapter 343, Hawai'i Revised Statutes (HRS), and its implementing regulations, Title 11, Chapter 200, Hawai'i Department of Health Administrative Rules (HAR) to perform river bank stabilization measures on the Hanalei Traders property (Tax Parcel ID (4) 5-5-010:067) along 450 feet of the Hanalei River. In addition to the EA, SRGII is assisting with other permits and approvals required to implement the proposed project including a request for *Right of Entry* from the Board of Land and Natural Resources. A Right of Entry will be required as some work will be performed on the river bank below the top of the river bank (the private property boundary), which is under the jurisdiction of the Division of Boating and Ocean Recreation.

The 2.3 acre privately owned Hanalei Traders property hosts a fish market, gift shop, and five river front cottages. The bank along the Hanalei River has been experiencing accelerated erosion for several years due to offsite impacts to the river system. The stabilization is necessary to control the river bank erosion which, if left unchecked, will continue to result in sediment discharges and eventually cause damage to some of the buildings on the property. The EA analyzes two alternatives:

> *Proposed Action*: Construction of a bioengineered wall comprised of (1) placement of two to three foot diameter boulders along the base of the river bank below the ordinary low water level to provide for toe protection and foundation support; (2) placement of coarse gravel backfill; (3) placement of stacks of geotextile roll bags filled with grow medium; and (4) planting of native plants between the roll bags. Grow medium will be comprised of 80% washed sand and 20% compost; no additional fertilizer or other soil amendments will be added. The project will involve removal of non-native plant species and planting of native and Polynesian species already found in the area.
>
> *No Action*: No river bank stabilization measures will be taken and the river will continue to erode the bank along the Hanalei Traders property. Under this alternative, and at the current rate of erosion, it is expected that in the not too distant future, three of the five cottages will be deemed unsafe for occupancy due to instability of the ground beneath them.

111 Hekili Street, Suite A373
Kailua, HI 96734
Tel/Fax: 808-356-0552 • www.srgii.com

Issues that will be analyzed in depth in the EA include the project's effect on: land use and infrastructure; topography, geology and soils; water resources; air quality; noise; scenic resources; vegetation; fish and wildlife; habitat; cultural and historic resources; recreational resources; socioeconomic resources; site specific economic resources; and any cumulative effects.

The purpose of this correspondence is to inform the Hawaiʻi Department of Land and Natural Resources (DLNR) Land Division of the upcoming delivery of the Draft EA on the proposed river bank stabilization measures, and to solicit any early input or concerns that you may have regarding this proposed action. SRGII has also contacted the DLNR State Historic Preservation Division (SHPD) on behalf of Mr. Roger Ross to initiate consultation under Section 106 of the National Historic Preservation Act as required by the Department of the Army Permit.

We look forward to any early comments in your role as the reviewing agency on this project within the next 30 days. DLNR Land Division can expect to receive a copy of the Draft EA within the next couple of months. If you have any questions or require additional information please contact me at 808-356-0552 (phone) or kduin@srgii.com (email). Thank you in advance for your assistance.

Sincerely,

Kristin Duin
Principal

cc: Marvin Mikasa
Hawaiʻi Department of Land and Natural Resources
Land Division, Kauai District Office
3060 Eiwa Street, Room 208
Lihue, HI 96766

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 23, 2015

Sustainable Resources Group Intn'l, Inc.
Attn: Kristin Duin, Principal
111 Hekili Street, Suite A373
Kailua, HI 96734

Dear Ms. Duin,

SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Land Division – Kauai District; (2) Division of Boating & Ocean Recreation;(3) Division of Forestry & Wildlife; (4) Engineering Division; and (5) Commission on Water Resource Management. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 26, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: Marvin Nikesa
Print Name: Marvin Nikesa
Date: Oct. 29, 2015

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 26, 2015

MEMORANDUM

RECEIVED
LAND DIVISION
2015 OCT 30 AM 11:11
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: Edward R Underwood
Print Name: Edward R Underwood
Date: 10/28/15

OCT27'15PM12:29BOR ADM

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2015 NOV 16 AM 11:11
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

October 26, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed: [signature]
Print Name: GALEN KAWAKAMI
Date: NOV. 13, 2015

DAVID Y. IGE
GOVERNOR OF HAWAII

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
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
DIVISION OF FORESTRY AND WILDLIFE
3060 Eiwa Street, Room 306
Lihue, Kauai, HI 96766

November 12, 2015

TO: Russell Y. Tsuji, Land Administrator

FR: Galen K. Kawakami, Kauai Branch Manager

RE: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River TMK: (4) 5-5-010:067

Thank you for your letter dated October 26, 2015 requesting for early comments for a proposed river bank stabilization measures on the Hanalei Traders property TMK: (4) 5-5-010:067.

The Hanalei Trader property which is located along the bank of Hanalei river has been experiencing accelerated erosion due to natural flooding events. The property contains shops and cottages which are prone to becoming damaged if left unabated.

The property owner proposes to place two to three foot diameter boulders along on the base of the river bank below the water lever for toe protection and place coarse gravel backfill and geotextile roll bags with grow medium to establish native plantings.

On Tuesday afternoon, October 27, an on-site inspection was made by a staff wildlife biologist to look at the area and take photographs. The embankment contained several non-native plants and no native plant species. The non-native plant species included California grass (*Brachiaria mutica*) and Hilo grass (*Paspalum conjugatum*), Napier grass (*Penniseitum purpureum*) and several sedges. On the other side of the river bank, Hau (*Hibiscus tiliaceus*), a Polynesian introduced tree was the dominant plant species. The property is a high-use visitor recreational area which includes kayaking, and stand up paddle boarding.

Hawaiian waterbirds

The Hanalei river valley supports feeding and nesting habitat for five state and federally endangered waterfowl species. This includes the Hawaiian coot (*Fulica alai*), Hawaiian gallinule (*Gallinula c. sandvicensis*), Hawaiian duck (*Anas wyvilliana*), Hawaiian stilt (*Himantopus mexicanus*) and Hawaiian goose (*Branta sandvicensis*). The nearby U.S. Fish and Wildlife Service - Hanalei National Wildlife Refuge supports all five species. During my inspection, I did not observe any listed waterfowl and did not find any evidence of nesting activity in the area. The heavy presence of human activity along that section of the river is most likely the reason for the absence of waterbirds. Although, no waterbirds were observed during the inspection, it is recommended a survey be conducted by a knowledgeable wildlife biologist at least two weeks prior to the start of construction. This is to determine whether waterbird nesting had occurred during the EA review period.

Hawaiian seabirds

The Hanalei valley watershed is considered an important nesting ground for two listed seabird species: Newell's shearwater (*Puffinus a. newelli*) and Hawaiian petrel (*Pterodroma sandwichensis*). It is well-document that these seabirds transit the area at night during the nesting season which runs from April to mid-December. Therefore, it is imperative that night time work using construction lights are avoided as much as possible, due to the light attraction problem. If the project requires night-time work using construction lights, it is recommended the lights be shielded and pointed downward and not pointed upward toward the night sky. This action would reduce the potential risk of attracting birds to the project area. From mid-September to mid-December, fledging seabirds depart from their mountain nesting grounds to the sea. This is the critical period as young seabirds are highly susceptible to bright lights and falling to the ground. We recommend no use of night construction lights during this period.

Hawaiian bat

The Hawaiian bat (*Lasiurus cinerus semotus*) is known to transit the area at night in search of food and their roosting area. Bats roost in native and non-native trees and tall shrubs throughout the island of Kauai. The birthing and pup rearing season is from May 15 to August 15, therefore, it is recommended that no cutting or trimming of trees greater than 15 feet (4.6 meters) during this period. If you foresee that trees will need be cut or removed, we recommend doing so outside of this period. Otherwise, if trees need to be cut or removed inside of the pup rearing season, we recommend that you consult with a knowledgeable wildlife biologist to determine the status of bats in the area prior to cutting or removal.

Thank you for the opportunity to provide comments. If you have any questions, please contact Thomas Ka'iakapu or Jason Vercelli at 808-274-3433. Mahalo.

Cc: Kauai DOFAW files

DAVID Y. IGE
GOVERNOR OF HAWAII

'15 OCT 27 AM 11:03 ENGINEERING

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 26, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 11/17/15

DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII
2015 NOV 18 AM 6:37
RECEIVED LAND DIVISION

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Early Input for DEA for Proposed River Bank Stabilization Measures Along the Hanalei River Kauai.020

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone AEF. The National Flood Insurance Program regulates developments within Zone AEF as indicated in bold letters below.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Carter Romero (Acting) at (808) 961-8943 of the County of Hawaii, Department of Public Works.

( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.

(X) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

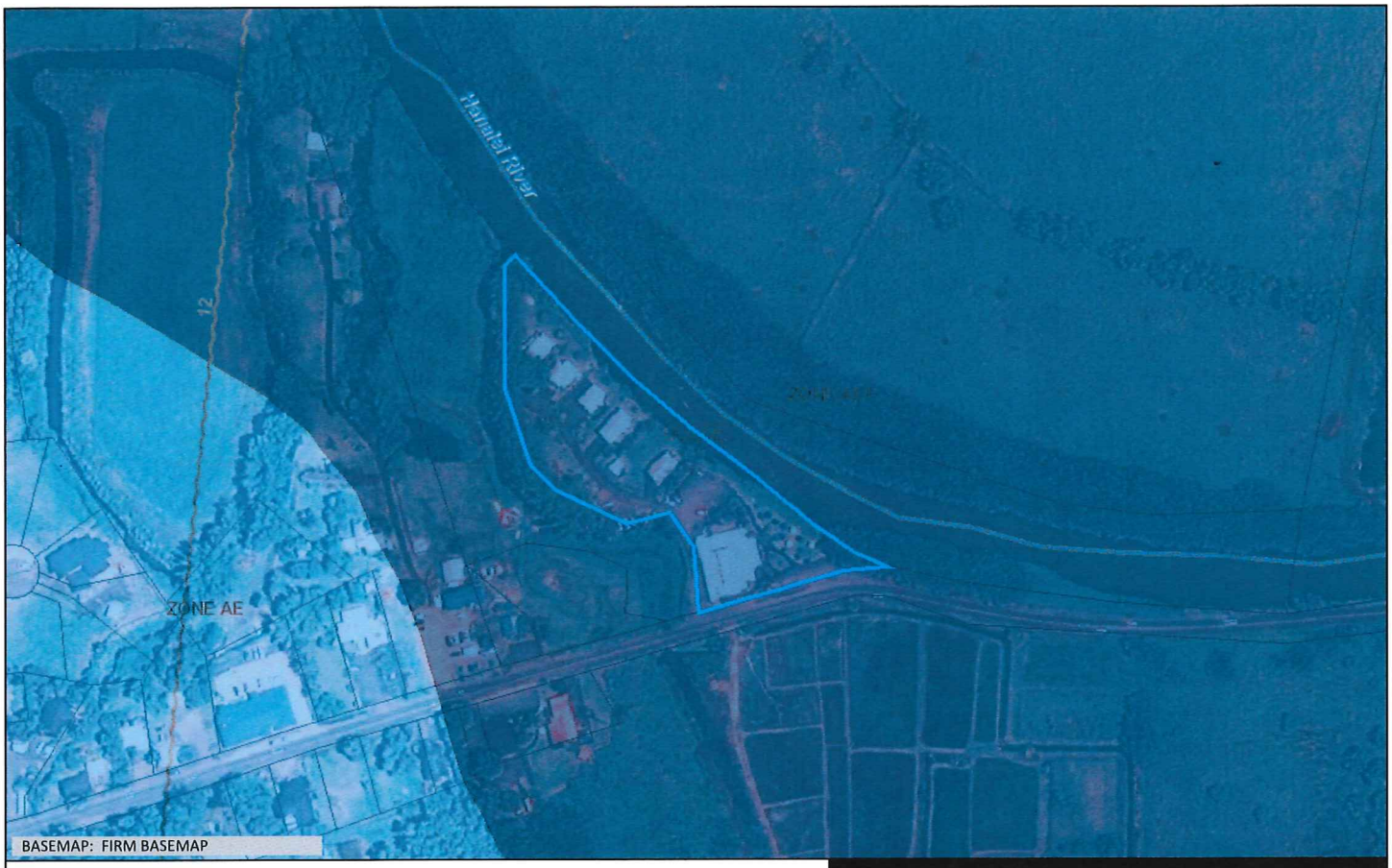
( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 11/19/15



Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	KAUAI
TMK NO:	(4) 5-5-010:067
WATERSHED:	HANALEI
PARCEL ADDRESS:	05-5016 KUHIO HWY HANALEI, HI 96714

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 26, 2010
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	1500020055E
PANEL EFFECTIVE DATE:	SEPTEMBER 16, 2005

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: YES
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: NO
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 200 400 ft

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2015 NOV 20 AM 11:04
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

October 26, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(x) Comments are attached.

Signed: Jeffrey T. Pearson, P.E.
Print Name: Deputy Director
Date: November 17, 2015

FILE ID: RD. 1275.2
DOC ID: 13485

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON

WILLIAM D. BALFOUR, JR.
KAMANA BEAMER, PH.D.
MICHAEL G. BUCK
MILTON D. PAVAO
VIRGINIA PRESSLER, M.D.
JONATHAN STARR

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR

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

November 17, 2015

REF: RFD.4275.2

TO: Mr. Russell Tsuji, Administrator
Land Division Oahu, DLNR-LD

FROM: Jeffrey T. Pearson, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River

FILE NO.: RFD.4275.2
TMK NO.: (4) 5-5-010:067

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://dlnr.hawaii.gov/cwrm.

Our comments related to water resources are checked off below.

☐ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.

☐ 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EAP as having high water efficiency can be found at http://www.epa.gov/watersense.

☐ 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://hawaii.gov/dbedt/czm/initiative/lid.php.

☐ 6. We recommend the use of alternative water sources, wherever practicable.

☐ 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program.

☐ 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at

http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.

- [ ] 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- [ ] 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
- [ ] 11. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.
- [ ] 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- [ ] 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- [ ] 14. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- [X] 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.
- [ ] 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
- [ ] 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- [ ] 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

- [ ] OTHER:

If you have any questions, please contact Dean Uyeno of the Commission staff at 587-0234.

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 1, 2015

Sustainable Resources Group Intn'l, Inc.
Attn: Kristin Duin, Principal
111 Hekili Street, Suite A373
Kailua, Hawaii 96734

via email: kduin@srgii.com

Dear Ms. Duin:

SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measure along the Hanalei River

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on November 23, 2015, enclosed are comments from the Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
OCT 27 2015
AQUATIC RESOURCES

DAR #5195

October 26, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Kauai District
X Historic Preservation

JKV
DH

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Hanalei Traders Inc. Environmental Assessment, Proposed River Bank Stabilization Measures along the Hanalei River
LOCATION: Hanalei River in the vicinity of the Hanalei Traders property, Tax Parcel ID (4) 5-5-010:067
APPLICANT: Hanalei Traders Inc. by its consultant Sustainable Resources Group Intn'l, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document.

Please submit any comments by November 19, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached. BSA

Signed: Bruce Anderson
Print Name: Bruce S. Anderson, DAR Administrator
Date: 11/23/15

RECEIVED
LAND DIVISION
2015 NOV 27 AM 10:47
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR OF HAWAII

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

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: November 17, 2015
DAR # 5195 EA

MEMORANDUM

TO: Bruce S. Anderson, DAR Administrator BSA
DATE: 11/23/15
FROM: Donald E. Heacock, Aquatic Biologist (deh)
SUBJECT: Pre-draft EA for the Hanalei Traders, Inc. proposed stabilization of the Hanalei River Bank

Comment	Date Request	Receipt	Referral	Due Date
	10-26-15	10-27-15	10-28-15	11-19-15

Requested by: Russell Y, Tsuji, Land Administrator, DLNR

Summary of Proposed Project

Title: Applicant requests comments (pre-draft EA) on potential impacts of the proposed stabilization methods for the eroding Hanalei River Bank

Project by: Sustainable Resources Group Intn'l, Inc. (SRGII) on behalf of Hanalei Traders, Inc.

Location: Left bank of the Hanalei River estuary adjacent to property owned by Hanalei Traders, Inc., TMK: (4) 5-5-10: 67, Hanalei, Kauai

Brief Description: Applicant is developing a Draft EA, and is requesting agency comments. The Draft EA will evaluate potential impacts of proposed stream bank stabilization methods, list possible alternatives, and is required in accordance with the Hawaii Environmental Policy Act, Hawaii Revised Statutes Chapter 343, and its implementing regulations, Title 11, Chapter 200 and the Hawaii Dept. of Health Administrative Rules (HAR).

Comments: The Hanalei River is a large (16.2 miles long) and dynamic river on Kauai's north shore, with headwaters in the 'Alaka'i with over 450 inches of rain, and with river flows ranging from20-50 million gallons per day (mgd) to over 6 billion mgd. Because of its hydrogeographic features, Hanalei River has a large floodplain. It is also one of the 10 "National Heritage Rivers" in the United States, and has a relative abundance of all of the native Hawaiian amphidromous species of 'o'opu, 'opae and hihiwai or wi. The culturally and economically important 'o'opu nakea spawns on basalt boulders and

large cobble stones within the Hanalei River estuary, including adjacent to this proposed stream bank stabilization project. About 40 species of native fishes use this estuary for feeding, breeding and as a nursery habitat.

Also, the river, riparian and wetland areas along the Hanalei River estuary are commonly used by species of endangered Hawaiian water birds, most notably the Hawaiian gallinule or 'alae ula, the Hawaiian duck or koloa, Hawaiian coot or 'alae ke'oke'o and the Hawaiian goose or nene. The Hawaiian hoary bat, ape'ape'a, also feeds along the river during the early evening.

The reasons the Hanalei River bank is eroding at this project location, and adjacent private property is being threatened, are as follows:

1. Riparian trees were removed from along the river bank and riparian area, de-stabilizing the bank, when the property was developed, presumably to give visitors and those staying in the 5 cottages a better view of the river;
2. The river is large with very high water velocities and very large discharge volumes, up to 6 billion gpd;
3. The project location is on the eroding left bank (west side of river) which is on the outside of a very sharp, almost 90 degree, bend (to the east) in the river which directs flood flows (with higher water velocities) into the left bank where the erosion is occurring; this situation is exacerbated by the opposite right bank (east side) being dominated by a very large amount of invasive hau trees, Hibiscus tiliaceus, which are growing emergent into the river, also forcing the main flow of the river against the eroding left bank;
4. Considering that large rivers are dynamic, erode their banks and even make new channels and change their direction of flow, the cottages in question are constructed in the floodplain too close to the river bank.

The proposed filling and hardening of the eroding left bank will likely cause increased bank erosion of adjacent property located downstream. As an alternative to the proposed bank stabilization and erosion control, the following actions are recommended:

1. Working with the USDA/Natural Resources Conservation Service, the US Fish & Wildlife Service and the Division of Forestry and Wildlife, develop a "Soil and Water Conservation Plan" to plant and/or transplant coconut trees, Kukui nut trees, hala trees and other bank stabilizing trees and shrubs as large as possible, and plant them midway between the cottages and the eroding river bank;
2. Working with adjacent land owners, particularly the rancher on the east side of the river, USDA/NRCS, and DLNR, develop an invasive hau tree removal project on the right (east) bank, of the river; this will reduce or nearly eliminate floodwaters being deflected towards the left (west) bank;
3. It may be necessary to develop a plan to move the cottages that are threatened by riverbank erosion to a new location.

Finally, if the proposed filling and hardening of the riverbank is approved, the following actions should be taken:

1. For boulders and fill material to be placed with a river channel, a "Stream Channel Alteration Permit" must be obtained by the CWRM; this permit, if issued, should fulfill the applicant's request for a "right of entry" in order to conduct channel alterations in the river.

2. Also, because the Hanalei River is considered a "Navigable River", permits for river channel alteration may also be required by the US Army Corps of Engineers;
3. All fill and hardening materials use should be relatively smooth basalt boulders and cobble stones of various sized because the 'o'opu nakea prefer smooth surfaces on which to lay their eggs.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plans, DAR requests the opportunity to review and comment on those changes.

Hanalei Land Company LLC.
P.O. Box 81
Hanalei, Hawaii 96714

[Click here and type return address]

February 3, 2010

Brian M. Hennessy, P.E.
Wagner Engineering Services, Inc.
P.O. Box 851
Hanalei, HI 96714

Dear Brian:

Thank you for presenting the proposed river bank stabilization plan for the Hanalei Dolphin property to me yesterday. As the property's immediate downstream neighbor I have witnessed the continuous erosion of the property and was especially troubled by the new direction and intensity of the November 14, 2009 flood. I am in support the proposed plan to stabilize the river bank. We are currently undergoing simila repair/restoration work as a result of the most recent flooding on the Kauikeolani fish pond and perhaps some of the techniques could be applicable to your project. Please come by the site soon to review them when you get a chance and let me know if you need any further assistance with the project.

Sincerely,

Keola Sheehan
Hanalei Land Company, LLC
P.O. Box 81
Hanalei, Kauai, HI. 96714

Comments and Responses

Agencies, citizen groups, and individuals provided comments as part of the early consultation provisions of HAR Sections 11-200-9(a)(1), 11-200-9(b)(1), or 11-200-15, and statutorily prescribed public review periods. A table providing responses to the comments and a description of how they were addressed in the EA, if applicable, is included.

Comment	Response
Hanalei Hawaiian Civic Canoe Club (October 12, 2015)	
The Club is aware that this portion of the river bank, lying along an outside curve of the river, has been subject to historic erosion. The Club is also aware that continued erosion of the river bank in this area will eventually undermine the structures on the subject property as well as septic and or cesspool systems on the subject property. Both of these eventualities pose unacceptable dangers to the health of the Hanalei River, and require either reduction in river bank erosion or removal of the structures on the subject property. Accordingly, the Club generally supports the goal of the proposed Project as an initial attempt to solve this problem. The Club however has the following concerns regarding the implementation of the Project:	Comment acknowledged. The Club's support for the project is appreciated.
The installation of stabilization materials is scheduled for the "dry season." The Hanalei River is, however, subject to flooding at all times of the year and the Project should be prepared for this possibility at all times.	We are aware that the Hanalei River is subject to flooding at all times of the year. The installation of stabilization materials would not be possible during a flood event and therefore work would be rescheduled. Weather forecast will be monitored continuously during the construction phase and in the event the forecast indicates moderate to high rainfall, work will cease until the threat has passed.
Installation work should not impede river access for the Club or any other river users. Similarly, the stabilization material should not significantly alter the current river bank by adding material to the bank and thereby narrowing the river channel in the Project area.	There are no plans to impede river access for any river users during construction. Best Management Practices include use of a silt curtain made of a polystyrene geotextile fabric, with a top floatation device and an anchor chain. The silt curtain will be temporarily placed in the river to catch sediments that may be released during construction. It will be attached to the downstream and upstream project boundaries, forming an arc with a maximum distance from the bank of ten feet. This distance will allow unrestricting passage up and down the river by users. No equipment will be placed within the bed or banks of the channel. The bank stabilization will not significantly alter the topography of the current river bank or narrow the river channel.
The Project should provide assurances that the stabilization of this portion of the river bank will not simply shift erosion to adjacent unstabilized portions of the river bank upstream or downstream of the Project site. Increased erosion upstream of the Project would undermine the state highway. The Club understands that at least in some instances the "stabilization" of either river banks or ocean shorelines in one area simply shifts erosion to neighboring property creating the perceived necessity of even more stabilization work which ultimately results in negative overall outcomes.	Over the long term, implementation of the proposed project will reduce erosion and sedimentation from the Hanalei Traders property into the river, which will have beneficial results on water quality. The biowall will have minimal to no effect on riverine and estuarine hydrodynamics. Hydraulic analysis conducted using the HEC-RAS one-dimensional hydraulic model indicates that banks downstream on both sides of the river and upstream from the biowall will not be impacted with respect to erosion or deposition. Cross section stations used in the model were derived from 2009 and 2014 topographic surveys of the project reach. The stations extend from

Comment	Response
	approximately 150 feet downstream of the downstream most limit of the project area, to 100 feet upstream of the upstream limit. The model was run under existing site conditions at a range of discharges (minimum: 70 cfs, maximum: 6,500 cfs). Model output evaluated includes velocity and water surface elevations for each discharge. The model was run a second time with the same discharges and geometry at the stations changed to reflect the proposed geometry. Roughness values were also changed to reflect the biowall. Comparison of model outputs for the two models runs were made at all stations including those upstream and downstream of the project on both sides of the river. Changes to water surface elevations and velocities were minimal at all discharges. Shear stress exerted by the flowing water against bed and bank surface would not change appreciably, and rates of sediment deposition and erosion are not expected to occur from implementation of the design.
Installation should be carried out so as to eliminate or minimize any reduction in the water quality of the river.	Best Management Practices will be implemented during construction in accordance with applicable permits (Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) and as required by Kaua‘i County Sediment and Erosion Control Ordinance No. 808 to minimize any reduction in water quality. Over the long-term, water quality is expected to improve as nitrogen is taken up by plants in the biowall and fine sediments currently being released into the river are reduced as a result of the stabilization.
The property owner conducting this Project should be required to provide assurances that should stabilization material "fail," the property owner will be responsible for its removal and the remediation of the river bank to its natural state.	The natural systems engineering approach adopted by this project will result in a natural bank along the project reach, versus the alternative of hardening the river bank. The property owner will comply with the terms of all permits required for this construction project. In the event there is failure the landowner will remove material from the water and repair the damage.
The Project should consider seeking permission and approvals to remove invasive hau bush from the stream bank opposite the project site. This invasive vegetation along the inside curve of this portion of the river serves to direct the flow of the river against the area of proposed stabilization and likely increases erosion in this area.	Encroachment of hau bush into the channel has altered channel hydrodynamics and most probably is accelerating the rate of erosion along the river bank along the Hanalei Traders property. However, the land on the opposite bank is privately owned and it is beyond the Hanalei Traders Inc. ability to address this issue. We would encourage the Canoe Club to pursue this issue with various government agencies that have management authority regarding the hau bush encroachment.
Approval of the Project should be contingent on some system of regular monitoring in the future to ensure that the Project is not causing any unanticipated harms.	Water quality monitoring will occur prior to and during construction per the requirements of the Applicable Monitoring and Assessment Program for CWA Section 401 WQC.
State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife (November 23, 2015)	
On Tuesday afternoon, October 27, an on-site inspection was made by a staff wildlife biologist to look at the area and take photographs. The embankment contained several non-native plants and no native plant species. The non-native plant species included California grass (*Brachiaria mutica*) and Hilo grass (*Paspalum*	Noted.

Comment	Response
conjusatum), Napier grass (*Penniseitum purpureum*) and several sedges. On the other side of the river bank, Hau (*Hibiscus tiliaceus*), a Polynesian introduced tree was the dominant plant species. The property is a high-use visitor recreational area which includes kayaking, and stand up paddle boarding.	
The Hanalei river valley supports feeding and nesting habitat for five state and federally endangered waterfowl species. This includes the Hawaiian coot (*Fulica alai*), Hawaiian gallinule (*Gallinula c. sandvicensis*), Hawaiian duck (*Anas wyvilliana*}, Hawaiian stilt (*Himantoyus mexicanus*) and Hawaiian goose (*Branta sandvicensis*). The nearby U.S. Fish and Wildlife Service - Hanalei National Wildlife Refuge supports all five species. During my inspection, I did not observe any listed waterfowl and did not find any evidence of nesting activity in the area. The heavy presence of human activity along that section of the river is most likely the reason for the absence of waterbirds. Although, no waterbirds were observed during the inspection, it is recommended a survey be conducted by a knowledgeable wildlife biologist at least two weeks prior to the start of construction. This is to determine whether waterbird nesting had occurred during the EA review period.	As recommended by DLNR DOFAW, the following practices to avoid any adverse impacts to birds will occur. Two weeks prior to the start of construction a knowledgeable wildlife biologist will inspect the site to determine if there are any nesting waterbirds. In the unlikely event that nesting waterbirds are present, construction will be delayed until all chicks have fledged and left the area.
The Hanalei valley watershed is considered an important nesting ground for two listed seabird species: Newell's shearwater (*Puffinus a. newelli*) and Hawaiian petrel (*Pterodroma sandwichensis*). It is well-document that these seabirds transit the area at night during the nesting season which runs from April to mid-December. Therefore, it is imperative that night time work using construction lights are avoided as much as possible, due to the light attraction problem. If the project requires night-time work using construction lights, it is recommended the lights be shielded and pointed downward and not pointed upward toward the night sky. This action would reduce the potential risk of attracting birds to the project area. From mid- September to mid-December, fledging seabirds depart from their mountain nesting grounds to the sea. This is the critical period as young seabirds are highly susceptible to bright lights and falling to the ground. We recommend no use of night construction lights during this period.	As recommended by DLNR DOFAW, the following practices to avoid any adverse impacts to birds will occur. The project will not entail any night time work or the use of night construction lights, which if used could attract Newell's shearwaters or Hawaiian petrels and result in birds becoming disoriented and falling to the ground.
The Hawaiian bat (*Lasiurus cinerus semotus*) is known to transit the area at night in search of food and their roosting area. Bats roost in native and non-native trees and tail shrubs throughout the island of Kauai. The birthing and pup rearing season is from May 15 to August 15, therefore, it is recommended that no cutting or trimming of trees greater than 15 feet (4.6 meters) during this period. If you foresee that trees will need be cut or removed, we recommend doing so outside of this period. Otherwise, if trees need to be cut or removed inside of the pup rearing season, we recommend that you consult with a knowledgeable wildlife biologist to determine the status of bats in the area prior to cutting or removal.	As recommended by DLNR DOFAW, the following practices to avoid any adverse impacts to bats will occur. There will be no cutting or trimming of trees greater than 15 feet (4.6 meters) during the birthing and pup rearing season from May 15 to August 15.

Comment	Response
State of Hawaii Department of Land and Natural Resources, Engineering Division (November 23, 2015)	
Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone AEF. The National Flood Insurance Program regulates developments within Zone AEF as indicated in bold letters below.	Noted and discussed in EA.
Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267. Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below: Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.	As required for any development within a Special Flood Hazard Area, the project will comply with the rules and regulations of the National Flood Insurance Program presented in Title 44 of the Code of Federal Regulations. Specifically, implementation of the proposed action will not increase the flood hazard on other properties and all required federal and state permits will be obtained prior to execution.
State of Hawaii Department of Land and Natural Resources, Commission on Water Resource Management (November 23, 2015)	
A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.	Understood. An application is being filed.