DAVID Y. IGE
GOVERNOR

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SEP 06 2018

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7888

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

August 24, 2018

TO: THE HONORABLE VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

ATTN: SCOTT GLENN, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

FROM: JADE T. BUTAY
DIRECTOR OF TRANSPORTATION

RECEIVED
'18 AUG 28 P1:48
OFC. OF ENVIRONMENTAL QUALITY CONTROL

SUBJECT: FINAL ENVIRONMENTAL ASSESSMENT (Final EA) AND
FINDING OF NO SIGNIFICANT IMPACT FOR
HONOAPIILANI HIGHWAY, REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)
LAHAINA DISTRICT, ISLAND OF MAUI
HONOAPIILANI HIGHWAY RIGHT-OF-WAY AND
TMKS: (2)4-1-001:010 (POR.) AND (2)4-2-004:032 (POR.)

The Department of Transportation hereby transmits the Final EA and Finding of No Significant Impact determination for the subject project. Please publish a notice of availability for this project in the next available edition of the Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication Form and one hardcopy of the Final EA. The enclosed compact disc contains the Publication Form (Word document) and a PDF version of the Final EA.

Should you have any questions, please call Kevin Ito of our Technical Design Services Section, Design Branch, Highways Division at (808) 692-7548 or email at kevin.ito@hawaii.gov and reference letter number HWY-DS 2.7888 as noted above.

Enclosure

19-076

AGENCY
PUBLICATION FORM

Project Name:	Honoapi'ilani Highway Rehabilitation of Honolua Bridge (Federal-Aid Project No. BR-030-1 (37))
Project Short Name:	Rehabilitation of Honolua Bridge
HRS §343-5 Trigger(s):	Use of State Lands and Funds; Use of land in the State Conservation District
Island(s):	Maui
Judicial District(s):	Lahaina
TMK(s):	Honoapi'ilani Highway Right of Way, (2)4-1-001:010 (por.), and (2)4-2-004:032 (por.)
Permit(s)/Approval(s):	NEPA Categorical Exclusion, Section 4(f) Department of Transportation Act of 1966 Compliance, Section 106 National Historic Preservation Act Compliance, Section 7 Endangered Species Act Compliance, NPDES Permit (as applicable), Conservation District Use Permit, Community Noise Permit (as applicable), Oversize/Overweight Vehicle Transport over State Highways Permit (as applicable), Special Management Area Use Permit, Flood Hazard Area Development Permit, Construction Permits
Proposing/Determining Agency:	State of Hawai'i, Department of Transportation, Highways Division, Design Branch
Contact Name, Email, Telephone, Address	Kevin Ito, Engineer, Kevin.Ito@hawaii.gov, (808)692-7548, 601 Kamokila Boulevard, Room 688, Kapolei, Hawai'i 96707
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	Munekiyo Hiraga
Contact Name, Email, Telephone, Address	Colleen Suyama, planning@munekiyohiraga.com, (808)244-2015, 305 High Street, Suite 104, Wailuku, Hawai'i 96793

Status (select one)	**Submittal Requirements**
_____ DEA-AFNSI	Submit 1) the proposing 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.
__X__ FEA-FONSI	Submit 1) the proposing 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 proposing 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 proposing 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 accepting authority, 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 accepting authority, 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 accepting authority simultaneously transmits to both the OEQC and the proposing agency 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	Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
____ Supplemental EIS Determination	The accepting authority simultaneously transmits its notice to both the proposing agency 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

Provide a description of the proposed action and purpose and need in 200 words or less.

The State of Hawai'i, Department of Transportation proposes to rehabilitate Honolua Bridge, located along Honoapi'ilani Highway, between milepost 32.40 and 32.51 on the northwestern coast of Maui. Rehabilitation of the existing one-lane bridge with a superstructure that has a load capacity consistent with current design standards and has parapets that are compliant with the Manual for Assessing Safety Hardware (MASH) 2016. The rehabilitation of the bridge will consist of the structure remaining 18-feet wide and improved with one 12-foot wide travel lane and one 5-foot wide shoulder for pedestrian and bike travel on the makai side and a 1-foot wide shoulder on the mauka side and bridge rails on the makai bridge parapet. A temporary traffic detour road and temporary bridge will be constructed on the makai side of the highway right-of-way to allow the road to remain open during the construction period.

Final Environmental Assessment

HONOAPIʻILANI HIGHWAY, REHABILITATION OF HONOLUA BRIDGE PROJECT

(Federal-Aid Project No. BR-030-1 (37))

Submitted Pursuant to Hawaiʻi Revised Statutes, Chapter 343 by:

State of Hawaiʻi
Department of Transportation

August 2018

Final Environmental Assessment

HONOAPIʻILANI HIGHWAY, REHABILITATION OF HONOLUA BRIDGE PROJECT

(Federal-Aid Project No. BR-030-1 (37))

Submitted Pursuant to Hawaiʻi Revised Statutes, Chapter 343 by:

State of Hawaiʻi
Department of Transportation

August 2018

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List of Acronyms

AASHTO	American Association of State Highway Transportation Officials
AIS	Archaeological Inventory Survey
AMFAC	American Factors
ALISH	Agricultural Lands of Importance to the State of Hawai'i
APE	Area of Potential Effects
BLNR	Board of Land and Natural Resources
BMPs	Best Management Practices
CFR	Code of Federal Regulations
CFS (cfs)	Cubic Feet Per Second
CIA	Cultural Impact Assessment
CDUP	Conservation District Use Permit
CRM	Concrete Reinforced Masonry
CSH	Cultural Surveys Hawai'i
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DA	Department of the Army
DAR	Division of Aquatic Resources
DLNR	State Department of Land and Natural Resources
DOFAW	Division of Forestry and Wildlife
DOH	State Department of Health
DOT	Department of Transportation
DWS	Department of Water Supply
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FRP	Fiber-reinforced Polymer
FTA	Federal Transit Administration
HACCP	Hazard Analysis and Critical Control Point Plan
HAER	Historic American Engineering Record
HAR	Hawai'i Administrative Rules
HCZMP	Hawai'i Coastal Zone Management Program
HRS	Hawai'i Revised Statutes
LCA	Land Court Award
LEDPA	Least Environmentally Damaging Practicable Alternative
LRFD	Load and Resistance Factor Design
LSB	Land Study Bureau
MASH	Manual for Assessing Safety Hardware
MCC	Maui County Code
MCCRC	Maui County Cultural Resources Commission
MIP	Maui Island Plan
MPH (mph)	Miles Per Hour
MSL	Mean Sea Level
MUTCD	Manual on Uniform Traffic Control Devices

NBI	National Bridge Inventory
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OP	Office of Planning
PER	Preliminary Engineering Report
RGB	Rural Growth Boundary
ROW	Right-of-Way
rSM	Stony Alluvial Land (Soil Classification)
SCAP	Stream Channel Alteration Permit
SCS	Scientific Consultant Services, Inc.
SDOT	State of Hawai'i, Department of Transportation
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
SIHP	State Inventory of Historic Places
SMA	Special Management Area
SOI	Secretary of the Interior
STB	Small Town Boundary
STIP	State Transportation Improvement Program
UGB	Urban Growth Boundary
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WQC	Water Quality Certification

Executive Summary

Project Name:	Honoapi'ilani Highway Rehabilitation of Honolua Bridge (Federal-Aid Project No. BR-030-1 (37))
Type of Document:	Final Environmental Assessment
Legal Authority:	Chapter 343, Hawai'i Revised Statutes
Determination:	Finding of No Significant Impact (FONSI)
Applicable Environmental Assessment review "Trigger":	a. Use of State Lands and Funds b. Use of land in the State Conservatoin District
Location:	TMK: Honoapi'ilani Highway Right-of-Way, (2)4-1-001:010 (por.), and (2)4-2-004:032 (por.) Honolua, Lāhainā Maui Island
Proposing and Determination Agency:	State of Hawai'i Department of Transportation Highways Division Design Branch 601 Kamokila Boulevard, Room 688 Kapolei, Hawai'i 96707 Contact: Kevin Ito, Engineer Phone: (808) 692-7548
Consultant:	Munekiyo Hiraga 305 High Street, Suite 104 Wailuku, Hawai'i 96793 Contact: Colleen Suyama Phone: (808) 244-2015
Project Summary:	The State of Hawai'i, Department of Transportation (SDOT) proposes to rehabilitate Honolua Bridge located along Honoapi'ilani Highway, between milepost 32.40 and 32.51 on the northwestern coast of Maui. Honoapi'ilani Highway is a State-owned major collector roadway (Route 30). The existing one-lane Honolua Bridge is approximately 24-feet in length and 18-feet in width and serves both inbound and outbound traffic on Honoapi'ilani Highway.

There are no accommodations for pedestrians or bicyclists on the existing bridge.

The purpose of the project is to upgrade the Honolua Bridge with a superstructure that has a load capacity consistent with current design standards and has parapets that are compliant with the Manual for Assessing Safety Hardware (MASH) 2016. The rehabilitation of the existing bridge will consist of the structure remaining 18-feet wide and improved with one 12-feet wide travel lane and one 5-feet wide shoulder for pedestrian and bike travel on the makai (ocean) side and a 1-foot wide shoulder on the mauka (mountain) side and bridge rails on the makai bridge parapet. The current guardrail and end treatment connections will be upgraded. Signage and striping will be required and shall comply with SDOT Standards and the 2009 version of the Manual on Uniform Traffic Control Devices. A temporary traffic detour road and temporary bridge will be constructed on the makai (ocean) side of the highway right-of-way to allow the road to remain open during construction.

PROJECT OVERVIEW

I. PROJECT OVERVIEW

A. INTRODUCTION

The State of Hawai'i, Department of Transportation (SDOT) proposes to rehabilitate Honolua Bridge in the district of Lāhainā, Island of Maui. Honolua Bridge is located along Honoapi'ilani Highway, between milepost 32.40 and 32.51 on the northwestern coast of Maui. Honoapi'ilani Highway is a State-owned major collector roadway (Route 30) that provides access to the westernmost side of Maui from more central areas of the island. The highway begins in Wailuku and circumnavigates the West Maui Mountains, passing through Waikapū, Mā'alaea, Olowalu, Launiupoko, Lāhainā, Kahana, Nāpili, Kapalua, Honolua, and ending at Honokōhau Bay. At this point, the highway continues as Kahekili Highway which makes its way around the northwestern coastline of Maui via Kahakuloa and ends in Wailuku. See **Figure 1**.

The existing one-lane Honolua Bridge is approximately 24-feet in length and 18-feet in width and serves both inbound and outbound traffic on Honoapi'ilani Highway. Currently there are no accommodations for pedestrians or bicyclists on the existing bridge. See **Figure 2**.

The Honolua Bridge, built in 1924, has been identified as potentially eligible for the National Register of Historic Places (NRHP) in the *Architectural Inventory Survey (AIS)* prepared for Austin, Tsutsumi & Associates, Inc. by Mason Architects, Inc. in October 2011. The bridge's eligibility was confirmed in the *"Hawaii State Historic Bridge Inventory and Evaluation"* prepared for the State of Hawai'i, Department of Transportation, Highways Division by MKE Associates LLC and Fung Associates, Inc. in November 2013. The *Archaeological Inventory Survey Report for a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhaina District, Maui Island, [TMK: (2) 4-1-001:05 (por.), :09 (por.) and :10 (por.)]* (Perzinski and Dega July 2014; SCS Project Number 1023-6), included documentation of Site 50-50-1754, Feature 11 (historic bridge) and identified the structure as eligible for the NRHP. Correspondence from the State Historic Preservation Division (Log No. 2104.03793 and Doc. No. 1502MD36, dated February 23, 2015), confirms their concurrence with these findings.

Honolua Bridge is a State-owned roadway facility. The project area is bounded by three (3) land parcels owned by Maui Land & Pineapple Company (TMKs (2) 4-1-001:009; (2) 4-2-001:001; and (2) 4-2-004:032) and a parcel owned by John Carty and Jay Carty Jr. (TMK (2)4-1-001:005). Lipoa Point (TMK (2)4-2-001:010), which was purchased from Maui Land & Pineapple Company by the State of Hawai'i, is also adjacent to Honolua Bridge. See **Figure 3**. In addition to work within the Honoapi'ilani Highway right-of-way,

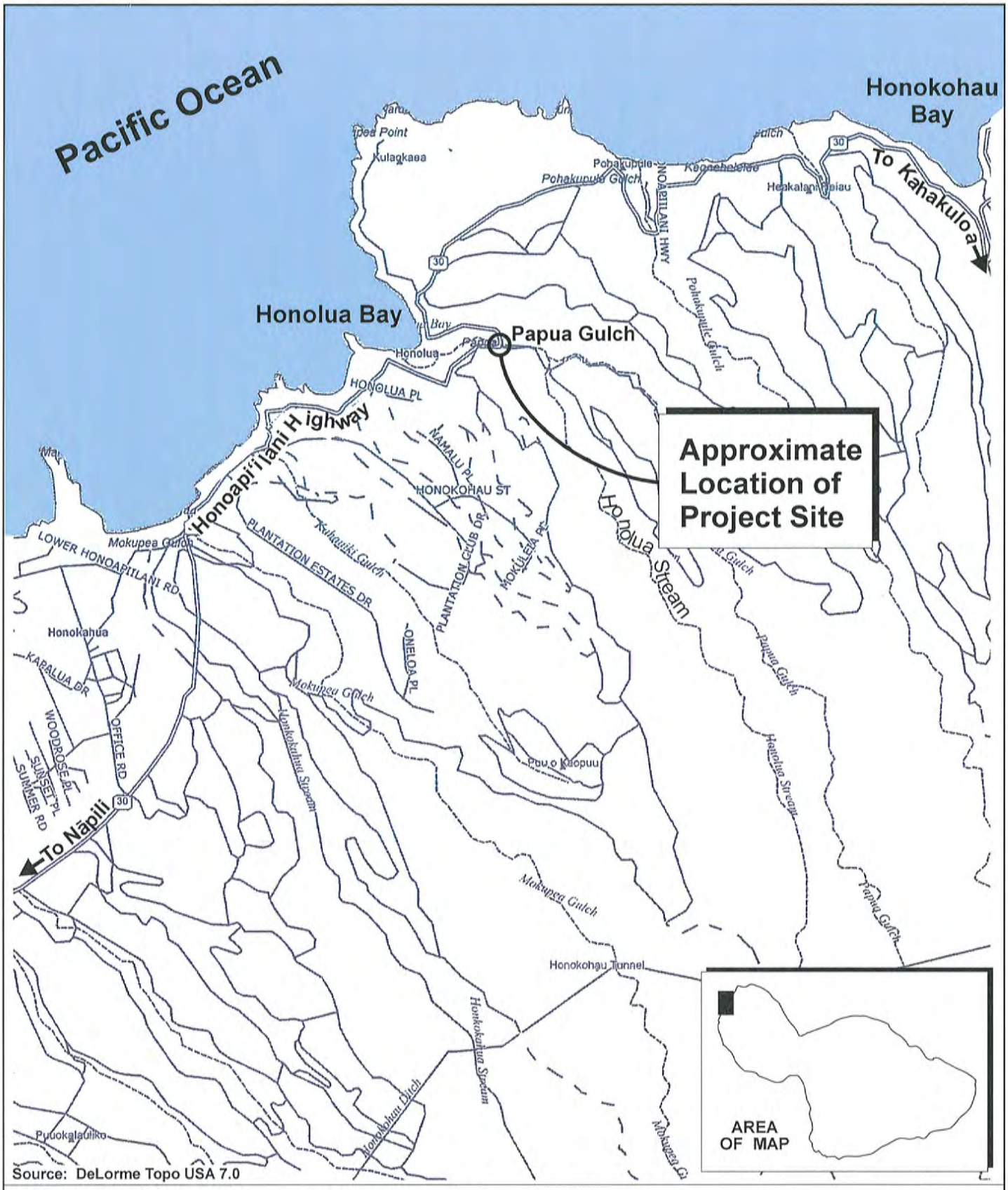

Figure 1

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Regional Location Map

1,000 0 Feet
500 2,000

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

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Source: Austin, Tsutsumi & Associates, Inc.

Figure 2 Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Site Photos

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

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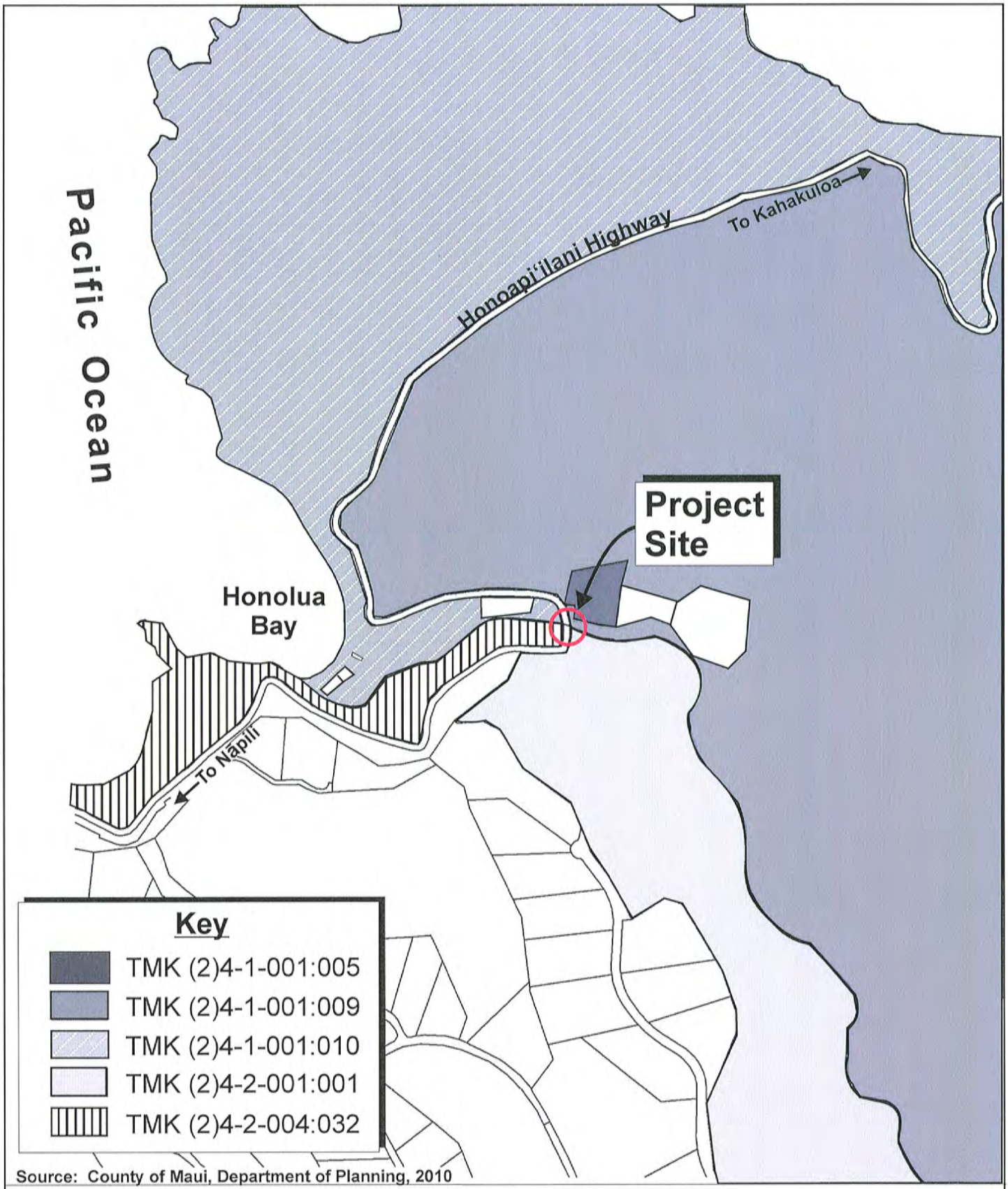

Figure 3

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

Tax Map Key Map

0 426.5 Feet
213.25 853

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

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the proposed project will involve work in the two (2) parcels makai of the roadway, TMK (2)4-2-004:032 (owned by Maui Land and Pineapple Company) and (2)4-2-001:010 (owned by the State of Hawai'i). The other parcels surrounding the bridge will not be impacted.

B. PROJECT BACKGROUND AND NEED

The State of Hawai'i has implemented a Highways Modernization Plan with the goal of improving highway safety and reducing traffic congestion through the maintenance and upgrade of critical highway projects throughout the state. The proposed Honoapi'ilani Highway, Rehabilitation of Honolua Bridge is included within this plan under the Bridge Preservation Program (Project Reference #S3-307B).

The existing Honolua Bridge, does not meet current American Association of State Highway Transportation Officials (AASHTO) standards specifications for highway bridges, in terms of geometrics, weight load capacity and hydraulic capacity. Based on the State Bridge Preservation Program Assessment, the existing bridge has a National Bridge Inventory (NBI) sufficiency rating of 42.2 based on a 100 point scale. Any score below 50 warrants replacement, or rehabilitation to increase the assessment score above 50 points according to the preservation guidelines. See **Appendix "A"**.

C. PROPOSED ACTION

The purpose of the project is to upgrade the Honolua Bridge with a superstructure that has a load capacity consistent with current design standards and has parapets that are compliant with the Manual for Assessing Hardware (MASH) 2016. The rehabilitation of the existing bridge will involve replacement of the bridge deck and parapets, utilizing the existing abutments. The new deck is proposed to be a non-corrosive prefabricated fiber-reinforced polymer (FRP) superstructure designed to current standards that looks similar to concrete. The new parapets will be concrete and will be anchored into concrete or epoxy grout that fill a void inside the FRP section. The rehabilitated structure will remain 18-feet wide and will be improved with one 12-feet wide travel lane and one 5-feet wide shoulder for pedestrian and bike travel on the makai (ocean) side and a 1-foot wide shoulder on the mauka (mountain) side and a 1-foot, 10-inch high bridge rail on 2-foot, 8-inch high concrete makai bridge parapet. The current guardrail and end treatment connections will be upgraded. Signage and striping will be required and shall comply with SDOT Standards and the 2009 version of the Manual on Uniform Traffic Control Devices (MUTCD).

The work will include construction of a traffic detour road and temporary bridge spanning Honolua Stream on the makai (ocean) side of the highway right-of-way to allow the road to remain open during construction. The temporary prefabricated metal bridge will be assembled onsite and attached to a temporary abutment to be constructed outside of

Honolua Stream and its embankment. The surface of the temporary detour road will be either compacted soil, gravel or asphaltic concrete. See **Figure 4**, **Figure 5**, and **Figure 6**.

Once construction is completed, the temporary detour route and bridge would be removed and the area restored to its original condition, as much as possible. No work will occur below the existing bridge abutments or within the stream bank.

D. CHAPTER 343, HAWAI'I REVISED STATUTES (HRS) AND NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REQUIREMENTS

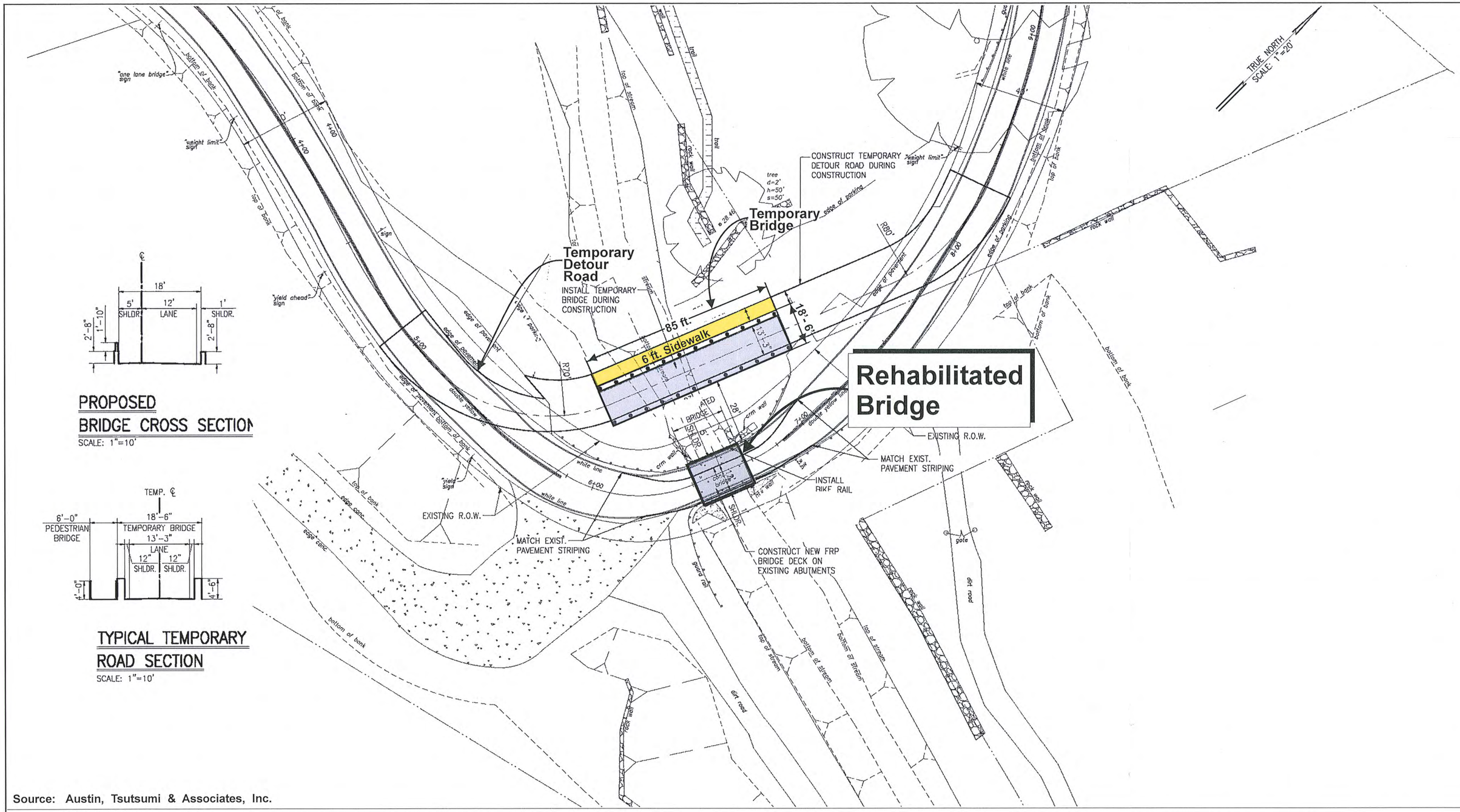
The SDOT is proposing this project to upgrade the Honolua Bridge with a superstructure that has a load capacity consistent with current design standards and has parapets that are compliant with MASH 2016. As this project requires the use of State lands and funds, the proposed action is a trigger for the preparation and processing of an EA pursuant to Chapter 343, Hawai'i Revised Statutes (HRS). This EA has been prepared in accordance with Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules.

Furthermore, this SDOT-funded project includes funding support from the Federal Highway Administration (FHWA), thereby triggering requirements of the National Environmental Policy Act or NEPA. SDOT anticipates processing a Categorical Exclusion through FHWA for the proposed project.

This document addresses the project's technical characteristics, environmental impacts and alternatives, and advances findings and conclusions relative to the significance of the proposed action. The initiating and determining agency for the EA is the SDOT. This EA has been prepared to address the preferred alternative which is to rehabilitate the existing one-lane bridge (with construction of a temporary detour crossing on the makai side of the highway right-of-way during construction). It is noted that a portion of the bridge and the lands on the makai side (towards Honolua Bay) of the bridge are within the State Land Use "Conservation" District. As such, any work proposed in the "Conservation" District is also a trigger for Chapter 343, HRS.

E. TIME SCHEDULE

The implementation of the project will commence after all governmental approvals have been secured. It is anticipated that the proposed action will require a Section 106 National Historic Preservation Act (NHPA), Section 7 Endangered Species Act (ESA), and Section 4(f), U.S. Department of Transportation Act of 1996 clearances; Conservation District Use Permit (CDUP), and Special Management Area (SMA) Use permit before any construction permits can be issued. Assuming all necessary permits are obtained,



PROPOSED
BRIDGE CROSS SECTION
SCALE: 1"=10'

TYPICAL TEMPORARY
ROAD SECTION
SCALE: 1"=10'

Source: Austin, Tsutsumi & Associates, Inc.

Figure 4

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

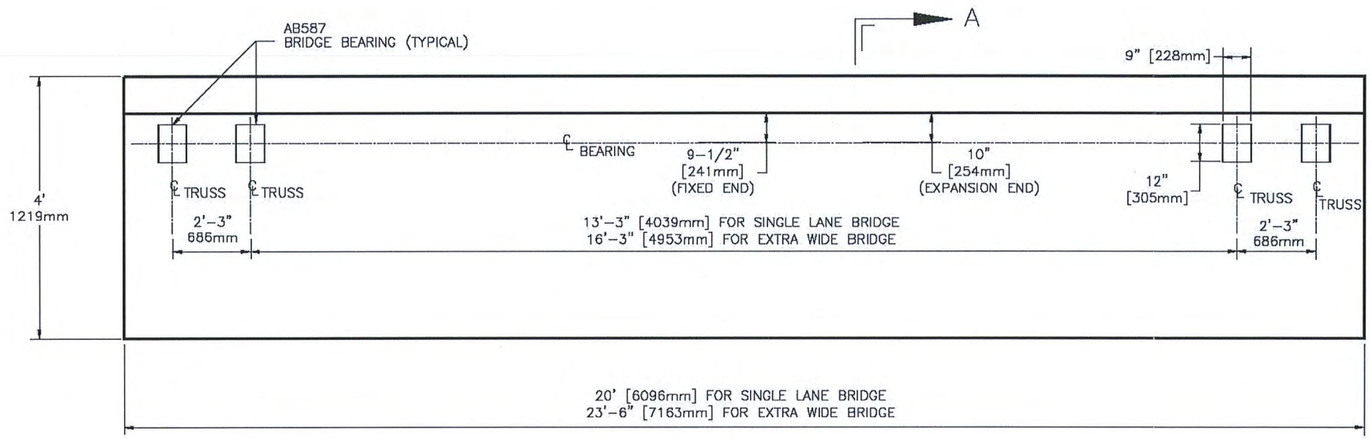
Conceptual Bridge Layout Plan - One Lane Bridge Rehabilitation

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

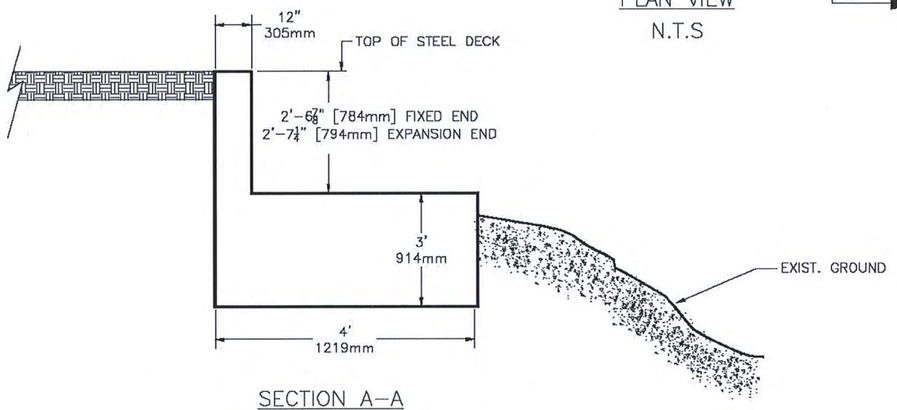
MUNEKIYO HIRAGA

ATA/HonoluaBridge/Final EA/Figures/Alt2



PLAN VIEW

N.T.S



SECTION A–A

NOTE:

THIS IS A TYPICAL ABUTMENT. SOIL CONDITIONS MAY DICTATE CHANGES TO DIMENSIONS.

BACKWALL TO BE INSTALLED AFTER BRIDGE IS IN PLACE.

Temporary Bridge and Pedestrian Walkway

Anchor Detail

Source: ACROW Bridge

Figure 5

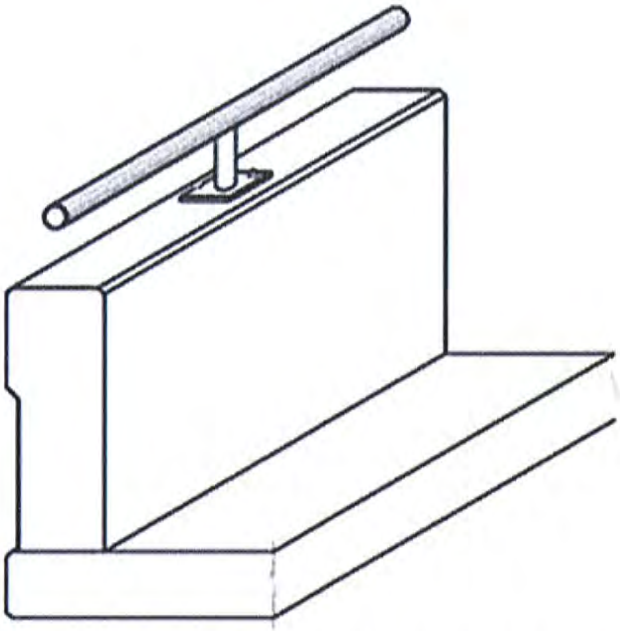
Honoapi‘ilani Highway Rehabilitation of Honolua Bridge

Temporary Bridge Construction

NOT TO SCALE

Prepared for: State of Hawai‘i, Department of Transportation

MUNEKIYO HIRAGA



Example of bridge rails on bridge parapets

Example of fiber-reinforced polymer bridge deck

Source: ACROW Bridge

Figure 6

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Illustrative Representations of Bridge Elements

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

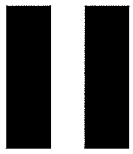
ATA\HonoluaBridge\Final EA\Figures\BridgeElements

construction is expected to begin in the fall of 2020 and completed within four (4) months. Honoapi'ilani Highway in the vicinity of the Honolua Bridge would remain open to traffic during contruction.

F. COST IMPLICATIONS

The estimated construction cost for the proposed improvements is $3.0 million.

ALTERNATIVES ANALYSIS



II. ALTERNATIVES ANALYSIS

A. STATE OF HAWAI'I BRIDGE PRESERVATION PROGRAM

The State of Hawai'i, Department of Transportation (SDOT) has implemented a Highways Modernization Plan with the goal of improving highway safety and reducing traffic congestion through maintenance and upgrading of critical highway projects throughout the State of Hawai'i. Honolua Bridge is included in this plan under the Bridge Preservation Program. The SDOT reviewed several Alternatives utilizing the following criteria:

1. Transportation Objective

- *Does the alternative increase the roadway capacity and advance long-term transportation planning objectives?*

2. Design Criteria

- *Does the alternative increase the National Bridge Inventory (NBI) Sufficiency Rating?*
- *Does the alternative increase hydraulic capacity of the bridge?*
- *Does the alternative meet Federal Highway Administration (FHWA) and SDOT standards for two-way traffic?*
- *Does the alternative require realignment of the highway which affects nearby driveway accesses?*

3. Environmental Factors

- *Does the alternative avoid negative impacts to environmental resources (wetlands, streams, sensitive habitats, etc.)?*
- *Impacts to environmental resources can be reasonably mitigated?*

4. Historic/Cultural Resources

- *Does the alternative avoid significant impacts to historic or cultural resources?*
- *Impacts on historic and cultural resources can be reasonably mitigated?*

5. Community Planning Efforts

- *Does the Alternative provide a community benefit?*
- *Does the Alternative Reflect Community Preference?*

B. ALTERNATIVES

Three (3) Alternatives were reviewed and assessed with respect to the foregoing criteria. They were: (1) No Build; (2) Rehabilitate the Existing One-Lane Bridge; and (3) Build a New Bridge makai of the existing bridge.

1. Alternative 1: No Build

This option would retain the existing bridge at its current location and maintain the status quo creating no new impacts on the environment. Under the no build alternative the bridge will remain substandard, not meeting State and Federal Design and Seismic standards. As such, Alternative 1 was not pursued.

2. Alternative 2: Rehabilitate the Existing One-Lane Bridge (Preferred Alternative)

Under Alternative 2, the existing Honolua Bridge will be rehabilitated in place. Proposed improvements for this alternative would include rehabilitation of the existing bridge, extension of the existing railing, roadway signage and striping, as well as new guardrails. During construction, a detour road and temporary bridge structure spanning Honolua Stream will be installed makai (ocean-side) of the existing bridge to allow traffic to cross Honolua Stream. Following construction, the temporary bridge will be removed and the area will be returned to its original condition. The goal of this alternative would be to upgrade the bridge with a superstructure that has a load capacity consistent with current design standards and has parapets that are compliant with the Manual for Assessing Hardware (MASH, 2016).

The rehabilitated bridge will remain at 18-feet wide, but will be modified with one (1) 12-feet wide travel lane and one (1) 5-feet wide shoulder for pedestrian and bike travel on the makai side and a 1-foot wide shoulder on the mauka side and 1-foot, 10-inch high bridge rail on the 2-foot, 8-inch high concrete bridge parapet. Refer to **Figure 4**. The existing guardrail and end treatment will be upgraded. Signage and striping will comply with SDOT standards and the 2009 Manual on Uniform Traffic Control Devices (MUTCD). A new bridge deck with new parapets will be constructed over the existing abutments. The new deck is proposed to be a non-corrosive prefabricated fiber-reinforced polymer (FRP) that looks similar to concrete. Refer to **Figure 6**.

During a May 29, 2009 public scoping meeting, community members expressed a preference for retaining the existing one-lane bridge. See **Appendix "A-1"**. For this reasons Alternative 2 was selected as the preferred alternative.

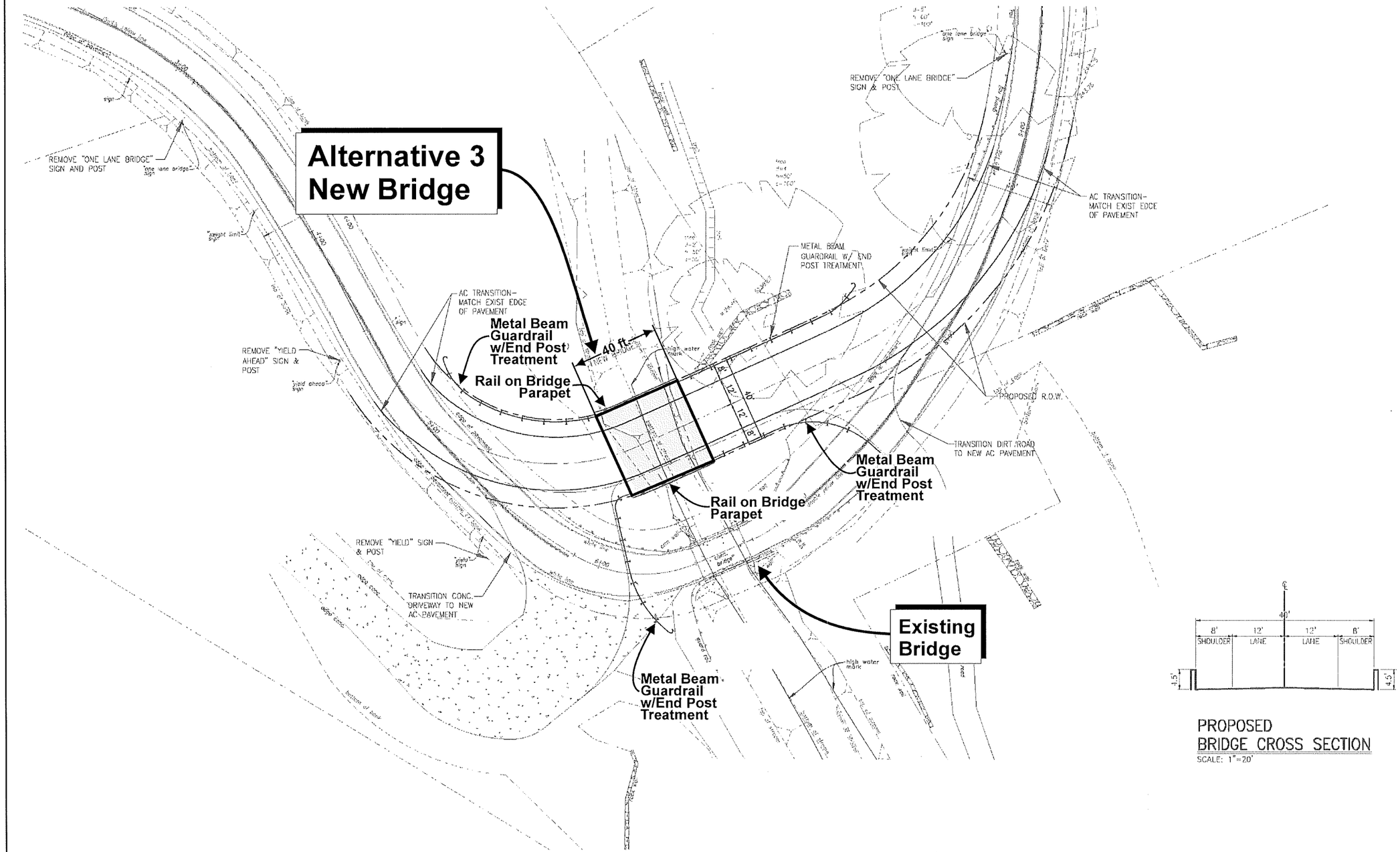
3. Alternative 3: New Two-Lane Bridge on Makai Side of Existing Bridge

Under Alternative 3, a new two-lane bridge structure would be constructed on the makai (ocean) side of the existing Honolua Bridge. Proposed improvements for this alternative include excavation and embankment, construction of the new bridge, adjustment of the roadway, roadway signage and striping, guardrails and bike rails. Nearby driveway accesses may need to be adjusted to the new roadway and bridge location and alignment. A temporary detour bridge structure would not be necessary since the existing Honolua Bridge would be used until the new bridge is built.

The new bridge would be 40 feet wide and would consist of two (2) 12-feet wide travel lanes, two (2) 8-feet wide shoulders and a 1-foot, 10-inch high bike rail on the 2-foot, 8-inch high concrete makai bridge parapet. The new bridge would conform to the SDOT Bridge Design Criteria, dated August 2002, and the latest American Association of State Highway Transportation Officials (AASHTO), Load and Resistance Factor Design (LRFD) Bridge Design Specifications. Parapets, guardrails, end post and end treatment connections would be compliant with AASHTO MASH 2016 Second Edition. The existing highway in the vicinity of the project site would need to be adjusted to accommodate the new bridge location and comply with AASHTO guidelines. The drainage system would be in compliance with FHWA and SDOT design criteria. See **Figure 7**.

The Honolua Stream Bridge, built in 1924, has been identified as potentially eligible for the National Register of Historic Places (NRHP). Correspondence from the State Historic Preservation Division (Log No. 2104.03793 and Doc. No. 1502MD36, dated February 23, 2015), confirms their concurrence of eligibility.

Alternative 3 would involve demolition of a bridge structure that has been identified as potentially eligible for the NRHP and would require adjustments to the highway in the vicinity of the bridge, including existing driveway accesses. In addition, during a public scoping meeting held on May 29, 2009, community members raised concerns that widening the existing bridge to two (2) lanes would facilitate new residential development and result in greater traffic counts and speeding in the area. Refer to **Appendix "A-1"**. The community expressed a preference for retaining the existing bridge as a one-lane bridge. For these reasons, Alternative 3 was not pursued.



Source: Austin, Tsutsumi & Associates, Inc.

Figure 7

Honoapi‘ilani Highway Rehabilitation of Honolua Bridge

Alternative Conceptual Bridge Layout Plan, Alternative 3 - New Two Lane Bridge

NOT TO SCALE

Prepared for: State of Hawai‘i, Department of Transportation

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DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND, MITIGATION MEASURES

III

III. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

A. PHYSICAL SETTING

1. Existing and Planned Land Uses

a. Existing Conditions

The project area is located in West Maui approximately 33 miles from Wailuku and 12 miles from Lāhainā Town.

The existing Honoapi'ilani Highway is a two-lane highway with paved shoulders on both sides. The highway right-of-way averages 80 feet. Posted speed limits range from 35 to 55 miles per hour (mph) at various turns and points along the highway.

Honolua Bridge is located between Mileposts 32.40 and 32.51 on the northwestern coast of Maui. The area surrounding Honolua Bridge is surrounded by undeveloped agricultural and conservation lands covered in dense brush, weeds and tree canopies. Refer to **Figure 2**.

Honoapi'ilani Highway, in the vicinity of Honolua Bridge, has a posted speed limit of 25 mph which reduces to 10 mph as you approach the bridge. The highway in this area is an asphalt concrete paved roadway for two (2) lanes of traffic with an existing guardrail system in place, which narrows to a one-lane bridge.

b. Potential Impacts and Mitigation Measures

The proposed project involves a detour road and temporary bridge located on the makai (ocean) side of the existing bridge that will temporarily alter the rural character during construction. However, once construction is completed, the detour road and temporary bridge will be removed and the area restored to its original rural appearance. From a long-term perspective, the proposed project will involve no changes to the surrounding undeveloped lands and maintain the existing rural character.

2. Agricultural Productivity Considerations

a. Existing Conditions

In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawai'i (ALISH), based primarily, though not exclusively, on their soil characteristics. The three (3) classes of ALISH lands are "Prime", "Unique", and "Other Important" agricultural land, with the remaining non-classified lands termed "Unclassified". When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season, and moisture supply needed to produce sustained crop yields economically; while "Unique" agricultural lands possess a combination of soil quality, growing season, and moisture supply to produce sustained high yields of a specific crop. "Other Important" agricultural lands include those important agricultural lands that have not been rated as "Prime" or "Unique".

As reflected by the ALISH map for the West Maui region, the proposed project is comprised of lands that have been defined as "Unclassified" agricultural lands. See **Figure 8**.

The University of Hawai'i, Land Study Bureau (LSB) developed the Overall Productivity Rating, which classified soils according to five (5) levels, with "A" representing the class of highest productivity soils and "E" representing the lowest. These letters are followed by numbers which further classify the soil types by conveying such information as texture, drainage and stoniness. The LSB classification for the project area is "E96". See **Figure 9**.

The LSB classification of E96 represents nonstony to stony, well-drained, moderately fine to medium textured soil at a slope of 36 to 80 percent and elevations between 100 to 500 feet. The soil is not suited for machine tillability, but is primarily used for grazing and/or forestry.

b. Potential Impacts and Mitigation Measures

Honolua Bridge is located in an area surrounded by vacant agricultural lands with low agricultural productivity ratings. Construction traffic for the proposed project is not anticipated to adversely affect agricultural resources. The proposed detour route will be located in the State Land Use Conservation district and will not impact agricultural productivity of the land. Based on the foregoing, the proposed project is not anticipated to adversely affect agricultural resource production nor capability.

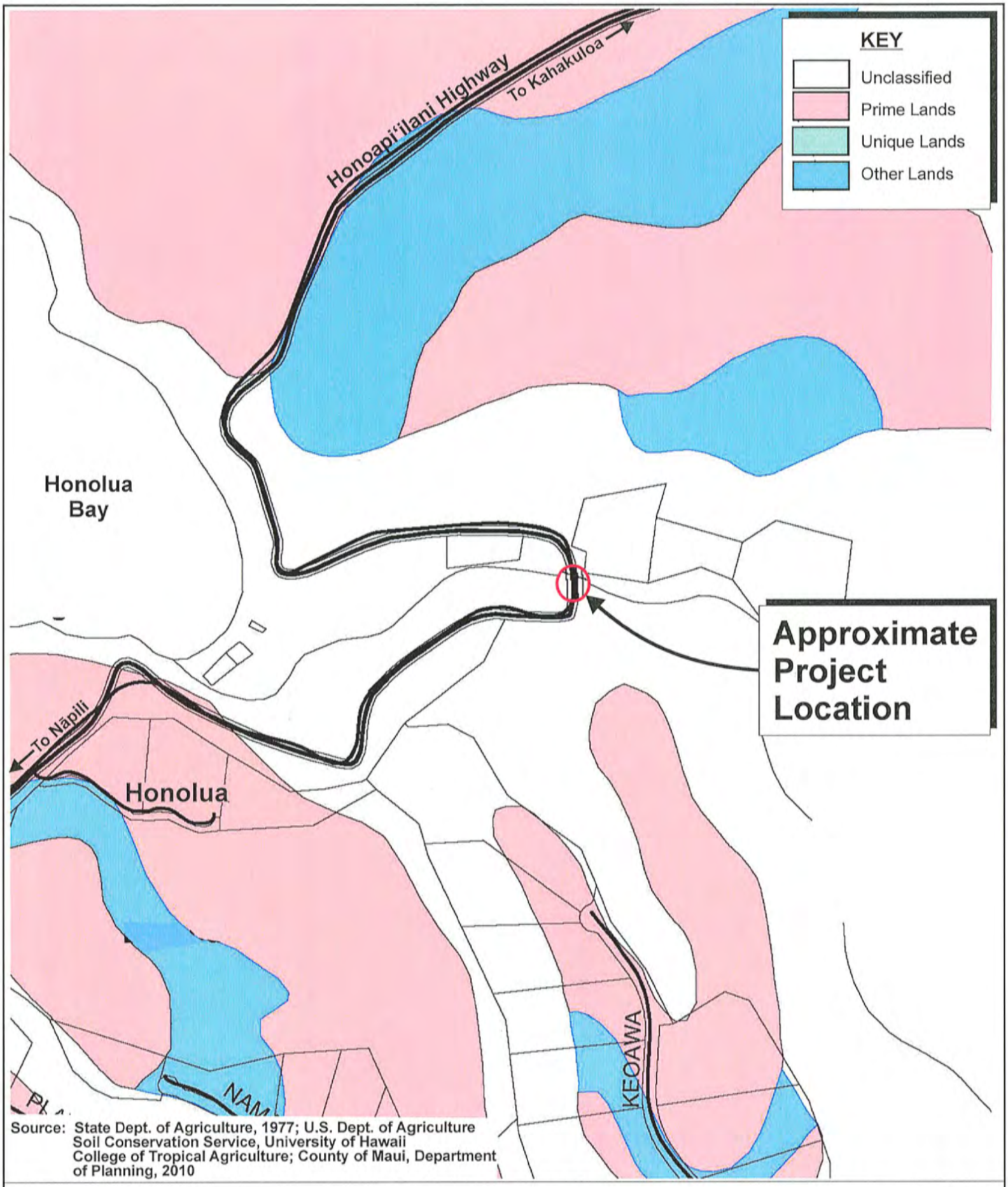

Figure 8

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

Agricultural Lands of Importance to the State of Hawai'i

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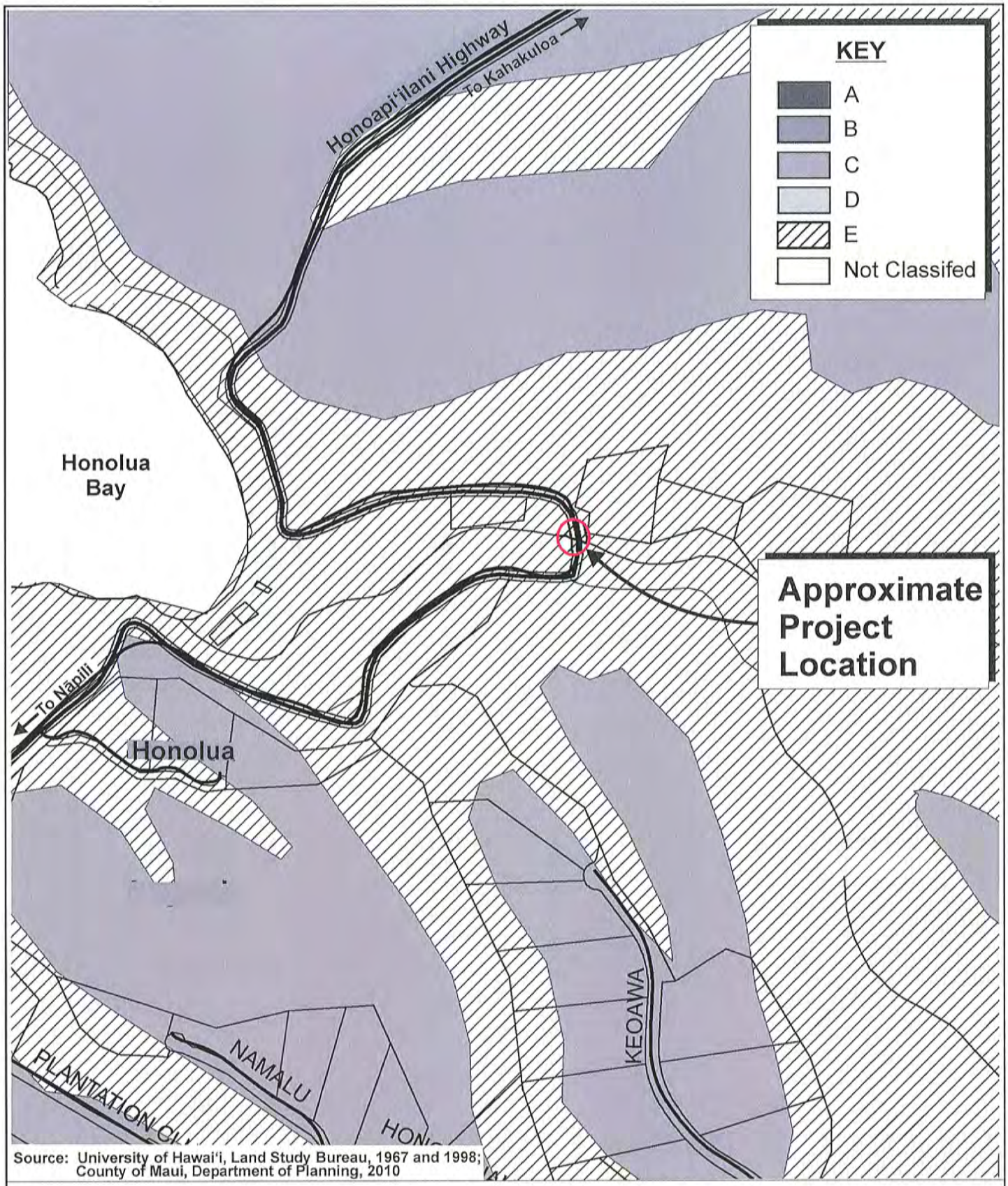

Figure 9

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Land Study Bureau Map

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3. Topography and Soil Characteristics

a. Existing Conditions

According to the Preliminary Engineering Report (PER) prepared by Austin, Tsutsumi & Associates, Inc., the existing ground near Honolua Bridge is relatively flat with a slight slope downward from the north to south direction with elevations ranging from approximately 33 feet to 32.5 feet mean sea level (MSL). See **Appendix "B"**.

Underlying the project site are soils of the Waiakoa-Keahua-Molokai association. See **Figure 10**. This series consists of well-drained, moderately fine textured soils on low uplands. The soils are nearly level to moderately steep. These soils were developed in material weathered from basic igneous rock. The association makes up about 15 percent of the island.

The soil classification specific to the project site is stony alluvial land (rSM). See **Figure 11**. Stony alluvial land (rSM) consists of stones, boulders, and soil deposited by streams along the bottoms of gulches and on alluvial fans. In most places the slope is 3 to 15 percent. Elevations range from nearly sea level to 1,000 feet MSL. The annual rainfall ranges from 10 to 50 inches. This land type is suited to pasture in the dry areas and to pasture and woodland in the wet areas. The natural vegetation consists of kiawe, klu, ilima, piligrass, and lantana in the dry areas and guava, kukui, hilograss, and Christmas berry in the wet areas. Improvement of this land is difficult because of the stones and boulders (USDA 1972).

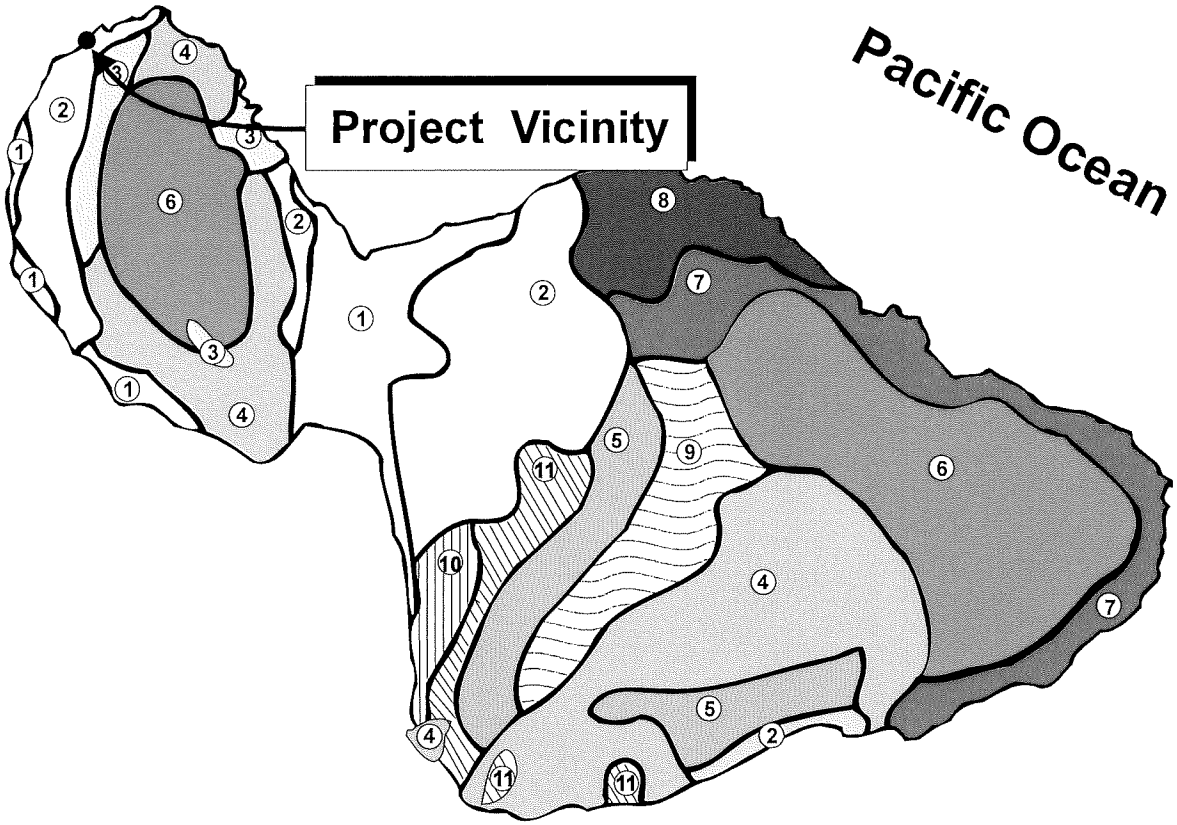
During the archaeological inventory survey (AIS), it was noted that vegetation in the project area consisted of a canopy of trees and low shrubs, vines and grasses including *koa haole* (*Leucaena latisiliqua*), African Tulip trees (*Spathodea campanulata*), Java Plum (*Syzgium camini*), castor bean (Ricinus communis), and monkey pod (*Pithecellobiumsaman*). Observed native plant species consist of *noni* (*Morinada citridolia*) and *kukui* (*Aleurites moluccana*). See **Appendix "C"**.

b. Potential Impacts and Mitigation Measures

The rehabilitation to the existing bridge will not involve work on the abutments or work below the stream bank. Vertical roadway profile cuts and fills for the construction detour route will not significantly alter topographic and soil conditions and will be temporary in nature. Upon completion of construction, the temporary detour route and bridge would be removed and the area would be returned to its natural condition.

KEY

- (1) Pulehu-Ewa-Jaucas Association
- (2) Waiakoa-Keahua-Molokai Association
- (3) Honolua-Olelo Association
- (4) Rock Land-Rough Mountainous Land Association
- (5) Puu Pa-Kula-Pane Association
- (6) Hydrandepts-Tropaquods Association
- (7) Hana-Makaalae-Kailua Association
- (8) Pauwela-Haiku Association
- (9) Laumaia-Kaipoipoi-Olinda Association
- (10) Keawakapu-Makena Association
- (11) Kamaole-Oanapuka Association



Source: USDA, Soil Conservation Service

Figure 10

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Soil Association Map

NOT TO SCALE

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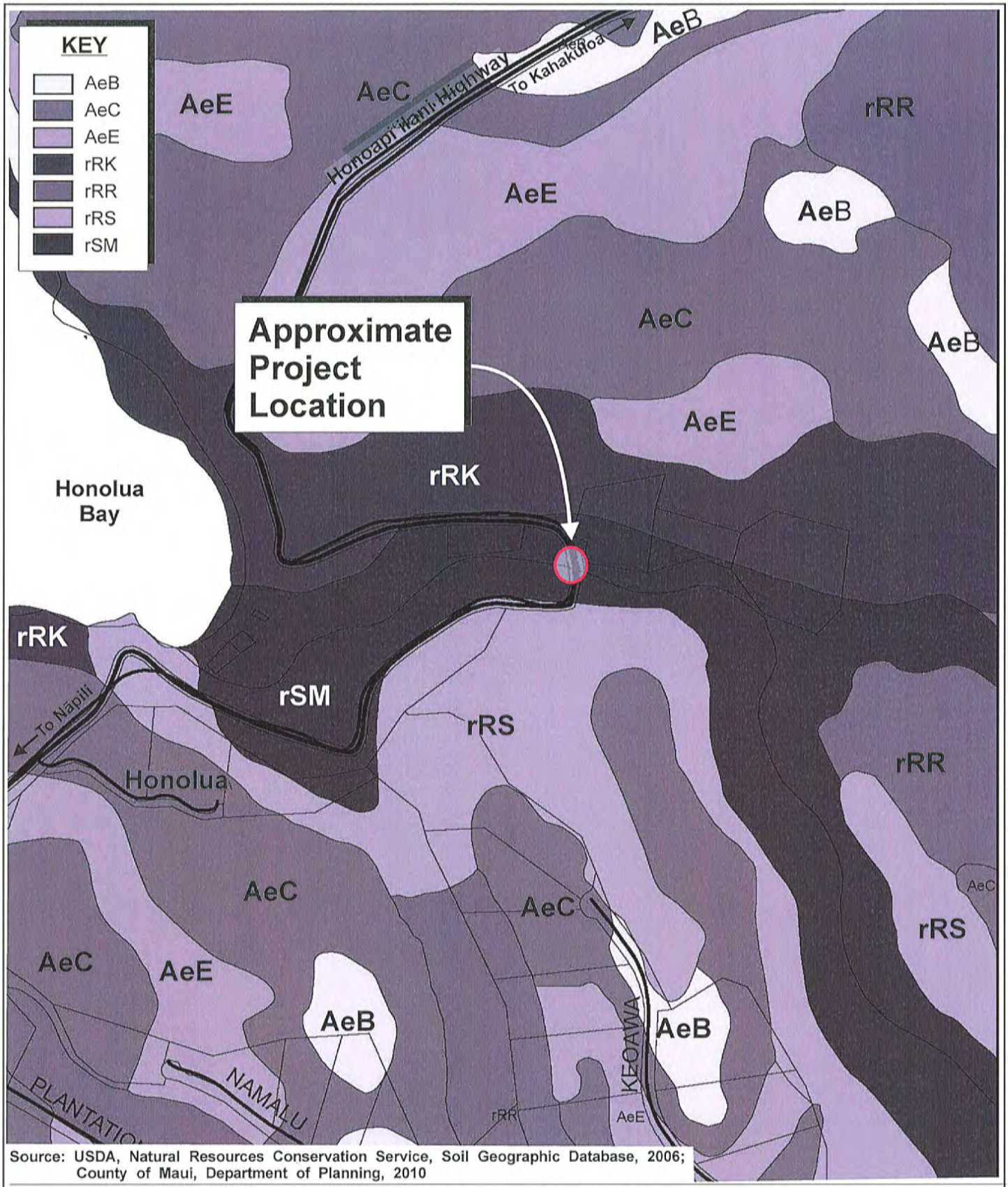

Source: USDA, Natural Resources Conservation Service, Soil Geographic Database, 2006; County of Maui, Department of Planning, 2010

Figure 11

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Soil Classification Map

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

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The project will involve some excavation during construction of the detour road and installation of the temporary bridge. During rehabilitation of the bridge and construction of the detour road and temporary bridge, appropriate Best Management Practices (BMPs) will be implemented to mitigate any impacts from soil erosion resulting from wind and water (e.g. watering for dust control).

BMPs proposed include the following (See **Appendix "D"**):

- Installation of dust screens and silt fences
- Dust control with water
- Biosock or approved equal
- Use Drip pans
- Implement Litter-Control Plan and Hazard Analysis and Critical Control Point Plan
- Perform selective time for landscape work
- Use "seabird-friendly" lighting
- Installation of erosion control blankets with native vegetation
- Install gravel ingress and egress
- Washout area

As appropriate, the State of Hawai'i, Department of Transportation (SDOT) will consider the following construction-related BMPs recommended by the County of Maui Department of Water Supply (DWS) (refer to **Appendix "D"**):

- Evaluate structure and site for best demolition method that will create the least amount of debris and sediment loss.
- Reclaimed water should be used for dust control and landscaping during construction to the extent possible.
- Before demolition, install temporary silt fences around each bridge approach.
- No part of the bridge should be allowed to fall into the water, promptly remove any material that may fall into the water body.
- Minimize disturbed area needed, ensuring that only the smallest amount of bare ground is exposed for the shortest time possible.

- Methods to minimize soil erosion and trap sediments should be used. Properly install and maintain erosion control barriers, such as silt fencing or straw bales and other appropriate erosion control devices to contain sediment before they reach any surface water feature in the work area. Inspect silt fences on a regular basis and after each rainfall. Make any required repairs immediately. Remove and dispose of sediment accumulations when depth reaches one-half the height of the filter fabric. Replace silt fence removed for access at the end of each day's operation.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting native species, as soon as possible. Use high seeding rates to ensure rapid stand establishments.
- Stabilize stream banks with indigenous vegetation or riprap, if required.
- Fill or excavated material must not be placed in a manner that creates an unstable slope.
- Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite away from surface water.
- No construction or toxic materials or debris should be placed where it may enter the ocean.
- Construction debris and sediment should be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into the stream.
- Keep runoff onsite.

Based on the foregoing, adverse impacts on existing topographic and soil conditions are not anticipated.

4. Climate

a. Existing Conditions

Like most areas of Hawai'i, the climate in this area is relatively uniform year round. This stability is attributed to its tropical latitude, its position relative to storm tracts and the Pacific anticyclone, and the surrounding ocean. Variations in climate among different regions, then, are largely left to local terrain.

Annual temperatures in the region (from the Kapalua Airport) average in the high 60's to low-80's. September is historically the warmest month of the year, while the coolest month is January. During the summer months, average daily temperatures typically range from the low 70's to the mid-80's. During the winter months, average daily temperatures typically range from mid-60's to high 70's (County of Maui, Office of Economic Development, 2015).

Rainfall in West Maui, as measured at Kapalua-West Maui Airport, is highly seasonal, with most precipitation occurring in December and the driest month in September. The annual average precipitation for the Kapalua-West Maui Airport was 29 inches (County of Maui, Office of Economic Development, 2015).

The winds in the region are also seasonal. Wind patterns also vary on a daily basis, with tradewinds generally being stronger in the afternoon. During the day, winds blow onshore toward the warmer land mass. In the evening, the reverse occurs, as breezes blow toward the relatively warm ocean.

b. Potential Impacts and Mitigation Measures

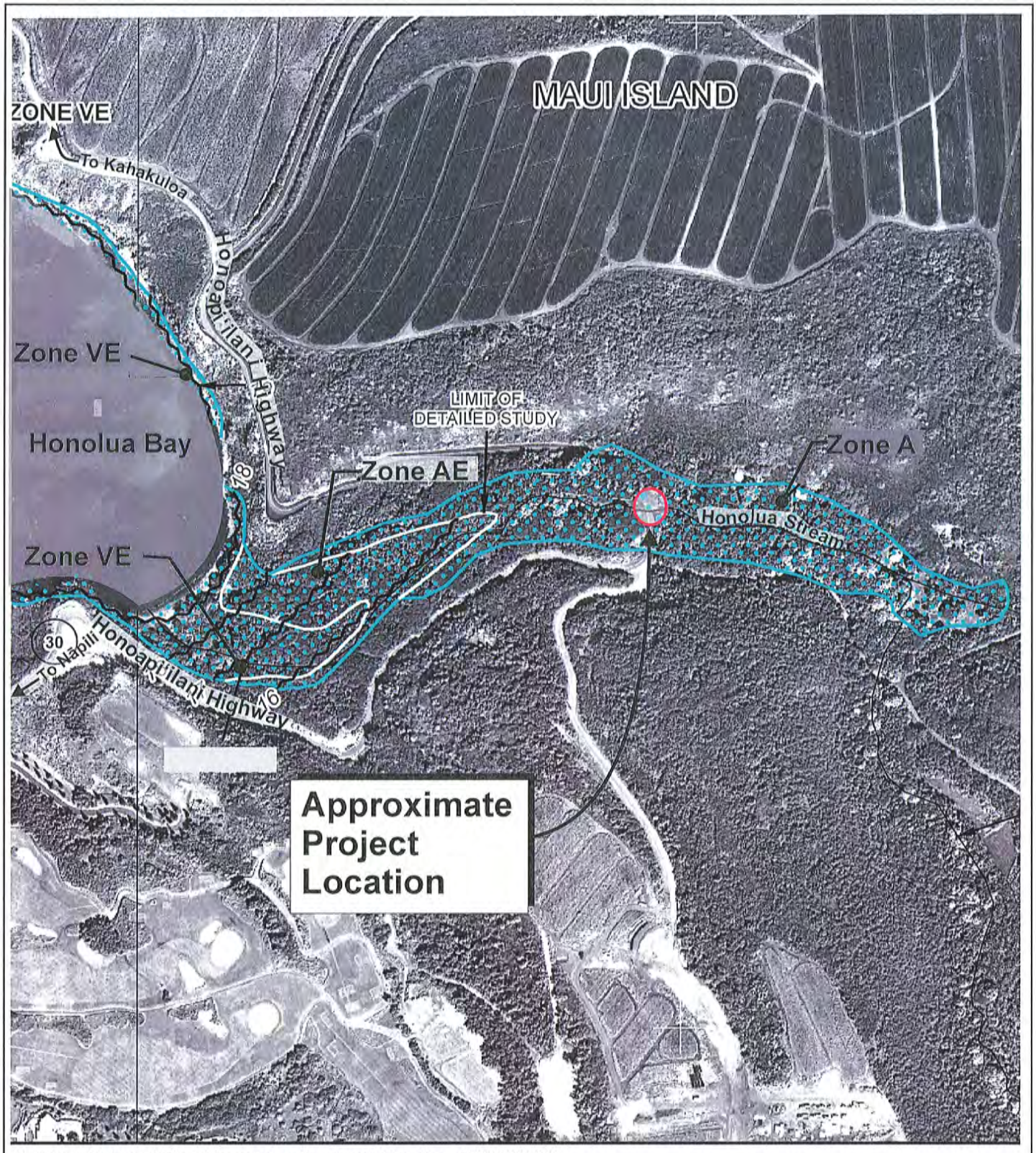
The proposed project will not have an adverse effect on micro-climates in the vicinity of the proposed project corridor.

5. Flood and Tsunami Hazards

a. Existing Conditions

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) for the area indicates that the project site is located in a special flood hazard area subject to inundation by the one (1) percent annual chance flood. See **Figure 12**.

The one (1) percent annual chance flood (100-year flood), also known as the base flood, is the flood that has a one (1) percent chance of being equaled or exceeded in any given year. Specifically, the project site is located within Zone A, a flood area where no base flood elevations have been determined. Refer to **Appendix "B"**.



Source: National Flood Insurance Program; Map No. 1500030266F

Figure 12

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

Flood Insurance Rate Map

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The area makai of the existing Honolua Bridge is located in the tsunami evacuation zone, while the area mauka of the bridge is located in the Extreme Tsunami Evacuation Zone. See **Figure 13**.

b. Potential Impacts and Mitigation Measures

The proposed project involves work located within the Special Flood Hazard area of Honolua Stream and will be required to comply with Chapter 19.62 Flood Hazard Area, Maui County Code, 1980, as amended. A Special Flood Hazard Area Development Permit will be required.

The proposed rehabilitation involve no change to the existing abutment or other substructure. According to the Hydraulic and Scour Analysis, due to a lack of observed scour over a long period of time and the large grain size of the existing bed material, countermeasures to protect the existing abutments from scour were not recommended, although normal scour monitoring during inspections should continue. See **Appendix "C-1"**.

The detour route associated with the implementation of the proposed project will be designed to maintain the hydraulic capacity of the gulch. Refer to **Appendix "B"** and **Appendix "B-1"**. Upon completion of the bridge rehabilitation, the temporary bridge and detour route will be removed and the area restored to its natural condition. As a rehabilitation of an existing bridge, the project will not increase exposure to tsunami hazards along Honoapi'ilani Highway.

6. Flora and Fauna

a. Existing Conditions

The surrounding area is mostly composed of a canopy of various trees and low shrubs, vines, and grasses, which form a dense under foliage. During the AIS, it was noted that indigenous plants in the area have been overrun by introduced plants, including *koa haole (Leucaena latisiliqua)*, African Tulip trees *(Spathodea campanulata)*, Java Plum *(Syzygium cumini)*, castor bean *(Ricinus communis)*, and monkey pod *(Pithecellobium saman)*. Observed native plant species during the AIS consisted of medicinal *noni (Morinda citridolia)* and *kukui (Aleurites moluccana)*. Refer to **Appendix "C"**.

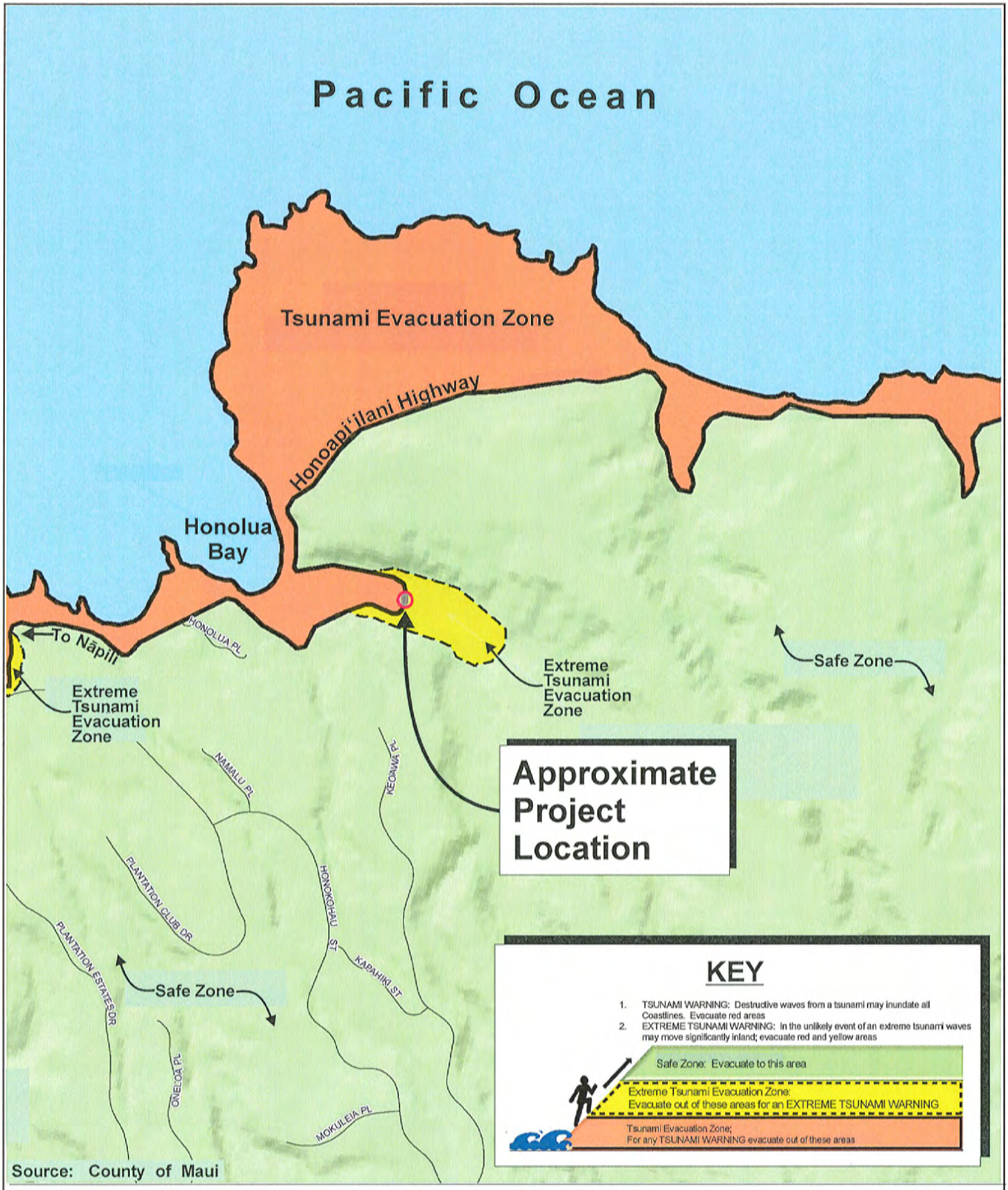

Figure 13

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

Tsunami Evacuation Map

NOT TO SCALE

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An Environmental Surveys report was prepared by AECOS, Inc. The survey found no threatened or endangered species in Honolua Stream within the survey area. The stream banks near the bridge are overgrown with Guinea grass (*Urochloa maxima*), elephant grass (*Pennisetum purpureum*) and *koa haole* (*Leucaena leucocephala*) saplings. In both upstream and downstream directions the dry stream is bordered by a forest of Java plum (*Syzygium cumini*). See **Appendix "E"**.

b. Potential Impacts and Mitigation Measures

Construction of the detour route associated with the proposed project will involve grubbing and grading the area of the temporary detour alignment. However, this action is not anticipated to adversely impact any threatened or endangered flora or fauna.

Early consultation with the U.S. Fish and Wildlife Service (USFWS) recommends implementation of BMPs to minimize the degradation of water quality and minimize impacts to fish and wildlife resources. As appropriate, the SDOT will consider the following BMPs recommended by USFWS (refer to **Appendix "D"**):

1. *Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curltailment of work during adverse tidal and weather conditions.*

2. *No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.*

3. *All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.*

4. *No contamination (trash or debris disposal, non-native species introductions, attraction of non-native pests, etc.) of adjacent habitats (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities. this shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan (HACCP - see http://www.haccp-nrm.org/Wizard/default.asp) to prevent attraction and introduction of non-native species.*

5. *Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.*

6. *Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.*

7. *Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or non-invasive vegetation matting, hydroseeding, etc.).*

DLNR's Division of Forestry and Wildlife (DOFAW) has advised that the State and Federally listed Hawaiian hoary bat or ʻŌpeʻapeʻa (*Lasiurus cinereus semotus*) has the potential to occur in the vicinity of the project, and that during the bat breeding season tree removal activities can pose a danger to young Hawaiian hoary bats. As appropriate, to minimize impacts on this species, mitigation measures suggested by DOFAW will be implemented. Specifically, site clearing activities will be scheduled to avoid disturbance to Hawaiian hoary bats, and no woody plants taller than 15 feet will be disturbed, removed or trimmed during the bat birthing and pup rearing season of June 1 through September 15.

DOFAW also advised "seabird-friendly" lighting to avoid adverse impacts to native seabirds which may overfly the area. Construction activities are expected to be limited to daylight hours. However, should construction flood lights be required for night activities, these lights will be shielded and directed downward to minimize potential impacts to seabirds that may be confused by bright lights. Should large flood/work lights be used, they will be placed on poles high enough to allow the lights to be pointed directly downward at the ground. Once installed, the proposed improvements will not require any new lighting.

In summary, significant impacts from the proposed project to flora and fauna due to the degradation of water quality will be mitigated through implementation of a comprehensive BMPs program during construction. Refer to **Appendix "D"**, Best Management Practices Plan. From a long-term perspective the bridge will remain a one lane bridge and no adverse impacts to flora and fauna are anticipated.

7. Aquatic Resources

a. Existing Conditions

The stream bed near Honolua Bridge is typically dry. The Environmental Surveys report prepared for the project recorded observed aquatic species in the area. Fishes include *āholehole* (*Kuhlia xenura*), *kupipi* (*Abudefduf sordidus*), *'ama'ama* or mullet (*Mugil cephalus*), and hybrid mollies (*Poecilia* sp.). The Black-crowned Night Heron or *'auku'u* (*Nycticorax hoactli*) stalk prey along the stream banks. The only macro-invertebrate species encountered in the estuarine reach was a non-native prawn (*Macrobrachium lar*). Refer to **Appendix "E"**.

No federally listed (endangered or threatened) species (USFWS, 2015) were observed in Honolua Stream within the survey area. Larval *'o'opu* were observed well upstream of the project site during our survey. These native fish are amphidromous; eggs are laid in the stream and the larvae that hatch from these eggs move downstream and out into the ocean where they develop for a time before migrating back into fresh water to grow to maturity. Refer to **Appendix "E"**.

The nearby Honolua Bay is included in the Honolua-Mokulē'ia Marine Life Conservation District. Honolua Stream empties into the bay during periods of rainfall.

b. Potential Impacts and Mitigation Measures

No federally endangered or threatened species were encountered during the biological survey. The Environmental Surveys report noted that the native *'o'opu* may migrate through the peroject site and recommended that the entire stream bed not be blocked or altered in a manner that would prevent upstream migration. Refer to **Appendix "E"**. Inasmuch as no work is proposed within the stream bed, *o'opu* migration will not be impacted. As noted previously, the USFWS recommends implementation of BMPs to minimize the degradation of water quality and minimize impacts to aquatic resources.

Further, although the project site is not directly located in any Essential Fish Habitat (EFH), during early consultation the National Oceanic and Atmospheric Agency (NOAA), Fisheries Habitat Conservation Division voiced concern that the project site was near Honolua Bay which contains coral and turf biological cover, as well as aggregate reef, pavement, and sand morphology. As such, consultation with NOAA through the Federal Highways Administration (FHWA) will continue in compliance with the

Magnuson-Stevens Fishery Conservation and Management Act. As appropriate, SDOT will consider the following BMPs recommended by NOAA (refer to **Appendix "D"**) to minimize impacts to aquatic resources:

1. *Design bridge abutments to minimize disturbances to stream banks, and place abutments outside of the floodplain whenever possible.*

2. *Specify erosion control measures in construction plans.*

3. *Avoid side casting of road materials into streams.*

4. *Use only native vegetation for stabilization plantings and maintain or stabilize upstream and downstream channel and bank conditions if the structure causes erosion or accretion problems.*

5. *Use seasonal restrictions to avoid water quality impacts to coral reef habitat during species critical life history stages: June through August for coral reef spawning.*

6. *Conduct in-water construction activities during the dry season to prevent environmental impacts to aquatic species. Temporary diversions and coffer dams may be suitable alternatives with proper planning.*

7. *Design and install new structures in a manner not to interfere with aquatic organism passage and that complies with all applicable regulations.*

8. *Design the structure to maintain or replicate natural stream channel and flow conditions to the greatest extent practicable. The structure should be able to pass peak flows in accordance with state and federal regulations. Ensure sufficient hydrological data have been collected.*

9. *Address the cumulative impacts of past, present and foreseeable future development activities on aquatic habitats by considering them in the review process for road construction projects.*

To minimize impacts to aquatic resources, rehabilitation of Honolua Bridge and construction of the detour route and temporary bridge will not involve work within Honolua Stream. The temporary detour bridge will span the existing banks of Honolua Stream and the abutments of the existing Honolua Bridge will be prepared to receive the new deck involving no work within the stream. BMPs recommended by NOAA and the USFWS, which are applicable to the project, will be implemented during the construction phase to minimize the degradation of water quality and impacts to aquatic

habitats. As such, no significant adverse impacts on aquatic resources are anticipated.

8. Streams and Wetlands

a. Existing Conditions

The proposed action crosses Honolua Stream. According to the Environmental Surveys report prepared by AECOS, Inc., (refer to **Appendix "E"**), the waters of Honolua Stream originate along the western slopes of Pu'u Kukui in the West Maui Mountains. Honolua Stream is a 12 mile long waterway which has been classified as a perennial stream by the Division of Aquatic Resources (DAR). The stream originates at an elevation of approximately 3,750 feet and flows north-northwest for 11.6 miles before it converges with Papua Stream at an elevation of 55 feet. Papua Stream originates at an elevation of 1,600 feet and is the only tributary that feeds Honolua Stream from within the 4.5 square mile watershed. Below the converging point with Papua Stream, Honolua Stream flows due west for 1,970 feet before it enters the Pacific Ocean at Honolua Bay.

Honolua Stream is diverted into Honokōhau Tunnel/Ditch, which originates in Honokōhau Stream east of Honolua Gulch. The system provides agriculture and drinking water to Honolua and Kapalua, and water to the County Mahinahina Water Treatment Facility which services Nāpili, Wahikuli, Kahana, Alaeloa and parts of Lāhainā. There is a short water tunnel that diverts the water flow in Honolua Stream at an elevation of 820 feet through a large grate. At the lower end of the tunnel some water is returned to Honolua Stream through an approximately 8 inch pipe and the remainder is deposited in the water supply ditch. Since the 1913 renovation of the Honokōhau Tunnel, stream flow downstream of the diversion structure is intermittent. Honolua Stream discharges, however infrequently, into Honolua Bay within the Honolua-Mokuleia Marine Life Conservation District. This area is known for its abundance and diversity of marine life.

At the project site, the approximately 20 feet wide stream bed is typically dry due to upstream diversions. The stream bed consists of basalt boulders and cobbles with some smaller particulates present. The Environmental Surveys report presents water quality results from a survey conducted in July 2015 along with historical data from Honolua Stream throughout its reach. During the July 2015 survey, no water was present in Honolua Stream at the project site. Water quality samples were collected

from coastal waters in Honolua Bay and two (2) locations in the estuarine reach of Honolua Stream. Generally water quality was good in Honolua Bay and at the downstream end of the estuary while poor conditions were found near the upstream end of the estuary. Refer to **Appendix "E"**.

b. Potential Impacts and Mitigation Measures

The United States (U.S.) Department of Army (DA) commented that Honolua Bridge over Papua Gulch is a tributary to the perennial Honolua Stream and is classified as a water of the U.S. As waters of the U.S., the project is subject to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404) of the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE). Section 10 requires a DA permit be obtained prior to undertaking any construction, dredging, or other activity occurring in, over, or under or affecting navigable waters of the U.S., including wetlands. There are no wetlands in the project area.

The proposed rehabilitation project will include work on the abutments of the existing bridge, which will be prepared to receive the new deck involving no work within the stream. The temporary construction detour bridge will span the existing banks of Honolua Stream. As such, no work will occur below the bridge abutments and stream bank. No work will occur below the ordinary high water mark. Refer to **Appendix "E"**. As the proposed work does not occur in the stream channel, a Stream Channel Alteration Permit is not anticipated to be required. Coordination with the USACE was undertaken to determine permitting requirements. USACE's review of the project determined that the proposed action does not occur within the jurisdictional limits of a Navigable Water of the U.S. with respect to Section 10, or a Water of the U.S. with respect to Section 404, and, as such, a DA Permit is not required.

Although Honolua Stream is listed on the DOH list of impaired waters, the proposed project is located in an area of the stream that is typically dry except during local rainfall events. Implementation of recommended BMPs and mitigative measures from the USFWS, NOAA and DLNR, DAR should avoid or minimize impacts on water quality during these local rainfall events and the project should not have significant adverse impact on Honolua Stream and downstream at Honolua Bay.

9. Air Quality

a. Existing Conditions

The West Maui region in general does not experience adverse air quality conditions due to its low humidity and dry temperatures. There are no point sources of airborne emissions within close proximity of the project site.

b. Potential Impacts and Mitigation Measures

The proposed project will result in construction-related air impacts. Airborne particulates, including dust, may be generated as a result of construction-related activities. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Other appropriate BMPs will be employed to ensure that fugitive dust from the project site is minimized.

The purpose of the proposed rehabilitation project is to implement the SDOT's Highway Modernization Plan to improve highway safety and reduce traffic congestion by maintaining and upgrading critical highway projects. There would be no additional intersections or connector roads associated with the project. The bridge will remain a one-lane bridge and there will be no changes in terms of functional traffic flow. From a long-term perspective, the proposed project is not anticipated to generate significant adverse air quality impacts.

10. Noise

a. Existing Conditions

Vehicular noise from traffic traveling along Honoapi'ilani Highway is the primary source of intermittent noise at the project site. Ambient noise conditions are generally associated with natural conditions such as ocean waves, wind, and rain.

b. Potential Impacts and Mitigation Measures

Noise impacts are expected to result from construction-related activities associated with the proposed project. Heavy construction equipment, such as bulldozers, front-end loaders, and material transport vehicles, will likely be the dominant source of noise during the construction period.

In order to mitigate noise impacts, construction work will be limited to daylight hours. Construction noise will be minimized through use of applicable BMPs, such as proper maintenance of construction equipment

and properly muffled equipment. Noise created during construction shall comply with Hawai'i Administrative Rules, Chapter 11-46, "Community Noise Control".

From a long-term perspective, the proposed bridge rehabilitation project will not alter traffic flows in the area and adverse impacts to ambient noise conditions are not anticipated.

11. Scenic and Open Space Resources

a. Existing Conditions

The project site is not located within any scenic corridor. Views to Honolua Bay are obstructed by the existing dense vegetation in the area. Open space resources in the region are characterized by the West Maui Mountains, as well as the vast expanse of undeveloped lands that surround the existing bridge.

b. Potential Impacts and Mitigation Measures

During construction, public view corridors and scenic resources from the detour route and bridge will be available. Once rehabilitation of the existing bridge is complete, public view corridors and scenic resources will be restored from Honolua Bridge.

12. Archaeological Resources

a. Existing Conditions

Scientific Consultant Services, Inc. (SCS) completed an Archaeological Inventory Survey (AIS) of the project site which included all areas within a 150 foot radius of the center of Honolua Bridge. Refer to **Appendix "C"**. The report notes that the project area has been subjected to four (4) previous inventory survey studies. Moore (1974) identified 12 sites in Honolua Bay proper. In 2002, SCS conducted an AIS and executed a Burial Treatment Plan for an adjacent parcel of land on the north side of Honolua Stream. In 2006, SCS conducted an inventory survey of Lipoa Point, which included a small portion of the present study area. The original inventory survey for Lipoa Point (Pickett and Dega 2007) was supplemented by addendum inventory survey in Honolua Bay proper (Dega 2007). The 2011 inventory survey conducted for the proposed project noted that two (2) previously recorded sites from Moore (1974) were re-identified and recorded (SIHP No. 50-50-10-1471, Feature 12 and -1754 Feature 6). The two (2) previously documented historic properties

consisted of an earth and basalt terrace located on the north side of Honolua Stream and situated approximately four (4) meters east of Honoapi'ilani Highway on its western extent (SIHP No. 50-50-10-1471 Feature 12) as well as a basalt wall paralleling the north side of Honolua Stream approximately 8 meters from the north bank (-1754 Feature 6). Further, two (2) additional historic properties, the bridge crossing Honolua Stream, was added as a feature to Moore's historic era site complex (-1754) and designated as Feature 11 and an 18-meter erosion control structure along the north bank of Honolua Stream (-6812) was documented. See **Figure 14**.

The State and National Register of Historic Places (NRHP) has established criteria for evaluating the significance of a site. The five (5) criteria are listed below:

Criterion A: *Site is associated with events that have made a significant contribution to the broad patterns of our history;*

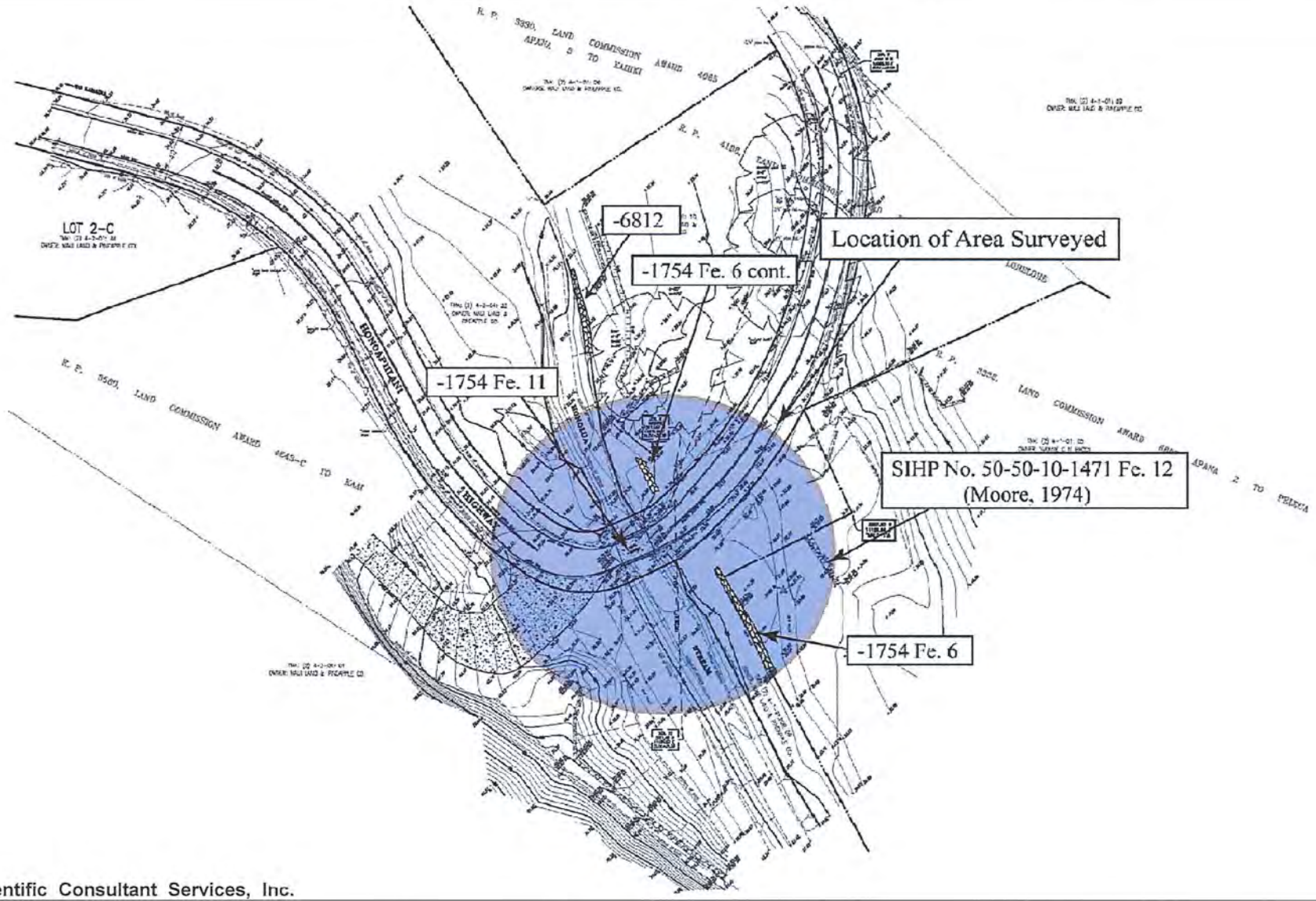
Criterion B: *Site is associated with the lives of persons significant to our past;*

Criterion C: *Site is an excellent site type; embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual construction;*

Criterion D: *Site has yielded or has the potential to yield information important in prehistory or history;*

Criterion E: *Site has cultural significance; probable religious structures or burials present (State of Hawaii criteria only).*

The AIS notes that three (3) sites comprised of four (4) features documented in the project area during this survey were considered significant. One (1) of the features, the earth and the basalt terrace (SIHP No. 50-50-10-1471 Feature 12), was previously identified and was found significant under Criterion D. Site-1754 Feature 6, the basalt wall, was found significant under Criteria C and D. No further work was previously recommended on the sites and the State Historic Preservation Division (SHPD) accepted this finding and recommendation. The proposed project



Source: Scientific Consultant Services, Inc.

Figure 14

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Archaeological Site Map

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

ATA\HonoluaBridge\Final EA\Figures\ArchSiteMap

has not altered the original assessment nor recommendations. Refer to **Figure 14**.

The newly identified, Site-6812 (erosion control structure) is considered significant under Criterion D and Site -1754 Feature 11 (bridge) is considered significant under Criteria A, C, and D.

As noted, a total of three (3) sites, comprised of four (4) features, were documented within the vicinity of the project, two (2) features (Site-1471 Feature 12 and Site-1754 Feature 6), which were previously documented, and the Honolua Bridge (Site-1754 Feature 11) built in 1924 and a water diverting wall (Site-6812). Refer to **Figure 14**. The AIS notes that,

> *. . .while the general Honolua area contains a wide variety of site types and temporal affiliations, the current project area was delimited by previous construction (road, bridge),which likely altered the prehistoric landscape to its state today. No significant sites, per se, occur within the current project area.*

b. <u>Potential Impacts and Mitigation Measures</u>

The AIS concluded that archaeological monitoring was recommended for any subsurface disturbance (including excavation as well as grubbing/bulldozing) for any bridge or highway improvements at Honolua Bay. The recommendation was made to protect any additional cultural resources and/or inadvertent burials that may be encountered during subsurface excavation for the bridge. Refer to **Appendix "C"**.

The SHPD noted that Honolua Bridge (Site-1754 Feature 11) is eligible for the National Register of Historic Place under Criteria A, C, and D. It is an intact example of a 1920s concrete tee-beam bridge. See **Appendix "C-1"**. SHPD reviewed and accepted the AIS on February 23, 2015. See **Appendix "C-2"**. In the letter SHPD noted the historic bridge (Site 1754, Feature 11) is eligible for registration on the NRHP under Criteria A, C, and D. In this regard, SHPD notes the historic bridge has been documented in the AIS and in an architectural survey. SHPD concurred with the recommendation that no further work is required. The rehabilitation of the bridge will be conducted in accordance with the Secretary of the Interior's (SOI) Standards and Guidelines for the Treatment of Historic Properties. Also, SHPD concurred that archaeological monitoring may be appropriate for future work involving this project.

It is noted that the SHPD accepted the AIS as a baseline, existing conditions report only. Further consultation with SHPD is occurring through the Section 106 review process.

13. Historic Architectural Resources

a. Existing Conditions

According to SHPD, Honolua Bridge is an intact example of a 1920s concrete tee-beam bridge structure that is typical of its period in its use of materials, method of construction, craftsmanship and design. The rock abutment is a potentially eligible historic resource. Mason Architects assessed Honolua Bridge in accordance with the SOI Standards. Refer to **Appendix "C-2"**.

The Honolua Stream Bridge, built in 1924, is a small tee-beam reinforced concrete deck bridge on lava rock and concrete mortar abutments with a single, approximate 20 feet span over the stream that carries one (1) lane of vehicular traffic. The bridge has plain solid parapets. It is in a forested, rural setting and is located at the apex of a sharp curve where the highway crosses the stream.

Mason Architects noted that the bridge is significant under National Register of Historic Places Criterion A for its association with the development of the Maui Belt Road system in West Maui. When it was built in 1924 it linked the areas of Honokōhau and Kula o Kalalaoloa with the rest of Maui, Lāhainā to the south and ultimately, Kahului. It was a part of the only improved roadway serving this portion of the island until 1927 when bridges to the east provided an alternate route. Refer to the *Architectural Inventory Survey* prepared for Austin, Tsutsumi & Associates by Mason Architects, Inc. in October 2011 in **Appendix "C-2"**.

As previously noted, the AIS evaluated the bridge to be eligible under Criteria C and D. SDOT's Hawai'i State Historic Bridge Inventory & Evaluation (2014) also identified Honolua Bridge as being eligible under Criterion C.

b. Potential Impacts and Mitigation Measures

The proposed project involves rehabilitation of the existing bridge in accordance with the SOI Standards and Guidelines for the Treatment of Historic Properties. These guidelines permit deteriorated historic features to be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the

old in design, color, texture, and, where possible, materials. Further, new additions, such as the guardrail, shall not destroy historic materials, features, and spatial relationships that characterize the historic property.

The significant historic characterdefining features of the Honolua Bridge that will be retained include the original bridge alignment, width, and basalt abutments. The reconstruction of the concrete deck with non-corrosive prefabricated fiber-reinforced polymer (FRP) that look similar to concrete will not significantly alter the bridge's appearance. Refer to **Figure 6**. Replacement of the parapets will match the appearance of the original 32-inch high parapets, but at 22-inches higher with the addition of a single round stainless steel tubular bridge rail mounted on the makai concrete parapet at a total height of 54-inches. The bridge parapets and rail will be designed to AASHTO MASH 2016 standards. The concrete parapets will be indistinguishable from the originals by anyone other than an informed observer. The narrow stainless steel railing will have minimal effect on sightlines from the bridge and will be installed, such that it can be removed without damaging historic features or materials.

In accordance with 36 CFR PART 800.5 – Section 106 Assessment of Adverse Effects, alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines is not considered an adverse effect.

Further, correspondence from the SHPD (Log No. 2104.03793 and Doc. No. 1502MD36, dated February 23, 2015), indicates that the Honolua Stream Bridge (Site 50-50-1754, Feature 11) has been adequately documented in the *Archaeological Inventory Survey Report for a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhaina District, Maui Island, [TMK: (2) 4-1-001:05 (por.), :09 (por.) and :10 (por.)]* (Perzinski and Dega July 2014; SCS Project Number 1023-6) and the the *Architectural Inventory Survey* prepared for Austin, Tsutsumi & Associates by Mason Architects, Inc. in October 2011. SHPD recommends no further work for the bridge. Refer to **Appendix "C-2"**.

Although not recommended by the Architectural Inventory Survey or SHPD, the SDOT will consider documentation of the existing bridge according to Historic American Engineering Record (HAER) standards prior to undertaking the rehabilitation project if required during the Section 106 review. Also, the final design of the bridge rehabilitation will be coordinated with SHPD.

As such, the proposed project is not anticipated to a have significant adverse impact on a historic architectural resource.

14. Cultural Resources

a. Existing Conditions

A Cultural Impact Assessment (CIA) was prepared by Cultural Surveys Hawai'i (CSH) in 2017. See **Appendix "F"**.

The Honolua Stream is situated within Honolua Valley, one (1) of five (5) valleys within the traditional cultural district (*moku*) of Kaanapali. In traditional Hawaiian times, the valleys provided West Maui with rich, substantial lands amenable to the construction and use of large agricultural systems. Hawaiians in the area developed extensive irrigated taro terraces (*loi*) and drainage systems (*auwai*) that supported a large Hawaiian population. Also, extensive cultivation of dry land taro and sweet potatoes, supplemented by coastal fishing, supported this population.

Pre-contact Honolua centered on Honolua Bay, identified as one (1) of the six (6) bays in the possession of Piilani, the ruling chief of Maui. Honoapi'ilani Highway which crosses Honolua Stream, is named for high chief Kihapiilani who was responsible for an elaborate trail that encircled Maui in the early 1500s. Remnants of the ancient trail are still scattered throughout the island.

After the first contact with Europeans, whale hunters, missionaries, businessmen, and foreigners migrated to the islands. In the 1820s, Lāhainā was a central port for whalers. The old ways were changing. When missionaries arrived in 1820, the new religion was widely accepted. Lāhainā was one of Hawai'i's central locations for missionaries and Christian services. Lāhainā was also the center for education throughout the islands (SCS, 2011).

With change, a Hawaiian monarchy ensued and society changed drastically from ancient Hawaiian days. Lāhainā was once the port of choice for commercial endeavors that succeeded the traditional economy. With the demise of the whaling industry and the capitol location change of the Hawaiian Kingdom from Lāhainā to Honolulu, population fluctuated. By the mid-1800s, the area was entirely converted from traditional agriculture to commercial sugar cane (SCS, 2011).

In the mid-1800s the Great Mahele introduced native Hawaiians who had been cultivating and living on the lands to private property ownership. A

total of 23 Land Commission Awards (LCA) were recorded in the Honolua Ahupua'a. LCA number 3802 was issued for land within the Honolua Bay area consisting of 2.44 acres. The award consisted of three (3) *apana*: a house lot, *kula* land, a *loi kalo* and a sweet potato *moo* (CSH, 2011).

In the later 19th century, these lands were owned by James Campbell, who first established the Honolua Ranch. Around 1888 or 1889, J. Campbell sold the lands of Honolua and Honokohua to Samuel Damon. Cattle ranching started in the area at this time and it was continued by Henry Perrine Baldwin. H. Baldwin began purchasing and leasing land in Honolua and acquired the lands from J. Campbell and others in the early 1890s (SCS, 2011).

In 1911, David T. Fleming became the manager of Honolua Ranch and gradually shifted the ranch from cattle to pineapple production. A major pineapple industry emerged in West Maui during the 1920s. The plantation communities of Honokahua and Nāpili emerged and developed as part of the Honolua Ranch/Baldwin Packers pineapple operations and the population of the Lāhainā area increased with the successful economic operations of the pineapple plantation (SCS, 2011).

Honolua Ranch developed numerous waterworks beginning with the Honokōhau Ditch in 1902. The irrigation systems developed by Honolua Ranch, Maui Land & Pineapple Company, and Pioneer Mill Company supplied irrigation water to the emerging pineapple and sugar plantation which changed agricultural cultivation. The last sugarcane harvest was in 1999 with the mill closing in 2003 (CSH, 2011). Maui Land & Pineapple ended its pineapple operation in 2009.

During the plantation era fishing provided an important food resource for the workers in the various camps from Honolua to Honokowai. *Akule* was known to visit the bays of Hawai'i, including Honolua Bay where *akule* schools migrated. Fishermen working for Mr. D.T. Fleming harvested the *akule* as a commercial fishing operation at Honolua Bay until around 1955 (Ashdown et al, 1987).

The years following statehood in 1959 introduced the first resort on sugarcane lands owned by American Factors (Amfac) at Kaanapali in 1962 with the opening of the Sheraton Hotel. Since then, Maui Land & Pineapple Company's parent company of Kapalua Land Company, Ltd. Established the Kapalua Resort with the opening of the Kapalua Bay Hotel in 1978 on lands once part of Honolua Ranch. Today the visitor industry is a major employer in West Maui.

Community Consultation

Preparation of the CIA involved consultation with Hawaiian cultural organizations, government agencies, and individuals with knowledge of or concerns for traditional cultural practices in the area.

Maui County Cultural Resources Commission

Consultation included meeting with the Maui County Cultural Resources Commission (MCCRC) on October 7, 2010. At the meeting Ms. Elle Cochran, a Honolua resident of Hawaiian ancestry, noted that the nearest cultural feature to the Honolua Bridge is the *Honuaula Heiau*, which was severely impacted by the original road construction that cut through the *heiau*. Ms. Cochran supports upgrades to the bridge for safety purposes but opposes widening the bridge and would like to see the bridge remain a one-lane bridge.

Mr. Ramon Madden also testified at the MCCRC meeting and voiced concerns that widening the bridge will open the area to development and encourage speeding.

At the meeting the MCCRC supported rehabilitation of the bridge to maintain the historic integrity of the bridge.

Individuals consulted noted the following:

Foster Ampong

Mr. Foster Ampong noted he is familiar with the area and has spent time there surfing, gathering, and conducting spiritual practices. The Honolua Stream Bridge is an important landmark that marks the area that the community has utilized for fishing and surfing. Also, the bridge was built over the *Honuaula Heiau* and great care should be taken regarding disturbances of surrounding archaeological features that would be an act of desecration.

Roselle Bailey

Mrs. Roselle Bailey noted that the existing highway damaged a portion of the *Honuaula Heiau*. The *heiau* and Hawaiian archaeology in the area should be protected. She commented that widening the bridge would further development of northwest Maui and affect water resources and traditional cultural structures and practices. She would like to see the bridge improved with as little change to its structure as possible.

Narciso (Jimmy) Billianor

Mr. Narciso (Jimmy) Billianor occupies the property fronting Honolua Bay. He noted the existing *heiau* was located at the foot of the northern valley wall makai of the highway. He was also aware of an old Hawaiian church located near the highway of which the steps remain. At one time there was an *akule* fish processing plant near Honolua Bay that was used by the *akule* fishermen.

Mr. Billianor also identified three (3) grave sites marked with white crosses and covered with stone paving containing the remains of his grandmother, grandfather, and aunt. According to Mr. Billianor, the 1946 tidal wave destroyed the structures on the property and only remnants of his aunt's house remain. According to Mr. Billianor there are approximately 60 human burials along the foot path to Honolua Bay.

Kahu David Kapaku

Kahu David Kapaku's family lived in Honokōhau Valley where he resides today. The *Honuaula Heiau* was impacted during the construction of the highway. He indicated that based on the number of platform features present in the area, the *heiau* is a *Mapele heiau* or an agricultural or economy-related *heiau* dedicated to Lono.

Kahu Kapaku stated that Honolua Stream flowed perennially and there are remnant taro *loi* located approximately two (2) miles up the valley. Honolua Stream once flowed with 25 million gallons of water per day which has been diverted to provide water for the commercial crop agriculture. He believes the replacement of the natural vegetation with commercial agricultural crops impacted rainfall patterns of the area.

Kahu Kapaku also noticed that traffic in the area has increased over the past few years and is concerned with traffic safety. He is also concerned how the Honolua Bridge upgrades will impact the adjacent ahupuaa, such as Honokōhau.

Donna Willard

Ms. Donna Willard is considered the caretaker of the *Honuaula heiau* and has removed vegetation and debris from the *heiau*. It was explained to her that the *heiau* was a healing and political *heiau*. The *heiau* was used as a meeting place for *alii* and *kahuna*. In her efforts to re-open the *heiau* she would like to reconstruct the different work areas thought to have existed.

b. Potential Impacts and Mitigation Measures

Overall, individuals consulted in the preparation of the CIA agree that Honolua Bridge should be repaired and made safe. The general consensus was to make the bridge safe while altering its size and appearance as little as possible. The community has sentimental ties to the area and the bridge is viewed as one of the last remaining structures from the plantation era. In addition, widening the bridge is viewed as a threat to the current undeveloped, rural region of Maui. Those consulted voiced a fear that the wider road would encourage increased traffic and residential development, which they do not support.

Recommended Mitigation Measures

There are multiple archaeological sites in close proximity of Honolua Bridge. Of particular concern noted by cultural informants is the Honuaula Heiau which was impacted by the construction of Honolua Bridge. Remnant of the heiau, located mauka of the bridge, was noted as State Inventory of Historic Places (SIHP) 50-50-10-1471 FE 12 (refer to **Figure 14**). No work is proposed mauka of the bridge.

The CIA also recommends the following mitigation measures:

- *It is recommended that safe access mauka and makai to Honolua Bay is maintained during all phases of construction.*
- *Precautionary measures to limit the amount of silt or dust resulting from construction activities need to be taken to prevent shoreline and off-shore fishing ground degradation and contamination. Best management practices are required to be at the forefront of any construction activity associated with the proposed project area.*
- *Safe access to Honuaula heiau for religious and ceremonial purposes should be maintained during all phases of construction.*
- *It is critical that construction activities avoid encroachment on the Honuaula heiau (SIHP 50-50-05-1471), and all associated features of this site of which includes Feature 12.* Refer to **Figure 14.**
- *It is strongly recommended that archaeological recommendations set forth in Preiznski and Dega (2009) and Pickett and Dega (2007) for historic properties within the ROW and area of direct impact are established. Consultation with neighboring landowners may be required to ensure avoidance*

of significant historic properties.

- *Per the outcome of the October 2010 Maui County Cultural Resource Commission meeting, it is strongly recommended that the historical nature of the Honolua Stream Bridge is maintained. It is recommended that the bridge remain single-lane and that alterations to its appearance are minimized. This recommendation would minimize adverse impacts to the surrounding cultural and religious historic properties.*

The proposed project proposes to keep the historical nature of the bridge as a one-lane bridge without increasing its size while improving the safety of the bridge. Development plans for the rehabilitation of the bridge has considered the community's desire to not alter its size or appearance. Construction activities will be within the highway right-of-way (ROW) and unpaved parking area makai of the ROW, as much as possible, to avoid encroachment on the Honua'ula heiau. The temporary structures will be removed on completion of construction, the area restored as much as possible to its undeveloped condition. As such, the project is not anticipated to have significant adverse impacts on cultural resources.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Land Use and Community Character

a. Existing Conditions

The vast majority of lands in West Maui are either State designated "Conservation" or "Agricultural". Generally, "Conservation" lands occupy the higher elevations, while the "Agricultural" district spans the middle ground. "Urban" designated lands, then, are left to occupy the lower elevations along the coast. "Agricultural" lands are on the mauka side of Honolua Bridge with "Conservation" lands on the makai side. The area is a relatively undeveloped, rural region on the northwest side of Maui island.

b. Potential Impacts and Mitigation Measures

The proposed project involves rehabilitation of the existing bridge, maintaining its existing one-lane character and is not expected to impact the surrounding land uses and undeveloped rural character of the region. This was supported by the community during consultation in preparation of the CIA. Construction of the detour route will temporarily impact the existing land use and community character during construction. However, once construction is completed, the area would be returned to its undeveloped rural character. As such, the proposed project is not

anticipated to have significant adverse impacts on land use and the rural community.

2. Population

a. Existing Conditions

The island of Maui has the fastest growing population in the State of Hawai'i. The resident population of the West Maui Community Plan region has demonstrated a substantial increase over the last two decades. Population gains were especially evident in the 1970's as the rapidly developing visitor industry served as a catalyst for attracting new jobs and new residents. The population in West Maui increased from 14,574 in 1990 to 17,967 in 2000 to 22,156 in 2010. Projections of the resident population for West Maui for the years 2020 and 2030 are 25,096, and 28,903, respectively (County of Maui, June 2006).

Growth at the County level exhibits a similar pattern. The County's resident population increased from 101,709 in 1990 to 128,968 in 2000 to 154,834 in 2010 (U.S. Census, 2010). The U. S. Census estimates Maui County's population as of July 1, 2016 as 165,386 an increase of approximately 6.8 percent since the 2010 census. Projections for the resident County population in 2020 and 2030 are 181,000, and 207,300, respectively (State of Hawai'i, Department of Business, Economic Development, and Tourism 2012).

b. Potential Impacts and Mitigation Measures

The proposed project will not impact population parameters. As a fundamental infrastructure improvement project for an existing bridge, to improve existing and long-term transportation needs of West Maui, the proposed action is not deemed a direct population generator and is not anticipated to have a significant adverse impact on population.

3. Economy

a. Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in West Maui, which is one of the State's major resort destination areas. The Kā'anapali Resort and Kapalua Resort include a number of hotels, including the Maui Marriott Resort, Hyatt Regency Maui, the Westin Maui, the Sheraton Maui, Montage at Kapalua Bay, and Ritz-Carlton Kapalua. The foundation for the

region's visitor strength lies in the availability of vacation rentals, world-class resorts, and recreational facilities throughout West Maui.

In addition, West Maui's visitor orientation is reflected in the character of Lāhainā Town, which serves as a center for visitor-related retail outlets, as well as visitor-related activities.

In terms of the agriculture industry, Pioneer Mill Company, Inc. ceased sugarcane cultivation on its lands in 1999. Of its 6,700 acres, approximately 500 acres are now currently utilized for the growing of coffee. Maui Land & Pineapple Company ceased its pineapple operations in 2009.

The State's overall unemployment rate was 2.7 percent for the month of June 2018. Maui County's seasonally unadjusted unemployment rate for the same period was 2.7 percent and 2.6 percent for Maui island (State Department of Labor and Industrial Relations, July 2018).

b. Potential Impacts and Mitigation Measures

During the construction phase of the proposed project, benefits will accrue to the local economy as a direct result of construction expenditures. These beneficial impacts include contributions made in the form of wages and salaries. In the long term, the proposed project will improve existing roadway system operations for Maui residents and visitors, by providing a safer bridge structure across Honolua Stream. As such, the proposed project is not anticipated to have significant adverse impacts on the economy.

C. PUBLIC SERVICES

1. Police and Fire Protection

a. Existing Conditions

Police protection for the Lāhainā District is provided by the Lāhainā Police Station located at the Lāhainā Civic Center approximately twelve (12) miles south of Honolua Bridge. Personnel at the Lāhainā Police Station includes one (1) Captain, one (1) Lieutenant, six (6) Sergeants, and 24 police officers (County of Maui, Police Department, 2015).

Fire prevention, suppression, and protection services for the Lāhainā District are provided by the Lāhainā Fire Station, also located in the Lāhainā Civic Center and the Nāpili Fire and Ambulance Station located in

Nāpili. The Lāhainā Fire Station includes an engine and a ladder company, and is staffed by 33 full-time personnel. The Nāpili Fire Station consists of an engine company including fifteen (15) full-time fire fighting personnel. Ambulance service is provided from the Nāpili Fire Station (County of Maui, Department of Fire and Public Safety, 2015).

b. Potential Impacts and Mitigation Measures

The proposed project will not increase population growth in the region and will not affect the service area limits or requirements for police and fire protection. During construction, the detour route will allow traffic to continue to cross Honolua Stream and not disrupt the ability of the Police Department and Department of Fire and Public Safety to provide police and fire protection. As such, the proposed project is not anticipated to have significant adverse impacts on police and fire protection.

2. Medical Facilities

a. Existing Conditions

The only major medical facility on the Island is Maui Memorial Medical Center, located approximately 55 miles from the project site, midway between Wailuku and Kahului. The 231-bed facility provides general, acute, and emergency care services.

Regular hours are offered by private medical practices in Lāhainā, which include the Maui Medical Group, Lahaina Physicians, West Maui Healthcare Center, and Kaiser Permanente Lahaina Clinic.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to affect the service area limits or requirements for medical services. As such, the proposed project is not anticipated to have a significant adverse impact on medical facilities.

3. Recreational Facilities

a. Existing Conditions

West Maui is served by numerous recreational facilities offering diverse opportunities for the region's residents. There are seventeen (17) County parks and three (3) State beach parks in West Maui. Approximately one-third of the County parks are situated along the shoreline and provide excellent swimming, diving, and snorkeling opportunities.

In addition, Kaanapali and Kapalua Resorts operate world-class golf courses which are available for public use.

Access to Honolua Bay is from an unpaved area makai of the highway right-of-way on the south side of Honolua Stream. An unpaved path leads to Honolua Bay which is used by residents and visitors for ocean recreation, such as surfing, swimming, and snorkeling. Visitors to Honolua Bay utilize shoulder areas on the makai side of the roadway on the north and south sides of Honolua Bridge for parking. Recently the State of Hawai'i purchased Lipoa Point, the land adjacent to Honolua Bay, to preserve the natural resources of the area for public open space for future generations.

b. Potential Impacts and Mitigation Measures

The construction detour route and bridge will reduce the amount of roadside parking used by the public visiting Honolua Bay to the north and south of Honolua Bridge. While roadside parking will be limited during construction, there will still be opportunities for roadside parking in the vicinity.

The following mitigation measures are proposed during construction to continue to provide public access to Honolua Bay.

(1) Maintain safe access mauka and makai to Honolua Bay during all phases of construction.

(2) Implement BMPs for silt and dust to minimize off-shore degradation of Honolua Stream and Honolua Bay.

(3) Construction activities shall avoid encroachment into Honuaula heiau and associated features.

Provided recommended mitigation measures are implemented, the public's enjoyment of Honolua Bay are not anticipated to be hindered during the four-month construction period. Following construction, the temporary detour route and bridge will be removed, restoring the full amount of roadside parking currently used by the public. Once construction has been completed and the temporary detour route and bridge removed, the roadside parking will be upgraded from the existing dirt condition to gravel or something similar to improve the condition of the parking area.

4. Schools

a. Existing Conditions

The West Maui area is served by four (4) public schools operated by the State of Hawai'i, Department of Education as shown in **Table 1**.

Table 1. Department of Education (DOE) Schools Located in West Maui

School	Enrollment (2017-2018 SY)
Kamehameha III Elementary School	720
Princess Nahienaena Elementary School	717
Lāhainā Intermediate School	724
Lahainaluna High School	1,020
Source: State of Hawai'i, Department of Education, 2017.	

All of the public schools are located within the Lāhainā Town area.

University of Hawai'i-Maui Campus is located in Kahului and is a branch of the University of Hawai'i system. This is the primary higher education institution serving the County of Maui. Private schools in the West Maui region include Sacred Hearts School and Maui Preparatory Academy.

b. Potential Impacts and Mitigation Measures

Inasmuch as the proposed project is not a population generator, it will not affect school enrollments and facility requirements. As such, the proposed project is not anticipated to have a significant adverse impact on educational resources.

5. Solid Waste

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews is disposed at the County's Central Maui Landfill, located four (4) miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

To facilitate solid waste collection services for the West Maui region, a refuse transfer station has been established at the former County landfill site at Olowalu.

b. Potential Impacts and Mitigation Measures

Cleared and grubbed materials from the roadway right-of-way and construction waste which may be generated from the project (e.g., wood used for casting and forming) will be either composted at a greenwaste facility, recycled or disposed of at an approved construction waste site. With these solid waste management provisions, the contribution of green and construction waste to the County's Central Maui Landfill will be minimized. The proposed project is not anticipated to have significant adverse impacts on collection or capacity parameters of the County's solid waste disposal system.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

Honoapi'ilani Highway (Route 30) in the area of the proposed project consists of a 24-feet wide asphalt concrete two-lane, paved roadway and is classified as a major collector. The existing Honolua Bridge is 18-feet wide and 24-feet long. The existing bridge is a one-lane bridge that serves both inbound and outbound traffic on Honoapi'ilani Highway. There is an existing guardrail system in place. The posted speed limit on Honoapi'ilani Highway in the vicinity of the project site is 25 mph. Approaching the bridge, the posted speed limit is reduced to 10 mph.

An assessment conducted by KAI Hawai'i, Inc. concluded that the existing concrete reinforced masonry (CRM) abutments of the Honolua Bridge has sufficient foundational support with no indication of settlement or stress-related deterioration.

Based on traffic volumes in the area, the existing one-lane bridge has enough capacity to remain as a one-lane bridge with existing traffic volumes. See **Appendix "G"**.

b. Potential Impacts and Mitigation Measures

The proposed project, in conjunction with construction of the temporary detour route, will not adversely impact the existing roadway system. Traffic will continue to flow. However, there may be temporary disruptions in order to accommodate construction activity equipment and materials. In the long term, the proposed project will improve the structural safety of the bridge and provide pedestrian and bicycle safety. As a one-lane bridge, the traffic

assessment prepared by Austin, Tsutsumi and Associates, Inc. recommended that necessary warning signs in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) be installed to warn motorist of the one-lane bridge. Refer to **Appendix "G"**. The proposed project is not anticipated to have significant adverse impacts on traffic.

2. Water

a. Existing Conditions

The County of Maui, Department of Water Supply does not service the Honolua Bay area. The Lāhainā Water System serves the area from Puamana to Nāpili and the Honokōhau System serves Honokōhau Valley. There is no water service to the Honolua Bay area.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to have a significant adverse impact on water infrastructure requirements.

3. Wastewater

a. Existing Conditions

The Honolua area is not serviced by the Lāhainā Wastewater Reclamation Facility and Transmission System which terminates at the Kapalua Resort. Wastewater in the area is handled by individual wastewater systems. The public areas near Honolua Bridge to Honolua Bay are serviced by portable toilets.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to create additional demand for wastewater services. As such, the proposed project will not have a significant adverse impact on wastewater services.

4. Drainage

a. Existing Conditions

The existing bridge structure is constructed over Honolua Stream. According to the Environmental Surveys, the stream bed is dry at the project site except during local rainfall events. Refer to **Appendix "E"**. The PER prepared by Austin, Tsutsumi & Associates, Inc. notes that the

existing 100-year, 24-hour peak discharge is calculated to be 2,400 cubic feet per second (cfs). Refer to **Appendix "B"**.

The project site is in designated flood Zone "A", which is defined as special flood hazard areas subject to inundation by the one (1) percent annual chance flood. Refer to **Figure 12.** The one (1) percent annual chance flood (100-year flood) is the flood that has a one (1) percent chance of being equaled or exceeded in any given year. In Zone "A" no base flood elevations have been established.

b. Potential Impacts and Mitigation Measures

The proposed project involves minimal excavation and embankment since the existing bridge abutments will remain intact and only a new bridge deck will be constructed. All work will be outside of Honolua Stream. The site of the detour route will be graded with minimum cut and fill. Best Management Practices (BMPs) will be implemented during construction to minimize effects from stormwater runoff and erosion.

BMPs proposed include the following (refer to **Appendix "D"**):

- Installation of dust screens and silt fences
- Dust control with water
- Biosock or approved equal
- Use Drip pans
- Implement Litter-Control Plan and Hazard Analysis and Critical Control Point Plan
- Perform selective time for landscape work
- Use "seabird-friendly" lighting
- Installation of erosion control blankets with native vegetation
- Install gravel ingress and egress
- Washout area

As appropriate, the State of Hawai'i, Department of Transportation (SDOT) will consider the following construction-related BMPs recommended by the County of Maui Department of Water Supply (DWS) (refer to **Appendix "D"**):

- Evaluate structure and site for best demolition method that will create the least amount of debris and sediment loss.
- Reclaimed water should be used for dust control and landscaping during construction to the extent possible.
- Before demolition, install temporary silt fences around each bridge approach.
- No part of the bridge should be allowed to fall into the water, promptly remove any material that may fall into the water body.
- Minimize disturbed area needed, ensuring that only the smallest amount of bare ground is exposed for the shortest time possible.
- Methods to minimize soil erosion and trap sediments should be used. Properly install and maintain erosion control barriers, such as silt fencing or straw bales and other appropriate erosion control devices to contain sediment before they reach any surface water feature in the work area. Inspect silt fences on a regular basis and after each rainfall. Make any required repairs immediately. Remove and dispose of sediment accumulations when depth reaches one-half the height of the filter fabric. Replace silt fence removed for access at the end of each day's operation.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting native species, as soon as possible. Use high seeding rates to ensure rapid stand establishments.
- Stabilize stream banks with indigenous vegetation or riprap, if required.
- Fill or excavated material must not be placed in a manner that creates an unstable slope.
- Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed offsite away from surface water.
- No construction or toxic materials or debris should be placed where it may enter the ocean.
- Construction debris and sediment should be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into the stream.
- Keep runoff onsite.

Upon completion of bridge construction, the temporary detour route site will be restored to its pre-development condition. As such, no long-term

adverse impacts to the drainage parameters in the vicinity of the detour route are anticipated.

In accordance with SDOT Design Criteria for Highway Drainage dated May 15, 2006, and Federal Highway Administration (FHWA) Hydraulic Engineering Circulars and Hydraulic Design Series, the proposed project is not expected to affect the existing drainage patterns and flows. Stormwater BMPs will be designed in accordance with the SDOT Stormwater Permanent Best Management Practices Manual dated March 2007.

If required, a National Pollutant Discharge Elimination System (NPDES) permit for discharge of stormwater associated with construction activities will be obtained and the requirements of the approved NPDES permit and BMPs will be adhered to during construction. At a minimum silt fences, diversion berms, gravel egress, truck wash down areas and dust screens will be included in the BMPs.

The proposed project is not expected to have a significant adverse impact on drainage in the area.

5. Electrical and Telephone Systems

a. Existing Conditions

Electrical power and telephone service are provided to the area by Maui Electric Company, Ltd. (Maui Electric) and Hawaiian Telcom, via overhead distribution lines situated along Honoapi'ilani Highway. Maui Electric's main high voltage transmission line connecting the Lāhainā and Central Maui areas, runs along the foothills of the West Maui Mountains.

b. Potential Impacts and Mitigation Measures

The proposed project will not impact the regional transmission lines for power and telephone service, nor will it require infrastructural improvements to the existing distribution lines along Honoapi'ilani Highway. As such, the proposed project is not anticipated to have significant adverse impacts on utility services.

E. CUMULATIVE AND SECONDARY IMPACTS

Cumulative impacts are defined by Title 11, Chapter 200, HAR, Environmental Impact Statement Rules as:

> *. . . the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

A "secondary impact" or "indirect effect" from the proposed action are defined by Title 11, Chapter 200, HAR as

> *. . . effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.*

In this case, the context for analyzing secondary and cumulative impacts is defined by the time horizon within which "reasonably foreseeable" conditions may occur. From a local planning standpoint, the future context for development is established by the Maui County General Plan. The General Plan defines parameters for growth and was updated in 2012.

The Maui County General Plan, as set forth in Chapter 2.80.B of the Maui County Code, provides for the update of the County General Plan. The General Plan is a long-term, comprehensive blueprint for the physical, economic, environmental development and cultural identity of the County through 2030. The components of the General Plan include the following:

- The Countywide Policy Plan provides broad policies and objectives which portrays the desired direction of the County's future. It includes a countywide vision, statement of core principles, and objectives and policies for population, land use, the environment, the economy, and housing.

- The Maui Island Plan (MIP) provides a land use strategy, water assessment, nearshore ecosystem assessment, an implementation strategy, and milestone measurements. An essential element of the MIP is a Managed and Directed Growth Plan which identifies existing and future land use patterns and determines planned growth.

- The nine (9) Community Plans provide implementing actions based on consistency with the Countywide Policy Plan and MIP's vision, goals, objectives, and policies.

A discussion of how the proposed project is consistent with specific goals, objectives, and policies of the Countywide Policy Plan, Maui Island Plan, and West Maui Community Plan are presented in Chapter IV of this EA document.

Whereas the Countywide Policy Plan covers planning goals and objectives at the broadest levels, and the regional Community Plans consider specific regional needs and opportunities, the MIP addresses functional elements of the General Plan islandwide growth parameters.

The MIP is used by the County Council, Maui Planning Commission, County administration and the community as a policy foundation for day-to-day decision making by doing the following:

- Providing direction for the development of future policies and regulations (for example, zoning and other ordinances, guidelines and area-specific plans that describe what kind of development can occur where);
- Providing policies to help determine the appropriateness of development proposals; and
- Assigning resource for capital investments and programmatic initiatives.

The Directed Growth Plan, which is a key element of the MIP, provides a framework for managing outcomes of growth based on analysis of natural hazards, sensitive lands, cultural resources, scenic corridors, and related environmental and human community parameters. An important component of the Directed Growth Plan is maps that delineate urban and rural growth areas. Referred to as Urban and Rural Growth Boundaries, these maps set the boundaries for the physical limits of development. In so doing, the Directed Growth Plan seeks to manage the use of non-urban and non-rural resources important in sustaining the island to the year 2030.

In light of the foregoing, the assessment of cumulative and secondary impacts is undertaken in the context of planned growth recommended by the General Plan update process, particularly the MIP and its Urban and Rural Growth boundary maps. Future housing and commercial development currently envisioned by the General Plan represents the "reasonably foreseeable" future for considering potential impacts of the proposed project. It is noted that the Honolua area is not under consideration for future urban growth under the General Plan or Maui Island Plan.

The proposed project will retain Honolua Bridge as a one-lane bridge. The community has raised concerns that widening the existing bridge to two (2) lanes will facilitate new residential development and result in greater traffic counts and speeding in the area. As noted previously, the Honolua area is not under consideration for future urban growth. Nevertheless, should future development in the area be proposed, such development would undergo necessary review processes, which would address public service and infrastructure considerations, such as water, schools, police and fire protection, etc.

In summary, the proposed project is being planned to address the structural sufficiency of the bridge. The proposed project is not anticipated to have a significant adverse impact on the physical environment. Assessing the project in the context of the future planned growth in the West Maui region in the foreseeable future, the proposed project is not anticipated to result in significant adverse secondary or cumulative impacts.

RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

IV

IV. RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

A. HAWAI'I STATE PLAN

Chapter 226, HRS, also known as the Hawai'i State Plan, is a long-range comprehensive plan which serves as a guide for the future long-term development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The Plan consists of three (3) parts. Part I includes the Overall Theme, Goals, Objectives, and Policies; Part II includes Planning, Coordination, and Implementation; and Part III establishes Priority Guidelines. Inasmuch as Part II of the State Plan covers its administrative structure and implementation process, discussion of the proposed project's applicability to Part II is not appropriate. Below is an analysis of the project's applicability to Part I and Part III of the Hawai'i State Plan.

Table 2. Relationship to Hawai'i State Plan

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies **Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable**	**S**	**N/S**	**N/A**
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
HRS 226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.			
Analysis: **The project is to rehabilitate an existing bridge consistent with current design standards to provide access to Honolua Bay and the rural communities between Kapalua and Wailuku Town.**			
Chapter 226-5 Objective and Policies for Population			
Objective: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.			
Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.	✓		

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.			✓
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.			✓
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaii's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaii's population.			✓
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			✓
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			✓
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.			✓
Analysis: **The project is to rehabilitate an existing bridge consistent with current design standards and to continue to provide access to the rural communities between Kapalua and Wailuku Town on Maui.**			
Chapter 226-6 Objectives and policies for the economy – – in general			
Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			✓
Policies:			
(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.			✓
(2) Expand Hawaii's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			✓
(3) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.			✓
(4) Transform and maintain Hawaii as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			✓
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawaii.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(6) Seek broader outlets for new or expanded Hawaii business investments.			✓
(7) Expand existing markets and penetrate new markets for Hawaii's products and services.			✓
(8) Assure that the basic economic needs of Hawaii's people are maintained in the event of disruptions in overseas transportation.			✓
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.			✓
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaii's small scale producers, manufacturers, and distributors.			✓
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			✓
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawaii.			✓
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawaii's employment and economic growth opportunities.			✓
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			✓
(15) Maintain acceptable working conditions and standards for Hawaii's workers.			✓
(16) Provide equal employment opportunities for all segments of Hawaii's population through affirmative action and nondiscrimination measures.			✓
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(18) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy, particularly with respect to emerging industries in science and technology.			✓
(19) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			✓
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs-- that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: **Not applicable.**			
Chapter 226-7 Objectives and policies for the economy – – agriculture.			
Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓
Policies:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			✓
(2) Encourage agriculture by making the best use of natural resources.			✓
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			✓
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			✓
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaii's economy.			✓
(6) Seek the enactment and retention of federal and state legislation that benefits Hawaii's agricultural industries.			✓
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's food producers and consumers in the State, nation, and world.			✓
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: **Not applicable.**			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
Objectives: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			
Policies:			
(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.	✓		
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.			✓
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			✓
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			✓
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.			✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.			✓
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.			✓
Analysis: **The project is to rehabilitate an existing bridge along Honoapi'ilani Highway, a State roadway used by both residents and visitors. The bridge will remain open during construction through the proposed construction detour route.**			
Chapter 226-9 Objective and policies for the economy – – federal expenditures.			
Objective: Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaii's economy.			
Policies:			
(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment;			✓
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy;			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(3) Promote the development of federally supported activities in Hawaii that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaii's environment;			✓
(4) Increase opportunities for entry and advancement of Hawaii's people into federal government service;			✓
(5) Promote federal use of local commodities, services, and facilities available in Hawaii;			✓
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii; and			✓
(7) Pursue the return of federally controlled lands in Hawaii that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			✓
Analysis: **Not applicable.**			
Chapter 226-10 Objective and policies for the economy – – potential growth and innovative activities.			
Objective: Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawaii's economic base.			
Policies:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			✓
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products;			✓
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			✓
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			✓
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			✓
(6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people;			✓
(7) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			✓
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			✓

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(9) Promote Hawaii's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			✓
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawaii's social, economic, physical, and environmental objectives;			✓
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			✓
(12) Develop, promote, and support research and educational and training programs that will enhance Hawaii's ability to attract and develop economic activities of benefit to Hawaii;			✓
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawaii;			✓
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic, physical, and environmental objectives;			✓
(15) Increase research and development of businesses and services in the telecommunications and information industries;			✓
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and			✓
(17) Recognize and promote health care and health care information technology as growth industries.			✓
Analysis: **Not applicable.**			
Chapter 226-10.5 Objectives and policies for the economy – – information industry.			
Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.			
Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawaii and between Hawaii and the world, and make high speed communication available to all residents and businesses in Hawaii;			✓
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth and innovation in Hawaii's economy;			✓
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii;			✓
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state;			✓
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;			✓
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;			✓

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(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry;			✓
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy; and			✓
(9) Assist in the promotion of Hawaii as a broker, creator, and processor of information in the Pacific.			✓
Analysis: **Not applicable.**			
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:			
(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.			✓
(2) Effective protection of Hawaii's unique and fragile environmental resources.			✓
Policies:			
(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.			✓
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			✓
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.			✓
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			✓
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.			✓
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.			✓
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.			✓
Analysis: **Not applicable.**			
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			
Objective: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.			
Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.	✓		

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(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			✓
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.			✓
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.	✓		
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.	✓		
Analysis: **The design of the historic bridge is being coordinated with the State Historic Preservation Division to minimize impacts during its rehabilitation.**			
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			
Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.			
(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.			✓
(2) Greater public awareness and appreciation of Hawaii's environmental resources.			✓
Policies:			
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.			✓
(2) Promote the proper management of Hawaii's land and water resources.			✓
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.			✓
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.			✓
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			✓
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.			✓
(7) Encourage urban developments in close proximity to existing services and facilities.			✓
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.			✓
Analysis: **Not applicable.**			
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective: Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.			

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Policies:			
(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.	✓		
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			✓
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			✓
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			✓
Analysis: **The rehabilitation of the existing bridge consistent with current design standards is identified in the State's Transportation Improvement Program (STIP).**			
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives: Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			✓
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			✓
Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			✓
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			✓
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			✓
Analysis: **Not applicable.**			
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.			
Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.			✓
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			✓
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			✓

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(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			✓
(5) Support water supply services to areas experiencing critical water problems.			✓
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			✓
Analysis: **Not applicable.**			
Chapter 226-17 Objectives and policies for facility systems – – transportation.			
Objectives: Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			✓
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			✓
Policies:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			✓
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;	✓		
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			✓
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			✓
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			✓
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			✓
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			✓
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			✓
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			✓
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment;			✓
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			✓
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and	✓		

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(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			✓
Analysis: **The project is to rehabilitate an existing bridge consistent with current design standards and is identified in the STIP.**			
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.			✓
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably prices, and dependable energy services to accommodate demand.			✓
Policies:			
(1) Support research and development as well as promote the use of renewable energy sources;			✓
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			✓
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			✓
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:			✓
(A) Development of cost-effective demand-side management programs;			✓
(B) Education;			✓
(C) Adoption of energy-efficient practices and technologies; and			✓
(D) Increasing energy efficiency and decreasing energy use in public infrastructure			✓
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; and			✓
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(7) Promote alternate fuels and transportation energy efficiency;			✓
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			✓
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives;			✓
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			✓
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			✓
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
Objectives: (a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people. (b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			
Policies:			
(1) Facilitate research and development of telecommunications systems and resources;			✓
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			✓
(3) Promote efficient management and use of existing telecommunications systems and services; and			✓
(4) Facilitate the development of education and training of telecommunications personnel.			✓
Analysis: **Not applicable.**			
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
Objectives: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(2) The orderly development of residential areas sensitive to community needs and other land uses.			✓
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.			✓
Policies:			
(1) Effectively accommodate the housing needs of Hawaii's people.			✓
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.			✓
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			✓
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			✓
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			✓
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			✓
(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.			✓
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives: Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			✓
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			✓
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			✓
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			✓

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(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			✓
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			✓
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			✓
Analysis: **Not applicable.**			
Chapter 226-21 Objectives and policies for Socio-cultural advancement – – education.			
Objective: Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.			
Policies:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.			✓
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.			✓
(3) Provide appropriate educational opportunities for groups with special needs.			✓
(4) Promote educational programs which enhance understanding of Hawaii's cultural heritage.			✓
(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands.			✓
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			✓
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			✓
(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.			✓
(9) Support research programs and activities that enhance the education programs of the State.			✓
Analysis: **Not applicable.**			
Chapter 226-22 Objective and policies for socio-cultural advancement – – social services.			
Objective: Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			✓
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			✓
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities.			✓
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			✓
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			✓
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			✓
Analysis: **Not applicable.**			
Chapter 226-23 Objective and policies for socio-cultural advancement – – leisure.			
Objective: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.			
Policies:			
(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			✓
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			✓
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.	✓		
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.	✓		
(5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources.	✓		
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.			✓
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawaii's people.			✓
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawaii's population to participate in the creative arts.			✓
(10) Assure adequate access to significant natural and cultural resources in public ownership.	✓		
Analysis: **The project is to rehabilitate an existing bridge consistent with current design standards and to continue to provide access in the vicinity of Honolua Bay, which is a recreational and open space resource on Maui.**			
Chapter 226-24 Objective and policies for socio-cultural advancement – – individual rights and personal well-being.			
Objective: Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			
Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			✓
(2) Uphold and protect the national and state constitutional rights of every individual.			✓
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			✓
(4) Ensure equal opportunities for individual participation in society.			✓
Analysis: **Not applicable.**			
Chapter 226-25 Objective and policies for socio-cultural advancement – – culture.			
Objective: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.			
Policies:			
(1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.			✓
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.			✓
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii.			✓
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.			✓
Analysis: **Not applicable.**			
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objective: Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			

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(1) Assurance of public safety and adequate protection of life and property for all people.			✓
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			✓
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.			✓
Policies:			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓
(2) Encourage increased community awareness and participation in public safety programs.			✓
Policies:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			✓
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			✓
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			✓
Policies:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			✓
(2) Enhance the coordination between emergency management programs throughout the State.			✓
Analysis: **Not applicable.**			
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives: Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.			✓
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓
Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.			✓
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			✓
(3) Minimize the size of government to that necessary to be effective.			✓

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(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii.			✓
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			✓
(6) Provide for a balanced fiscal budget.			✓
(7) Improve the fiscal budgeting and management system of the State.			✓
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			✓
Analysis: **Not applicable.**			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
Chapter 226-101: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
Chapter 226-102: Overall direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.			
Chapter 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			✓
(A) Encourage investments which:			✓
(i) Reflect long term commitments to the State;			✓
(ii) Rely on economic linkages within the local economy;			✓
(iii) Diversify the economy;			✓
(iv) Reinvest in the local economy;			✓
(v) Are sensitive to community needs and priorities; and			✓
(vi) Demonstrate a commitment to provide management opportunities to Hawaii residents; and			✓
(B) Encourage investments in innovative activities that have a nexus to the State, such as:			✓
(i) Present or former residents acting as entrepreneurs or principals;			✓
(ii) Academic support from an institution of higher education in Hawaii;			✓
(iii) Investment interest from Hawaii residents;			✓
(iv) Resources unique to Hawaii that are required for innovative activity; and			✓
(v) Complementary or supportive industries or government programs or projects.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			✓
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			✓
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			✓
(5) Streamline the processes for building and development permit and review, and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety and welfare would not be adversely affected.			✓
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawaii's small-scale producers, manufacturers, and distributors.			✓
(7) Continue to seek legislation to protect Hawaii from transportation interruptions between Hawaii and the continental United States.			✓
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			✓
(A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.			✓
(B) A clean industry that would have minimal adverse effects on Hawaii's environment.			✓
(C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment.			✓
(D) An industry that would provide reasonable income and steady employment.			✓
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawaii business.			✓
(10) Enhance the quality of Hawaii's labor force and develop and maintain career opportunities for Hawaii's people through the following actions:			✓
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			✓
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			✓
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			✓
(D) Promote career opportunities in all industries for Hawaii's people by encouraging firms doing business in the State to hire residents.			✓
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.			✓
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.			✓
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			✓
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			✓
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.			✓
(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.			✓
(6) Support and coordinate tourism promotion abroad to enhance Hawaii's share of existing and potential visitor markets.			✓
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			✓
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			✓
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			✓
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawaii.			✓
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			✓
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			✓
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			✓
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			✓
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawaii's agricultural community.			✓
(6) Seek favorable freight rates for Hawaii's agricultural products from interisland and overseas transportation operators.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			✓
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			✓
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			✓
(10) Support the continuation of land currently in use for diversified agriculture.			✓
(11) Encourage residents and visitors to support Hawaii's farmers by purchasing locally grown food and food products.			✓
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			✓
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			✓
(3) Increase the support for research and development of economically feasible alternative water sources.			✓
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			✓
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			✓
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			✓
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			✓
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			✓
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.			✓
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			✓
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			✓
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			✓
(5) Encourage research activities, including legal research in the information and telecommunications fields.			✓
(6) Support promotional activities to market Hawaii's information industry services.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			✓
Analysis: **Not applicable.**			
Chapter 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.			✓
(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.			✓
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			✓
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			✓
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			✓
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			✓
(7) Support the development of high technology parks on the neighbor islands.			✓
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.			✓
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			✓
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			✓
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			✓
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			✓
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			✓
(7) Pursue rehabilitation of appropriate urban areas.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(8) Support the redevelopment of Kakaako into a viable residential, industrial, and commercial community.			✓
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			✓
(10) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			✓
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			✓
(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.			✓
(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.			✓
Analysis: **Not applicable.**			
Chapter 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			✓
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			✓
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			✓
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			✓
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			✓
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			✓
Analysis: **Not applicable.**			
Chapter 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.			✓
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(3) Improve information and analysis relative to land availability and suitability for housing.			✓
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low- and moderate-income households, gap-group households, and residents with special needs.			✓
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the purchase of initial owner-occupied housing.			✓
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			✓
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			✓
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			✓
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			✓
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			✓
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities;			✓
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			✓
(A) The electronic exchange of information;			✓
(B) Statewide electronic mail; and			✓
(C) Access to the Internet.			✓
(6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			✓
(7) Pursue the establishment of Hawaii's public and private universities and colleges as research and training centers of the Pacific;			✓
(8) Develop resources and programs for early childhood education;			✓
(9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			✓
(10) Strengthen and expand educational programs and services for students with special needs.			✓
Analysis: **Not applicable.**			
CHAPTER 226-108: Sustainability			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;			✓
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			✓
(3) Promoting a diversified and dynamic economy;			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(4) Encouraging respect for the host culture;			✓
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;			✓
(6) Considering the principles of the ahupuaa system; and			✓
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.			✓
Analysis: **Not applicable.**			
CHAPTER 226-109: Climate change adaptation			
Priority guidelines and principles to promote climate change adaptation shall include:			
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;			✓
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			✓
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;			✓
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			✓
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			✓
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			✓
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			✓
Analysis: **Not applicable.**			

B. STATE FUNCTIONAL PLANS

A key element of the Statewide Planning System is the Functional Plans which set forth the policies, Statewide guidelines, and priorities within a specific field of activity. There are 13 Functional Plans which have been developed by the State agency primarily responsible for a given functional area. Together with the County General Plans, the State Functional Plans establish more specific strategies for implementation. In particular, State Functional Plans provide for the following:

- Identify major Statewide priority concerns
- Define current strategies for each functional area
- Identify major relationships among functional areas
- Provide direction and strategies for departmental policies, programs, and priorities
- Provide a guide for the allocation of resources
- Coordinate State and County roles and responsibilities in the implementation of the Hawaii State Plan

Thirteen (13) Functional Plans have been prepared by State agencies. **Table 3** provides an assessment of the relationship between the proposed action and each of the 13 Functional Plans.

Table 3. Relationship Between the Proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge and the State Functional Plans

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
1	Agriculture Functional Plan (1991)	Department of Agriculture	Continued viability of agriculture throughout the State.	Not applicable.
2	Conservation Lands State Functional Plan (1991)	Department of Land and Natural Resources	Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry.	The proposed action will result in rehabilitation of Honolua Bridge for continued use in its existing capacity as a single lane bridge. The temporary detour route is in the "Conservation" District. Temporary construction-related impacts shall be mitigated by implementation of BMPs. The proposed project is consistent and not in conflict with the objectives, policies, and implementing actions of the State Conservation Lands Functional Plan. A Conservation District Use Permit will be obtained for the temporary detour route.
3	Education State Functional Plan (1989)	Department of Education	Improvements to Hawai'i's educational curriculum, quality of educational staff, and access to adequate facilities.	Not applicable.
4	Employment State Functional Plan (1990)	Department of Labor and Industrial Relations	Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities.	Not applicable.
5	Energy State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems.	Not applicable.

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
6	Health State Functional Plan (1989)	Department of Health	Improve health care system by providing for those who don't have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs.	Not applicable.
7	Higher Education Functional Plan (1984)	University of Hawai'i	Prepare Hawai'i's citizens for the demands of an increasingly complex world through providing technical and intellectual tools.	Not applicable.
8	Historic Preservation State Functional Plan (1991)	Department of Land and Natural Resources	Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai'i.	Not applicable.
9	Housing State Functional Plan (1989)	Hawai'i Housing Finance and Development Corporation	Provide affordable rental and for-sale housing; increase homeownership and amount of rental housing units; acquiring public and privately-owned lands for future residential development; maintain a Statewide housing data system.	Not applicable.
10	Human Services State Functional Plan (1989)	Department of Human Services	Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for 'self-sufficiency'.	Not applicable.
11	Recreation State Functional Plan (1991)	Department of Land and Natural Resources	Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation opportunities, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management.	Not applicable.

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
12	Tourism State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community members; development of a productive workforce and enhancement of career and employment opportunities in thevisitor industry.	Not applicable.
13	Transportation State Functional Plan (1991)	Department of Transportation	Development of a safer, more efficient transportation system that is also consistent with planned physical and economic growth of the State; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand.	The proposed project involves rehabilitation of Honolua Bridge to provide a load capacity consistent with current design standards and parapet that is compliant with the Manual for Assessing Safety Hardware (MASH). As such, the project will facilitate continued safe use of the bridge. The proposed project is consistent and not in conflict with the objectives, policies, and implementing actions of the Transportation Functional State Plan.

C. STATE LAND USE DISTRICTS

Chapter 205, Hawai'i Revised Statutes (HRS), relating to the Land Use Commission, establishes four (4) major land use districts in which all lands in the State are placed. These land use districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The proposed project area encompasses lands classified as "Agricultural" and "Conservation". See **Figure 15**. Honoapi'ilani Highway, including Honolua Bridge, are in the "Agricultural" District. Roadways are a permitted use in the "Agricultural" District. Honolua Bridge is within the existing right-of-way located in the "Agricultural" District and is a permitted use. The lands makai of Honoapi'ilani Highway and Honolua Bridge are located in the "Conservation" District. The "Conservation" District is further classified by resource subzones consisting of the following: (1) Protective; (2) Limited; (3) Resource; (4) General; and (5) Special. Review of the Conservation Subzone map for the project area makai of Honolua Bridge indicates the proposed temporary construction detour route and bridge are located in the "Resource" subzone. The Resource subzone includes lands that contain natural resources. Pursuant to Section 13-5-24, Hawai'i Administrative Rules (HAR), the permitted uses in this subzone also include uses in the Protective and Limited subzone. In the "Protective" subzone public purpose uses are permitted. This includes the following, provided a Conservation District Use Permit (CDUP) is obtained from the Board of Land and Natural Resources:

> *Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from renewable sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district.*

The construction of the detour route will be located on the makai lands located in the "Conservation" District Resource subzone. The detour route improvements are permitted uses as an undertaking by the State of Hawai'i, as a public service which will rehabilitate the existing Honolua Bridge, however, a CDUP will be required.

D. MAUI COUNTY GENERAL PLAN

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

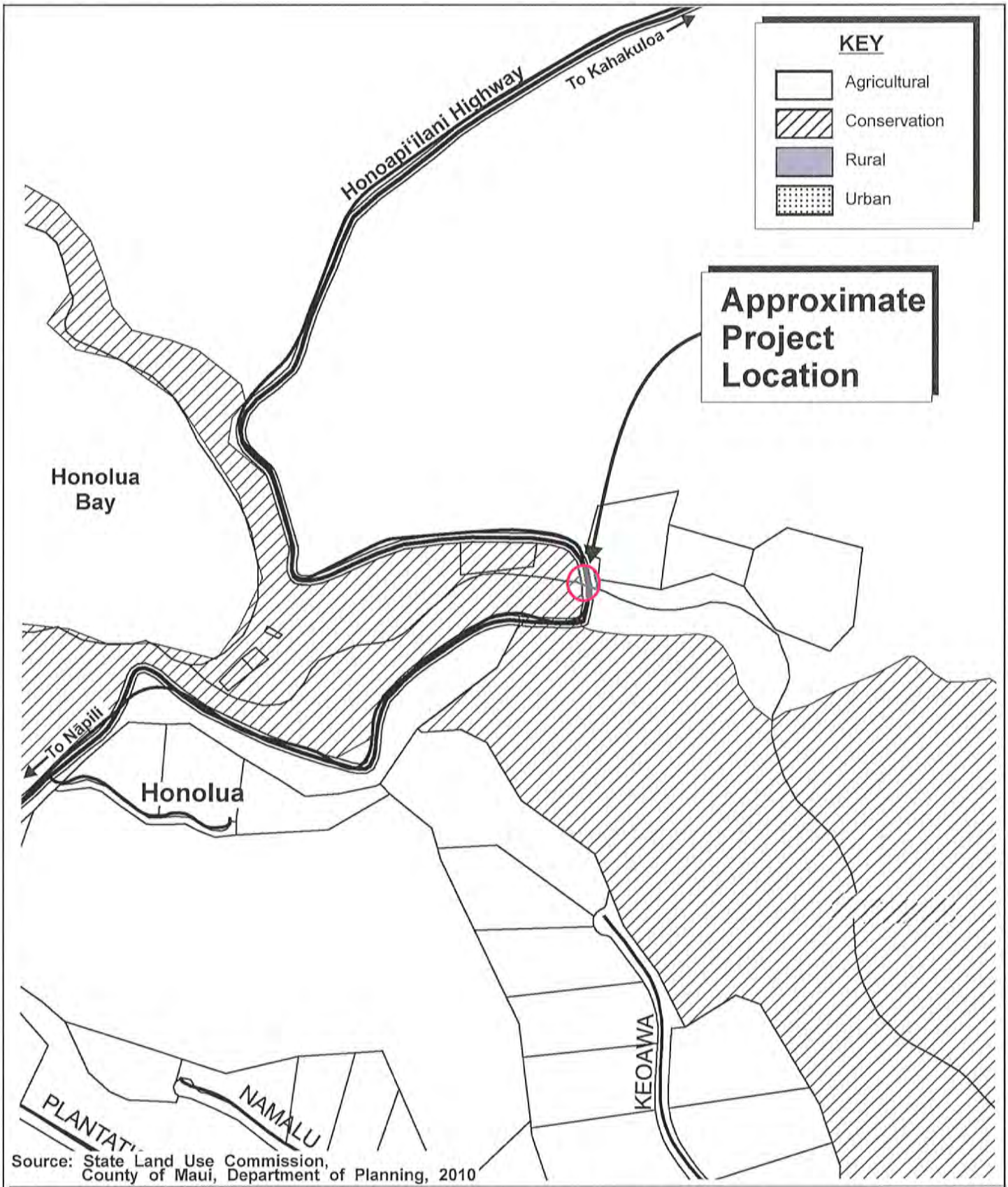


Figure 15

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

State Land Use District Map

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

ATA\HonoluaBridge\Final EA\Figures\SLUD

... indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.

Chapter 2.80B of the Maui County Code (MCC), relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan (MIP). The Countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010. The MIP which delineates areas for future urban and rural growth as part of a Directed Growth Strategy, was adopted as Ordinance No. 4004 effective December 28, 2012.

With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following.

The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide policy plan shall include:

1. *A vision for the County;*
2. *A statement of core themes or principles for the County; and*
3. *A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.*

Core principles set forth in the Countywide Policy Plan are listed as follows:

1. *Excellence in the stewardship of the natural environment and cultural resources;*
2. *Compassion for and understanding of others;*
3. *Respect for diversity;*
4. *Engagement and empowerment of Maui County residents;*
5. *Honor for all cultural traditions and histories;*
6. *Consideration of the contributions of past generations as well as the needs of future generations;*

7. *Commitment to self-sufficiency;*

8. *Wisdom and balance in decision making;*

9. *Thoughtful, island appropriate innovation; and*

10. *Nurturance of the health and well-being of our families and our communities.*

Congruent with these core principles, the Countywide Policy Plan identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:

1. *Natural environment*

2. *Local cultures and traditions*

3. *Education*

4. *Social and healthcare services*

5. *Housing opportunities for residents*

6. *Local economy*

7. *Parks and public facilities*

8. *Transportation options*

9. *Physical infrastructure*

10. *Sustainable land use and growth management*

11. *Good governance*

With respect to the proposed project, the following goals, objectives, policies and implementing actions are illustrative of the project's compliance with the Countywide Policy Plan:

Objective:

- *Preserve and restore significant historic architecture, structures, cultural sites, cultural districts, and cultural landscapes.*

Policy:

- *Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures to perpetuate a traditional sense of place.*

DIVERSIFY TRANSPORTATION OPTIONS

Goal:

Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.

Objective:

- *Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.*

Policies:

- *Execute planning strategies to reduce traffic congestion.*
- *Ensure that roadway systems are safe, efficient, and maintained in good condition.*
- *Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.*
- *Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.*
- *Evaluate all alternatives to preserve quality of life before widening roads.*

Objective:

- *Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.*

Policy:

- *Design new and retrofit existing rights-of-way with adequate sidewalks, bicycle lanes, or separated multi-use transit corridors.*

IMPROVE PHYSICAL INFRASTRUCTURE

Goal:

Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.

Objective:

- *Improve the planning and management of infrastructure systems.*

Policy:

- *Ensure that basic infrastructure needs can be met during a disaster.*

In summary, the proposed project is consistent with the themes and principles of the Countywide Policy Plan.

E. MAUI ISLAND PLAN

The MIP is applicable to the island of Maui only, providing more specific policy-based strategies for population, land use, transportation, public and community facilities, water and sewage systems, visitor destinations, urban design, and other matters related to future growth.

As provided by Chapter 2.80B, the MIP shall include the following components:

1. *An island-wide land use strategy, including a managed and directed growth plan*
2. *A water element assessing supply, demand and quality parameters*
3. *A nearshore ecosystem element assessing nearshore waters and requirements for preservation and restoration*
4. *An implementation program which addresses the County's 20-year capital improvement requirements, financial program for implementation, and action implementation schedule*
5. *Milestone indicators designed to measure implementation progress of the MIP*

It is noted the Ordinance No. 4004 does not address the component relating to the implementation program. Chapter 2.80B of the MCC, relating to the General Plan, was amended via Ordinance No. 3979, October 5, 2012, to provide that the implementation program component be adopted no later than one (1) year following the effective date of Ordinance No. 4004. In December 2013 and March 2014, the Council approved time extensions for approval and adoption of the implementation chapter of the MIP. The implementation program component of the MIP was adopted by Ordinance No. 4126 on May 29, 2014.

The MIP addresses a number of planning categories with detailed policy analysis and recommendations which are framed in terms of goals, objectives, policies and implementing actions. These planning categories address the following areas:

1. *Population*

2. *Heritage Resources*

3. *Natural Hazards*

4. *Economic Development*

5. *Housing*

6. *Infrastructure and Public Facilities*

7. *Land Use*

An essential element of the MIP is its directed growth plan which provides a management framework for future growth in a manner that is fiscally, environmentally, and culturally prudent. Among the directed growth management tools developed through the MIP process are maps delineating urban growth boundaries (UGB), small town boundaries (STB) and rural growth boundaries (RGB). The respective boundaries identify areas appropriate for future growth and their corresponding intent with respect to development character.

The project area is not located within the UGB, STB nor RGB. The proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge in itself is not a future growth area and, as such, is consistent with the growth maps adopted in the MIP.

The MIP also identifies Protected Areas, though it is noted that it is not the intent of the Protected Areas to regulate lands within the State Conservation District. The proposed project is located in an area designated as "Preservation" by the MIP as an area with significant natural and environmental resources, scenic, open space, and recreational resources, historic resources and other important assets that warrant additional protection. The MIP notes that Preservation areas may include accessory structures and uses consistent with the purpose and intent of the Preesrvation Area.

In addition, the proposed Honoapi'ilani Highway, Rehabilitation of Honolua Bridge has been reviewed with respect to pertinent goals, objectives, policies and implementing actions of the MIP. A summary of these policy statements are provided below:

INFRASTRUCTURE AND PUBLIC FACILITIES - TRANSPORTATION

Goal:

6.4 *An interconnected, efficient, and well-maintained, multimodal transportation system.*

Objective:

6.4.2 *Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.*

Policies:

6.4.2.a *Ensure transit-, roadway-, and pedestrian-facilities design and level-of-service standards respect the unique character of our communities.*

In summary, the proposed project is consistent with the above-noted themes and principles of the MIP.

F. WEST MAUI COMMUNITY PLAN

The project site is located in the West Maui Community Plan region. This region is one (1) of nine (9) Community Plan regions established in the County of Maui. The Community Plans establish regional planning guidelines. The West Maui Community Plan Land Use Map designates the project area as "Agricultural" and "Conservation". See **Figure 16**.

The proposed project implements the following goals, objectives, and policies of the West Maui Community Plan

LAND USE

Goal:

An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the future needs of residents and visitors in a manner that provides for the stable social and economic well-being of residents and the preservation and enhancement of the region's open space areas and natural environmental resources.

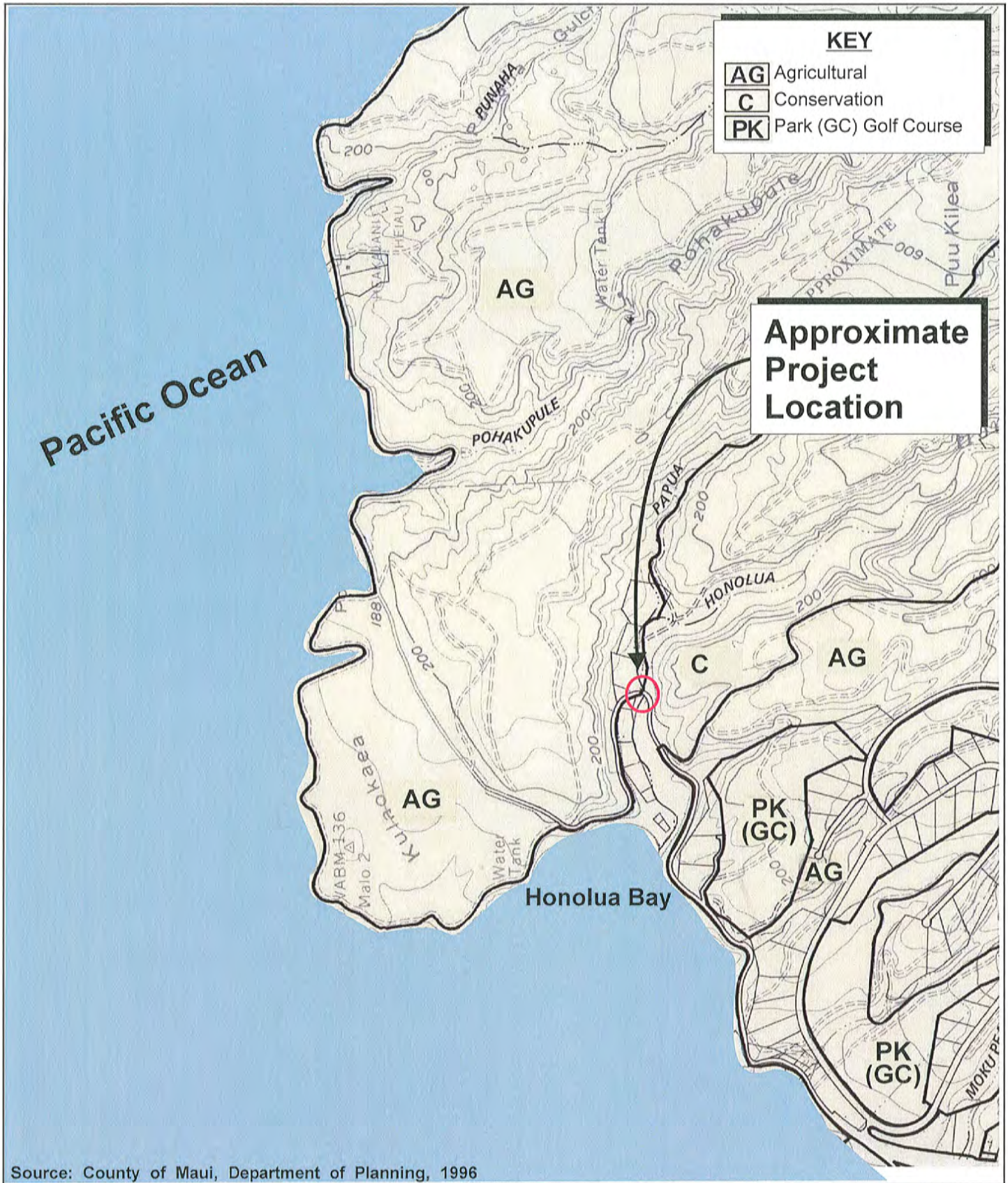
Objective and Policy:

- *Preserve and enhance the mountain and coastal scenic vistas and the open space areas of the region.*

ENVIRONMENT

Goal:

A clean and attractive physical, natural and marine environment in which man-made developments on or alterations to the natural and marine environment are based on sound environmental and ecological practices, and important scenic and open space resources are preserved and protected for public use and enjoyment.



Source: County of Maui, Department of Planning, 1996

Figure 16

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
West Maui Community Plan Map

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

ATA\HonoluaBridge\Final EA\Figures\WMCP Map

Objectives and Policies:

- *Integrate stream channels, gulches and other areas deemed unsuitable for development into the region's open space system for the purposes of safety, open space relief, greenways for public use and visual separation. Existing development of these stream channels, gulches and other areas shall be maintained and shall not be expanded. Drainage channels and siltation basins should not be considered for building sites, but used, rather, for public open space.*

- *The following major streams and gulches, as named on the United States Geologic Survey topographic maps (Lahaina and Honolua, Hawaii, 7.5 minutes series, 1:24,000 scale), are to be kept as open space:*

  a. *Kahoma Stream*

  b. *Wahikuli/Hahakea Gulch*

  c. *Honokowai Stream*

  d. *Mahinahina Stream*

  e. *Kahana Stream*

  f. *Kaoplala Gulch*

  g. *Honokeana Stream*

  h. *Napili Stream (2-3)*

  i. *Napili Stream (4-5)*

  j. *Honokahua Stream*

  k. *Mokupea Gulch*

  l. *Honolua Stream*

  m. *Papua Gulch*

  n. *Kauaula Stream*

- *For other natural drainageways that discharge to the ocean during part of the year, their natural filter functions shall be preserved. The preservation of these natural filter functions may be accomplished by the use of structural controls or solutions in accord with accepted engineering standards or rules as may be adopted by the Department of Public Works and Waste Management, and includes the use of best management practices such as desilting basins, moderation of flow velocity, subsurface infiltration systems, and baffles.*

- *Promote drainage and stormwater management practices that prevent flooding and protect coastal water quality.*

CULTURAL RESOURCES

Goal:

To preserve, protect and restore those cultural resources and sites that best represent and exemplify the Lahaina region's pre-contact, Hawaiian Monarchy, missionary and plantation history.

Objectives and Policies:

- *Ensure that new projects or developments address potential impacts on archaeological, historical, and cultural resources and identify all cultural resources located within the project area as part of initial project studies. Further require that all proposed activity adequately mitigate potential adverse impacts on cultural resources.*

- *Support public and private efforts to inventory, evaluate and register historic and archaeological sites to expand the public's knowledge of the region's cultural resources.*

INFRASTRUCTURE

Goal:

Timely and environmentally sound planning, development, and maintenance of infrastructure systems which serve to protect and preserve the safety and health of the region's residents, commuters, and visitors through the provision of clean water, effective waste disposal and efficient transportation systems which meets the needs of the community.

Transportation

Objectives and Policies:

- *Support improvements for the safe and convenient movement of people and goods, pedestrians and bicyclists in the Lahaina region particularly along Honoapi'ilani Highway, Front Street and Lower Honoapiilani Road and seek to establish a regional network of bikeways and pedestrian paths.*

- *Support the provision of an alternative route between West Maui and Central Maui.*

SOCIAL INFRASTRUCTURE

Goal:

Develop and maintain an efficient and responsive system of public services which promotes a safe, healthy, and enjoyable lifestyle, and offers opportunities for self improvement and community well being.

Recreation and Open Space

Objective and Policy:

- *Ensure adequate public access to shoreline areas, including lateral access to establish the continuity of public shorelines.*

GOVERNMENT

Goal:

Government that demonstrates the highest standards of fairness, responsiveness to the needs of the community, fiscal integrity, effectiveness in planning and implementing programs and projects to accommodate a stable social and economic well-being for residents, a fair and equitable approach to taxation, and efficient and results-oriented management.

Objective and Policy:

- *Coordinate and direct future public and private development, including capital improvement projects, consistent with the Community Plan and the island-wide directed and managed growth plan required by the General Plan.*

G. MAUI COUNTY ZONING

The project site in the State Agricultural District is zoned "Agricultural" and the area in the State Conservation District is zoned "Interim" by the County of Maui. Further, according to Chapter 19.06.030(G), MCC:

> *Any area shown on the zoning maps as park, playground, school, cemetery, water, street or right-of-way shall be subject to the zoning regulations of the district in which they are located. In case of doubt, the zoning regulations of the most restricted adjoining district shall govern.*

The existing Honolua Bridge is located in the County Agricultural District. Construction of the detour route, will be located makai of the highway right-of-way in the State Conservation district which is zoned Interim district by the County of Maui. Although not specifically identified as a permitted use, roadways are necessary to provide access to uses within the Agricultural and Interim districts and as such are permitted.

H. HAWAI'I COASTAL ZONE MANAGEMENT PROGRAM

The Hawai'i Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources within Hawai'i's coastal zone.

It is noted that a portion of the project site for the proposed temporary bridge and detour road makai of the Honoapi'ilani Highway is located within the County of Maui's Special Management Area (SMA). See **Figure 17**. The analysis which follows is provided to address overall requirements of Chapter 205A, HRS, as well as SMA permiting needs.

1. Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

a. *Improve coordination and funding of coastal recreational planning and management; and*

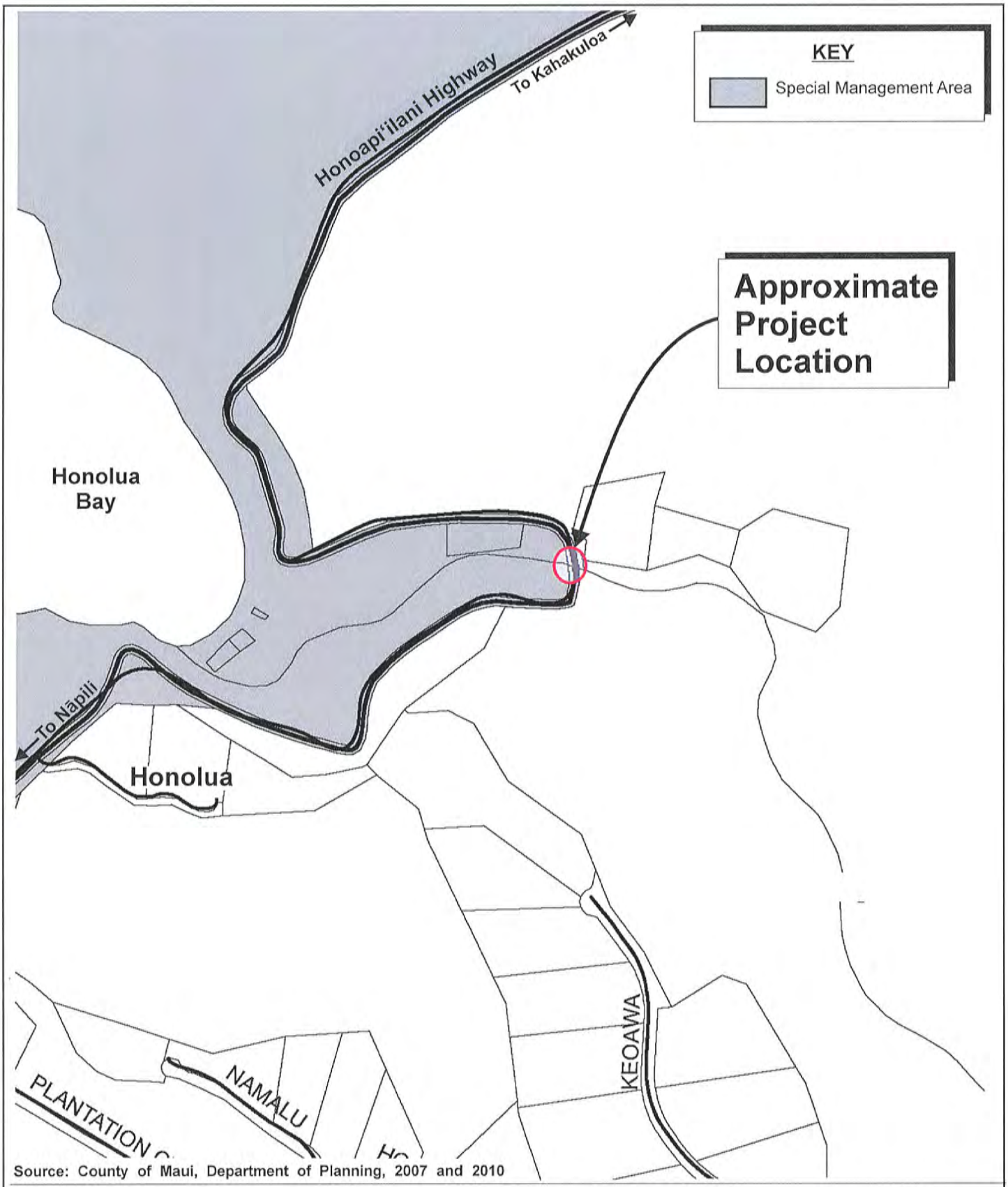
b. *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*

   i. *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*

   ii. *Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;*

   iii. *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*

   iv. *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*



Source: County of Maui, Department of Planning, 2007 and 2010

Figure 17

Honoapi'ilani Highway Rehabilitation of Honolua Bridge

Special Management Area Map

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

ATA\HonoluaBridge\Final EA\Figures\SMA

v. *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*

vi. *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS*

Response: The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge project is not expected to affect existing coastal recreation areas such as Honolua Bay. During the four-month construction period, the amount of roadside parking along the highway will be reduced. However, there will still be opportunities for roadside parking in the vicinity. After construction is completed, the full amount of roadside parking will be restored. In addition, the roadside parking will be upgraded from the existing dirt condition to gravel.

2. Historic Resources

Objective:

Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

a. *Identify and analyze significant archeological resources;*

b. *Maximize information retention through preservation of remains and artifacts or salvage operations; and*

c. *Support state goals for protection, restoration, interpretation, and display of historic resources.*

Response: An Archaeological Inventory Survey (AIS) prepared for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge identified three (3) sites in close proximity of the Honolua Bridge, which is also identified as a historic site. The proposed project will modify the existing bridge and involve minor ground altering activities associated with the detour route over Honolua Stream. Structural modifications to the existing bridge will be mitigated by incorporating the Secretary

of the Interior's (SOI) Standards and Guidelines for the Treatment of Historic Properties.

In the event archaeological resources are uncovered during construction, appropriate "stop work", review and mitigation protocols will be implemented by the contractor and the State Department of Transportation (SDOT). The State Historic Preservation Division (SHPD) will be contacted to establish appropriate preservation measures.

3. Scenic and Open Space Resources

Objective:

Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

a. *Identify valued scenic resources in the coastal zone management area;*

b. *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*

c. *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*

d. *Encourage those developments that are not coastal dependent to locate in inland areas.*

Response: During construction public view corridors and scenic resources from the detour route will be available. Once rehabilitation of Honolua Bridge is completed public view corridors and scenic resources will be restored from Honolua Bridge. Significant adverse impacts to coastal scenic and open space resources or adverse effects on public views to and along the shoreline are not anticipated.

4. Coastal Ecosystems

Objective:

Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

a. *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*

b. *Improve the technical basis for natural resource management;*

c. *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*

d. *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*

e. *Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

Response: Construction of the proposed project will utilize Best Management Practices (BMPs) to mitigate potential adverse impacts to coastal ecosystems.

5. **Economic Uses**

Objective:

Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

a. *Concentrate coastal dependent development in appropriate areas;*

b. *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*

   i. *Use of presently designated locations is not feasible;*

   ii. *Adverse environmental effects are minimized; and*

   iii. *The development is important to the State's economy.*

Response: The proposed project will have a beneficial short-term impact on the economy through increased expenditures and generation of construction-related

employment opportunities. In the long term, the completed project will enhance the movement of goods and services in the area, contributing to the general health of the economy.

6. Coastal Hazards

Objective:

Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

Policies:

a. *Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*

b. *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;*

c. *Ensure that developments comply with requirements of the Federal Flood Insurance Program; and*

d. *Prevent coastal flooding from inland projects.*

Response: The proposed project involves work within the Special Flood Hazard Area of Honolua Stream and will comply with Chapter 19.62 Flood Hazard Area, Maui County Code. The detour route will be designed to maintain the hydraulic capacity of the stream.

7. Managing Development

Objective:

Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

a. *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*

b. *Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and*

c. *Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

Response: In compliance with requirements of Chapter 343, HRS, this Environmental Assessment (EA) has been prepared to facilitate public understanding and input for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge.

Applicable Federal, State, and County requirements will be adhered to in the design and construction of the proposed project. Agency review and public notices of the filing of an EA, which are required elements of the EA review process, will advance the objectives and policies for managing development.

8. Public Participation

Objective:

Stimulate public awareness, education, and participation in coastal management.

Policies:

a. *Promote public involvement in coastal zone management processes;*

b. *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and*

c. *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Response: A public scoping meeting was held on May 29, 2009 by the SDOT. The purpose of the meeting was to solicit input on the proposed project. A summary of the meeting comments is included in **Appendix "A-1"** of this report. This EA is being processed in accordance with the provisions of Chapter 343, HRS. The EA will be published in the Office of Environmental Quality Control Environmental Notice, whereby opportunity for comment by agencies and the public will be provided. The land use permit processes will also provide for public dialogue and input.

9. Beach Protection

Objective:

Protect beaches for public use and recreation.

Policies:

a. *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*

b. *Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and*

c. *Minimize the construction of public erosion-protection structures seaward of the shoreline.*

d. *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*

e. *Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor;*

Response: During the four-month construction period, the amount of roadside parking along the highway will be reduced. However, there will still be opportunities for roadside parking in the vicinity. Safe access mauka and makai to Honolua Bay will be maintained during all phases of construction. Once construction is completed, the full amount of roadside parking will be restored.

10. Marine Resources

Objective:

Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

a. *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*

b. *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*

c. *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*

d. *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*

e. *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Response: During construction appropriate BMPs will be implemented to ensure that storm water runoff is properly contained during construction. A National Pollutant Discharge Elimination System Permit, if required, will be obtained prior to the initiation of construction.

I. MAUI PLANNING COMMISSION SPECIAL MANAGEMENT AREA RULES AND REGULATIONS

The Rules and Regulations of the Maui Planning Commission, Chapter 202 were established in order to implement HRS, Chapter 205A relating to Coastal Zone Management and Special Management Areas. In addition to establishing procedures for processing of SMA applications and procurement of related permits, the rules assist the Commission in giving consideration to state policy regarding coastal zones.

This section addresses applicable coastal zone management considerations as set forth in the Maui Planning Commission Rules and Regulations, Chapter 202, "Special Management Area Permit Procedures," which are provided for considering the significance of potential environmental and ecological effects of a proposed action. The criteria have been reviewed and analyzed with respect to the proposed project.

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.

There are no adverse impacts to natural or cultural resources anticipated as a result of the proposed project provided appropriate mitigation measures are implemented. The detour route will be carried out pursuant to a Conservation District Use Permit and in compliance with the Conservation District goals and objectives. SHPD has accepted the AIS and concurred with the report recommendation that no further work is required. In accordance with Section 6E-

43.6, HRS and Chapter 13-300, Hawai'i Administrative Rules (HAR), if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity and SHPD will be contacted to establish the appropriate protocols and level of mitigation. There will be no work below the abutments of the Honolua Bridge or below the Ordinary High Water Mark of the stream. In addition, there are no wetlands which will be impacted, and there are no significant impacts to flora and fauna anticipated from the proposed project.

2. **Significantly curtails the range of beneficial uses of the environment.**

The proposed project will not curtail the range of beneficial uses of the environment. The rehabilitation of the existing Honolua Bridge will be carried out within the existing right-of-way, while construction of the detour route will be makai of the right-of-way in the State Conservation District. Applicable dust control, noise control, and drainage control measures will be implemented during construction and the decommissioning of the detour route to minimize any temporary construction-related impacts.

3. **Conflicts with the county's or the state's long-term environmental policies or goals.**

The proposed project does not conflict with the State's Environmental Policy and Guidelines as set forth in Chapter 344, HRS. The proposed project is consistent with the underlying land use designations of the Honoapi'ilani Highway and Conservation District lands makai of the highway, provided a CDUP is granted.

4. **Substantially affects the economic or social welfare and activities of the community, county, or state.**

On a short-term basis, the proposed project will support construction and construction-related employment and have a beneficial impact on the local economy during the period of construction.

5. **Involves substantial secondary impacts, such as population changes and increased effects on public facilities, streets, drainage, sewage, and water systems, and pedestrian walkways.**

The proposed project will retain Honolua Bridge as a one-lane bridge in response to community concerns that widening the existing bridge to two (2) lanes will facilitate new residential development and result in greater traffic counts and speeding in the area. The Honolua area is not under consideration for future urban growth within the Maui County General Plan or Maui Island Plan. Nevertheless, should future development in the area be proposed, such development would undergo necessary review processes, which would address public service and infrastructure considerations such as water, schools, police and fire protection, etc.

6. **In itself has no significant adverse effects but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**

The proposed project is not anticipated to have a cumulative adverse impact on the environment, nor involve a commitment to larger actions.

7. **Substantially affects a rare, threatened, or endangered species of animal or plant, or its habitat.**

There are no threatened or endangered species of fauna, flora, or their habitats in or adjacent to the project site. Adverse impacts to these environmental features are not anticipated.

8. **Is contrary to the state plan, county's general plan, appropriate community plans, zoning and subdivision ordinances.**

The proposed project is in accordance with applicable State, County, Maui General Plan, MIP and West Maui Community Plan land use policies and plans.

9. **Detrimentally affects air or water quality or ambient noise levels.**

Short-term air quality and noise impacts caused by construction activity will be mitigated through the implementation of BMPs. There are no long-term effects on air, water quality, or noise as a result of the proposed project.

10. **Affects an environmentally sensitive area, such as flood plains, shoreline, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh waters, or coastal waters.**

The project site is located within Flood Zone A, a special flood hazard area. Zone A designation denotes an area that has one (1) percent chance of equaling or exceeding the 100-year flood. The proposed project will comply with Chapter 19.62 Flood Hazard Area, Maui County Code. Graded areas will be revegetated to mitigate stormwater runoff from the site.

11. **Substantially alters natural land forms and existing public views to and along the shoreline.**

The proposed project will not permanently alter natural land forms. The rehabilitation of Honolua Bridge will be carried out within the existing roadway profile and alignment. The construction detour route will temporarily alter natural land forms. The construction detour route will be decommissioned once rehabilitation of the Honolua Bridge is completed and the area returned to its original condition, as much as possible.

12. Is contrary to the objectives and policies of chapter 205A, HRS.

A review of the objectives and policies of Chapter 205A, HRS, is provided in its entirety in the previous part of this section. Therein, it addresses the proposed project in relation to Coastal Zone Management considerations. Based on the foregoing analysis, the proposed project will appropriately and adequately mitigate impacts to SMA-relevant areas of interest. Accordingly, there are no anticipated significant environmental and ecological effects attributed to the proposed project.

V

UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

V. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

During the short term, the proposed project will result in unavoidable construction-related impacts which include noise-generated impacts occurring from the construction of the proposed project. In addition, there may be temporary air quality impacts associated with dust generated from site work and exhaust emissions discharged by construction equipment. Also, during construction, there will be temporary stormwater runoff and sedimentation impacts resulting from land altering work associated with the detour road and temporary bridge. These impacts will be temporary in nature and will be mitigated to the extent practicable through implementation of appropriate Best Management Practices.

Beneficial impacts are related to safety and the achievement of near-term and long-term objectives of meeting regional planning needs.

Other resources which will be committed in the implementation of the proposed action include material and fuel resources.

The unavoidable impacts and commitments noted above have been weighed against the immediate and long-term benefits of the action.

SIGNIFICANCE CRITERIA VI

VI. SIGNIFICANCE CRITERIA

The "Significance Criteria", Section 12 of the Hawai'i Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following criteria and analysis are provided.

1. **Involves an Irrevocable Commitment to Loss or Destruction of any Natural or Cultural Resource**

   The subject property has been previously disturbed in connection with the construction of the existing Honoapi'ilani Highway and Honolua Bridge. Should any artifacts or human remains be encountered during construction, work will stop in the immediate vicinity of the find and the State Historic Preservation Division (SHPD) will be immediately notified to establish an appropriate mitigation strategy.

   The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge is not anticipated to adversely impact habitats of threatened or endangered species of flora, fauna, or avifauna that are located located in the vicinity.

2. **Curtails the Range of Beneficial Uses of the Environment**

   The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge and the commitment of land resources are not expected to curtail the range of beneficial uses of the environment. No adverse physical environmental impacts associated with the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge are anticipated.

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 State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawai'i Revised Statutes (HRS). The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge does not contravene provisions of Chapter 344, HRS.

4. **Substantially Affects the Economic, Welfare, Social Welfare and Cultural Practices of the Community or State**

   The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge would have a direct beneficial effect on the local economy during construction and ongoing operations. From a long-term perspective, the proposed action will enhance the community welfare benefit of meeting needed long range transportation planning objectives.

5. **Substantially Affects Public Health**

No adverse impacts to the public's health and welfare are anticipated as a result of the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge.

6. **Involves Substantial Secondary Impacts, Such as Population Changes or Effects on Public Facilities**

The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge will not directly result in population increases. The design and implementation of the project will be coordinated with the appropriate governmental agencies. The community has raised concerns that widening of the bridge will encourage residential development in the region. As such, the proposed project will maintain Honolua Bridge as a one-lane bridge. The Honolua area is not under consideration for future urban growth within the Maui County General Plan or the Maui Island Plan. Nevertheless, should future development in the area be proposed, such development would undergo necessary review processes, which would address public service and infrastructure considerations, such as water, schools, police and fire protection, etc.

7. **Involves a Substantial Degradation of Environmental Quality**

During the construction phase there will be short-term air quality and noise impacts. There are no sensitive environments (e.g., wetlands, erosion prone areas, etc.) which will be affected by the proposed action, nor will scenic views be negatively affected. No substantial degradation of environmental quality resulting from the project is anticipated.

8. **Is Individually Limited but Cumulatively has Considerable Effect Upon the Environment or Involves a Commitment for Larger Actions**

The proposed project does not involve a commitment for larger actions and is not anticipated to result in significant adverse cumulative impacts.

9. **Substantially Affects a Rare, Threatened or Endangered Species or Its Habitat**

There are no rare, threatened, or endangered species of flora, fauna, avifauna or their habitats that will be adversely affected by the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge.

10. Detrimentally Affects Air or Water Quality Or Ambient Noise Levels

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will occur primarily from construction-related activities. It is anticipated that construction will be limited to daylight working hours. Best Management Practices (BMPs) will be used during construction and water quality is not expected to be adversely affected as a result.

11. Affects Or Is Likely to Suffer Damage by Being Located In An 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 area is located within a flood hazard area and the proposed project will comply with Chapter 19.62 Flood Hazard Area, Maui County Code. The bridge provides safe access across Honolua Stream and, as such, would not affect environmentally sensitive areas.

12. Substantially Affects Scenic Vistas and View Planes Identified in County or State Plans or Studies

The project site is not within a scenic vista or viewplane. During construction, public view corridors and scenic resources from the detour route will be available. Once construction is completed, views from Honolua Bridge will be reestablished.

13. Requires Substantial Energy Consumption

The Honoapi'ilani Highway, Rehabilitation of Honolua Bridge will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources. In the long-term, the proposed action will not create substantial new demand for energy sources.

Based on the foregoing findings, the proposed action will not result in any significant adverse impact. Accordingly, this Final Environmental Assessment is determined to qualify as a Finding of No Significant Impact (FONSI) by the State of Hawai'i, Department of Transportation.

LIST OF PERMITS AND APPROVALS

VII

VII. LIST OF PERMITS AND APPROVALS

The following permits and approvals will be required prior to the implementation of the project:

Federal

1. National Environmental Policy Act Compliance (Categorical Exclusion)
2. Section 4(f) of the Department of Transportation Act of 1966 Compliance
3. Section 106 of the National Historic Preservation Act Compliance
4. Section 7 Endangered Species Act Compliance
5. Magnuson-Stevens Fishery Conservation and Management Act Compliance

State of Hawai'i

1. Hawai'i Revised Statutes, Chapter 343 Compliance
2. National Pollutant Discharge Elimination System (NPDES) Permit, as applicable
3. Conservation District Use Permit
4. Community Noise Permit, as applicable
5. Oversize/Overweight Vehicle Transport over State Highways Permit, as applicable
6. Hawai'i Revised Statutes, Chapter 6E-8 Historic Preservation Review
7. Hawai'i Department of Transportation Design Exception

County of Maui

1. Special Management Area Permit, as applicable
2. Flood Hazard Area Development Permit
3. Grading and Grubbing Permits
4. Building Permit

AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT, LETTERS RECEIVED, AND RESPONSES TO SUBSTANTIVE COMMENTS

VIII

VIII. AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT, LETTERS RECEIVED, AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies and organizations were consulted during the Draft EA preparation phase of work. Comment letters received and responses to substantive comments are included in this Chapter as well.

1. Ranae Ganske-Cerizo, Soil Conservationist
   Natural Resources Conservation Service
   U.S. Department of Agriculture
   77 Hookele Street, Suite 202
   Kahului, Hawai'i 96732

2. George Young
   Chief, Regulatory Branch
   U.S. Department of the Army
   U.S. Army Engineer District, Honolulu
   Regulatory Branch
   Building 230
   Fort Shafter, Hawai'i 96858-5440

3. Wayne Nastri, Regional Administrator
   U.S. Environmental Protection Agency
   Region 9
   75 Hawthorne Street
   San Francisco, California 94105

4. Dave Wesley, Deputy Regional Director
   U. S. Fish and Wildlife Service
   Pacific Region
   911 NE 11th Avenue
   Portland, Oregon 97232

5. Loyal A. Mehrhoff, Field Supervisor
   U. S. Fish and Wildlife Service
   300 Ala Moana Blvd., Rm. 3-122
   Box 50088
   Honolulu, Hawai'i 96813

6. Kay Zukeram/Habitat
   National Marine Fisheries Service
   Pacific Islands Regional Office
   1601 Kapiolani Boulevard, Suite 1110,
   Honolulu, HI 96814-4700

7. Cynthia Burbank, Associate Administrator
   U.S. Department of Transportation
   Planning, Environment and Realty
   Federal Highway Administration
   400 7th Street, S.W.
   Washington, D.C. 20590-9898

8. Bruce Coppa, Director
   Department of Accounting and General Services
   1151 Punchbowl Street, #426
   Honolulu, Hawai'i 96813

9. Russell Kokubun, Chair
   Department of Agriculture
   1428 South King Street
   Honolulu, Hawai'i 96814-2512

10. Richard C. Lim, Interim Director
    State of Hawai'i
    Department of Business, Economic Development & Tourism
    P.O. Box 2359
    Honolulu, Hawai'i 96804

11. Kathryn Matayoshi, Superintendent
    State of Hawai'i
    Department of Education
    P.O. Box 2360
    Honolulu, Hawai'i 96804

12. Heidi Meeker
Planning Division
Office of Business Services
Department of Education
c/o Kalani High School
4680 Kalanianaole Highway, #T-B1A
Honolulu, Hawai'i 96821

13. Alapaki Nahale-a, Chairman
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

14. Dr. Neal Palafox, Director
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814

15. Alec Wong, P.E., Chief
Clean Water Branch
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814

16. Patti Kitkowski
Acting District Environmental Health Program Chief
State of Hawai'i
Department of Health
54 High Street
Wailuku, Hawai'i 96793

17. Lene Ichinotsubo
Environmental Management Division
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 212
Honolulu, Hawai'i 96814

18. William J. Aila, Jr., Interim Chairperson
State of Hawai'i
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawai'i 96809

19. Office of Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai'i 96707

20. Morgan Davis
Department of Land and Natural Resources
State Historic Preservation Division
130 Mahalani Street
Wailuku, Hawai'i 96793

21. Glenn Okimoto, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

22. Office of Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai'i 96813

23. Clyde Nāmu'o, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawai'i 96813

24. Office of Director
State of Hawai'i
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804

25. Jeffrey A. Murray, Fire Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732

26. Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

27. William Spence, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawai'i 96793

28. Gary Yabuta, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

29. David Goode, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai'i 96793

30. Kyle Ginoza, Director
County of Maui
Department of Environmental Management
One Main Plaza
2200 Main Street, Suite 100
Wailuku, Hawai'i 96793

31. Jo Anne Johnson, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawai'i 96793

32. David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

33. Honorable Elle Cochran
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

34. Save Honolua Coalition
2580 Keka`a Drive
#115-123
Lāhainā, Hawai'i 96761

35. Na Kupuna O Maui
c/o Patricia Nishiyama
320 Kaeo Place
Lāhainā, Hawai'i 96761

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-5440

FEB 04 2011

REPLY TO
ATTENTION OF:

January 31, 2011

Regulatory Branch

File Number POH-2011-00038

Munekiyo & Hiraga, Inc.
Attention: Colleen Suyama
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

We have received your request for the Department of the Army (DA) to review and comment on the Early Consultation letter dated January 26, 2011 for the proposed Honolua Bridge Rehabilitation/Replacement over Papua Gulch, Honolua, Island of Maui, Hawaii. We have assigned the project the reference number **POH-2011-00038**. Please cite the reference number in any future correspondence concerning this project.

We completed our review of the submitted document pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404) and have determined that the submitted documents accurately identify a water of the U.S. under the regulatory jurisdiction of the U.S. Army Corps of Engineers (Corps).

Section 10 requires that a DA permit be obtained from the Corps prior to undertaking any construction, dredging, or other activity occurring in, over, or under or affecting navigable waters of the U.S. For tidal waters, the shoreward limit of the Corps' jurisdiction extends to the Mean High Water Mark (MHWM). Section 404 requires that a DA permit be obtained for the discharge (placement) of dredged and/or fill material into waters of the U.S., including wetlands. For tidally influenced waters, in the absence of adjacent wetlands, the shoreward limit of the Corps' jurisdiction extends to the High Tide Line (HTL), which in Hawai'i may be approximated by reference to the Mean Higher High Water Mark (MHHWM). For non-tidal waters, the lateral limits of the Corps' jurisdiction extend to the Ordinary High Water Mark (OHWM) or the approved delineated boundary of any adjacent wetlands.

The Papua Gulch is a tributary to the perennial Honolua Stream, with terminal discharge in the Pacific Ocean, a navigable water. As such, the Papua Gulch is a water of the U.S., subject to Corps jurisdiction.

There is insufficient information in the submitted documents to determine if there are any additional waters of the U.S., or whether or not those water bodies are proposed for impact. We recommrend the Environmental Assessment include an aquatic survey of the area, identifying any other aquatic features, including tributaries to Papua Gulch or adjacent wetlands. In addition, it is the sole responsibility of the land owner of this property to consult with this office to attain any and all necessary permits and approvals and for requesting jurisdictional

n

determinations for aquatic resources on his or her property. We can at that time determine whether or not the aquatic resource is subject to Corps jurisdiction and whether any proposed activity involving that resource will require a DA permit.

Based on the submitted documents, there is insufficient information provided to determine if the proposed Honolua Bridge rehabilitation or replacement will involve the discharge of fill material waterward of the OHWM of this water body. If the proposed work results in either the temporary or permanent discharge of fill material below the OHWM of this drainage channel, a DA permit will be required. Fill material, permanent or temporary, may include, but is not limited to: rock, dirt, sand, sandbags, silt fences or concrete.

We advise your client contact the Corps when developing plans for the bridge rehabilitation or replacement to determine if any of the proposed work constitutes a "discharge of fill" by submitting a DA Permit application and associated drawings that meet our drawing recommendations found at http://www.poh.usace.army.mil/EC-R/EC-R.htm to the Corps. In addition, supporting information submitted with the permit application should include sufficient information concerning the scope of work, including the use of Best Management Practices, i.e. silt fences and sandbag berms within the vicinity and in close proximity to potentially regulated bodies of water. The Corps will at that time review the application to ensure it complies with all necessary federal laws and regulations. Be advised, if the fill results in either temporary or permanent loss of waters of the U.S. and/or associated function, your client may be required to provide compensatory mitigation for any unavoidable impacts to the aquatic environment.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Ms. Jessie Pa'ahana at *808.438.0391* or via email at *Jessie.K.Paahana@usace.army.mil*. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at *http://per2.nwp.usace.army.mil/survey.html*.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

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Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Tunis W. McElwain, Chief
Chief, Regulatory Branch
Department of the Army
U.S. Army Corps of Engineers
Honolulu District
Fort Shafter, Hawai'i 96858-5440

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1137) (POH-2011-00038)

Dear Mr. McElwain:

Thank you for your department's letter of January 31, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we acknowledge that Pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, that a DA Permit from the U.S. Army Corps of Engineers (Corps) may be required. It is noted that the proposed rehabilitation project will not involve work on the abutments of the existing bridge and the temporary construction detour bridge will span the existing banks of Honolua Stream. No work will occur below the ordinary high water mark.

As recommended, an aquatic survey of the area will be included in the EA. Also, as advised, a jurisdictional determination for aquatic resources has been submitted to the Corps. SDOT will consult with the Corps on applicable permits and approvals.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Teena Ng
for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\DA.res.docx

-----Original Message-----
From: Aydee Camunas-Zielke [mailto:Aydee.Camunas-Zielke@noaa.gov]
Sent: Tuesday, February 15, 2011 3:01 PM
To: General eMail; nmfs.pir.hcd.efh.consult@noaa.gov
Subject: Honolua Bridge Rehab/Replacement Draft EA pre-assessment

Attention: Collen Suyama, Senior Associate

Aloha,

Thank you for contacting NOAA-Fisheries Habitat Conservation Division (HCD) regarding the Honolua Bridge Draft EA pre-assessment. The DOT proposes to rehabilitate or replace the 24 feet (length) by 18 feet (width) Honolua Bridge which is located in the District of Lahaina, Maui on Honoapiilani Highway, between milepost 32.40 to 32.51. The project site is also located within the Maui Special Management Area, boarding the Humpback Whale National Marine Sanctuary. The bridge was constructed in1924 and has failed to meet the current AASHTO standard specifications for highway bridges. The bridge is located upstream from Honolua Bay which has been documented to contain coral and turf biological cover as well as aggregate reef, pavement, and sand geomorphology.
The project site is not directly located in Essential Fish Habitat (EFH) but is within proximately 0.25 nautical miles of the coastline. HCD does have suggestions to help avoid and minimize affect to EFH water quality down stream.

1. Project should be sited to avoid sensitive areas such as streams, wetlands, and steep slopes.
2. Build bridges for crossing aquatic environments, rather than utilizing culverts, whenever possible. If culverts must be used, they should be sized, constructed, and maintained to match the gradient, flow characteristics, and width of the stream so as to accommodate a 100-year flood event, but equally to provide for seasonal migratory passage of adult and juvenile fish.
3. Design bridge abutments to minimize disturbances to stream banks, and place abutments outside of the floodplain whenever possible.
4. Specify erosion control measures in construction plans.
5. Avoid side casting of road materials into streams.
6. Use only native vegetation for stabilization plantings and maintain or stabilize upstream and downstream channel and bank conditions if the structure causes erosion or accretion problems.
7. Use seasonal restrictions to avoid water quality impacts to coral reef habitat during species critical life history stages; June through August for coral reef spawning.
8. Design and maintain roadway and associated stormwater collection systems efficiently.
9. Conduct in-water construction activities during the dry season to prevent environmental impacts to aquatic species. Temporary diversions and coffer dams may be suitable alternatives with proper planning.
10. Design and install new structures in a manner not to interfere with aquatic organism passage and that complies with all applicable regulations.
11. Design the structure to maintain or replicate natural stream channel and flow conditions to the greatest extent practicable. The structure should be able to pass peak flows in accordance with state and federal regulations. Ensure sufficient hydrologic data have been collected.
12. Address the cumulative impacts of past, present, and foreseeable

future development activities on aquatic habitats by considering them in the review process for road construction projects.

Please feel free to contact HCD if you have further questions or concerns. Thank you for providing HCD with the opportunity to comment.

Mahalo,

Aydee Camunas-Zielke
Natural Resource Specialist
NOAA-Fisheries
Pacific Islands Regional Office
Habitat Conservation Division
808-944-2146
aydee.camunas-zielke@noaa.gov
http://www.fpir.noaa.gov/HCD/hcd_efh.htm

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Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Kay Zukeran, Administrator
NOAA Inouye Regional Center
NMFS/PIRO
1845 Wasp Boulevard, Building 176
Honolulu, Hawai'i 96818

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Ms. Zukeran:

Thank you for your department's email correspondence of February 15, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we acknowledge that the project site is not directly located in Essential Fish Habitat (EFH). The recommendations to avoid and minimize affect to EFH water quality downstream, as appropriate, have been incorporated into the EA for the project.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's e-mail correspondence and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Tessa Ng

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\NOAA.res.docx

FEB 15 2011

-----Original Message-----
From: Paula_Levin@fws.gov [mailto:Paula_Levin@fws.gov]
Sent: Tuesday, February 15, 2011 4:03 PM
To: General eMail
Subject: To: Colleen Suyama Re:Honolua Bridge Rehab

Dear Colleen: Thank you for your correspondence regarding the Early Consultation for the proposed Honolua Bridge Rehabilitation/Replacement at Honolua, Maui.
The USFWS does not object to any of the alternatives proposed in the plan provided the attached Best Management Practices are implemented to avoid and minimize impacts to aquatic habitat. Thank you for your early coordination.
(See attached file: Sedimentation Erosion BMPs.doc)

Paula Levin
USFWS Pacific Islands
Coastal Conservation
(808)792-9417

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service recommends that the measures below be incorporated into projects to minimize the degradation of water quality and minimize the impacts to fish and wildlife resources.

1. Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions.

2. Dredging/filling in the marine environment shall be scheduled to avoid coral spawning and recruitment periods and sea turtle nesting and hatching periods.

3. Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss special aquatic site habitat (beaches, coral reefs, wetlands, etc.) and the function of such habitat shall be replaced.

4. All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water shall be cleaned of pollutants prior to use.

5. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.

6. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.

7. No contamination (trash or debris disposal, non-native species introductions, attraction of non-native pests, etc.) of adjacent habitats (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan (HACCP – see http://www.haccp-nrm.org/Wizard/default.asp) to prevent attraction and introduction of non-native species.

8. Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.

9. Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.

10. Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or non-invasive vegetation matting, hydroseeding, etc.).

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PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Ms. Bogardus:

Thank you for your department's email correspondence of February 15, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we acknowledge receipt of the recommended Best Management Practices and, as appropriate, which have been incorporated into the EA for the project.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's e-mail correspondence and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Tessa Ng

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\USFWS.res.docx

FEB 1 1 2011

NEIL ABERCROMBIE
GOVERNOR

BRUCE A. COPPA
COMPTROLLER

RYAN T. OKAHARA
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1019.1

FEB 1 0 2011

Ms. Colleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawai'i 96793

Dear Ms. Suyama:

Subject: Early Consultation for Proposed Honolua Maipalaoa Bridge Rehabilitation/Replacement
Honolua, Maui

Thank you for the opportunity to provide comments for the subject document. The subject documents do not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or have your staff call Ms. Gayle Takasaki of the Public Works Division at 586-0584.

Sincerely,

BRUCE A. COPPA
State Comptroller

FEB 11 2011

NEIL ABERCROMBIE
GOVERNOR

KATHRYN S. MATAYOSHI
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF THE SUPERINTENDENT

February 9, 2011

Ms. Colleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

SUBJECT: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement at Honolua, Maui

The Department of Education (DOE) appreciates the opportunity to comment on the proposed Honolua Bridge Rehabilitation/Replacement project.

The DOE has no comment to offer at this time.

If you have any questions, please do not hesitate to call Roy Ikeda of the Facilities Development Branch at 377-8301.

Very truly yours,

Kathryn S. Matayoshi
Superintendent

KSM:to

c: Randolph Moore, Assistant Superintendent, OSFSS

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

FEB 15 2011

LORETTA J. FUDDY, A.C.S.W., M.P.H.
ACTING DIRECTOR OF HEALTH

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

In reply, please refer to:
File:

STATE OF HAWAII
DEPARTMENT OF HEALTH
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

February 14, 2011

Ms. Colleen Suyama
Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement at Honolua, Maui

Thank you for the opportunity to review this project. We have the following comments to offer:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage maybe required for this project. The Clean Water Branch should be contacted at 808 586-4309.

2. A Section 401 Water Qualification Certification (WQC) maybe required. The Clean Water Branch should be contacted at 808 586-4309.

It is strongly recommended that the Standard Comments found at the Department's website: http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230 or E-mail me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

Patti Kitkowski
District Environmental Health Program Chief

c EPO

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PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Ms. Patti Kitkowski
District Environmental Health Program Chief
State of Hawai'i
Department of Health
Maui Sanitation Branch
54 High Street, Room 300
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Ms. Kitkowski:

Thank you for your letter of February 14, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation we offer the following information, which addresses your comments in the order listed in your letter:

1. As may be required, a National Pollutant Discharge Elimination System (NPDES) permit will be submitted to the Department of Health (DOH).

2. As may be required, a Section 401 Water Quality Certification (WQC) application will be submitted to the DOH.

Also, as recommended the website of the standard comments of the DOH has been forwarded to the engineering consultant for the project.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015

Very truly yours,

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\DOH Maui.res.docx

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
ACTING DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

February 24, 2011

S0249JV

Ms. Colleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

SUBJECT: Pre-Consultation
Honolua Bridge Rehabilitation/Replacement
Honolua, Maui, Hawaii

This letter by the Department of Health (DOH), Office of Solid Waste Management is in response to a request for early consultation for the subject project, which involves the rehabilitation or replacement of the Honolua Bridge, located between milepost 32.40 to 32.51 on Honoapiilani Highway. Demolition and new construction activities are anticipated based on the potential scope of the project. Therefore, we offer the following comments:

1. The generator of the waste must determine if any demolition building components contain hazardous waste. Please refer to Attachment 1.

2. Any non-hazardous lead-based paint waste must be disposed of at DOH-permitted disposal facilities such as the DeCoite C&D Landfill or Central Maui Landfill, and not recycled. Please refer to Attachment 2.

3. Please inquire as to possible arrangements with DOH-permitted recovery facilities such as Pohakulepo Recycling, LLC dba Hawaiian Cement for the potential disposition of unpainted, uncontaminated concrete (no asbestos, lead-based paint or other types of contamination accepted) from either demolition or new construction. Please be aware that these businesses may choose to accept unpainted, uncontaminated concrete from their own jobs only. Concrete or other wastes that fail the TCLP test for hazardous waste must be managed as hazardous waste.

4. Non-hazardous concrete with lead-based paint must, prior to demolition, be separated from concrete intended for recycling and sent to DOH-permitted disposal facilities. <u>If the project requires abatement of lead-based paint or asbestos activities, then the applicant needs to contact Mr. Robert Lopes of the Indoor and Radiological Health Branch at 586-4700 as to when such activities will actually occur</u>.

5. If on-site reuse of concrete is intended, then the uncontaminated concrete must also meet the state's definition of "inert fill material" defined as:

Section 342H-1, HRS Definition

"Inert fill material" means earth, soil, rocks, rock-like material such as cured asphalt, brick, and clean concrete less than eight inches in diameter, except as specified by a licensed soils engineer with no exposed steel reinforcing rod. The fill material shall not contain vegetation or organic material, or other solid waste.

The fill material shall be clean and uncontaminated. We typically utilize the Environmental Action Levels (EALs) for unrestricted use as a basis of determining whether fill is contaminated or not. The EALs may be found at http://hawaii.gov/health/environmental/hazard/eal2005.html.

6. We assume that any wood waste from the existing structure is of the treated variety. Such wood waste must be disposed of at DOH-permitted disposal facilities, not recycled. Currently there are no DOH-permitted facilities on Maui that accept treated lumber for recycling.

7. Please send any ferrous scrap to permitted scrap metal facilities such as Schnitzer Steel Hawaii Corp., dba Hammerhead Metals Recycling.

8. Please send any non-ferrous scrap to DOH-permitted facilities such as any of the various Reynolds Recycling, Inc. locations on Maui.

Please be reminded that the applicant's submittal was reviewed with respect to solid waste management and disposal issues only. We do recommend that the applicant obtain approval from other agencies (such as OSHA) that may be involved in the oversight and implementation of various aspects of their proposed action.

If you have any questions or comments, please contact Mr. John Valera of our Office of Solid Waste Management at (808) 586-4226.

Sincerely,

STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch

Enclosures: Attachment 1, Hawaii Department of Health - Construction and Demolition (C&D) Waste Disposal General Guidance
Attachment 2, Disposal of Lead-Based Paint Waste

HAWAII DEPARTMENT OF HEALTH
CONSTRUCTION AND DEMOLITION (C&D) WASTE DISPOSAL GENERAL GUIDANCE

This C&D waste disposal guidance supersedes the previous letter dated May 24, 1996. Although the waste composition varies from project to project, C&D wastes generally consist of concrete, wood, metal, glass, plastic, asphalt, tile, drywall, roofing and insulation material. These wastes are often bulked as one waste stream when sent for disposal. With advance planning, most of these wastes can be reused on the job site and/or salvaged for recycling opportunities.

Another type of C&D waste stream sometimes generated from a construction project is excavated soil.

If the C&D waste is designated for disposal to a landfill or to any other off-site location, the contractor must make a hazardous waste determination in accordance with the Hawaii Administrative Rules (HAR) §11-262-11. Making a hazardous waste determination is a step-by-step process, and should start with determining whether the waste is excluded, then if listed, and finally if characteristic. Determining whether a waste is hazardous under RCRA (Resource Conservation and Recovery Act) can be done through one of the following methods:

1. **Testing** – Testing the waste according to the methods set forth in subpart C of HAR 11-261; and/or

2. **Knowledge** – See attached if applying knowledge

Collecting a representative sample of the bulk C&D waste or excavated soil waste is crucial to characterizing environmental samples. If a sample is not representative, there are legal and environmental consequences. Each generator would be responsible for its own sampling plan. We advise contractors to work with experienced environmental companies and labs for guidance and implementation.

Note - Construction wastes with lead-based paint may be exempt from HAR §11-262-11 provided wastes:

1) were from a residential structure; and
2) from renovation, remodeling or abatement work; and
3) contain no other listed constituents – refer to HAR §§11-261-20 and 11-261-30.

Revised February 2011

Knowledge Determination

How can knowledge be applied to determine if a waste is a characteristic waste?
In some cases, a generator can use his/her knowledge of a waste to make a determination as to whether the waste is a characteristic hazardous waste. In order to use knowledge to characterize the waste, the generator must consider the raw materials that constitute the waste or the **process(es)** that result in the waste being generated.

In considering the materials that make up the waste, the generator needs to examine the specific chemical and physical characteristics of the waste material. Information such as Material Safety Data Sheets (MSDSs) can be a helpful resource. However, while MSDSs can provide useful information regarding ignitability (flash point), corrosivity (pH), and reactivity, they tend to be less useful when it comes to identifying the toxic characteristics of waste. MSDSs are not required to list all of the ingredients in a certain material, but only those that make up greater than 1% of the total constituents of that material. This means that a waste may contain a toxic constituent exceeding the regulatory limit (making it a hazardous waste), but this constituent may not necessarily be included on the MSDS. Generators should also be aware that MSDSs are representative of raw materials; the MSDS may not accurately represent a waste material that is generated by the use of a particular raw material.

In considering the **process** that generates the waste, the generator needs to ask himself/herself: How does the operation/process affect the waste? For example, does the process make the waste ... more concentrated? ... more dilute?... contain free liquids?... become contaminated? ...etc.

One critical factor in using knowledge to characterize waste is that the knowledge must be applied appropriately. In other words, the knowledge that is applied must be valid and verifiable. A generator should not just assume that a waste is non-hazardous without providing some type of supporting, verifiable information to justify that conclusion. Using knowledge of the waste to conduct a hazardous waste determination involves a well thought out process in which the waste materials or the process generating the waste are considered. It should be noted that, more often than not, it is easier to use knowledge of the waste to characterize it as hazardous than it is to characterize it as non-hazardous.

Can I always use knowledge?
No. In many cases knowledge alone is inadequate to properly characterize the waste, specifically in those cases where the waste is cross-contaminated or inherently non-homogeneous. If you are generating a waste and your knowledge of the waste is insufficient to completely and accurately characterize it, you will need to get the waste tested by a lab that is certified to perform the tests that need to be conducted on the waste. Generators that use knowledge of process in waste determinations must be able to demonstrate the basis for their claim.

How frequently must a hazardous waste determination be made?
An initial characterization must be done on each waste stream and a re-characterization must be performed at least every twelve months, or whenever there is a process change. It is recommended that MSDSs and other "knowledge of process" information be specifically reviewed during re-characterizations to ensure that neither the raw materials nor the process associated with the waste have changed.

What type of paperwork/recordkeeping is necessary with hazardous waste determinations?
According to 40 CFR 262.40, a generator must keep records of any test results, waste analysis, or other determinations made in accordance with 40 CFR 262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal. Generators that use knowledge of process in waste determinations must be able to demonstrate the basis for this claim.

Acknowledgement
State of Connecticut, Department of Environmental Protection (DEP); Knowledge Determination

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
OFFICE OF SOLID WASTE MANAGEMENT

DISPOSAL OF LEAD-BASED PAINT WASTE

Eff. January 1, 2003

This guidance document clarifies existing federal, state and local requirements for the management and disposal of lead-based paint waste, and their impacts on the activities of contractors and other generators of lead-based paint debris. LBP waste is generated from either the abatement, rehabilitation, renovation, remodeling or demolition of non-residential buildings and residential dwellings constructed prior to 1978.

Based on current Federal policy statements and State regulations (see Addendum):

1. **Generators of non-residential LBP waste shall conduct a *hazardous waste determination* according to HAR Chapter 11-261.** The TCLP (Toxicity Characteristic Leaching Procedure) is the test method for determining whether a "solid waste" exhibits the toxicity characteristics of "hazardous waste." Contact the Hazardous Waste Program (808) 586-4226 for a copy of the procedures.

2. **Generators of residential demolition LBP waste shall also conduct a *hazardous waste determination* according to HAR Chapter 11-261.**

3. **Those who generate LBP waste as a result of abatement, rehabilitation, renovation and remodeling in homes and other residences are exempt from *hazardous waste laws*.** However, generators shall follow state and local requirements for proper disposal of non-hazardous LBP waste.

4. **Non-hazardous LBP waste (including "residential LBP waste" defined in a Federal Register "Proposed Rule"[1]) is a subset of construction & demolition (C&D) waste that requires special handling. Non-hazardous LBP waste is also referred to as a special waste.** "Special wastes" means any solid waste that, *because of its source or physical, chemical, or biological characteristics*, require special consideration for its proper processing or disposal, or both. This term includes, but is not limited to, asbestos, lead acid batteries, municipal waste combustion ash, sewage sludge that is non-hazardous, medical wastes, tires, white goods, and derelict vehicles.[2]

LBP Waste Disposal

Dispose of non-hazardous LBP waste at permitted municipal solid waste landfills or

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[1] Federal Register, October 23, 2001, Vol. 66, No. 205, pp. 53566-53573

[2] Section 11-58.1-03, Hawai'i Administrative Rules

permitted C&D waste landfills, such as PVT and Waimanalo Gulch (Oahu); Central Maui, Ma'alaea, Molokai, Hana, and Lanai (Maui County); Pu'uanahulu and Hilo (Hawai'i); and Kekaha (Kauai).

Landfills in Hawai'i are also subject to further waste acceptance restrictions imposed by county governments. For example, since 1994 the City & County of Honolulu restricted *municipal solid waste landfills* from accepting loads containing C&D waste greater than 10% in volume.

Disposal of "residential LBP waste" defined in the Federal Register[3] (CHART 1):

STEP 1 Qualified or knowledgeable personnel select an LBP identification method (e.g., prior knowledge) and determine if waste contains LBP.

STEP 2 Dispose with regular household rubbish (homeowners conducting do-it-yourself activities ONLY), OR

Send to permitted landfill: complete a Waste Profile that will provide the landfill with written notification of incoming LBP waste.

RESIDENTIAL ABATEMENT PROJECTS: also containerize, solidify and label LBP wastes that are paint chips, dust, and/or sludges:

1. Use durable containers such as steel paint cans.
2. Solidification may be by methods such as cement (for dust and chips) or absorbent material (for sludges).
3. Labeling needs to say "Lead Based Paint Waste".

STEP 3 Declare to the landfill operator that the incoming load contains LBP waste.

Disposal of residential demolition LBP waste, and non-residential LBP waste (CHART 2):

STEP 1 Qualified or knowledgeable personnel select the proper LBP identification method, and determine if waste contains LBP.

STEP 2 Make a hazardous waste determination by applying knowledge and by testing. The Hazardous Waste Program (808) 586-4226 has a copy of the procedures.

STEP 3 Dispose properly based on the outcome of the hazardous waste determination (Section 11-262-11, HAR):

1. If the TCLP result for lead is equal to 5 ppm or greater, the LBP waste is a hazardous waste that must be disposed at a hazardous waste landfill. Landfills in Hawai'i do not accept hazardous wastes.

[3] Federal Register, October 23, 2001, Vol. 66, No. 205, pp. 53566-53573

2. If the TCLP result is less than 5 ppm, the LBP waste is a solid waste and may be disposed at Hawai'i landfills that accept construction and demolition wastes. Complete a Waste Profile that will provide the landfill with written notification of incoming LBP waste.

   NON-HAZARDOUS, NON-RESIDENTIAL ABATEMENT LBP WASTES: containerize, solidify and label LBP wastes that are paint chips, dust, and/or sludges:

   (1) Use durable containers such as steel paint cans.
   (2) Solidification may be by methods such as cement (for dust and chips) or absorbent material (for sludges).
   (3) Labeling needs to say "Lead Based Paint Waste".

STEP 4 ALL NON-HAZARDOUS LBP WASTES: Declare to the landfill operator that the incoming load contains LBP waste.

LBP waste shall not be recycled. The U.S. EPA believes that LBP waste that is shredded or chopped into mulch, ground cover, or topsoil or for site leveling, fill or roadbed material may cause health risks through ingestion of LBP, dust, or contaminated soil. Further EPA studies have shown that lead is relatively immobile in subsurface soils under non-highly acidic conditions, but may increase in mobility through soil layers to groundwater if soil conditions are more acidic.

Pre-Demolition or Renovation BMPS
To identify and prepare architectural components containing LBP for disposal, the DOH strongly recommends generators and contractors to implement the following practices, prior to demolition or renovation:

- **Identify building components that contain LBP for selective removal** during the demolition or renovation stage. NOTE: components that are selectively removed are subject to a hazardous waste determination, unless the structure is residential, and work is related to renovation or LBP abatement.

- **Abate surfaces.** Abate building components to meet the HUD lead limit of 1.0 mg/cm^2 or 0.5% by weight. **Treated lumber with LBP, even if abated, may not be recycled into mulch, ground cover, topsoil, fill or roadbed material.**

  LBP concrete that is completely abated to where it is no longer considered LBP waste may be recycled.

- **Test representative samples of the waste to determine if their total lead content falls below the lead limit.** A guidance document for measuring lead in paint is available from the DOH Lead Program (808) 586-5800, or the Solid Waste Section (808) 586-4226.

DOH also provides education on LBP sampling as part of the EPA lead accreditation program, which is administered by the DOH Lead Program. The main objective of the accreditation program is to train persons who will be responsible for conducting lead paint abatement activities.

For a current list of permitted landfills contact the Solid Waste Section (808) 586-4226.

Reference

USHUD. 1997. *Chapter 7: Lead-Based Paint Inspection, Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 1997 Revision*: U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, 1997.

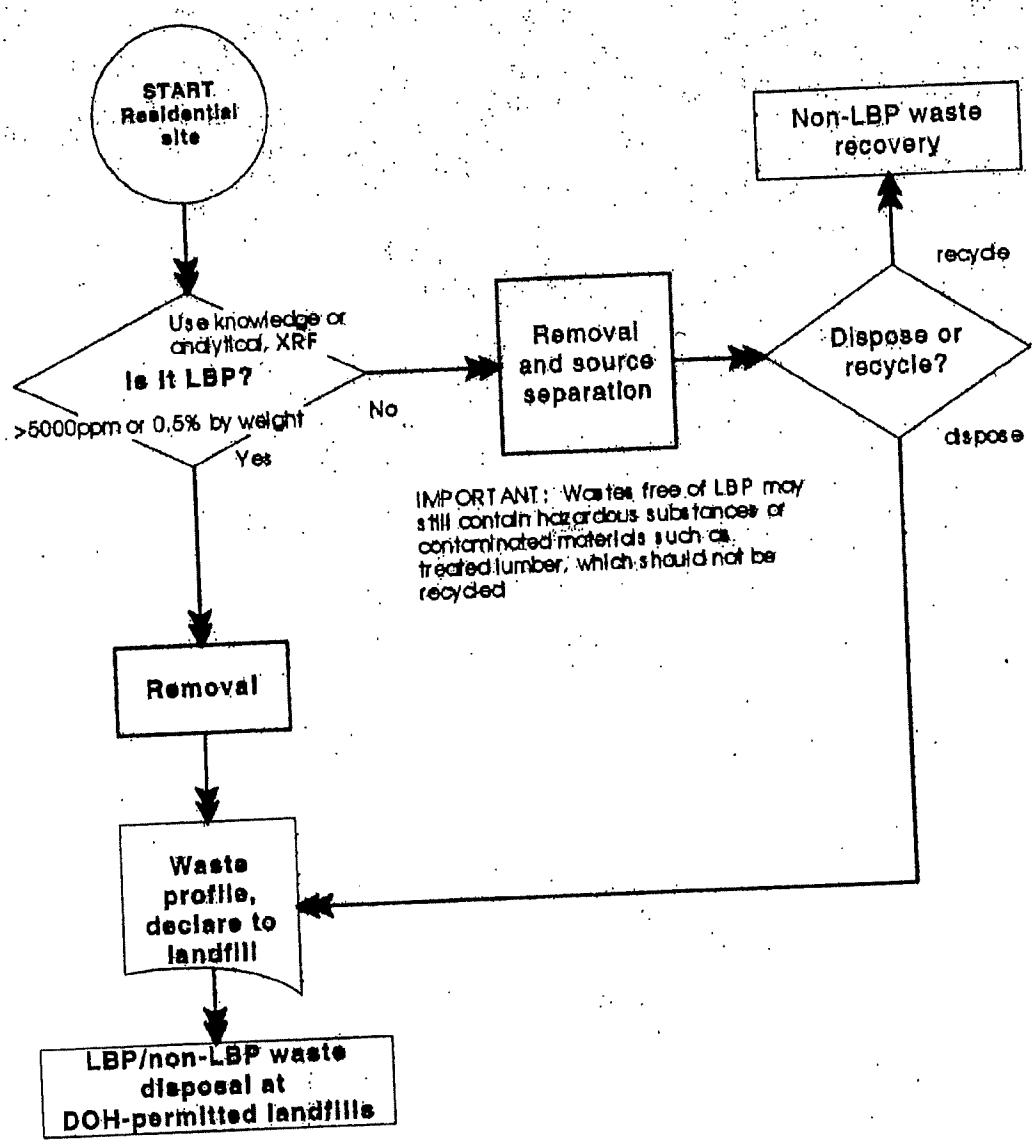
APPROVED / DISAPPROVED

Loretta J. Fuddy, A.C.S.W., M.P.H.
Acting Director of Health
Department of Health

DEC 23 2002

Date

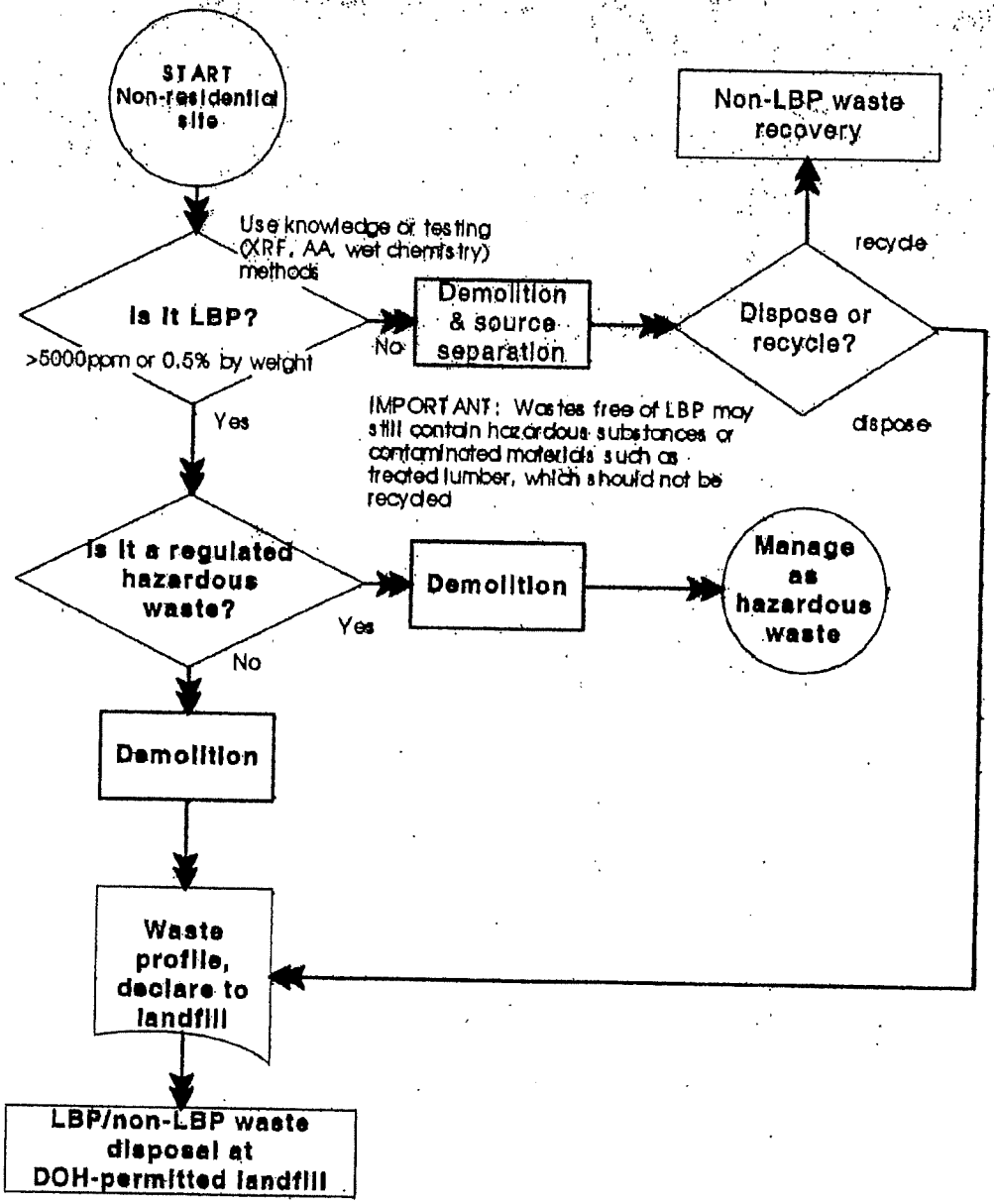
Chart 1
Disposal of Residential Lead-Based Paint (LBP) Waste



NOTES:

1. Residential sources include single family homes, apartment buildings, row houses, military barracks, and college dormitories.
2. Recommended handling of residential LBP chips, dust and sludge: solidify, containerize and label prior to disposal.
3. Waste notification to the landfill is required.
4. Non-LBP wastes containing hazardous substances (e.g., treated lumber) shall be disposed and not recycled.

Chart 2
Disposal of Residential Demolition and Non-residential Lead-Based Paint Waste



NOTES:

1. Non-residential LBP wastes are subject to hazardous waste determination.
2. Non-LBP wastes containing hazardous substances (e.g., treated lumber) shall be disposed and not recycled.

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
OFFICE OF SOLID WASTE MANAGEMENT

DISPOSAL OF LEAD-BASED PAINT WASTE
ADDENDUM

Applicable Federal Laws and Actions

- According to Section 403 of the Toxic Substances Control Act (TSCA), as amended, the Environmental Protection Agency (EPA) defines lead-based paint (LBP) as paint with lead levels equal to or exceeding 1.0 milligram per square centimeter (mg/cm^2) or 0.5% by weight.

- The U.S. Department of Housing & Urban Development (HUD) has similarly defined lead-based paint as any paint, varnish, shellac or other coating that contains lead equal to or greater than 1.0 mg/cm^2 as measured by x-ray fluorescence (XRF) or laboratory analysis, or 0.5 percent by weight (5,000 µg/g, 5,000 ppm, or 5,000 mg/kg) as measured by laboratory analysis.[4]

- In 1978, the Consumer Product Safety Commission (CPSC) banned the sale of residential paint containing greater than 0.06% lead (a trace amount). The CPSC also prohibited the use of such paint in residences and other areas where consumers have direct contact with painted surfaces.

- An EPA policy entitled Update on Lead-based Paint dated August 2000 states that **residential** LBP waste is not subject to Resource Conservation & Recovery Act (RCRA) Subtitle C (Federal hazardous waste) regulations. "Contractors can manage **residential** lead-based paint waste as household waste." **Residential** sources of LBP waste include but are not limited to single-family homes, apartment buildings, row houses, military barracks and college dormitories.

- The EPA defined "residential lead-based paint waste" in a Federal Register "Proposed Rule", October 23, 2001 (Vol. 66, No. 205). Residential lead-based paint waste is waste generated as a result of lead-based paint activities (including abatement, rehabilitation, renovation and remodeling) in homes and other residences. The term includes but is not limited to lead-based paint debris, chips, dust, and sludges. The term does not include LBP wastes from demolition activities.

- The EPA interprets residential LBP waste to be household waste under 40 CFR 261.4(b)(1).

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[4] Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (U.S. Department of Housing and Urban Development, 1997 Revision)

Applicable State of Hawai'i Laws

- Hazardous waste regulations, known on the federal level as RCRA Subtitle C[5] are enforced within the State of Hawai'i under Hawai'i Revised Statutes (HRS) 342J and Hawai'i Administrative Rules (HAR) Title 11, Chapters 261 through 280. Chapter 11-261, HAR defines "household waste" as "any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas)." *This definition is identical to the Federal definition (40 CFR 261.4(b)(1)).*

- Solid waste regulations, are enforced within the State of Hawai'i under HRS 342H and HAR Title 11, Chapter 58.1 (11-58.1), and provide broader authority to the Department of Health (DOH) than federal regulations, known as RCRA Subtitle D[6].

[5] Resource Conservation and Recovery Act (40 CFR Parts 261 to 280)

[6] Resource Conservation and Recovery Act (40 CFR Parts 258)

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Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Steven Y.K. Chang, P.E., Chief
Solid and Hazardous Waste Branch
State of Hawai'i
Department of Health
919 Ala Moana Boulevard, #212
Honolulu, Hawai'i 96814

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37)) (SO249JV)

Dear Mr. Chang:

Thank you for your letter of February 24, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we offer the following information in the order of your letter:

1. Any demolition will be limited to the removal of reinforced concrete, rock, asphalt concrete pavement, and all or portions of the existing metal guardrail. As such, hazardous waste is not anticipated.

2. We acknowledge any non-hazardous lead-based paint waste must be disposed at a Department of Health (DOH) permitted disposal facility.

3. Consideration will be given to inquiring with DOH-permitted recovery facilities for potential disposition of waste materials.

4. We acknowledge non-hazardous concrete with lead-based paint must, prior to demolition, be separated from concrete intended for recycling and sent to DOH-permitted disposal facilities.

5. Concrete waste, if any, from the project is not intended to be reused onsite.

6. The existing structure does not have any wood elements.

7. Consideration will be given to sending ferrous scrap to DOH-permitted scrap metal facilities.

8. Consideration will be given to sending non-ferrous scrap to DOH-permitted facilities.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Teresa Ng
for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

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COMMISSION ON WATER RESOURCE MANAGEMENT

DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809
Phone: (808) 587-0433
Fax: (808) 587-0455

February 1, 2011

MEMORANDUM

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

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement
LOCATION: Island of Maui
APPLICANT: Munekiyo & Hiraga on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by February 14, 2011.

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 my office at 587-0433. Thank you.

Attachments

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

Signed: R K Chang
Date: 2/8/11

FILE ID: RFD. 2830.8
DOC ID: 7466

FEB 16 2011

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
INTERIM 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

February 15, 2011

Ms. Colleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement

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 comment.

Other than the comments from Office of Conservation & Coastal Lands, Commission on Water Resource Management, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0414. Thank you.

Sincerely,

Marlene E. Hapai

for Russell Y. Tsuji
Administrator

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:TM

Correspondence: MA 11-159

FEB 10 2011

MEMORANDUM

TO: Charlene Unoki, Assistant Administrator
Land Division

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Request for Comments Regarding Early Consultation for the Proposed Honolua Bridge Rehabilitation/Replacement Located at Honolua, Maui, Vicinity of TMK: (2) 4-2-001:001

The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject matter and notes that the project area may lie within the Conservation District. The applicant should get a Boundary Interpretation from the State Land Use Commission to determine if the project area does indeed lie within the Conservation District.

Proposed improvements outside of the highway right of way may require further authorization from the Department if improvements are proposed within the Conservation District. Should you have any questions regarding this memorandum, contact Tiger Mills of our Office at (808) 587-0382.

FEB 25 2011

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 24, 2011

Ms. Coleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement

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 Division of Aquatic Resources for their review and comment.

The Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0414. Thank you.

Sincerely,

Charlene E. Unoki

Charlene Unoki
Assistant Administrator

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LD

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

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

2011 FEB 23 P 2:5

POST OFFICE BOX 621
HONOLULU, HAWAII 96809
Phone: (808) 587-0433
Fax: (808) 587-0455

AQUATIC RESOURCES:

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February 1, 2011

MEMORANDUM

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

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement
LOCATION: Island of Maui
APPLICANT: Munekiyo & Hiraga on behalf of Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by February 14, 20011.

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 my office at 587-0433. Thank you.

Attachments

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

Signed: [signature]
Date: 2/17/2011

RECEIVED
FEB 15 2011
Div. of Aquatic Resources

RECEIVED
FEB 8 2011
AQUATIC RESOU...

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawai'i 96793
February 17, 2011

To: Alton Miyasaka, Aquatic Biologist

From: Skippy Hau, Aquatic Biologist

Subject: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement (DAR 3644)
(Due February 14, 2011 Charlene Unoki, Land, Received Feb. 15)

The existing bridge is located in a very popular location used by people visiting Honolua Bay and beyond. The bridge and road should provide room for pedestrians. People should be able to walk and bike over the bridge. Would a separate pedestrian walkway over the stream be considered? Sufficient parking for vehicles should be completely off the road to maintain safety with large trucks.

If flow is restored, this stream should allow the passage of native stream animals to migrate upstream and larvae produced by upstream populations to be transported to the ocean.

Have the large flows been measured for this stream? The stream and bridge structure should be able to handle the majority of freshets. Sedimentation and drainage runoff should be minimized as much as possible with Best Management Practices. Development throughout the valley should have adequate drainage, retention basins, sufficient landscaping and vegetation areas to maximize water recharge into the ground. Developed areas should not be contributing to additional drainage runoff or directed into the stream.

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Michael T. Munekiyo
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EXECUTIVE VICE PRESIDENT
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Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Russell Y. Tsuji, Administrator
Land Division
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37)) (MA 11-159)

Dear Mr. Tsuji:

Thank you for your department's letters of February 1, 2011, February 15, 2011, and February 24, 2011 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we offer the following information, which addresses your comments in the order submitted by the Department of Land and Natural Resource's (DLNR) Divisions:

Commission on Water Resource Management

1. The Draft EA will provide detailed information on the project for review and comment.

Office of Conservation and Coastal Lands

1. As recommended, a boundary interpretation from the State Land Use Coordination has been undertaken with the Office of Conservation and Coastal Lands (OCCL). In a letter dated June 23, 2017, OCCL has confirmed that the project involves lands in the Conservation District and a Conservation District Use Permit from the Board of Land and Natural Resources will be required.

Division of Aquatic Resources

1. Improvements for parking are beyond the scope of the SDOT project, however, provision for pedestrian access across the bridge will be considered.

2. The project is limited to increasing the bridge sufficiency rating and will not restore stream flow.

3. Large stream flows have not been measured. The rehabilitation of the bridge will not increase drainage capacity of the bridge.

4. As recommended, Best Management Practices will be implemented during construction.

5. A drainage analysis will be included in the Draft EA and as appropriate, mitigation measures provided.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Teena Ng
for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\DLNR.res.docx

FEB 15 2011

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAHUHIHEWA BUILDING
601 KAMOKILA BLVD, KAPOLEI HI 96706

DATE: February 12, 2011

LOG: 2011.0333
DOC: 1102RS03

TO: Colleen Suyama
Senior Associate
Munekiyo and Hiranaga, Inc.
305 High Street, Unit 104
Wailuku, HI 96793

SUBJECT: **Section 6E-8 Historic Preservation Review /** Bridge Rehabilitation or Replacement
Permit # (None)
Building Owner: Highways Division, Department of Transportation, State of Hawaii (DOT)
Location: Honoapiilani Highway, Honolua Stream Bridge (Lahaina District, Maui)
Tax Map Key: (2) 4-1-001:Various and (2) 4-2-001:Various

This letter is in response your communication dated January 26, 2011, received by our office on January 31, 2011, re early consultation for an Environmental Assessment (EA) to determine the future of the existing Honoapiilani Highway bridge over Honolua Stream. The bridge is 24 feet in length and 18 feet in width and does not meet American Association of State Highway Transportation Officials (AASHTO) standards based upon a State Bridge Preservation Program Assessment score of 42.2 on a scale of 100 points. Specifically, the bridge is deemed deficient in terms of geometrics, weight load capacity and hydraulic capacity. (While theoretically any score below 50 points warrants replacement, or rehabilitation to increase the assessment score to be above 50 points according to preservation guidelines.) The alternatives offered by the DOT include (1) no build, (2) rehabilitate the existing one lane bridge and (3) replace the existing bridge with a new two lane bridge makai. The area of potential effect would be the present bridge footprint and areas immediately makai.

The bridge was constructed in 1924. It has not been moved and retains its original integrity so that it is eligible for the Hawaii Register under Criteria A (Events, meaning establishment of a highway system around Maui island) and C (Architecture, reflecting the building methods of the times).

The documentation provided in your letter includes the AASHTO data and two photographs of the bridge and its approaches. The photographs show that the topography of the site provides additional options. SHPD would prefer the existing bridge be rehabilitated and that a second, parallel bridge be constructed to accommodate opposing traffic. This would provide additional capacity, improved safety, and yet retain the historic nature of the bridge.

Any questions should be addressed to Ross W. Stephenson, SHPD Historian, at (808) 692-8028 (office), (808) 497-2233 (cell) or ross.w.stephenson@hawaii.gov.

Mahalo for the opportunity to comment.

Pua Aiu
Administrator

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD STE 555
KAPOLEI HI 96707

DATE: March 18, 2013

LOG: 2013.2341
DOC: 0313LS01
Architecture/Archaeology

TO: Cathy Dagher
Scientific Consultant Services, Inc.
711 Kapiolani Blvd., Ste. 975
Honolulu, HI 96813

SUBJECT: **Section 106 Preliminary Consultation and AIS and Architectural Inventory Report for Honolua Stream Bridge Rehab/Replacement Project**
Project: Honolua Stream Bridge Repair/Replacement Project
Owner: Maui County
Location: Milepoint 32.40, West Maui Belt Road (Honoapiilani Highway/route 30)
Tax Map Key: (2) 4-1-005:005; 009; 010

Date Received by SHPD: March 13, 2013

Description of Project/Undertaking: The Honolua Stream Bridge Repair/Replacement Project is identified in the FY 2011 Statewide Transportation Improvement Plan as having federal, state, and local funding through the System Preservation Programming. The bridge is owned by Maui County, and it is located at Milepost 32.40 on the Honoapiilani Highway, west side of Maui. The bridge, which dates to 1925, has a sufficiency rating of 42, therefore, it is being considered for replacement with a wider, longer structure on the same alignment. Project alternatives are being considered, including a No-Build alternative; repair/rehabilitation/widening of existing structure; and a new structure on new alignment either downstream or upstream from the current crossing.

The project file indicates that the SHPD concurred with a Chapter 6E-8 finding of "effect with proposed mitigation" for this project's effects to historic resources in 2009. A letter dated August 17th, 2009 [L 2009.2358 / D0908ST12] requested additional information in the form of an Architectural Inventory Survey for the Honolua Stream Bridge prior to acceptance of the final AIS provided by Scientific Consultants Services, Inc., on behalf of Maui County. The survey form for the historic bridge was included in an appendix to the original report and resubmitted to SHPD in October, 2011. In March, 2013, the consultants made a second attempt to gain concurrence for the AIS report, which is the subject of this correspondence.

Area of Potential Effect (APE): The Area of Potential Effect has not yet been defined for this federally-funded undertaking.

Description of Historic Properties within the Area of Potential Effects: Built ca. 1925, the Honolua Stream Bridge is a reinforced-concrete, tee-beam, deck-girder bridge spanning between rubble masonry abutments. Only 20' in length and 17' wide, this single span structure features solid, reinforced-concrete, parapet railings on the outside edges of the concrete deck. The Honolua Stream bridge is locally significant and eligible for listing on the National Register of Historic Places under NRHP Criterion A, C, and D for the following reasons:

- Its association with the first phase of federally-funded bridge construction on Maui ca. 1925, which lead to the completion of the Maui Belt Road (including the Hana Highway).
- It is a representative example of a Pre-WWII, solid-parapet, reinforced-concrete, T-beam bridge design, spanning between rubble masonry abutments.
- Possibility of yielding important information in the areas of bridge technology and use of locally-sourced materials and workmanship.

Eligibility: Eligible for listing on the National Register and Hawaii Register of Historic Places under Criteria A, C and D. Possible Criterion B associations as well.

Documentation Received: AIS and Architectural Inventory Survey Form

SHPD Comments: An Archaeological Inventory Survey report was submitted to SHPD in 2009 for review and acceptance, at which time SHPD requested additional information in the form of an Architectural Inventory Form for the Honolua Stream Bridge. The inventory form for the bridge was completed and resubmitted in 2011. The inventory form is complete and meets the SHPD standards for recordation of historic structures, however, there was a misunderstanding with regard to the evaluation of the bridge: In addition to being eligible under NRHP Criteria C and D, the SHPD requested that it also be put into its appropriate historic context and evaluated under Criterion A significance as well. **Please revise the inventory form to reflect that the bridge is eligible under NRHP criteria A, C, and D.**

Initially, this project was reviewed for compliance with Chapter 6E-8 (HRS), however, due to the federal funds provided by the Federal Highway Administration for this project (FY 2011 approved Statewide Transportation Improvement Plan), this bridge repair/replacement project is subject to multiple environmental reviews, including NEPA, Section 106 of the NHPA, and Section 4(f) of the DOTA (among others).

SHPD accepts this report as a baseline, existing-conditions report ONLY. It is early in the NEPA planning and environmental review process; therefore, project alternatives will determine the extent to which further cultural resources work will be needed. Section 106 of the National Historic Preservation Act alone will require the delineation of an Area of Potential Effects that takes into consideration the locations/alignments of all the alternatives considered during project development and the potential direct, indirect, and cumulative impacts caused by the proposed project. A consultation and public involvement plan will need to be further refined to take into account the multiple, culturally-sensitive resources located in close proximity to the existing, historically-significant bridge.

Any questions should be addressed to Leslie Schwab, Architectural Historian, Hawaii Department of Transportation, at Leslie.A.Schwab@Hawaii.gov.

Mahalo for the opportunity to comment.

Angie Westfall
Architecture Branch Chief, Hawaii Historic Preservation Division

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.

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VICE PRESIDENT

July 21, 2017

Alan Downer, Administrator
State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Blvd., Suite 555
Kapolei, Hawai'i 96707

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37)) (LOG: 2011.0333, DOC: 1102RS03) (LOG: 2013.2341, DOC: 0313LS01)

Dear Mr. Downer:

Thank you for your department's letter of February 12, 2011 and March 18, 2013, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation we acknowledge that the existing bridge is eligible for the Hawai'i Register and in response to the State Historic Preservation Division's preference the bridge will be rehabilitated. An Architectural Inventory Survey will be included in the Draft EA. Also, the SDOT has initiated the Section 106 Consultation.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Tessa Ng

Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
Michael Dega, Scientific Consultant Services, Inc.
Glenn Mason, Mason Architects
K:\DATA\ATA\HonoluaBridge\ECL Response\SHPD res.docx

NEIL ABERCROMBIE
GOVERNOR

MAR 07 2011

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
Ford N. Fuchigami
Jan S. Gouveia
Randy Grune
Jadine Urasaki

IN REPLY REFER TO:

STP 8.0361

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 28, 2011

Ms. Colleen Suyama
Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Subject: Honolua Bridge Rehabilitation/Replacement
Early Consultation for Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project. DOT understands the existing bridge does not meet current American Association of State Highway Transportation Officials (AASHTO) standard specifications for highway bridges. As such, three program alternatives will be assessed in the DEA.

DOT is in full support of this project and will provide and coordinate our internal review, as needed, through our DOT Highways Planning Branch. Also, any further submittals for the project can be directed to the Highways Division which is the lead division for handling highway projects.

If there are any questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at (808) 831-7976.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

PHONE (808) 594-1888

FAX (808) 594-1865

FEB 23 2011

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD11/4192C

February 15, 2011

Colleen Suyama, Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Re: Pre-Draft Environmental Assessment Consultation
Honolua Bridge Rehabilitation/Replacement Project
Island of Maui

Aloha e Colleen Suyama,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 26, 2011 letter seeking comments ahead of a draft environmental assessment (DEA) which will be prepared to evaluate the options to rehabilitate or replace the Honolua Bridge (project) on the Island of Maui proposed by the State of Hawai'i-Department of Transportation.

The DEA should discuss any impacts to cultural, historic and natural resources within the project area and any necessary mitigation measures which will be implemented to protect stream water quality. The DEA should also detail the permits and approvals which will be necessary to facilitate the project. OHA seeks clarification whether federal funding will be used to support this project. We note that your letter details the existing Honolua Bridge (bridge) was originally constructed in 1924 and thus, is considered a historic property pursuant to Chapter 6E, Hawaii Revised Statues. An assessment whether the bridge is eligible for listing on the State of Hawai'i or National Register of Historic Places should be conducted.

Thank you for initiating consultation. We look forward to reviewing the DEA and providing additional comments at that time. Should you have any questions or concerns, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

C: OHA- Maui Community Outreach Coordinator

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Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Dr. Kamana'opono Crabbe
Chief Executive Officer
State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37)) (HRD 11/4192C)

Dear Dr. Crabbe:

Thank you for your department's letter of February 15, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation please be advised that the Draft EA shall discuss impacts to cultural, historic and natural resources and appropriate mitigation measures. The Draft EA will also include the permits and approvals which will be necessary to facilitate the project.

For clarification, federal funding will be utilized for this project and Section 106 review will be required. The State Historic Preservation Division has commented that the existing bridge is eligible for listing on the State of Hawai'i Register of Historic Places.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Terra Ng

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\OHA.res.docx

ALAN M. ARAKAWA
MAYOR

FEB 17 2011

JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

313 MANEA PLACE • WAILUKU, HAWAII 96793
(808) 244-9161 • FAX (808) 244-1363

February 15, 2011

Munekiyo & Hiraga, Inc.
Attn: Colleen Suyama , Senior Associate
305 High Street, Suite 104
Wailuku, HI 96793

Subject: **Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement**
Honolua, Maui
Loaction: Between Mile Post 32.40 & 32.51

Dear Colleen,

Thank you for the opportunity to comment on this Early Consultation for the proposed project. At this time, the Fire Prevention Bureau has no specific comments other than to inform you that if possible to assure the max load the bridge can handle exceeds our heaviest apparatus on the west side. That apparatus is our Ladder Truck which does respond as far as the Wailuku Bridge from Lahaina. It's GVW is rated at 69,500 Pounds. Thank you for your consideration.

If you have any questions, you may call me at 244-9161 ext. 25 or fax at 244-1363.

Sincerely,

Kono Davis
Lieutenant, Fire Prevention Bureau
313 Manea Place
Wailuku, HI 96793

MAR 15 2013

ALAN M. ARAKAWA
MAYOR

JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

313 MANEA PLACE • WAILUKU, HAWAII 96793
(808) 244-9161 • FAX (808) 244-1363

March 13, 2013

To : Munekiyo & Hiraga, Inc.
Attention: Colleen Suyama
305 High Street
Wailuku, HI 96793

Re : Proposed Honolua Bridge Rehabilitation/Replacement
Honolua, Maui, HI

Aloha Colleen:

Thank you for the opportunity to comment on the subject project. At this time, the Department of Fire & Public Safety provides the following comments:

- Option 1 would be the best choice because access to the areas beyond the bridge is limited and always needed. Option 2 would only work if it could be guaranteed that the work be completed in one day and proper notification was given to our department so that contingency plans could be created.

- Please notify our department of the proposed plan two weeks prior to work commencing if Option 2 (24-hour road closure) is to implemented.

If there are any questions or comments, please feel free to contact me at 244-9161 ext. 23.

Regards,

Paul Haake
Captain, Fire Prevention Bureau
Department of Fire & Public Safety
313 Manea Place
Wailuku, HI 96793

ALAN M. ARAKAWA
MAYOR

JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

MAR 26 2013

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

313 MANEA PLACE • WAILUKU, HAWAII 96793
(808) 244-9161 • FAX (808) 244-1363

March 22, 2013

To : Munekiyo & Hiraga, Inc.
Attention: Colleen Suyama
305 High Street
Wailuku, HI 96793

Re : **Proposed Honolua Bridge Rehabilitation/Replacement**
Honolua, Maui, HI

Aloha Colleen:

Thank you for the opportunity to comment on the subject project. At this time, the Department of Fire & Public Safety provides the following comments:

- Option 1 would be the best choice because this plan would keep both accesses to the areas north of the bridge (from Kapalua & from Wailuku) open, provided that the temporary bridge is designed and constructed to support the weight of a fire apparatus (55,000#).
- Option 2 is unadvisable because the remaining access to the area from Wailuku would increase emergency response times dramatically. This option, if chosen, shall require proper notification to our department so that contingency plans could be created.
- Please notify our department of the proposed plan two weeks prior to work commencing if Option 2 (24-hour road closure) is to be implemented.

If there are any questions or comments, please feel free to contact me at 244-9161 ext. 23.

Regards,

Paul Haake
Captain, Fire Prevention Bureau
Department of Fire & Public Safety
313 Manea Place
Wailuku, HI 96793

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Michael T. Munekiyo
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Karlynn K. Fukuda
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Mark Alexander Roy
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Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Paul Haake, Captain
Fire Prevention Bureau
County of Maui
Department of Fire and Public Safety
313 Manea Place
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Proposed Honolua Bridge Rehabilitation Project at Honolua, Maui

Dear Captain Haake:

Thank you for your department's letters of February 15, 2011, March 13, 2013 and March 22, 2013 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the proposed Honolua Bridge Rehabilitation project. On behalf of the State Department of Transportation (SDOT) we acknowledge your request that improvements to the bridge be able to accommodate your department's heaviest apparatus in West Maui.

In regards to the rehabilitation of the existing bridge, we acknowledge your Department's comments regarding the previously proposed options for construction traffic. The SDOT was initially considering two (2) construction alternatives for the rehabilitation of the existing bridge: (1) construction of a temporary detour bridge; or (2) road closure during construction. The SDOT has since decided not to pursue a road closure option in conjunction with the rehabilitation of the existing bridge. Instead, a temporary detour bridge would be constructed makai of the existing Honolua Bridge to maintain access during the construction phase. The proposed construction of the temporary detour bridge is included in the proposed project and will be discussed in the Draft EA.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\DFPS.res.docx

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

PATRICK T. MATSUI
Deputy Director

(808) 270-7230
FAX (808) 270-7934

FEB 11 2011

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

February 8, 2011

Munekiyo & Hiraga, Inc.
Attention: Colleen Suyama, Senior Associate
305 High Street
Wailuku, Hawaii 96793

SUBJECT: Early Consultation Request for Proposed Honolua Bridge Rehabilitation/Replacement at Honolua, Maui.

Dear Ms. Suyama:

The Parks Department has reviewed the proposed Honolua Bridge Rehabilitation/Replacement project and does not have any comments at this time.

Thank you for the opportunity to review and comment on this matter. Please feel free to contact me or Mr. Baron Sumida, CIP Coordinator in the Parks Planning and Development Division at 270-6173 should you have any questions.

Sincerely,

GLENN T. CORREA
Director

c: Robert Halvorson, Chief of Parks Planning & Development, TA
Jeff Anderson, West District Supervisor

GTC:RH:bks

ALAN M. ARAKAWA
Mayor
WILLIAM R. SPENCE
Director
MICHELE CHOUTEAU McLEAN
Deputy Director

MAR 0 3 2011

COUNTY OF MAUI

DEPARTMENT OF PLANNING

February 28, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

SUBJECT: EARLY CONSULTATION FOR PROPOSED HONOLUA BRIDGE REHABILITATION/REPLACEMENT, AT HONOLUA, MAUI, HAWAII; (RFC 2011/0014) (EAC 2011/0003)

The Department of Planning (Department) is in receipt of the above-referenced letter dated January 26, 2011, requesting pre-assessment comment on preparation of a Draft Environmental Assessment (EA).

The Department has the following comments:

1. Please review the proposed project for consistency with the Draft Maui Island Plan 2030. The Maui Island Plan can be found at the following URL: http://www.mauicounty.gov/index.aspx?NID=1120. The Maui Island Plan provides a guide for the future growth of the Island to the year 2030. The Maui Island Plan establishes a vision and a set of long-range guiding principles, goals, objectives, policies, and maps to guide the growth and development of the Island. The purpose of the Maui Island Plan, amongst others, is to, "Establish policies to manage change and to guide decisions about future land use and development" and to protect natural and cultural resources;

2. The Department requests that the Applicant address any inconsistencies with the Maui Island Plan relative to the proposed project;

3. Any proposed actions should take into consideration that the area is culturally significant and may contain burial grounds and other traditional cultural aspects;

4. No Tax Map Key (TMK) numbers for the affected parcels were provided in your letter. Please provide all correct TMK numbers for all parcels affected by the project;

5. Please provide the Land Use Designations (State, West Maui Community Plan, and Zoning) for the project area. These designations shall be verified by the Department's Zoning Administration and Enforcement Division (ZAED). Please submit a *Zoning and Flood Confirmation Form* to ZAED identifying the affected TMK parcels; and

6. The project site appears to be located within the County's Special Management Area (SMA). The Draft EA should therefore, contain a thorough discussion on how the proposed project is consistent with the objectives and polices of Chapter 205A, Coastal Zone Management, Hawaii Revised Statutes (HRS); and a SMA Assessment will be required.

Thank you for the opportunity to comment. Please include the Department on the distribution list for the Draft EA. Should you require further clarification, please contact Staff Planner Kathleen Ross Aoki at kathleen.aoki@mauicounty.gov or at (808) 270-5529.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for WILLIAM SPENCE
Planning Director

xc: Aaron H. Shinmoto, PE, Planning Program Administrator (2)
Kathleen Ross Aoki, Staff Planner
EAC File
Project File
General File

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ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director

MAR 2 8 2011

COUNTY OF MAUI

DEPARTMENT OF PLANNING

March 28, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

SUBJECT: EARLY CONSULTATION FOR PROPOSED HONOLUA BRIDGE REHABILITATION/REPLACEMENT, AT HONOLUA, MAUI, HAWAII; (RFC 2011/0014) (EAC 2011/0003)

The Department of Planning (Department) is in receipt of the above-referenced letter dated January 26, 2011, requesting pre-assessment comment on preparation of a Draft Environmental Assessment (EA). This letter supersedes the Department's response dated February 28, 2011.

The Department has the following comments:

1. The Department requests that the Applicant address any inconsistencies with the Maui Countywide Policy Plan relative to the proposed project;

2. Any proposed actions should take into consideration that the area is culturally significant and may contain burial grounds and other traditional cultural aspects;

3. No Tax Map Key (TMK) numbers for the affected parcels were provided in your letter. Please provide all correct TMK numbers for all parcels affected by the project;

4. Please provide the Land Use Designations (State, West Maui Community Plan, and Zoning) for the project area. These designations shall be verified by the Department's Zoning Administration and Enforcement Division (ZAED). Please submit a *Zoning and Flood Confirmation Form* to ZAED identifying the affected TMK parcels; and

5. The project site appears to be located within the County's Special Management Area (SMA). The Draft EA should, therefore, contain a thorough discussion on how the proposed project is consistent with the objectives and polices of Chapter 205A, Coastal Zone Management, Hawaii Revised Statutes (HRS); and a SMA Assessment will be required.

Thank you for the opportunity to comment. Please include the Department on the distribution list for the Draft EA. Should you require further clarification, please contact Staff Planner Kathleen Ross Aoki at kathleen.aoki@mauicounty.gov or at (808) 270-5529.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for WILLIAM SPENCE
Planning Director

xc: Aaron H. Shinmoto, PE, Planning Program Administrator (2)
Kathleen Ross Aoki, Staff Planner
EAC File
Project File
General File

WRS:CIY:KRA:sa
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MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

William Spence, Director
County of Maui
Department of Planning
One Main Plaza
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Mr. Spence:

Thank you for your letters of February 28, 2011, and March 28, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we offer the following information in the order of your letter:

1. The Draft EA will address the Maui Countywide Policy Plan, as well as the Maui Island Plan.

2. An Archaeological Inventory Survey and Cultural Impact Assessment will be included in the Draft EA to address historic and cultural sites.

3. The Honolua Bridge is part of the Honoapi'ilani Highway right of way (ROW) and does not have a separate Tax Map Parcel. In addition to work within the ROW, work will involve the adjacent parcels makai of the ROW (TMK (2)4-1-001:010 and (2)4-2-004:032).

4. Zoning Confirmation Forms have been submitted to the Zoning Administration and Enforcement Division to confirm the land use designations for the project area.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

5. The Draft EA will include discussion of the project's compliance with Chapter 205A, Coastal Zone Management, Hawai'i Revised Statutes (HRS). An appropriate Special Management (SMA) Permit will be obtained for work within the SMA.

Again, thank you for your participation in the Chapter 343, HRS review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
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MAR 04 2011

POLICE DEPARTMENT

COUNTY OF MAUI

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

February 14, 2011

Ms. Colleen Suyama
Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Suyama:

SUBJECT: Early Consultation for Proposed Honolua Bridge Rehabilitation/Replacement at Honolua, Maui

This is in response to the request for comments on the above subject.

We have reviewed the information submitted and will reserve all comments until receipt of a final draft of all proposals. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Danny Matsuura
for: Gary A. Yabuta
Chief of Police

c: William Spence, Planning Department

FEB 28 2013

POLICE DEPARTMENT

COUNTY OF MAUI

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

February 25, 2013

Ms. Colleen Suyama
Senior Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Suyama:

SUBJECT: Additional Request for Early Consultation for the Proposed Honolua Bridge Rehabilitation/Replacement at Honolua

This is in response to the request for comments on the above subject.

We have reviewed the information submitted for this project and have submitted our comments and/or recommendations. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Victor Ramos
for: Gary A. Yabuta
Chief of Police

c: William Spence, Planning Department

TO	:	**GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI**
VIA	:	**CHANNELS**
FROM	:	**AYLETT WALLWORK, POLICE OFFICER III, COMMUNITY POLICING, WAILUKU PATROL DIVISION**
SUBJECT	:	**RESPONSE TO A REQUEST FOR COMMENTS REGARDING BRIDGE REHABILITATION AT HONOLUA, MAUI**

02/25/13

This communication is submitted as a response to a request for comments by the State Of Hawaii, Department Of Transportation, regarding an early consultation on the proposed Honolua Bridge Rehabilitation. Department Of Transportation is requesting comments on two options that they are considering while the bridge is under construction.

The first option is to construct a temporary bridge structure spanning Honolua Stream. Construction will take between (2) two to (3) three weeks to complete and the traffic will be detoured over the temporary bridge.

The second option is to implement a temporary road closure during rehabilitation of the existing bridge. The road closure with accelerated construction methods will be a 24 hour period. A temporary bridge will be on-site and ready to be installed in the event that the road is closed longer than 24 hours.

RESPONSE:

In review of the submitted documents, the concern from the police perspective is the impacts upon vehicular and pedestrian movement as well as the public's safety.

A combination of both options would work. Construct a temporary bridge for emergency services (police, fire, and medics) and local area residences. Keep the bridge closed to all other traffic. If the rehabilitation of the bridge could not be completed within the 24 hours, the road should remain closed to outside traffic and the temporary bridge to remain open for emergency services and local area residences. Keep majority of the motorist and pedestrians out of the area to allow the construction crew a safe working area. At this time it is undetermined when this project will commence.

There are no objections to the progression of this project. It must be stated that all those involved in this project must remain cognizant in maintaining the safety of the general public.

Respectfully submitted for your review and approval.

11764

Aylett Wallwork c#11764
P.O. III, Community Policing, Wailuku Patrol Division
02/22/2013 @ 0730 hours

See comments by Vickers
Ofc. Wailuku Sgt
Capt
2/25/13

CONCUR WITH OFFICER WALLWORK.
PASSAGE SHOULD BE AVAILABLE
FOR EMERGENCY SERVICES SHOULD
AN INCIDENT OCCUR.

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Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Tivoli Faaumu
Chief of Police
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Chief Faaumu:

Thank you for your department's letters of February 14, 2011, and February 25, 2013, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT) we acknowledge that during construction passage through the area should be available for emergency services. Also, that those involved in the project shall be cognizant in maintaining the safety of the general public.

Regarding proposed options to accommodate traffic through the area during construction, we acknowledge your comments on the previously proposed options for construction traffic. The SDOT was initially considering two (2) construction alternatives for the rehabilitation of the existing bridge: (1) construction of a temporary detour bridge; or (2) road closure during construction. The SDOT has since decided not to pursue a road closure option in conjunction with the rehabilitation of the existing bridge. Instead, a temporary detour bridge would be constructed makai of the existing Honolua Bridge to maintain access during the construction phase. The proposed construction of the temporary detour bridge is included in the project and will be discussed in the Draft EA.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your department's letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
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ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director

FEB 03 2011

RALPH M. NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
DEVELOPMENT SERVICES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

February 1, 2011

Ms. Colleen Suyama
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Subject: EARLY CONSULTATION FOR PROPOSED HONOLUA BRIDGE REHABILITATION/REPLACEMENT AT HONOLUA, MAUI

Dear Ms. Suyama:

We reviewed the subject application and have no comments at this time.

Please call Rowena M. Dagdag-Andaya at 270-7845 if you have any questions regarding this letter.

Sincerely,

David C. Goode
Director of Public Works

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xc: Highways Division
Engineering Division

MAR 0 3 2011

ALAN M. ARAKAWA
Mayor

KYLE K. GINOZA, P.E.
Director

MICHAEL M. MIYAMOTO
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

Wastewater Reclamation Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 100
WAILUKU, MAUI, HAWAII 96793

March 1, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

SUBJECT: **HOLOLUA BRIDGE REHABILITATION**
EARLY CONSULTATION
HONOLUA, MAUI

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:

   a. None.

2. Wastewater Reclamation Division (WWRD) comments:

   a. None. There is no County sewer system in the area of the subject project.

If you have any questions regarding this memorandum, please contact Michael Miyamoto at 270-8230.

Sincerely,

KYLE K. GINOZA, P.E.
Director of Environmental Management

ALAN M. ARAKAWA
MAYOR

FEB 09 2011

JO ANNE JOHNSON
Director
MARC I. TAKAMORI
Deputy Director
Telephone (808) 270-7511

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

February 2, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Subject: Proposed Honolua Bridge Rehabilitation/Replacement at Honolua

Dear Ms. Suyama,

Thank you for the opportunity to comment on this project. We have no comments to make at this time.

Please feel free to contact me if you have any questions.

Sincerely,

Jo Anne Johnson
Director

FEB 25 2011

ALAN M. ARAKAWA
Mayor

DAVID TAYLOR, P.E.
Director

PAUL J. MEYER
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

February 16, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High St., Ste 104
Wailuku, Hawaii 96793

Re: Project Name: Early Consultation for Proposed Honolua Bridge Rehabilitation/ Replacement at Honolua - Draft Environmental Assesment (DEA)

Dear Ms. Suyama:

Thank you for the opportunity to participate in the early consultation process for this DEA. The above referenced project is outside the Department of Water Supply service area; however, there are water quality issues that should be addressed.

The project overlies the Honolua aquifer with an estimated sustainable yield of 8 MGD. This aquifer is one of the major groundwater and surface water sources of the department's Lahaina system. In order to protect surface and groundwater sources, the DEA should delineate measures designed to minimize infiltration and runoff from construction, as well as adverse impacts on water quality. We recommend that the following mitigation measures be included in the DEA and implemented during construction:

- Evaluate structure and site for best demolition method that will create the least amount of debris and sediment loss.
- Reclaimed water should be used for dust control and landscaping during construction to the extent possible.
- Before demolition, install temporary silt fences around each bridge approach.
- No part of the bridge should be allowed to fall into the water; promptly remove any material that may fall into the water body.
- Minimize disturbed area needed, ensuring that only the smallest amount of bare ground is exposed for the shortest time possible.

- Methods to minimize soil erosion and trap sediments should be used . Properly install and maintain erosion control barriers such as silt fencing or straw bales and other appropriate erosion control devices to contain sediment before they reach any surface water feature in the work area. Inspect silt fences on a regular basis and after each rainfall. Make any required repairs immediately. Remove and dispose of sediment accumulations when depth reaches one-half the height of the filter fabric. Replace silt fence removed for access at the end of each day's operation.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting native species as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Stabilize stream banks with indigenous vegetation or riprap, if required.
- Fill or excavated material must not be placed in a manner that creates an unstable slope.
- Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed off-site away from surface water.
- No construction or toxic materials or debris should be placed where it may enter the ocean.
- Construction debris and sediment should be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into the stream.
- Keep run-off on site.

Should you have any questions, please contact our Water Resources and Planning Division at 808-244-8550.

Sincerely,

David Taylor, P. E.
Director

mlb
cc: applicant, engineering division

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Mr. Taylor:

Thank you for your letter of February 16, 2011, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT), we acknowledge that the Draft EA should include mitigation measures to minimize infiltration and runoff from construction, as well as adverse impacts on water quality. Best Management Practices will be implemented during construction to minimize adverse effects on water quality.

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Tessa Ng
for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
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Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

MAR 28 2013

Director of Council Services
David M. Raatz, Jr., Esq.

COUNTY COUNCIL

COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.mauicounty.gov/council

March 25, 2013

Munekiyo & Hiraga, Inc.
Attention: Colleen Suyama, Senior Associate
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Suyama,

SUBJECT: **EARLY CONSULTATION FOR THE PROPOSED HONOLUA BRIDGE REHABILITATION/REPLACEMENT AT HONOLUA, MAUI**

Thank you for your letter soliciting comments on the two traffic mitigation options relating to the proposed Honolua Bridge Rehabilitation Project.

After evaluating the two options, I recommend that the State of Hawaii, Department of Transportation pursue Option 1 of constructing a temporary detour road and bridge structure. I feel it is important to maintain access for the resident of Honokohau and those other individuals whose livelihoods require daily access across Honolua Stream.

In conclusion, I would provide the comment that the information provided in your early consultation letter provides inadequate information to make an informed decision. It would be beneficial to include a cost comparison between the two traffic mitigation options and elaboration on what "accelerated construction methods" entails and how it ensures only a one or two day road closure.

Sincerely,

Elle Cochran

ELLE COCHRAN
Council Member

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Honorable Elle Cochran
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Councilmember Cochran:

Thank you for your letter of March 25, 2013, responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT), we acknowledge your comments and recommendations regarding the previously proposed options for construction traffic. The SDOT was initially considering two (2) construction alternatives for the rehabilitation of the existing bridge: (1) construction of a temporary detour bridge; or (2) road closure during construction. The SDOT has since decided not to pursue a road closure option in conjunction with the rehabilitation of the existing bridge. Instead, a temporary detour bridge would be constructed makai of the existing Honolua Bridge to maintain access during the construction phase. As noted in your letter, the use of a temporary detour bridge will mitigate impacts for residents of Honokōhau and those individuals whose livelihood requires daily access across Honolua Stream. The proposed construction of the temporary detour bridge is included in the project and will be discussed in the Draft EA.

Maui: 305 High Street, Suite 104 ◦ Wailuku, Hawaii 96793 ◦ Tel: 808.244.2015 ◦ Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 ◦ Honolulu, Hawaii 96813 ◦ Tel: 808.983.1233
www.munekiyohiraga.com

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Teresa Ng
for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\Cochran.res.docx

FEB 16 2011

February 15, 2011

To Whom It May Concern:

Subject: Early consultation for proposed Honolua bridge

Aloha, I am writing on behalf of the non-profit organization, Save Honolua Coalition, in regards to the Honolua bridge. Our organization has been following the proposed rehabilitation/replacement of the bridge since it was first mentioned during the Lingle Administration. Members of our organization as well as the larger community and former councilwoman JoAnne Johnson attended a public meeting hosted by Brennon Morioka, the DOT as well as communications of the Pacific at Lahaina Civic Center. At that meeting there was no support for replacing the existing bridge with a two-lane bridge, in fact many spoke against it. The majority of community testimony favored leaving the bridge as is or rehabilitating only if it can be proved it is necessary for safety purposes. Some of the reasons stated were: historic value to the bridge, one-lane bridge with double yield signs signal that you are entering the country and need to slow down, strong opposition to making it easier for heavy construction machinery to pass through the area, safety issues that two lanes would lead to more speeding and cost to taxpayers was another concern.

Since that initial meeting, the Save Honolua Coalition has continued researching the area in question. We have been in contact with Hinano Rodrigues of the State Historic Preservation Division (SHPD) and area kupuna who feel the need for better archaeological surveys to be done given the bridges' close proximity to a large and important heiau. There is archaeological evidence that construction of Highway 30 destroyed part of the heiau, which is less than 50 yards from the bridge, therefore no new construction should be allowed-rehabilitation only if necessary. Since current archaeological surveys are incomplete, there is no way to know what we are dealing with. We would like to see that kupuna and SHPD requests for a more complete and detailed archaeological survey for this area be done that encompasses local knowledge and acknowledges the restoration efforts that are presently under way.

Another issue that is of concern is whether or not the state has clear title to the land. By taking a look at Land Commission awards and royal patents we notice that there are family names associated with the TMK's and we wonder how the state could have legally obtained this land or if there is a break in the title that clouds ownership issues.

In closing, our stance is strongly opposed to the replacement of Honolua bridge with a two-lane bridge. We would like to see this historic bridge to remain as it is, if reliable, documented evidence can be shown that it is necessary for the safety of the public to rehabilitate the bridge, we would review those plans and assuming they are done properly we would be able to support that option.

Mahalo,

Tamara A. M. Paltin

Tamara Paltin- President Save Honolua Coalition

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MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Michael T. Munekiyo
PRESIDENT
Karlynn K. Fukuda
EXECUTIVE VICE PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

July 21, 2017

Tamara A.M. Paltin, President
Save Honolua Coalition
2580 Kekaa Drive, #115-123
Lahaina, Hawai'i 96761

SUBJECT: Early Consultation Letter for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge at Honolua, Maui (BR-030-1(37))

Dear Ms. Paltin:

Thank you for your letter of February 15, 2011 responding to our request for early consultation in preparation of a Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of Honolua Bridge. On behalf of the State Department of Transportation (SDOT), we acknowledge your organization's opposition to replacing the existing bridge and that the existing bridge should be rehabilitated only if it is determined to be necessary for safety purposes. The SDOT is proposing to rehabilitate the existing one-lane bridge to maintain the historic character of the bridge.

An archaeological inventory survey and architectural inventory survey will be included in the Draft EA identifying historic and cultural sites as well as propose appropriate mitigation measures. The bridge is located within the existing Honoapi'ilani Highway which is a government roadway owned by the State of Hawai'i.

The SDOT has determined that for safety purposes the existing bridge warrants rehabilitation to meet a bridge sufficiency rating of 50 or higher.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729
Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

Again, thank you for your participation in the Chapter 343, Hawai'i Revised Statutes review process. A copy of your letter and this response will be included in the Draft EA. A copy of the Draft EA will be sent to your office for further review and comment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

for Colleen Suyama, Senior Associate

CS:la
cc: Kevin Ito, Department of Transportation
Paul Arita, Austin Tsutsumi & Associates, Inc.
K:\DATA\ATA\HonoluaBridge\ECL Response\Paltin.res.docx

AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD; AND RESPONSES TO SUBSTANTIVE COMMENTS

IX

IX. AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD; AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies and organizations, and individuals were consulted during the 30-day comment period for the Draft EA which was filed and published in the Office of Environmental Quality Control's The Environmental Notice on August 23, 2017. The following agencies, organizations, and individuals were provided with a copy of the Draft EA for review and comment. Comment letters received and responses to substantive comments are included in this Chapter.

1. Ranae Ganske-Cerizo, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
77 Hookele Street, Suite 202
Kahului, Hawai'i 96732

2. Tunis W. McElwain, Acting Chief
Chief, Regulatory Branch
U.S. Department of the Army
U.S. Army Engineer District, Honolulu
Regulatory Branch
Building 230
Fort Shafter, Hawai'i 96858-5440

3. Alexis Strauss, Regional Administrator
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

4. Dave Wesley, Deputy Regional Director
U. S. Fish and Wildlife Service
Pacific Region
911 NE 11th Avenue
Portland, Oregon 97232

5. Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Box 50088
Honolulu, Hawai'i 96813

6. Kay Zukeram/Habitat
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Boulevard, Suite 1110,
Honolulu, HI 96814-4700

7. Cynthia Burbank, Associate Administrator
U.S. Department of Transportation
Planning, Environment and Realty
Federal Highway Administration
400 7th Street, S.W.
Washington, D.C. 20590-9898

8. Roderick Becker, Comptroller
Department of Accounting and General Services
1151 Punchbowl Street, #426
Honolulu, Hawai'i 96813

9. Scott Enright, Chair
Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814-2512

10. Luis P. Salaveria, Director
State of Hawai'i
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawai'i 96804

11. Christina Kishimoto, Superintendent
State of Hawai'i
Department of Education
P.O. Box 2360
Honolulu, Hawai'i 96804

12. Heidi Meeker
Planning Division
Office of Business Services
Department of Education
c/o Kalani High School
4680 Kalanianaole Highway, #T-B1A
Honolulu, Hawai'i 96821

13. Jobie Masagatani, Chairperson
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

14. Dr. Virginia Pressler, Director
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814

15. Laura McIntyre, AICP
State of Hawai'i
Environmental Planning Office
Department of Health
919 Ala Moana Boulevard, Suite 312
Honolulu, Hawai'i 96814

16. Alec Wong, P.E., Chief
Clean Water Branch
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawai'i 96814

17. Patti Kitkowski
State of Hawai'i
Department of Health
54 High Street
Wailuku, Hawai'i 96793

18. Lene Ichinotsubo
Environmental Management Division
State of Hawai'i
Department of Health
919 Ala Moana Blvd., Room 212
Honolulu, Hawai'i 96814

19. Suzanne Case, Chairperson
State of Hawai'i
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawai'i 96809

20. Alan Downer, Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai'i 96707

21. David Smith, Administrator
State of Hawai'i
Department of Land and Natural Resources
Division of Forestry and Natural Resources
1151 Punchbowl Street, Room 325
Honolulu, Hawai'i 96813

22. Barker Farris
Department of Land and Natural Resources
State Historic Preservation Division
101 Maalaea Boat Harbor Road
Wailuku, Hawai'i 96793

23. Jade Butay, Interim Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

24. Dr. Kamana'opono Crabbe, Chief Executive Officer
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawai'i 96813

25. Leo Asuncion, Director
State of Hawai'i
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804

26. Jeffrey A. Murray, Fire Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732

27. Ka'ala Buenconsejo, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

28. William Spence, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793

29. Tivoli Faaumu, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

30. David Goode, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai'i 96793

31. Stewart Stant, Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

32. Don Medeiros, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawai'i 96793

33. David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

34. Herman Andaya, Interim
Emergency Management Officer
County of Maui
Emergency Management Agency
200 South High Street, 1st Floor
Wailuku, Hawai'i 96793

35. Honorable Elle Cochran
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793

36. Save Honolua Coalition
2580 Keka`a Drive
#115-123
Lāhainā, Hawai'i 96761

37. Na Kupuna O Maui
c/o Patricia Nishiyama
320 Kaeo Place
Lāhainā, Hawai'i 96761

38. Tamara Paltin
P. O. Box 11904
Lahaina, Hawai'i 96761

39. Lahaina Public Library
State of Hawai'i
680 Wharf Street
Lahaina, Hawai'i 96761

40. Tia Pearson
Email: tia.pearson@gmail.com

41. Mike Juker
Email: mike@jukerhawaii.com

42. Mark Rudd
103 Ikea Ok
Makawao, Hawai'i 96768
Email: eatsurflivelove@hawaii.rr.com

43. Doreen Chaput
Email: dchaput1986@yahoo.com

44. John Naylor
Email: jdancer@kula.us

45. Mary Rosemeyer Woods
Email: mary.rosemeyer@gmail.com

46. Janet Spreiter
Email: spreiter@mauigateway.com

47. Miki Brey
Email: mbnobotherme5@gmail.com

48. Ulrich "Uli" Okura Kirkegaard
Email: uli@mauitechguru.com

49. Mike Moran
Email: mmmmahalo2000@aol.com

50. Email: oapukawa@aol.com

51. Suzanne Lahl
Email: slahl@msn.com

52. Brad Witter
Email: bw1616@yahoo.com

53. Louise Rockett
Email: louisrockett@aol.com

54. Curtis Laffin
9 Daniel Webster Drive
Hudson, New Hampshire 03051

55. Jill Laffin
32 Kaioluolu Way
Kaunakakai, Hawai'i 96748

SEP 11 2017

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

September 5, 2017

SUBJECT: Request for Comments for Draft EA for the Honoapi'ilani Highway Rehabilitation of Honolua Bridge at Honoapi'ilani Highway Right-of-Way, Lahaina, Island of Maui, Hawaii, DA File No. POH-2011-00038

Colleen Suyama, Senior Associate
Munekiyo Hirag
350 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

The U.S. Army Corps of Engineers, Honolulu District (Corps), is in receipt of your letter dated August 21, 2017 and Draft EA for the proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge at Honoapi'ilani Highway Right-of-Way located Lahaina, Island of Maui, Hawaii. Your project has been assigned Department of the Army (DA) file number POH-2011-00038. Please reference this number in all future correspondence concerning this determination.

We have completed a preliminary review of your submittal pursuant to Section 404 of the Clean Water Act (Section 404) and Section 10 of the Rivers and Harbors Act of 1899 (Section 10). Section 404 requires authorization prior to the discharge and/or placement of dredged or fill material into waters of the U.S., including adjacent wetlands. Section 10 requires authorization prior to installing structures or conducting work in, over, under, and affecting navigable waters.

Based on our review of your submittal, it appears that the proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge may cross one or more streams, which may be water of the U.S. under the regulatory jurisdiction of the Corps. In accordance with Section 404, a Department of the Army (DA) permit will be required for any activity resulting in the discharge and/or placement of dredged or fill material into a water of the U.S. Therefore, a DA permit may be required for your proposed project. Please see our website: http://www.poh.usace.army.mil/Missions/Regulatory.aspx to obtain a Preconstruction Notification in order to apply for a Nationwide Permit from our office.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to these comments, please contact me at 808-835-4307 or via e-mail at Rebecca.m.frager@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

FRAGER.REBECCA.MABLE.1508149111

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Becca Frager
Biologist, Regulatory Office

cc:
Department of Transportation (Kevin Ito)

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

SEP 20 2017

September 14, 2017

SUBJECT: No Permit Required for proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge at Honoapi'ilani Highway Right-of-Way, Lahaina, Island of Maui, Hawaii, DA File No. POH-2011-00038

Colleen Suyama, Senior Associate
Munekiyo Hirag
350 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Suyama:

We have received your letter dated August 21, 2017 requesting a determination of permitting requirements for the proposed Honoapi'ilani Highway Rehabilitation of Honolua Bridge at Honoapi'ilani Highway Right-of-Way located in Lahaina, Island of Maui, Hawaii. We have assigned your project Department of the Army (DA) file number POH-2011-00038. Please reference this number in all future correspondence concerning this project.

We have reviewed your submittal pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 requires that a DA permit be obtained for certain structures or work in or affecting navigable waters of the United States, prior to conducting the work (33 U.S.C. 403). Section 404 requires that a DA permit be obtained for the discharge of dredged and/or fill material into waters of the U.S., including wetlands and navigable waters of the U.S, prior to conducting the work (33 U.S.C. 1344).

Based on our review of the information you furnished, and assuming your project is conducted only as set forth in the information provided, this office has determined the proposed activity does not occur within the jurisdictional limits of a Navigable Water of the U.S. as defined by Section 10 of the Rivers and Harbors Act of 1899 or within the jurisdictional limits of a Water of the U.S. as defined by Section 404 of the Clean Water Act Therefore, a DA permit will not be required.

We have prepared and enclosed a *Preliminary Jurisdictional Determination* (JD), which is a written indication that wetlands and waterways within your project area may be waters of the United States (Enclosed). If you believe the Preliminary JD is inaccurate, you may request an Approved JD, which is an official determination regarding the presence or absence of waters of the U.S. If you choose to request an Approved JD, please be aware that we may require the submittal of additional information and work authorized in this letter may not occur until the approved JD has been finalized.

Although a permit is not required from this office, we recommend use of Best Management Practices to avoid and minimize adverse impacts to the aquatic resource. It is your responsibility to ensure that your project complies with all other Federal, State, or local statutes, ordinances and regulations.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination, please contact me at 808-835-4307 or via e-mail at Rebecca.M.Frager@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

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Becca Frager
Regulatory Specialist, Regulatory Office

Enclosure(s)

cc:
State of Hawaii DOH-CWB (Darryl Lum)
Department of Transportation (Kevin Ito)

US Army Corps of Engineers, Honolulu District

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary jurisdictional determination (PJD) finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 14 Sept 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Kevin Ito, Engineer
State of Hawaii, Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

C. DISTRICT OFFICE: Honolulu District, CEPOH-RB
FILE NAME: Honoapi'ilani Highway Rehabilitation of Honolua Bridge at Honoapi'ilani Highway Right-of-Way
FILE NUMBER: POH-2011-00038

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
State or Territory: Hawaii
County: Maui County, Island of Maui
City: Lahaina
Lat.: 21.01343 N Long.: -156.6336 W
Universal Transverse Mercator: 4 N 745967.4 2325456.1
Name of nearest waterbody: Honolua Stream, PFO3A

E. REVIEW PERFORMED FOR SITE EVALUATION:
☒ Office (Desk) Determination. Date: 14 September 2017
☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION

Site Number or Name	Latitude	Longitude	Estimated amount of aquatic resources in review area (acreage and linear feet, if applicable)	Type of aquatic resource (wetland v. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject
Honolua Stream	21.01343 N	-156.6336 W	1449 sq ft	Non-wetland waters	Sec. 404

See attached map identifying PJD Review Area.

F. EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an

approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the.JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

G. SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply):

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Submitted in Draft EA on 21 August 2017
☐ Data sheets prepared/submitted by or on behalf of the PJD requestor.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report. Rationale: Explain
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas:
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:
☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
☒ USFWS National wetlands inventory map(s). Cite name:
https://www.fws.gov/wetlands/Data/Mapper.html, 14 September 2017
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): GoogleEarthPro Jan 2013
  or ☐ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter: .
☐ Other information (please specify):

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

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Signature and date of Regulatorystaff member completing PJD (REQUIRED)

Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7349

June 12, 2018

Ms. Rebecca Frager
Biologist, Regulatory Office
Department of the Army
U.S. Army Corps of Engineers
573 Bonney Loop, Building 525, Suite 300
Fort Shafter, Hawaii 96858

Dear Ms. Frager:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway, Rehabilitation of Honolua Bridge
Federal-Aid Project Nos. BR-030-1(37)

Thank you for your letter dated September 5, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document with respect to Section 404 of the Clean Water Act (Section 404) and Section 10 of the Rivers and Harbors Act of 1899 (Section 10).

We are also in receipt of your letter dated September 14, 2017, providing a preliminary jurisdictional determination that the proposed activity does not fall within the jurisdictional limits of a Navigable Water of the United States as defined by Section 10 or within the jurisdictional limits of a Water of the United States as defined by Section 404; and as such, a Department of Army permit will not be required.

We acknowledge your recommendation regarding use of Best Management Practices (BMPs). BMPs recommended by the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, the State of Hawaii Department of Land and Natural Resources, the State of Hawaii Division of Aquatic Resources, and other sources as applicable, will be implemented in order to avoid and minimize adverse impacts to aquatic resources and to ensure compliance with Federal, State, and local regulations.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

Subject: FW: Receipt of Honolua Bridge EA

From: Stuart Goldberg - NOAA Affiliate
Sent: Monday, September 11, 2017 10:42:39 AM (UTC-10:00) Hawaii
To: Ito, Kevin
Cc: Colleen Suyama; Ian Lundgren - NOAA Affiliate
Subject: Receipt of Honolua Bridge EA

Hi Kevin,

NMFS Habitat Conservation Division (HCD) has received the Draft EA for the Honolua Bridge repair project. NMFS thanks you for incorporating our pre-consultation recommendations to minimize adverse effects to Essential Fish Habitat in Honolua Bay, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

NMFS HCD looks forward to receiving the EFH Assessment at a future date. **Please send a digital version of the EFH Assessment to: EFHESAconsult@noaa.gov**. In the future, please send a digital copy of all EA's and EFH Assessments to the email address, as well. Please send the hard copy to:

Mike Tosatto, Regional Administrator
NOAA Fisheries
Pacific Islands Regional Office
1845 Wasp Blvd.
Honolulu, HI 96818

Lastly, can you let me know when to expect the EFH Assessment, and also confirm that HI-DOT has been designated as federal representative for this project by FHWA?

Thanks,
Stu
--
Stuart Goldberg, PhD
Natural Scientist IV
Contractor - Lynker Technologies

Habitat Conservation Division
NOAA Fisheries, Pacific Islands Regional Office
Inouye Regional Center
1845 Wasp Blvd.
Honolulu, HI 96818
808-725-5093

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7359

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

June 12, 2018

Mr. Michael Tosatta, Regional Administrator
NOAA Fisheries
Pacific Islands Regional Office
1845 Wasp Boulevard
Honolulu, Hawaii 96818

Dear Mr. Tosatta:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

The State of Hawaii, Department of Transportation (HDOT) has received an email correspondence from your office, dated September 11, 2017, in response to our request for comments on the Draft EA for the Honolua Bridge Rehabilitation project. Thank you for your review and comments.

HDOT acknowledges that the proposed project will require compliance with the Magnuson-Stevens Fishery Conservation and Management Act. HDOT in conjunction with the Federal Highway Administration will coordinate compliance with your office.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

SEP 0 8 2017

DAVID Y. IGE
GOVERNOR

RODERICK K. BECKER
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

SEP - 6 2017

(P)1298.7

MEMORANDUM

TO: Mr. Kevin Ito, Engineer
Department of Transportation

FROM: Roderick K. Becker
Comptroller

SUBJECT: Draft Environmental Assessment for the Honoapiilani Highway Rehabilitation of Honolua Bridge at Honoapiilani Highway Right-of-Way
TMK: (2) 4-1-001:010 (por.) and (2) 4-2-004:032 (por.)
Honolua, Maui, Hawaii (Federal-Aid Project No. BR-030-1 (37))

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services projects or existing facilities in this area, and we have no comments to offer at this time.

If you have any questions, your staff may contact Mr. Kimo Marion of the Public Works Division at 586-0491.

c: ✓Ms. Coleen Suyama, Senior Associate, Munekiyo Hiraga
Mr. Wade Shimabukuro, DAGS-MDO

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
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DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7335

May 25, 2018

TO: THE HONORABLE RODERICK BECKER, COMPTROLLER
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

FROM: JADE T. BUTAY
DIRECTOR OF TRANSPORTATION

Subject: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
HONOAPIILANI HIGHWAY
REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)

We thank you for your memorandum of September 6, 2017, responding to our request for comments on the Draft EA for the proposed project. We acknowledge your determination that the project does not impact any Department of Accounting and General Services (DAGS) projects or existing facilities, and note that DAGS has no comments to offer at this time.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

KKI: km

bc: HWY-DS

SEP 15 2017

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

EPO 17-207

September 8, 2017

Ms. Colleen Suyama
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793
Email: planning@munekiyohiraga.com

Dear Ms. Suyama:

SUBJECT: Draft Environmental Assessment (DEA) for Rehabilitation of Honolua Bridge, Lahaina, Maui
TMK: (2)4-1-001 :010 (por), and (2)4-2-004:032 (por)

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office via the OEQC link:
http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2017-08-23-MA-DEA-Honolua-Bridge-Rehabilitation.pdf

We understand from the OEQC publication form project summary that *"The State of Hawaii, Department of Transportation proposes to rehabilitate Honolua Bridge, located along Honoapiilani Highway, between milepost 32.40 and 32.51 on the northwestern coast of Maui. Rehabilitation of the existing one-lane bridge will be designed to meet and exceed the National Bridge Inventory (NBI) sufficiency rating of 50 and/or meet current State and Federal standards. The rehabilitation of the bridge will consist of the structure remaining 18-feet wide and improved with one 12-foot wide travel lane and one 5-foot wide shoulder for pedestrian and bike travel on the makai side and a 1-foot wide shoulder on the mauka side."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

We advocate that you consider health from a broad perspective; one that accounts for the social, economic, and environmental determinants of health and wellbeing. Community well-being can be impacted by access to physical activity, health care, feelings of social connectedness and safety. Design solutions that take these factors into consideration positively contribute to the social determinants of health in a community, improving the well-being of those who live there by influencing health promoting behaviors. Social determinants contribute to preventable chronic diseases such as asthma, diabetes, obesity, and cardiovascular disease.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: http://health.hawaii.gov/epo/landuse. Projects are required to adhere to all applicable standard comments. EPO has an updated environmental Geographic Information System (GIS) website page http://health.hawaii.gov/epo/egis It compiles various maps and viewers from our environmental health programs.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: http://health.hawaii.gov/cwb. If you have any questions, please contact the Clean Water Branch (CWB), Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

Injection wells used for the subsurface disposal of wastewater, sewage effluent, or surface runoff are subject to environmental regulation and permitting (HAR, Chapter 11-23, "Underground Injection Control {UIC}"). DOH approval must be obtained before any injection well construction commences. A UIC permit must be issued before any injection well operation occurs. For specific questions please email sdwb@doh.hawaii.gov or call (808) 586-4258.

Please note that all wastewater plans must conform to applicable provisions (HAR, Chapter 11-62, "Wastewater Systems"). We reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please review online guidance at: http://health.hawaii.gov/wastewater and contact the Planning and Design Section of the Wastewater Branch (WWB) at (808) 586-4294.

If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements for a Clean Air Branch (CAB) permit (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: Cab.General@doh.hawaii.gov or call (808) 586-4200.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf Additional information is accessible at: http://health.hawaii.gov/shwb. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: http://health.hawaii.gov/irhb/noise EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: https://eha-cloud.doh.hawaii.gov. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

An example of social influences include access to safe pedestrian corridors such as pathways, sidewalks, bike lanes, greenways and open space. §11-200-17(h), HAR, says EISs must discuss how proposed actions may conform or conflict with any policies for the affected area. This includes Hawaii's 2009 Complete Streets law, which requires the state and counties to establish policies to accommodate all users of the road, no matter age, ability, or mode of transportation.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: http://www.epa.gov/ejscreen.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

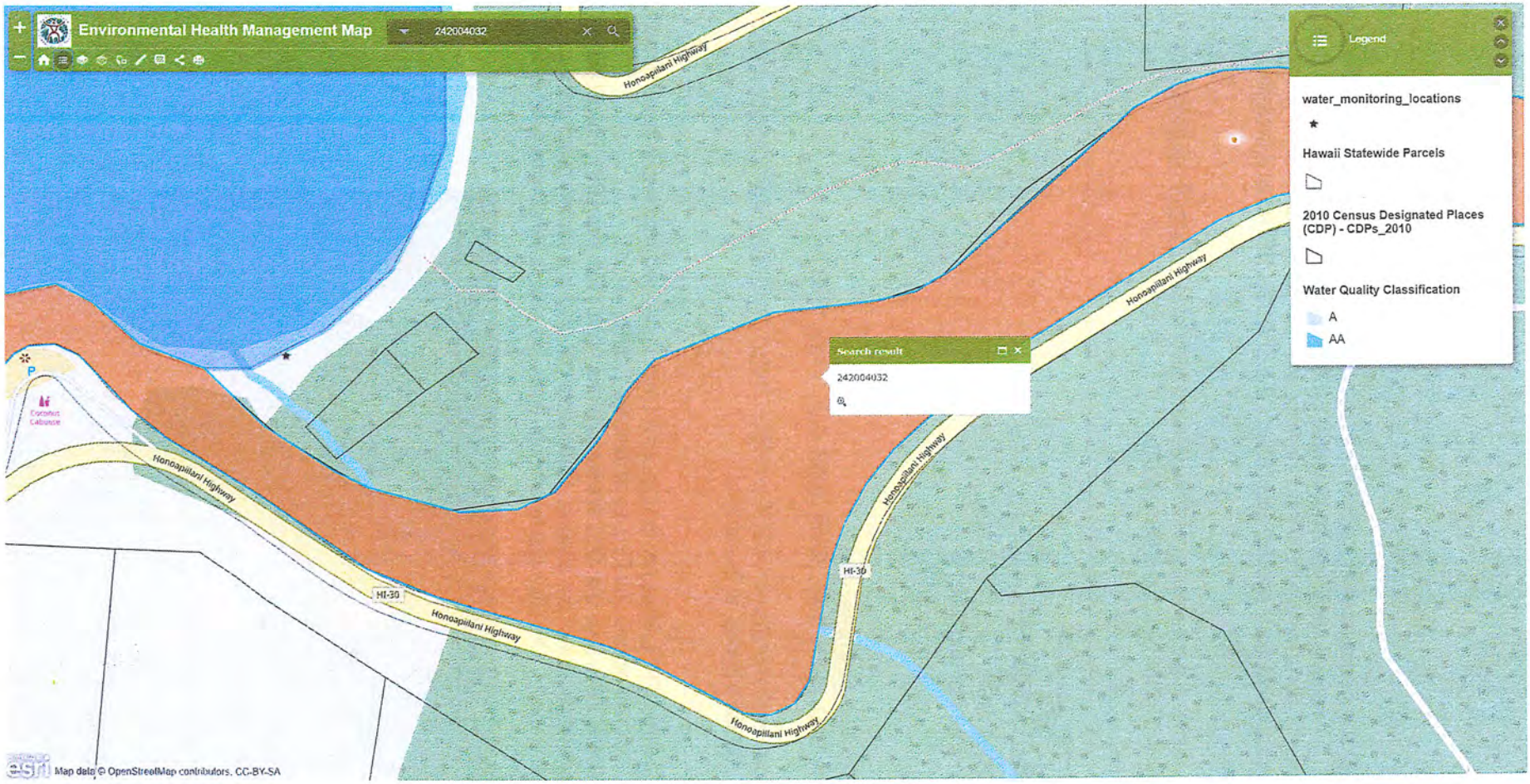
LM:nn

c: Kevin Ito, DOT (via email: Kevin.Ito@hawaii.gov)
DOH: DHO Maui, DDEH, EMD, HEER, CWB, SDWB, WWB, CAB, SHWB, IRHB }

Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis
Attachment 2: U.S. EPA EJSCREEN Report for Project Area

Please be advised:
The Environmental Planning Office (EPO), along with the Clean Air, Clean Water, and Wastewater Branches will be moving in December 2017. The new address, for EPO, **as of January 1, 2018**, will be :
Environmental Planning Office, DOH, Hale Ola, 2827 Waimano Home Road #109, Pearl City, Hawaii 96782
Please feel free to come and visit our new offices anytime. Please note that there is a security guard at the bottom of the hill (before entering DOH property). Our office phone numbers, email and website will all remain the same.

Attachment 1: Environmental Health Management Web App Snipit of Project Area: http://health.hawaii.gov/epo/egis



Attachment 2: U.S. EPA EJSCREEN Report for Project Area

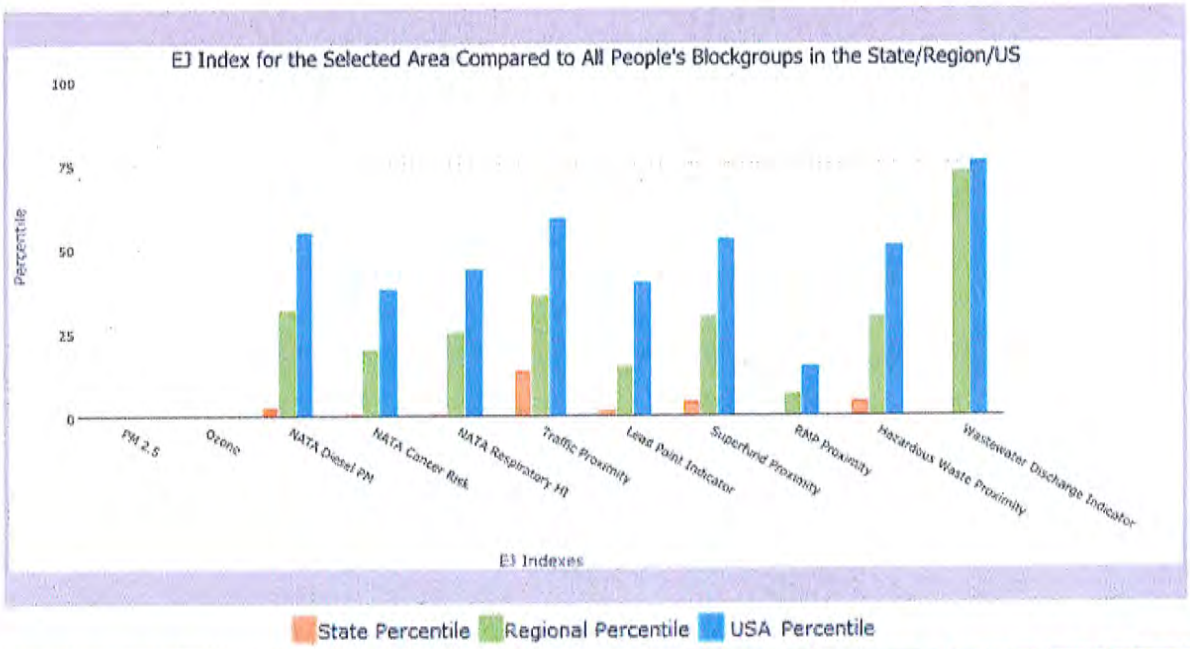
EJSCREEN Report (Version 2017)

1 mile Ring Centered at 21.014293,-156.633684, HAWAII, EPA Region 9

Approximate Population: 43

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	3	32	55
EJ Index for NATA* Air Toxics Cancer Risk	1	20	38
EJ Index for NATA* Respiratory Hazard Index	1	25	44
EJ Index for Traffic Proximity and Volume	14	36	59
EJ Index for Lead Paint Indicator	2	15	40
EJ Index for Superfund Proximity	5	30	53
EJ Index for RMP Proximity	0	7	15
EJ Index for Hazardous Waste Proximity	5	30	51
EJ Index for Wastewater Discharge Indicator	N/A	73	76



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 21.014293,-156.633684, HAWAII, EPA Region 9

Approximate Population: 43

Input Area (sq. miles): 3.14

September 7, 2017

Digitized Point

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 21.014293,-156.633684, HAWAII, EPA Region 9

Approximate Population: 43

Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM (µg/m³)	0.0479	0.149	29	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	26	34	17	43	<50th	40	<50th
NATA* Respiratory Hazard Index	0.68	1	29	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	0	1000	4	1100	2	590	2
Lead Paint Indicator (% Pre-1960 Housing)	0.055	0.16	38	0.24	37	0.29	27
Superfund Proximity (site count/km distance)	0.0069	0.1	28	0.15	6	0.13	1
RMP Proximity (facility count/km distance)	0.59	0.39	83	0.98	55	0.73	64
Hazardous Waste Proximity (facility count/km distance)	0.0072	0.1	28	0.12	3	0.093	3
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0	0.04	N/A	13	59	30	40
Demographic Indicators							
Demographic Index	18%	51%	0	47%	9	36%	26
Minority Population	31%	77%	1	59%	20	38%	52
Low Income Population	6%	26%	6	36%	5	34%	5
Linguistically Isolated Population	0%	6%	22	9%	19	5%	44
Population With Less Than High School Education	8%	9%	59	17%	37	13%	42
Population Under 5 years of age	12%	6%	90	7%	89	6%	90
Population over 64 years of age	10%	16%	22	13%	42	14%	32

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7360

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

June 12, 2018

TO: LAURA MCINTYRE, PROGRAM MANAGER
ENVIRONMENTAL PLANNING OFFICE

FROM: JADE T. BUTAY for
DIRECTOR OF TRANSPORTATION

Subject: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR
HONOAPIILANI HIGHWAY
REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)

Thank you for your letter dated September 8, 2017, responding to our request for comments on the Draft EA for the proposed project. As recommended, The Hawaii Department of Transportation (HDOT) will review the standard comments and available strategies to support sustainable and healthy design located on your website. The project will adhere to standard comments, as applicable, and information and tools provided on the Hawaii Environmental Health Portal website will be reviewed and utilized, as applicable.

In addition, HDOT will review the updated environmental Geographic Information Systems webpage, which contains maps and viewers from the various environmental health programs.

We will review the requirements for the National Pollutant Discharge Elimination System (NPDES) permit. The Clean Water Branch will be contacted for guidance in addressing applicable NPDES requirements. It is noted that the project will not involve work within waters of the United States.

We acknowledge that Chapter 11-23 of the Hawaii Administrative Rules (HAR) applies to construction of injection wells. We note that the proposed project does not involve any injection wells.

We acknowledge that all wastewater plans must conform to applicable provisions of the HAR, Chapter 11-62, "Wastewater Systems". The proposed project does not involve wastewater systems.

We will review the requirements for a Clean Air Branch permit. As applicable, coordination will be undertaken with the Clean Air Branch and air pollution control measures will be implemented.

We will review the resources provided for minimization of construction and demolition waste, and any waste generated by the project will be disposed at a facility which complies with HAR, Chapter 11-58.1.

We acknowledge that the noise created during the construction phase of the project shall comply with HAR, Chapter 11-46, "Community Noise Control". As applicable, coordination will be undertaken with the Indoor & Radiologic Health Branch and, if required, a noise permit will be obtained prior to the commencement of work.

We note your comment that Hawaii's Complete Streets law requires the State and Counties to establish policies to accommodate all users of the road, no matter age, ability, or mode of transportation. The proposed bridge rehabilitation project will maintain the existing bridge as a single lane bridge with a shoulder for pedestrian and bike travel. A temporary construction detour route will be provided during construction to ensure that access across Honolua Stream is maintained.

We will utilize the information and tools provided in your letter as applicable to increase sustainable, innovative, inspirational, transparent, and healthy design.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

AUG 31 2017

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

08063PCTM.17

August 31, 2017

Mr. Kevin Ito
Engineer
Hawaii Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

SUBJECT: Comments on the Draft Environmental Assessment (EA) for the Honoapiilani Highway Rehabilitation of Honolua Bridge at Honoapiilani Highway Right-of-Way
Lahaina, Island of Maui, Hawaii
TMK: (2) 4-1-001:010(por.), and (2) 4-2-004:032(por.)

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated August 21, 2017, requesting comments on the subject project. The DOH-CWB has reviewed the document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. The State of Hawaii, Department of Transportation (Applicant) may be responsible for fulfilling additional requirements related to our program. We recommend that they also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. The Applicant may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

   For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application

for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, the Applicant must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee ($1,000 for an individual NPDES permit or $500 for a Notice of General Permit Coverage). The Applicant can open the e-Permitting Portal website located at: https://eha-cloud.doh.hawaii.gov/epermit/. They will be asked to do a one-time registration to obtain their login and password. After they register, they can click on the Application Finder tool and locate the appropriate form. They can then follow the instructions to complete and submit the form.

3. If the Applicant's project involves work in, over, or under waters of the United States, it is highly recommended that they contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches

necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g., minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Alec Wong

ALEC WONG, P.E., CHIEF
Clean Water Branch

c: DOH-EPO # 17-207 [via e-mail only]
Ms. Colleen Suyama, Munekiyo Hiraga
[via e-mail planning@munekiyohiraga.com only]

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7357

June 12, 2018

TO: ALEC WONG, CHIEF
CLEAN WATER BRANCH

FROM: JADE T. BUTAY for
DIRECTOR OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSEMENT (EA) FOR
HONOAPIILANI HIGHWAY
REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)

Thank you for your letter dated August 31, 2017, responding to our request for comments on the Draft EA for the proposed project.

We understand that review by the Clean Water Branch (CWB) is based solely on the information provided in the Draft EA and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. We further acknowledge that we may be responsible for fulfilling additional requirements related to the CWB program. The standard comments on the CWB website will be reviewed, and applicable comments will be adhered to.

We offer the following information in response to the comments listed in your letter:

1. We understand that any project with potential impacts to State waters must meet the criteria under the anti-degradation policy (HAR, Section 11-54-1.1), designated uses (HAR, Section 11-54-3), and water quality criteria (HAR, Sections 11-54-4 through 11-54-8). It is noted that the proposed project is not anticipated to impact on State waters.

2. Coordination will be undertaken with the CWB to obtain a National Pollutant Discharge Elimination System (NPDES) permit, as applicable.

3. Coordination was undertaken with the United States Army Corps of Engineers (USACE) regarding permitting requirements. The USACE has determined that the proposed project does not occur within the jurisdictional limits of a Navigable Water of the U.S. as defined by Section 10 of the Rivers and Harbors Act of 1899 or within the jurisdictional limits of a Water of the U.S. as defined by Section 404 of the Clean Water Act. Therefore, a Department of Army permit and Section 401 Water Quality Certification will not be required.

4. We acknowledge that all project construction or operation activity discharges must comply with the State's Water Quality Standards, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required. Furthermore, we understand that noncompliance may be subject to penalty.

5. We acknowledge the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. As such, we will review and take into consideration the CWB's project planning guidelines provided in your letter.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

SEP 05 2017

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, HAWAII 96793-3378

August 31, 2017

Mr. Kevin Ito
Engineer
State of Hawaii
Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

Subject: Draft Environmental Assessment for the Honoapiilani Highway Rehabilitation of Honolua Bridge at Honoapiilani Highway Right-of-Way, Honolua, Maui, Hawaii
TMK: (2) 4-1-001:010 (por.) and (2) 4-2-004:032 (por.)
[Federal-Aid Project No. BR-030-1 (37)]

Thank you for the opportunity to review this project. We have no comments to offer.

It is strongly recommended that the Standard Comments found at the Department's website: http://health.hawaii.gov/epo/home/landuse-planning-review-program/ be reviewed and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please contact me at 808 984-8230 or email me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

Patti Kitkowski

Patti Kitkowski
District Environmental Health Program Chief

c EPO
Munekiyo Hiraga

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7341

May 23, 2018

Ms. Patti Kitkowski
District Environmental Health Program Chief
Maui District Health Office, State of Hawaii
54 High Street
Wailuku, Hawaii 96793

Dear Ms. Kitkowski:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

We thank you for your letter of August 31, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document and your recommendation to review the Standard Comments provided on the Department of Health (DOH) website. We acknowledge that the DOH Maui has no comments to offer at this time.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

SEP 22 2017

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

September 22, 2017

State of Hawaii
Department of Transportation
Highways Division, Design Branch
Attention: Mr. Kevin Ito, Engineer
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

via email: kevin.ito@hawaii.gov

Dear Mr. Ito:

SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37)) Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032

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 the (a) Engineering Division, (b) Commission on Water Resource Management, (c) Office of Conservation & Coastal Lands, and (d) Land Division – Maui District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files
Munekiyo & Hiraga, Inc. (w/copy)
Attn: Ms. Colleen Suyama, Senior Associate (via email: colleen@mhplanning.com)

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
2017 SEP 14 P12:41
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

September 8, 2017

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37))
LOCATION: Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032
APPLICANT: Munekiyo Hiraga on behalf of Hawaii Department of Transportation

'17 SEP 08 PM 12:07 ENGINEERING

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments on this project which can be found at:

1. https://hawaiioimt.sharepoint.com/sites/dlnr-ld (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a password)
4. Click on: Request for Comments, then click on the subject link. Please contact Quoc Le at (808) 587-0423 or quoc.le@hawaii.gov if there are any issues accessing the document.

Please submit any comments by **September 20, 2017**. 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

( ) We have no objections.
(✔) We have no additional comments.
( ) Comments are attached.

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 9/12/17

cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
COMMISSION ON WATER
RESOURCE MANAGEMENT

2017 SEP 11 AM 10: 06

RECEIVED
LAND DIVISION
2017 SEP 20 PM 3:21
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2017

MEMORANDUM

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

'17 SEP 08 PM 12:07 ENGINEERING

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37))
LOCATION: Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032
APPLICANT: Munekiyo Hiraga on behalf of Hawaii Department of Transportation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments on this project which can be found at:

1. https://hawaiioimt.sharepoint.com/sites/dlnr-ld (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a password)
4. Click on: Request for Comments, then click on the subject link. Please contact Quoc Le at (808) 587-0423 or quoc.le@hawaii.gov if there are any issues accessing the document.

Please submit any comments by **September 20, 2017**. 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

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

Signed: /s/ Jeffrey T. Pearson, P.E.

Print Name: Deputy Director

Date: September 20, 2017

cc: Central Files

RFD. 2830.6 230
17728

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

September 20, 2017

REF: RFD.2830.6

TO: Mr. Russell Tsuji, Administrator
Land Division

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

SUBJECT: Draft Environmental Assessment for the Honoapiilani Highway Rehabilitation of Honolua Bridge (Federal-Aid Project No. BR-030-1 (37))

FILE NO.: RFD.2830.6
TMK NO.: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032

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://planning.hawaii.gov/czm/initiatives/low-impact-development/

☐ 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.

☒ 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.

MA-18 4'8

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS
2017 SEP -8 A 11:06

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

September 8, 2017

MEMORANDUM

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

RECEIVED
LAND DIVISION
2017 SEP 20 A 8:

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37))
LOCATION: Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032
APPLICANT: Munekiyo Hiraga on behalf of Hawaii Department of Transportation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments on this project which can be found at:

1. https://hawaiioimt.sharepoint.com/sites/dlnr-ld (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a password)
4. Click on: Request for Comments, then click on the subject link. Please contact Quoc Le at (808) 587-0423 or quoc.le@hawaii.gov if there are any issues accessing the document.

Please submit any comments by **September 20, 2017.** 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

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

Signed: K. Tiger Mills
Print Name: K. Tiger Mills
Date: 9/19/2017

cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

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

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:TM

Correspondence: MA 18-48

SEP 19 2017

MEMORANDUM

TO: Russ Tsuji, Administrator
Land Division

FROM: Sam Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Draft Environmental Assessment (EA) for the Honoapi'ilani Highway, Rehabilitation of the Honolua Bridge Located at Honolua, Lahaina, Maui, TMKs: (2) 4-1-001:010 and 4-2-004:032

The Office of Conservation and Coastal Lands has reviewed the subject document. According to the information provided, the Department of Transportation (DOT) is proposing to rehabilitate the Honolua Bridge to meet current State and Federal standards. The bridge will remain 18-feet wide with proposed improvements to include a 12-foot travel lane and a 5-foot pedestrian and bike travel on the makai side and a 1-ft wide shoulder on the mauka side.

According to Figure 4 of the draft EA, a temporary traffic detour road and temporary 85-foot bridge will be constructed on the makai side of the highway right-of-way to allow the road to remain open during construction. The surface of the temporary detour road will be compacted soil, gravel or asphaltic concrete and the temporary bridge will be designed to maintain the hydraulic capacity of the gulch and follow current DOT storm water management Best Management Practices.

The proposed improvements outside of and makai of the highway right-of-way, lies within the Conservation District Resource subzone. As previously stated, the temporary detour road, temporary bridge and other proposed land uses within the Conservation District will require the filing of a Conservation District Use Application (CDUA) pursuant to the Hawai'i Administrative Rules, §13-5-22 P-6 PUBLIC PURPOSE USES, (D-1) Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems and other utilities, energy generation from renewable

sources, communication systems, flood or erosion control projects, recreational facilities, community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district. To allow, modify or deny the use would be at the discretion of the Board of Land and Natural Resources. Therefore the proposed improvements within the Conservation District require a Board permit.

Upon completion of the challenge period of the final EA, the CDUA may be submitted to the OCCL for processing. Should there be any questions regarding this memorandum, contact Tiger Mills of our Office at (808) 587-0382.

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
LAND DIVISION
2017 SEP 19 AM 11:07
DEPT. OF NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2017

RECEIVED
2017 SEP 12 AM 8:28
LAND DIVISION
MAUI DISTRICT

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37))
LOCATION: Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032
APPLICANT: Munekiyo Hiraga on behalf of Hawaii Department of Transportation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments on this project which can be found at:

1. https://hawaiioimt.sharepoint.com/sites/dlnr-ld (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a password)
4. Click on: Request for Comments, then click on the subject link. Please contact Quoc Le at (808) 587-0423 or quoc.le@hawaii.gov if there are any issues accessing the document.

Please submit any comments by **September 20, 2017.** 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

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

Signed: [signature]
Print Name: David Omellas
Date: 9/15/17

cc: Central Files

SEP 26 2017

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

September 26, 2017

State of Hawaii
Department of Transportation
Highways Division, Design Branch
Attention: Mr. Kevin Ito, Engineer
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

via email: kevin.ito@hawaii.gov

Dear Mr. Ito:

SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37)) Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on September 22, 2017, enclosed are comments from the Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files
Munekiyo & Hiraga Inc. (w/copy)
Attn: Ms. Colleen Suyama (via email: colleen@mhplanning.com)
Senior Associate

>604

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
SEP -8 2017
Division of Aquatic Resources
DAR 5607

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2017

MEMORANDUM

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

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment for the **Honoapi'ilani Highway Rehabilitation of Honolua Bridge** (Federal-Aid Project No. BR-030-1 (37))
LOCATION: Honolua, Lahaina, Island of Maui; TMK: (2) 4-1-001:por. 010 & (2) 4-2-004:por. 032
APPLICANT: Munekiyo Hiraga on behalf of Hawaii Department of Transportation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments on this project which can be found at:

1. https://hawaiioimt.sharepoint.com/sites/dlnr-ld (using the Chrome browser)
2. Username: your Hawaii.gov email address
3. Password: outlook password (if you do not know it, please contact IT by email to reset and get a password)
4. Click on: Request for Comments, then click on the subject link. Please contact Quoc Le at (808) 587-0423 or quoc.le@hawaii.gov if there are any issues accessing the document.

Please submit any comments by **September 20, 2017**. 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

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

Signed: for

Print Name: Bruce S. Anderson, Ph.D., DAR Administrator

Date: 9/22/17

cc: Central Files

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

Date: 9/22/17
DAR #5607

MEMORANDUM

TO: Bruce S. Anderson, PhD
DAR Administrator

FROM: Skippy Hau, Aquatic Biologist

SUBJECT: Draft Environmental Assessment Honoapi'ilani Highway Rehabilitation of Honolua Bridge (Federal Aid Project No. BR-030-1(37)

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: Honolua, Lahaina, Island of Maui; TMK:(2) 4-1-001:por. 010 & (2) 4-2-00

Brief Description of Project:

The rehabilitation of the existing bridge will consist of the structure remaining 18-feet wide and improved with one 12-feet wide travel lane and one 5-feet wide shoulder for pedestrian and bike travel on the Makai (ocean) side and a 1-foot wide shoulder on the mauka (mountain) side and bike rails on the bridge railing. The current guardrail and end treatment connections will be upgraded. Signage and striping will be required and shall comply with State Department of Transportation Standards. A temporary traffic detour road and temporary bridge will be constructed on the makai (ocean side of the highway to allow the road to remain open during construction.

Comments:
☒ No Comments ☐ Comments Attached

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

Comments Approved: for Date: 9/22/17
Bruce S. Anderson, PhD
DAR Administrator

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7350

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

June 12, 2018

TO: RUSSELL Y. TSUJI, LAND ADMINISTRATOR
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: JADE T. BUTAY
DIRECTOR OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSEMENT (EA) FOR
HONOAPIILANI HIGHWAY
REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)

Thank you for your letter dated September 22, 2017, providing comments from the Engineering Division, Commission on Water Resource Management, Office of Conservation and Coastal Lands, and Land Division Maui District and your letter dated September 26, 2017, providing comments from the Division of Aquatic Resources on the Draft EA for the proposed project.

We offer the following responses to the comments provided in these letters:

September 22, 2017 Letter:

1. Response to Engineering Division: We note that the Engineering Division has no additional comments on the proposed project at this time.

2. Response to Commission on Water Resource Management: We note the Commission on Water Resource Management's comment that a Stream Channel Alteration Permit (SCAP) is required before any alteration can be made to the bed and/or banks of a stream channel. The proposed rehabilitation actions to Honolua Bridge will utilize the existing abutments and no alterations to the stream channel will be done. It is not anticipated that a SCAP will be required for the proposed project.

3. Response to Office of Conservation and Coastal Lands (OCCL): We acknowledge OCCL's comments that (a) the proposed improvements outside of and makai of the highway right-of-way, related to the temporary detour road and temporary bridge, lie within the Conservation District Resource subzone; and (b) that a Conservation District Use Application (CDUA) will be required, pursuant to the Hawaii Administrative Rules, Chapter 13-5-22 P-6 (Public Purpose Uses, D-1). A CDUA will be submitted to OCCL following publication of the Final EA and completion of the challenge period for the same.

4. Response to Land Division Maui District: We note that Land Division Maui District has no objections to the proposed project.

September 26, 2017 Letter:

1. Response to Division of Aquatic Resources (DAR): We note that DAR has no comments on the proposed project at this time.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

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

September 7, 2017

TO: Kevin Ito, Engineer

FROM: James Cogswell, Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: Division of Forestry and Wildlife Comments on Draft Environmental Assessment for Honoapi'ilani Highway Rehabilitation of Honolua Bridge

The Division of Forestry and Wildlife has received your inquiry regarding the Draft Environmental Assessment for the Honoapi'ilani Highway Rehabilitation of Honolua Bridge project located at Honoapi'ilani Right-of-way, TMKs (2) 4-1-001:010, and (2) 4-2-004:032. The proposed rehabilitation of the existing bridge would consist of a new bridge deck, railings, and the delineation of a 12-feet wide travel lane and a 5-feet wide shoulder for pedestrian and bike travel. The bridge width will remain 18 feet, and the current guardrail and end treatment connections would be upgraded. The project will include construction of a traffic detour road and temporary bridge spanning Honolua Stream on the makai (ocean) side of the highway right-of-way to allow the road to remain open during the bridge rehabilitation. Once construction is completed, the temporary detour route and bridge would be removed and the area restored to its original condition, as much as possible. No work will occur below the existing bridge abutments and within the stream bank.

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

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

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

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7354

June 12, 2018

TO: JAMES COGSWELL, WILDLIFE PROGRAM MANAGER
DIVISION OF FORESTRY AND WILDLIFE
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: JADE T. BUTAY
DIRECTOR OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSEMENT (EA) FOR
HONOAPIILANI HIGHWAY
REHABILITATION OF HONOLUA BRIDGE
FEDERAL-AID PROJECT NO. BR-030-1(37)

Thank you for your memorandum dated September 7, 2017, providing comments on the Draft EA for the subject project.

We note your comment that the Hawaiian hoary bat or ʻŌpeʻapeʻa (Lasiurus cinereus semotus) has the potential to occur in the vicinity of the project, and that during the bat breeding season tree removal activities can pose a danger to young Hawaiian hoary bats. To minimize the potential for impacts to this State and Federally listed species, any site clearing activities associated with the project will be scheduled to avoid disturbance to Hawaiian hoary bats, and no woody plants taller than 15 feet will be disturbed, removed or trimmed during the bat birthing and pup rearing season of June 1 through September 15.

Your recommendation regarding "seabird-friendly lighting" is also acknowledged. Work is anticipated to occur during daytime hours. If project lighting is required for the proposed work, we will take this recommendation into consideration. Thank you for offering the resource of technical assistance regarding development of "seabird-friendly lighting".

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

KKI: km bc: HWY-DS

OCT 0 3 2017

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-15760

September 29, 2017

To: Ford N. Fuchigami, Director
State of Hawaii, Department of Transportation

From: Leo R. Asuncion, Director
Office of Planning

Attention: Kevin Ito, Engineer
Highways Division, Design Branch

Subject: Draft Environmental Assessment for Honoapiilani Highway, Rehabilitation of Honolua Bridge Project, Federal-Aid Project No. BR-030-1(37), Honolua, Lahaina, Island of Maui

TMKs: (2) 4-1-001:010 (por.), and (2) 4-2-004:032 (por.); and Honoapiilani Highway Right-of-Way

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Honoapiilani Highway, rehabilitation of Honolua Bridge project, located in Lahaina, Maui. The Draft EA review material was transmitted to our office by letter dated August 21, 2017.

It is our understanding that the State Department of Transportation (HDOT) proposes to rehabilitate Honolua Bridge, located along Honoapiilani Highway, between milepost 32.40 and 32.51 on the northwestern coast of Maui. The rehabilitation of the existing bridge will consist of: the structure remaining 18-feet wide and improved with one 12-foot wide travel lane, one 5-foot wide shoulder for pedestrian and bike travel on the makai side, a one-foot wide shoulder on the mauka side, and bike rails on the bridge railing. The current guardrail and end treatment connections will be upgraded. Signage and striping will be required and shall comply with HDOT standards.

The Office of Planning (OP) has reviewed the transmitted Draft EA and has the following comments to offer:

1. OP acknowledges that the Draft EA provides an analysis on the following items that align with plans, policies and initiatives that fall under our jurisdiction:

   a. Hawaii State Planning Act, Hawaii Revised Statutes (HRS) Chapter 226: Section IV. A, pages 53-79 contains a comprehensive evaluation of the Hawaii State Planning

Act in tabular form. It includes an analysis of Parts I and III of the Hawaii State Planning Act.

b. Hawaii Coastal Zone Management (CZM) Program, HRS § 205A-2; Section IV. G, pages 91 - 99 contains an analysis of the objectives and policies of the Hawaii CZM program

   i. Water Quality Impacts on Aquatic Resources. Associated with HRS § 205A-2(4) Coastal Ecosystems and (10) Marine Resources; Section III. A. 7, pages 25-27 declares that best management practices (BMPs) recommended by federal agencies will be implemented during the construction phase along Honolua Stream to minimize the degradation of water quality and impacts to aquatic habitats.

   ii. Polluted Stormwater Runoff Control. Associated with HRS § 205A-2(4) Coastal Ecosystems; Section III. A. 8, pages 27-29 examines streams and wetlands and asserts that implementation of recommended BMPs and mitigative measures by federal and state agencies should minimize impacts on water quality during heavy rainfall and not result in significant impacts to Honolua Stream or Honolua Bay.

c. Special Management Area (SMA) Permitting: Section IV. H, pages 99-102 provides supporting information for the SMA permit and describes the procedures required within the Maui Planning Commission oversight of the project.

   Figure 15, page 92 illustrates the project in relation with the SMA boundaries for the County of Maui, and Section VII., page 107 lists an SMA permit as one of the permits needed for this project.

2. The following items require more evaluation:

   a. Coastal Zone Management Federal Consistency: Section III.A.8.b, page 28 declares that coordination with the U.S. Army Corps of Engineers is being undertaken to request a jurisdictional determination with respect to the applicability of the Department of the Army Permit.

      Furthermore, this project includes funding support from the Federal Highways Administration which initiates requirements for the CZM federal consistency review.

      Due to the possibility of a Department of the Army Permit and use of federal funding, this project may be subject to a federal consistency review by OP. Please contact our office on the policies and procedures for conducting a federal consistency review.

b. Hawaii State Planning Act, Part II - Planning Coordination and Implementation: Section IV.A, pages 53-79 contain a tabular evaluation of the Hawaii State Planning Act for Parts I and III. It did not include analysis on applicable State Functional or Strategic Plans. If there are any relevant State coordination or implementation activities related to this project, please include a discussion of these in the Final Environmental Assessment.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

c: ✓Colleen Suyama, Senior Associate, Munekiyo Hiraga

From: Nakagawa, John D <john.d.nakagawa@hawaii.gov>
Sent: Thursday, October 26, 2017 3:48 PM
To: Colleen Suyama
Subject: RE: CZM Federal Review

Colleen,

The FHWA funding for the Honolua Bridge Rehabilitation Project does not require a CZM federal consistency review. The project qualifies for the exemption category "repairs and improvements to existing bridges" that the CZM Program established for FHWA funding. In addition, the temporary detour bridge does not require CZM federal consistency review because the Army Corps of Engineers has determined that the Department of the Army Permit is not required.

John Nakagawa
Hawaii Coastal Zone Management (CZM) Program
Email: john.d.nakagawa@hawaii.gov
Phone: (808) 587-2878

From: Colleen Suyama [mailto:Colleen@munekiyohiraga.com]
Sent: Thursday, October 26, 2017 3:28 PM
To: Nakagawa, John D
Cc: Mark Roy ; Gwendolyn Rivera
Subject: CZM Federal Review

Hi John

It was nice speaking with you yesterday.

As a follow-up, our office would appreciate confirmation that the Honolua Bridge Rehabilitation Project qualifies as an exclusion from CZM federal review. We understand it would quality under "repair and improvements to existing bridges, including seismic retrofitting of bridges". As discussed, the existing bridge, which is 18 ft. wide will not be widened and no work will occur within Honolua Stream. As such the Dept. of Army (DA) has determined no permit is required. See attached letter from DA.

Further, we would appreciate confirmation that the temporary detour road and bridge is also included in the highway exclusions. My understanding is the temp. metal bridge would be trucked in fully assembled and placed across the stream banks and will not require any work within the stream. Once construction is completed on Honolua Bridge the temp bridge would be removed and the area restored back to its original condition, as possible. Construction is expected to take 4 months.

OP was one of the agencies sent the Draft EA for review and comment. Attached for your information from the Draft EA is a copy of the project description and the location map for your use.

Thank you for your help.

Colleen

EXHIBIT A

Colleen Suyama, Senior Associate
Email: colleen@munekiyohiraga.com

Maui: 305 High Street, Suite 104, Wailuku, Hawaii 96793 **T:** 808.244.2015 **F:** 808.244.8729
Oahu: 735 Bishop Street, Suite 321, Honolulu, Hawaii 96813 **T:** 808.983.1233
Planning. Project Management. Sustainable Solutions. www.munekiyohiraga.com

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.6278

May 9, 2018

TO: LEO R. ASUNCION, DIRECTOR
OFFICE OF PLANNING

FROM: JADE T. BUTAY
DIRECTOR OF TRANSPORTATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPIILANI FEDERAL-AID PROJECT NO. BR-030-1(37)

Thank you for your letter dated September 29, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your department's review of the document. We offer the following information, which addresses your comments in the order listed in your letter:

1. We note the Draft EA provide analyses regarding the Hawaii State Planning Act, Hawaii Revised Statutes (HRS) Chapter 226; the Hawaii Coastal Zone Management Program, HRS Chapter 205 A-2; and Special Management Area permitting.
2. Coastal Zone Management Federal Consistency:
   Following publication of the Draft EA, further consultation has been undertaken with the U.S. Army Corps of Engineers (USACE). USACE's review of the project determined that the proposed action does not occur within the jurisdictional limits of a Navigable Water of the U.S. with respect to Section 404 of the Clean Water Act, and as such, a Department of the Army Permit is not required. In subsequent consultation with the Office of Planning, Hawaii Coastal Zone (CZM) Program, it was determined that the Federal Highways Administration funding for the proposed project does not require a CZM federal consistency review. See Exhibit "A". These updates are discussed in the Final EA.
3. Hawaii State Planning Act, Part II
   In response to your comments, the Final EA includes a section on the State Functional or Strategic Plans. The Conservation Lands State Functional Plan (1991) and Transportation State Functional Plan (1991) are applicable to the proposed project.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Enclosure

KKI: km

bc: HWY-DS

From: Nakagawa, John D <john.d.nakagawa@hawaii.gov>
Sent: Thursday, October 26, 2017 3:48 PM
To: Colleen Suyama
Subject: RE: CZM Federal Review

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John Nakagawa
Hawaii Coastal Zone Management (CZM) Program
Email: john.d.nakagawa@hawaii.gov
Phone: (808) 587-2878

From: Colleen Suyama [mailto:Colleen@munekiyohiraga.com]
Sent: Thursday, October 26, 2017 3:28 PM
To: Nakagawa, John D
Cc: Mark Roy ; Gwendolyn Rivera
Subject: CZM Federal Review

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Further, we would appreciate confirmation that the temporary detour road and bridge is also included in the highway exclusions. My understanding is the temp. metal bridge would be trucked in fully assembled and placed across the stream banks and will not require any work within the stream. Once construction is completed on Honolua Bridge the temp bridge would be removed and the area restored back to its original condition, as possible. Construction is expected to take 4 months.

OP was one of the agencies sent the Draft EA for review and comment. Attached for your information from the Draft EA is a copy of the project description and the location map for your use.

Thank you for your help.

Colleen

EXHIBIT A

ALAN M. ARAKAWA
Mayor

KA'ALA BUENCONSEJO
Director

BRIANNE L. SAVAGE
Deputy Director

SEP 05 2017

(808) 270-7230
FAX (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

August 28, 2017

Mr. Kevin Ito, Engineer
State of Hawaii
Department of Transportation
601 Kamokila Blvd, Room 688
Kapolei, HI 96707

Dear Mr. Ito:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE HONOAPI`ILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPI`ILANI HIGHWAY RIGHT-OF-WAY, TAX MAP KEY (2) 4-1-001:010 (POR), AND (2) 4-2-004:032 (POR.), HONOLUA, MAUI, HAWAII (FEDERAL-AID PROJECT NO. BR-030-1 (37))

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Honoapi`ilani Highway Rehabilitation of Honolua Bridge at Honoapi`ilani Highway Right-of-Way. The Department of Parks and Recreation has no comments on the proposed action at this time. Please provide a copy of the final Environmental Assessment.

Feel free to contact me, or Robert Halvorson, Chief of Planning and Development, at 270-7387 or Robert.Halvorson@co.maui.hi.us, should you have any questions.

Sincerely,

KA`ALA BUENCONSJO
Director of Parks & Recreation

c: Robert Halvorson, Chief
Coleen Suyama, Munekiyo Hiraga

KB:RH:do

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7336

May 23, 2018

Mr. Kaala Buenconsejo, Director
Department of Parks and Recreation
County of Maui
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

Dear Mr. Buenconsejo:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

We thank you for your letter of August 28, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document and acknowledge that the Department of Parks and Recreation has no comments to offer on the project.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director

SEP 19 2017

COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 18, 2017

Mr. Kevin Ito, Engineer
Hawaii Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

SUBJECT: REQUEST FOR COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR THE PROPOSED HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE, MAUI, HAWAII; WITHIN HONOAPIILANI HIGHWAY RIGHT-OF-WAY AND ADJACENT TO TMK: (2) 4-1-001:010 (POR.), AND (2) 4-2-004:032 (POR.) (FEDERAL AID PROJECT NO. BR-030-1 (37)) (EAC 2017/0007)

The Department of Planning (Department) is in receipt of your subject request. The Department is very familiar with the site location and environmental setting. On February 28, 2011, and March 28, 2011, the Department transmitted to you early consultation comments regarding the subject DEA. Thank you for addressing the Department's comments in the DEA. From review of the project and from familiarity of the site, the Department understands that the project is a major undertaking in an environmentally sensitive area in the Maui Special Management Area (SMA). The Department understands that you are the accepting authority for this DEA.

From review of the DEA, the Department provides you with the following comments:

1. The proposed project qualifies as a "development" under Section 205A, Hawaii Revised Statutes (HRS), the State's Coastal Zone Management law.

2. Following completion of the DEA process, please submit a SMA Use Permit application to the Department.

3. Please include in the Final DEA, as an appendix, a list of the Best Management Practices (BMPs) anticipated to be used during the project, including with respect to the temporary road and bridge.

4. Additional detail of the temporary bridge is required. The DEA shows a cross section and plan view of the temporary bridge, but does not provide any description of how the bridge is constructed or anchored.

ONE MAIN PLAZA BUILDING / 2200 MAIN STREET, SUITE 315 / WAILUKU, MAUI, HAWAII 96793
MAIN LINE (808) 270-7735 / FACSIMILE (808) 270-7634
CURRENT DIVISION (808) 270-8205 / LONG RANGE DIVISION (808) 270-7214 / ZONING DIVISION (808) 270-7253

5. The description of the project states, "The purpose of the project is to upgrade the Honolua Bridge to exceed the National Bridge Inventory (NBI) sufficiency rating of 50 and/or meet current State and Federal standards." A discussion of how and to what extent the rehabilitated bridge meets State and Federal standards, as well as the NBI sufficiency rating anticipated to be achieved by the project.

6. Please use terminology that is consistent with the State Department of Transportation's *State Historic Bridge Inventory & Evaluation* when describing components of the Honolua Bridge. "Bridge railings," for example, should be referred to as parapets.

7. The Proposed Action description on page 5 does not match the actions described in 13.b. on page 35. The Proposed Action does not mention that the bridge's concrete parapets will be replaced. It simply states that 1'10" bike rails will be placed on the 2'8" parapets. Please amend the document so that the proposed action description is consistent throughout.

8. The Proposed Action states that bike rails will be placed atop the parapets. Please include, for reference, an image or rendering of these bike rails.

9. What does pre-fabricated fiber-reinforced polymer look like? Please include, for reference, an image of another bridge that has employed this type of decking.

10. It is unclear, based on the description in 13.b. on page 35, what the replacement parapets will be constructed of. Will they be concrete to match the originals?

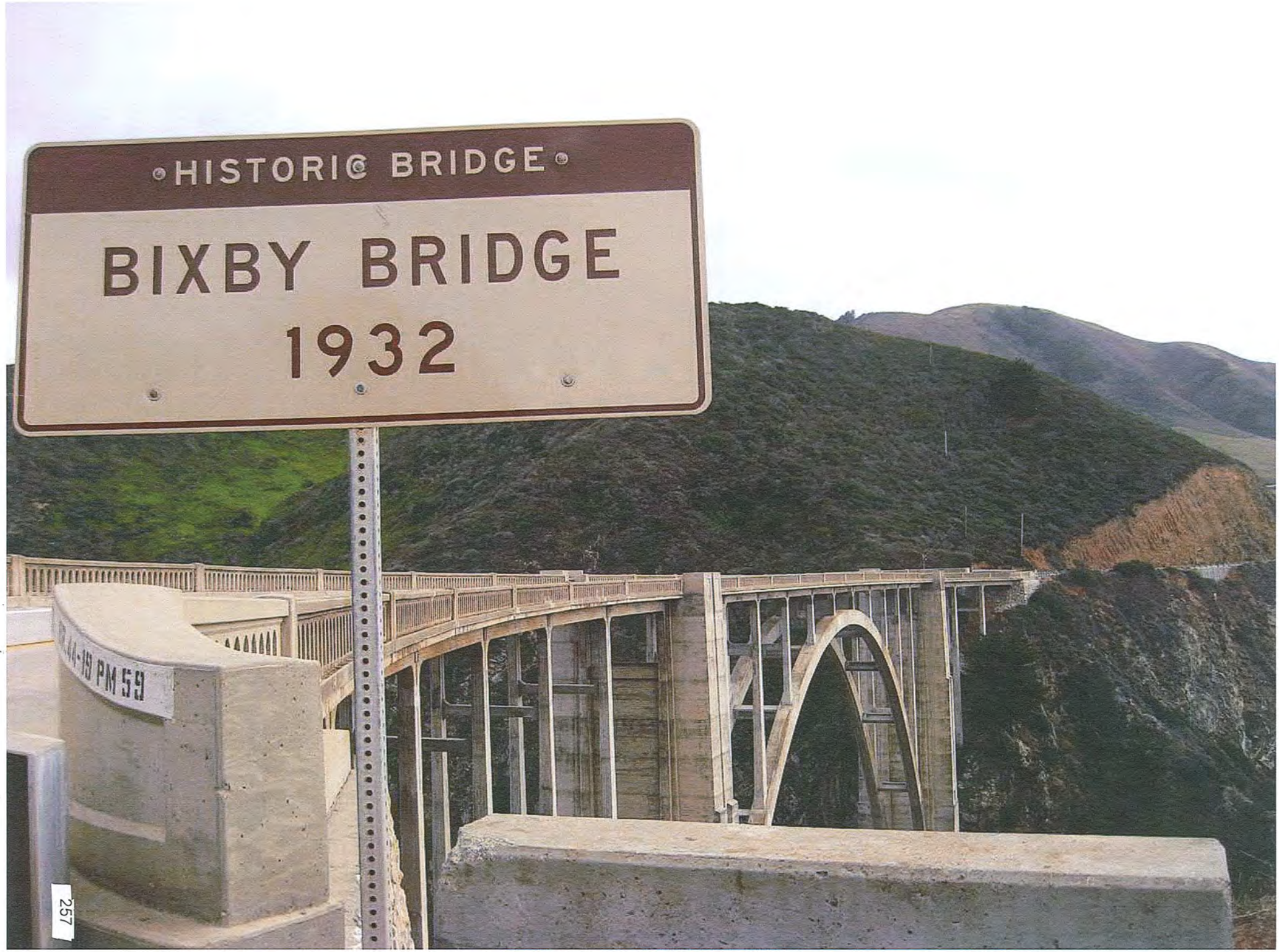
11. Please consider installing a historic bridge marker similar to the one attached.

Thank you for the opportunity to comment on this matter. If additional clarification is required, please contact Staff Planner Keith Scott by email at keith.scott@mauicounty.gov or by phone at (808) 463-3867.

Sincerely,

WILLIAM SPENCE
Planning Director

Attachment
xc: Clayton I. Yoshida, AICP, Planning Program Administrator (PDF)
Keith C. Scott, Staff Planner (PDF)
Annalise Kehler, Cultural Resource Planner (PDF)
Colleen Suyama, Munekiyo Hiraga
Project File
General File
WRS:CIY:KCS:ela
K:\WP_DOCS\PLANNING\EAC\2017\0007_HonoluaBridge_Rehab\CommentLtrDEAHonoluBridge.doc


HISTORIC BRIDGE
BIXBY BRIDGE
1932

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7351

June 12, 2018

Mr. William Spence, Director
Department of Planning
County of Maui
2200 Main Street, Suite 315
Wailuku, Hawaii 96793

Dear Mr. Spence:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated September 18, 2017, responding to our request for comments on the Draft EA for the proposed project. We offer the following information, which addresses your comments in the order listed in your letter.

1. We acknowledge your comment that the project qualifies as a "development" under Section 205A, Hawaii Revised Statutes (HRS).

2. We note that the portion of the project area makai of the roadway right-of-way is located within the Special Management Area (SMA). The existing roadway and bridge are not considered to be within the SMA. An appropriate SMA Permit Application will be submitted following publication of the Final EA.

3. A list of Best Management Practices for the project has been included as an Appendix in the Final EA.

4. Information on how the temporary prefabricated metal bridge is constructed and anchored has been included in the EA. The bridge is assembled onsite and attached to a temporary abutment to be constructed outside of Honolua Stream and its embankment as shown in the enclosed Exhibit "1".

5. The purpose of the project has been revised to clarify that the upgrade to the Honolua Bridge with a superstructure is to have a load capacity consistent with current design standards and parapets that are compliant with the American Association of State Highway Transportation Officials Manual for Assessing Safety Hardware. Also, the improvements include a shoulder that will improve safety for pedestrians and bicyclists.

6. Final EA terminology describing the bridge has been reviewed with respect to the State Department of Transportation's "State Historic Bridge Inventory and Evaluation" and revised, as applicable.

7. In the Final EA document, the description of the proposed action in the Project Overview (Chapter I) will be reviewed for consistency with Section 13.b and throughout the document, and revised as applicable.

8. The enclosed drawing of the bike rails has been included in the EA. Refer to Exhibit "2".

9. The enclosed in Exhibit 2 is a photograph of the pre-fabricated reinforced polymer used for another bridge has been included in the EA.

10. The replacement parapets will be constructed of concrete with a metal railing above.

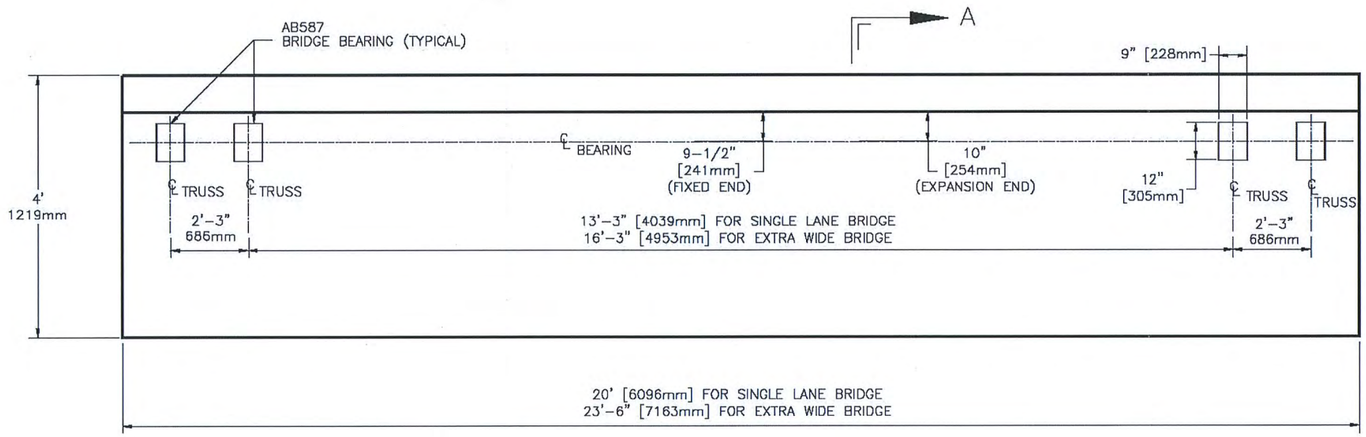
11. We do not plan to install a historic bridge marker. However, the historic appearance and features of the bridge have been preserved in the proposed design.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

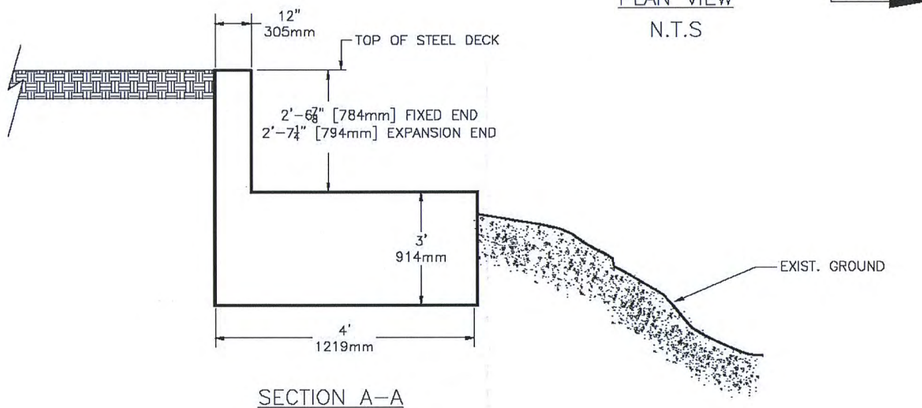
Sincerely,

for JADE T. BUTAY
Director of Transportation

Enclosures



PLAN VIEW
N.T.S



SECTION A–A

NOTE:

THIS IS A TYPICAL ABUTMENT. SOIL CONDITIONS MAY DICTATE CHANGES TO DIMENSIONS.

BACKWALL TO BE INSTALLED AFTER BRIDGE IS IN PLACE.

Temporary Bridge and Pedestrian Walkway

Anchor Detail

Source: ACROW Bridge

Honoapi‘ilani Highway Rehabilitation of Honolua Bridge
Temporary Bridge Construction

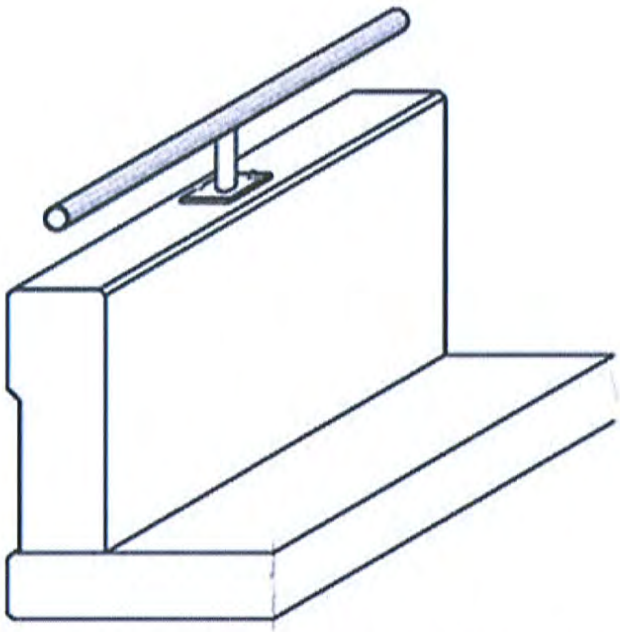
NOT TO SCALE

Prepared for: State of Hawai‘i, Department of Transportation

MUNEKIYO HIRAGA

ATA/HonoluaBridge/Final EA/Figures/TempBridgeConstru

EXHIBIT 1.



Example of bike rails on bridge parapets

Example of fiber-reinforced polymer bridge deck

Source: ACROW Bridge

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
Illustrative Representations of Bridge Elements

NOT TO SCALE

Prepared for: State of Hawai'i, Department of Transportation

MUNEKIYO HIRAGA

EXHIBIT 2.

ATA\HonoluaBridge\Final EA\Figures\BridgeElements

SEP 05 2017

POLICE DEPARTMENT

COUNTY OF MAUI

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

August 28, 2017

Mr. Kevin Ito
Engineer
State of Hawaii
Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

SUBJECT: Draft Environmental Assessment (EA) for the Honoapiilani Highway Rehabilitation of Honolua Bridge at Honoapiilani Highway Right-of-Way TMK (2) 4-1-001:010 (por.) & (2) 4-2-004:032 (por.), Honolua, Maui, Hawaii, (Federal-Aid Project No. BR-030-1 (37))

This is in response to Ms. Colleen Suyama of Munekiyo Hiraga letter dated August 21, 2017, requesting comments on the above subject.

Please refer to the enclosed copy of the to/from submitted by Officer Shane Yoshida of our Community Policing Office.

Thank you for giving us the opportunity to comment on this project.

Sincerely,

Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

Enclosure

c: Colleen Suyama, Munekiyo Hiraga

TO	:	**TIVOLI FAAUMU, CHIEF OF POLICE, MAUI POLICE DEPARTMENT**
VIA	:	**CHANNELS** – NOTED. RESPONSE LETTER TO BE DRAFTED AND SENT ON MPD LETTERHEAD TO MUNEKIYO HIRAGA. John Jakubczak Assistant Chief 8.28.17
FROM:	:	**SHANE K. YOSHIDA, POLICE OFFICER III, LAHAINA PATROL DIVISION**
SUBJECT	:	**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPIILANI HIGHWAY RIGHT-OF-WAY, TAX MAP KEY (2)4-1-001:010 (POR.), AND (2)4-2-004:032 (POR.), HONOULUA, MAUI, HAWAII (FEDERAL-AID PROTECTION NO. BR-030-1 (37))**

Sir, this TO/FROM is in regards to the above subject matter.

In short, Colleen SUYAMA of Munekiyo Hiraga, on behalf of the State of Hawaii Department of Transportation is requesting a review of the above subject matter and comments or concerns that the Police Department may have.

Said project is to rehabilitate the current bridge located at Honolua Bay. Right now the bridge allows for contra flow traffic and is approximately 18 feet wide and 24 feet long. Said bridge will remain 18 feet wide but will utilize 5 of the 18 feet on the Makai side of the bridge as a pedestrian walk way/bike lane. A temporary traffic detour and bridge will be constructed on the Makai side of the existing bridge to allow the roadway to remain open during construction.

I suggest prior to the start of this project proper notification be made to the residents in the Kahakuloa and Honokahau valley areas. Further signs indicating that traffic flow may be interrupted due to road work.

Since this location is already operating as a contra flow bridge I do not see any police issues arising as long as the temporary bridge is functioning prior to starting on the project.

Noted
CRH
08/25/17

Respectfully submitted,

15180

SHANE K. YOSHIDA E#15180
POLICE OFFICER III
LAHAINA PATROL
08/25/17 @ 1000 HOURS

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7352

June 12, 2018

Mr. Tivoli S. Faaumu, Chief of Police
Maui Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

Dear Mr. Faaumu:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated August 28, 2017, providing comments from Officer Shane Yoshida regarding the Draft EA for the proposed project.

We offer the following responses to Officer Yoshida's comments:

Prior to the initiation of construction, the construction contractor will be required by contract to provide notification to the public via newspaper notice, and to provide adequate signage regarding project-related traffic impacts. As noted, a temporary bridge will be utilized to maintain traffic flow during construction of the existing bridge.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

SEP 2 5 2017

GLEN A. UENO, P.E., P.L.S.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

September 20, 2017

Mr. Kevin Ito, Engineer
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPIILANI HIGHWAY RIGHT-OF-WAY; TMK: (2) 4-1-001:010 (POR.) AND (2) 4-2-004:032 (POR.) (FEDERAL AID PROJECT NO. BR-030-1[37])

We reviewed the subject application and have no comments at this time.

If you have any questions regarding this memorandum, please call Rowena Dagdag-Andaya at 270-7845.

Sincerely,

DAVID C. GOODE
Director of Public Works

DCG:RMDA:da
xc: Engineering Division
Munekiyo Hiraga, Colleen Suyama
41001010_42004032_honolua_bridge_rehab_dea.rtf

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7340

May 23, 2018

Mr. David Goode, Director
Department of Public Works
County of Maui
200 South High Street, Room 434
Wailuku, Hawaii 96793

Dear Mr. Goode:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

We thank you for your letter of September 20, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document and acknowledge that the Department of Public Works has no comments to offer at this time.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

NOV 15 2017

ALAN M. ARAKAWA
Mayor

STEWART STANT
Director

MICHAEL M. MIYAMOTO
Deputy Director

MICHAEL RATTE
Solid Waste Division

ERIC NAKAGAWA, P.E.
Wastewater Reclamation Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

November 9, 2017

State of Hawaii
Department of Transportation
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707
Attn: Kevin Ito

SUBJECT: HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPIILANI HIGHWAY RIGHT-OF-WAY DRAFT ENVIRONMENTAL ASSESSMENT TMK (2) 4-1-001:010 (POR.) AND (2) 4-2-004:032 (POR), LAHAINA, MAUI

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:

   a. The contractor shall apply to the Central Maui Landfill to dispose of construction and/or demolition waste.

2. Wastewater Reclamation Division (WWRD) comments:

   a. The County does not have a wastewater system in the area of the subject project.

If you have any questions regarding this letter, please contact Michael Miyamoto at 270-8230.

Sincerely,

MICHAEL M. MIYAMOTO
Deputy Director of Environmental Management

xc: Munekiyo Hiraga

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
INTERIM DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.6279

January 31, 2018

Mr. Michael M. Miyamoto
Deputy Director
Department of Environmental Management
County of Maui
2050 Main Street, Suite 2B
Wailuku, Hawaii 96793

Dear Mr. Miyamoto:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway, Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated November 9, 2017, responding to our request for comments on the Draft EA for the proposed project. We offer the following information in response to your comments:

1. We confirm that the contractor for the project shall apply to the Central Maui Landfill to dispose of construction and/or demolition waste.
2. We acknowledge that the County does not have a wastewater system in the vicinity of the subject project. The rehabilitation of Honolua Bridge does not include any wastewater improvements.

Should you have any questions, please contact our Contract Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov

Sincerely,

EDWIN H. SNIFFEN
Deputy Director, Highways Division

ALAN M. ARAKAWA
Mayor

SEP 11 2017
DON MEDEIROS
Director

MARC I. TAKAMORI
Deputy Director

(808) 270-7511

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
2145 Kaohu Street, Suite 102
Wailuku, Hawaii, USA 96793

September 8, 2017

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Subject: EA for the Honoapiilani Highway Rehabilitation of Honolua Bridge

Dear Ms. Suyama,

Thank you for the opportunity to comment on this project. We have no comments to make regarding this project at this time.

Please feel free to contact me if you have any questions.

Sincerely,

Don Medeiros
Director

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7338

May 23, 2018

Mr. Don Medeiros, Director
Department of Transportation
County of Maui
2145 Kaohu Street, Suite 102
Wailuku, Hawaii 96793

Dear Mr. Medeiros:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

We thank you for your letter of September 8, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document and acknowledge that the County of Maui, Department of Transportation has no comments to offer at this time.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for

JADE T. BUTAY
Director of Transportation

SEP 0 6 2017

Subject: FW: DEA Honolua Bridge Rehabilitation TMK: (2)4-2-004:032 (attn. Colleen Suyama)
Attachments: VCard.vcf; Honolua Bridge.pdf

From: Audrey Dack [mailto:Audrey.Dack@co.maui.hi.us]
Sent: Wednesday, September 06, 2017 12:57 PM
To: kevin.ito@hawaii.gov
Cc: Marti Buckner <Marti.Buckner@co.maui.hi.us>; General eMail <planning@munekiyohiraga.com>
Subject: DEA Honolua Bridge Rehabilitation TMK: (2)4-2-004:032 (attn. Colleen Suyama)

Aloha Kevin,
The Maui County Department of Water Supply has no comment on Federal-Aid Project No. BR-030-1 (37) at this time and thanks you for the opportunity. Please see the attached previous signed comment letter dated February 16, 2011. Should you have questions please contact me.
Mahalo,
Audrey

ALAN M. ARAKAWA
Mayor

DAVID TAYLOR, P.E.
Director

PAUL J. MEYER
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

February 16, 2011

Ms. Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High St., Ste 104
Wailuku, Hawaii 96793

Re: Project Name: Early Consultation for Proposed Honolua Bridge Rehabilitation/ Replacement at Honolua - Draft Environmental Assesment (DEA)

Dear Ms. Suyama:

Thank you for the opportunity to participate in the early consultation process for this DEA. The above referenced project is outside the Department of Water Supply service area; however, there are water quality issues that should be addressed.

The project overlies the Honolua aquifer with an estimated sustainable yield of 8 MGD. This aquifer is one of the major groundwater and surface water sources of the department's Lahaina system. In order to protect surface and groundwater sources, the DEA should delineate measures designed to minimize infiltration and runoff from construction, as well as adverse impacts on water quality. We recommend that the following mitigation measures be included in the DEA and implemented during construction:

- Evaluate structure and site for best demolition method that will create the least amount of debris and sediment loss.
- Reclaimed water should be used for dust control and landscaping during construction to the extent possible.
- Before demolition, install temporary silt fences around each bridge approach.
- No part of the bridge should be allowed to fall into the water; promptly remove any material that may fall into the water body.
- Minimize disturbed area needed, ensuring that only the smallest amount of bare ground is exposed for the shortest time possible.

- Methods to minimize soil erosion and trap sediments should be used . Properly install and maintain erosion control barriers such as silt fencing or straw bales and other appropriate erosion control devices to contain sediment before they reach any surface water feature in the work area. Inspect silt fences on a regular basis and after each rainfall. Make any required repairs immediately. Remove and dispose of sediment accumulations when depth reaches one-half the height of the filter fabric. Replace silt fence removed for access at the end of each day's operation.
- Retain ground cover until the last possible date. Stabilize denuded areas by sodding or planting native species as soon as possible. Use high seeding rates to ensure rapid stand establishment.
- Stabilize stream banks with indigenous vegetation or riprap, if required.
- Fill or excavated material must not be placed in a manner that creates an unstable slope.
- Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed off-site away from surface water.
- No construction or toxic materials or debris should be placed where it may enter the ocean.
- Construction debris and sediment should be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into the stream.
- Keep run-off on site.

Should you have any questions, please contact our Water Resources and Planning Division at 808-244-8550.

Sincerely,

David Taylor, P. E.
Director

mlb
cc: applicant, engineering division

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7339

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

May 23, 2018

Ms. Audrey Dack
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Ms. Dack:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your message of September 6, 2017, responding to our request for comments on the Draft EA for the proposed project.

We acknowledge that the Department of Water Supply has no additional comments on the above-referenced project at this time, having provided early consultation comments in a previous letter dated February 16, 2011.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

AUG 3 0 2017

ALAN M. ARAKAWA
MAYOR

HERMAN ANDAYA
INTERIM EMERGENCY
MANAGEMENT
OFFICER

COUNTY OF MAUI
MAUI EMERGENCY MANAGEMENT AGENCY

200 South High Street
Wailuku, Maui, Hawaii 96793-2155
email: emergency.management@mauicounty.gov

Phone (808) 270-7285
FAX (808) 270-7275

August 25, 2017

COPY

Munekiyo Hiraga
Attn: Colleen Suyama
305 High Street, Suite 104
Wailuku, Hawaii, 96793

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE HONOAPIILANI HIGHWAY REHABILITATION OF HONOLUA BRIDGE AT HONOAPIILANI HIGHWAY RIGHT-OF-WAY, TAX MAP KEY (2)4-1-001:010 (por.), AND (2)4-2-004:032 (por.), Honolula, Maui, Hawaii

Dear Ms. Suyama,

Maui Emergency Management Agency has reviewed the Draft Environmental Assessment for the proposed project and does not have any comment at this time.

Sincerely,

Herman Andaya
Interim Emergency Management Officer

xc: Keanu Lau Hee, MEMA Hazard Mitigation Specialist

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7337

May 23, 2018

Mr. Herman Andaya
Emergency Management Officer
Maui Emergency Management Agency
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Andaya:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

We thank you for your letter of August 25, 2017, responding to our request for comments on the Draft EA for the proposed project. We appreciate your review of the document and acknowledge that the Maui Emergency Management Agency has no comments to offer at this time.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

SEP 29 2017

SAVE HONOLUA COALITION

SAVE HONOLUA .org

RECEI

9/16/17

Aloha Mr. Ito,

17 AUG 1

My family of 5 and I live immediately mauka of Honolua Bridge. I also operate a food truck here. I strongly support option 2 for many important reasons.

DESIGN
HIGHWAY
DEPT. OF TRA

I have lived here for over 15 years and operate a business in plain view of the bridge. Everyday I see countless local cars speeding around the corner. The only thing that slows them down is the possibility of oncoming traffic. The situation is made more dangerous by having confused tourists trying to park or figure out where they are. People are also crossing the street to come over to my food truck. If you were to make the bridge into two lanes, there would be nothing to slow the speeding cars down. Also, my family, as well as my clients, pull in and out of our driveway all day thus making the bridge area even more risky.

Also, impact on the area needs to be minimized. As I am sure you are aware, there is a heiau and other sacred archaeology in the area. Approximately 60 feet from the bridge, part of the heiau was destroyed to make Hwy 30. The most minimal approach to replacing or revitalizing the bridge needs to be adopted to honor the area and not further disrespect the culture and heritage of the site.

As a founding member of the Save Honolua Coalition and current VP I can testify that our community is adamant about keeping it to one lane. Approximately 5 years ago we engaged the community and received overwhelming public testimony supporting the rehabilitation of the existing bridge or rebuilding it as a one lane bridge. I hope that you have records of those testimonies. I know that people are sending in testimonies currently as well.

Mahalo,

I have also included some emails that people sent to Save Honolua before they were able to email to you. Mahalo.

John Carty
Vice President - Save Honolua Coalition
Ka'anapali Moku
john@savehonolua.org
808-276-8733

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
HWY-DS 2.7353

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

June 12, 2018

Mr. John Carty, Vice President
Save Honolua Coalition
5095 Napilihau Street, Unit 109B-101
Lahaina, Hawaii 96761

Dear Mr. Carty:

Subject: Draft Environmental Assessment (EA) for
Honoapiilani Highway
Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated September 16, 2017, providing comments on the Draft EA for the proposed Honolua Bridge project. Your concerns regarding traffic, pedestrian safety, and archaeological and cultural resources in the area are noted.

The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA. The temporary detour route, including the temporary detour bridge, have been designed to avoid archaeological features within the vicinity.

Thank you for forwarding the additional comments you have received from others regarding the project. We have responded individually to each of these comments.

Should you have any questions, please contact our Project Manager, Mr. Kevin Ito, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

for JADE T. BUTAY
Director of Transportation

SEP 29 2017

Gmail

john carty <johncartyphoto@gmail.com>

Honolua Bridge

1 message

p tearson <tia.pearson@gmail.com> Thu, Aug 31, 2017 at 12:22 AM
To: kokua@savehonolua.org

I support of the proposed action/alternative two which is the rehabilitation of the existing historic one land bridge in the same location with shoulders for pedestrian/bike traffic

Alternatives one and three are not acceptable. Alternative 1 - Doing nothing - leaves us with a substandard bridge and if it were to fail, emergency measures might allow for creation of a two lane bridge which would be inappropriate for this area. Alternative 3 - Creating a two lane bridge with a straightened road makai of the existing bridge is also unacceptable for many reasons, some of which include: increased speeding in this heavily used pedestrian area, demolition of a historic bridge, moving the bridge makai of the existing bridge with climate change is a bad idea as well as losing the character of the area that is created by having yield signs at both sides of the bridge.

Sincerely,

Tia Pearson

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:10 AM
To: tia.pearson@gmail.com
Cc: johncartyphoto@gmail.com; Gwendolyn Rivera; Paul Arita
Subject: Honolua Bridge Reha DEA response

Dear Ms. Pearson:

We thank you for your message dated September 1, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

SEP 29 2017

Gmail john carty <johncartyphoto@gmail.com>

Honolua Bridge Action Alert

1 message

Mike Jucker <mike@juckerhawaii.com> Thu, Aug 31, 2017 at 12:42 PM
To: kokua@savehonolua.org

Aloha Tamara,

I sure hope this bridge will be left alone. Same with the whole Kaanapali thing. I was watching from my Hotel job last night the live stream. If I can help out somehow let me know. I wold be happy to sponsor some bumper stickers or so.

—> As they said in the meeting nuf already. There is always more development without taking the community into consideration. I know I am not Hawaiian or born here but living in Napili for 15 years now raising my kids here, I feel at home here and feel the responsibility to help protect this place. NO MORE LUXURY HOMES – TIMESHARES and RESORTS. Fix our beach parks, fix our schools provide housing local people can afford. Don't allow out of state property speculation.

Anyway back to the subject:

Re.: Honolua Bridge

To whom it may concern.

As a resident of Napili that spends time at Honolua Bay with my kids and friends. I am in opposition to any kind of redesigning of the road way that lead to Honolua Bay and beyond for the following reasons:

1. ***Country Feel:*** *Honolua Bay appeals to visitors and locate alike thanks to its remoteness. People like to come and experience nature out in the valley on their way to snorkeling. Widening the road will take away that experience from this special place. Cars drive slowly inside the valley and people enjoy the surroundings. There is no need to speed things up in there.*
2. ***Safety:*** *Many visitors and residents park their cars near the road or just past the bridge. People are crossing the street all the time if the road or bridge would be widened and/or realigned, this would also pose a safety concern. As now cars automatically drive faster.*
3. ***Appeal:*** *The Honolua Bridge is regarded as part of the whole experience coming to Honolua Bay. It give the valley a special touch and signals that this is now country side and this is what people like about this area and Maui in general. There is no need at all to put a 2 lane bridge there.*

I would like to urge the DoT not to any changes in this area dear to the hart of so many people of West Maui.

Kind regards,

Mike Jucker

I hope that helps. Pls let me know if anything else.

Mahalos for all you do!

Mike

From: Ito, Kevin
Sent: Tuesday, June 19, 2018 9:08 AM
To: 'mike@juckerhawaii.com' <mike@juckerhawaii.com>
Cc: 'johncartyphoto@gmail.com' <johncartyphoto@gmail.com>; 'Gwendolyn Rivera' <Gwendolyn@munekiyohiraga.com>; 'Paul Arita' <parita@atahawaii.com>
Subject: RE: Honolua DEA email response to Jucker

Dear Mr. Jucker:

We thank you for your message dated August 31, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project. The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

SEP 29 2017

Gmail

john carty <johncartyphoto@gmail.com>

Honolua Bridge

1 message

MARK <eatsurflivelove@hawaii.rr.com> Fri, Sep 1, 2017 at 10:21 AM
To: kokua@savehonolua.org

Aloha

Please consider option 2 in your discussions about the Honolua Bridge
Improvements, I do hope u take in
Consideration with those who are impacted
The most .

Thank u for protecting this gem of Maui
And the world.

Mark Rudd
103 Ikea ok
Makawao , Hi 96768
1 - 808 - 283 - 9268

Sent from my Verizon, Samsung Galaxy smartphone

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:07 AM
To: eatsurflivelove@hawaii.rr.com
Cc: johncartyphoto@gmail.com; Gwendolyn Rivera; Paul Arita
Subject: Honolua bridge DEA email response
Attachments: image004.emz

Dear Mr. Rudd:

We thank you for your message dated September 1, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

SEP 29 2017

Gmail

john carty <johncartyphoto@gmail.com>

Bridge

1 message

Doreen Chaput <dchaput1986@yahoo.com> Sat, Sep 9, 2017 at 1:11 AM
To: kokua@savehonolua.org

Aloha to all concerned,

I am writing this letter to express my concern of the proposed construction project of the Honolua Bridge. I've visited Maui several times and admire the natural beauty as most of the tourists and natives do. I am saddened at how much the island has built up over the years but still appreciate it's charm. Traffic gets congested but we all deal with this and know it's often unavoidable. Though I know expansion is inevitable I hope the Hawaiin government will take necessary measurements to uphold it's natural beauty and historic landmarks for the sake of all. Creating bike paths and lanes on roadways has been a great alternative for many cities to minimize automobile traffic. Maybe this is something Maui can implement as well. Self serve rental bicycle stations have also been successful in generating revenue.

I hope on my next visit to Maui I see the One Lane Honolua Bridge preserved in it's present form along with it's surrounding natural beauty.

Thank you for all things considered!

Doreen Chaput
Austin TX

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:12 AM
To: dchaput1986@yahoo.com
Cc: johncartyphoto@gmail.com; Gwendolyn Rivera; Paul Arita
Subject: Honolua Bridge Rehab DEA email response

Dear Ms. Chaput:

We thank you for your message dated September 9, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

SEP 25 2017

From: John Naylor <jdancer@kula.us>
Sent: Wednesday, September 20, 2017 10:17 AM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Aloha Mr Kevin Ito,

Mahalo for considering the public's testimony. I believe that option 2 is the best one for Honolua Bridge. Traffic will have to slow & yield & pedestrian & bike traffic would have a safe place to cross.

Sincerely,
John Naylor
PO Box 1749
Makawao, HI. 96768

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:01 AM
To: John Naylor
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

Dear Mr. Naylor:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

-----Original Message-----
From: John Naylor [mailto:jdancer@kula.us]
Sent: Wednesday, September 20, 2017 10:17 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Aloha Mr Kevin Ito,

Mahalo for considering the public's testimony. I believe that option 2 is the best one for Honolua Bridge.
Traffic will have to slow & yield & pedestrian & bike traffic would have a safe place to cross.

Sincerely,
John Naylor
PO Box 1749
Makawao, HI. 96768

SEP 25 2017

From: Mary Rosemeyer Woods <mary.rosemeyer@gmail.com>
Sent: Wednesday, September 20, 2017 10:17 AM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Mr. Ito,

I am writing you with concern about the historic Honolua Bridge. As someone who loves this area and has friends living beyond it, rehabbing the bridge allows for improved safety while increasing shoulder room for pedestrians. This is a very busy area at times and tourists are not always paying attention.

Merely leaving the bridge as-is leaves my friends in the valley in a very bad spot if the bridge were to fail. Adding more lanes increases traffic, speeding and changes the shape of the land. Option 2 gives more safety while keeping the charm of the area and is the wisest choice for all.

Respectfully,

Mary Woods

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:03 AM
To: Mary Rosemeyer Woods
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

Dear Ms. Woods,

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

-----Original Message-----
From: Mary Rosemeyer Woods [mailto:mary.rosemeyer@gmail.com]
Sent: Wednesday, September 20, 2017 10:17 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Mr. Ito,

I am writing you with concern about the historic Honolua Bridge. As someone who loves this area and has friends living beyond it, rehabbing the bridge allows for improved safety while increasing shoulder room for pedestrians. This is a very busy area at times and tourists are not always paying attention.

Merely leaving the bridge as-is leaves my friends in the valley in a very bad spot if the bridge were to fail. Adding more lanes increases traffic, speeding and changes the shape of the land. Option 2 gives more safety while keeping the charm of the area and is the wisest choice for all.

Respectfully,

Mary Woods

From: Janet Spreiter <spreiter@mauigateway.com>
Sent: Wednesday, September 20, 2017 10:23 AM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Aloha Kevin,

I am very opposed to widening the current Honolua Bay bridge to 2 lanes (option 3). I would leave it alone.

If you want to allow for pedestrian traffic then option 2 is clearly the best choice. However, I have concerns about encouraging foot and car traffic on a narrow bridge where the occasional car speeds through. Option 3 is a potential liability to all and I am strongly opposed.

Mahalo,

Janet Spreiter

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:02 AM
To: Janet Spreiter
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

Dear Ms. Spreiter:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

-----Original Message-----
From: Janet Spreiter [mailto:spreiter@mauigateway.com]
Sent: Wednesday, September 20, 2017 10:23 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Aloha Kevin,

I am very opposed to widening the current Honolua Bay bridge to 2 lanes (option 3). I would leave it alone.

If you want to allow for pedestrian traffic then option 2 is clearly the best choice. However, I have concerns about encouraging foot and car traffic on a narrow bridge where the occasional car speeds through. Option 3 is a potential liability to all and I am strongly opposed.

Mahalo,

Janet Spreiter

From: Mike Brey <mbnobotherme5@gmail.com>
Sent: Wednesday, September 20, 2017 11:39 AM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Am in favor of option 2 and only option 2. please take this as a vote or an endorsement (whichever is applicable). Mahalo.

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:52 AM
To: Mike Brey
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

Dear Mr. Brey:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

From: Mike Brey [mailto:mbnobotherme5@gmail.com]
Sent: Wednesday, September 20, 2017 11:39 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Am in favor of option 2 and only option 2. please take this as a vote or an endorsement (whichever is applicable). Mahalo.

From: Ulrich 'Uli' Okura Kirkegaard <uli@mauitechguru.com>
Sent: Wednesday, September 20, 2017 12:19 PM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Aloha Mr. Kevin Ito,

It has come to my attention that you folks plan to widen the Honalua bridge. I highly recommend AGAINST it. Please keep this area small ... there is no real need to widen the bridge .. traffic only peaks during a were short time .. .. but I'll also say we should let the community living North of the bridge help decide; they are the ones using it the most. I just say preserve Honolua Bay as it is, focus the money elsewhere.

Thanks,

Have an awesome time ☺

Yours Truly Online,

Ulrich 'Uli' Okura Kirkegaard
Principal Guru, MCP - Maui Tech Gurus
Biz Tech Partners & Small Biz Specialist
'Helping businesses tie IT all together'
Ph. (808) 661-1000 or Cell (808) 281-1169
E-mail uli@mauitechgurus.com
Visit http://www.mauitechgurus.com/

Rotary Club of Lahaina Sunrise
Past President (2012-13)
http://www.lahainasunriserotary.org/

+----------+
This message was sent using 100% recyclable electrons
+----------+

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 9:00 AM
To: Ulrich 'Uli' Okura Kirkegaard
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

Dear Mr. Kirkegaard:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

From: Ulrich 'Uli' Okura Kirkegaard [mailto:uli@mauitechguru.com]
Sent: Wednesday, September 20, 2017 12:19 PM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Aloha Mr. Kevin Ito,

It has come to my attention that you folks plan to widen the Honalua bridge. I highly recommend AGAINST it. Please keep this area small ... there is no real need to widen the bridge .. traffic only peaks during a were short time .. .. but I'll also say we should let the community living North of the bridge help decide; they are the ones using it the most. I just say preserve Honolua Bay as it is, focus the money elsewhere.

Thanks,

Have an awesome time ☺

Yours Truly Online,

Ulrich 'Uli' Okura Kirkegaard
Principal Guru, MCP - Maui Tech Gurus
Biz Tech Partners & Small Biz Specialist
'Helping businesses tie IT all together'
Ph. (808) 661-1000 or Cell (808) 281-1169
E-mail uli@mauitechgurus.com

SEP 25 2017

From: Mike Moran <mmmmahalo2000@aol.com>
Sent: Wednesday, September 20, 2017 12:25 PM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Aloha Mr Ito,

As a concerned Maui resident I approve of option 2 at the Honolua Bridge in West naui.

Mahalo,

Mike Moran

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:58 AM
To: Mike Moran
Cc: Paul Arita; Gwendolyn Rivera
Subject: RE: Honolua Bridge - Option 2

Dear Mr. Moran:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

From: Mike Moran [mailto:mmmmahalo2000@aol.com]
Sent: Wednesday, September 20, 2017 12:25 PM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Aloha Mr Ito,

As a concerned Maui resident I approve of option 2 at the Honolua Bridge in West naui.

Mahalo,

Mike Moran

From: oapukawa@aol.com
Sent: Wednesday, September 20, 2017 3:25 PM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

I support Option 2 so the bridge/area remains rural but is safe for cars/bikes/pedestrians.

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:59 AM
To: oapukawa@aol.com
Cc: Gwendolyn Rivera; Paul Arita
Subject: RE: Honolua Bridge - Option 2

To whom it may concern:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

From: oapukawa@aol.com [mailto:oapukawa@aol.com]
Sent: Wednesday, September 20, 2017 3:25 PM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

I support Option 2 so the bridge/area remains rural but is safe for cars/bikes/pedestrians.

SEP 25 2017

From: Suzanne Lahl <slahl@msn.com>
Sent: Wednesday, September 20, 2017 3:37 PM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Please support option 2.
Thank you.
Suzanne Lahl
Kihei resident.

Sent from my iPhone

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:57 AM
To: Suzanne Lahl
Cc: Paul Arita; Gwendolyn Rivera
Subject: RE: Honolua Bridge - Option 2

Dear Ms. Lahl:

We thank you for your message dated September 20, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

-----Original Message-----
From: Suzanne Lahl [mailto:slahl@msn.com]
Sent: Wednesday, September 20, 2017 3:37 PM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Please support option 2.
Thank you.
Suzanne Lahl
Kihei resident.

Sent from my iPhone

SEP 21 2017

Subject: FW: Honolua Bridge - Option 2

-----Original Message-----
From: Brad Witter [mailto:bw1616@yahoo.com]
Sent: Thursday, September 21, 2017 8:12 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Leave as is. It is part of what makes Honolua, Honolua.

Sent from my iPhone

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:55 AM
To: Brad Witter
Cc: Paul Arita; Gwendolyn Rivera
Subject: RE: Honolua Bridge - Option 2

Dear Mr. Witter:

We thank you for your message dated September 21, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

-----Original Message-----
From: Brad Witter [mailto:bw1616@yahoo.com]
Sent: Thursday, September 21, 2017 8:12 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Leave as is. It is part of what makes Honolua, Honolua.

Sent from my iPhone

.

SEP 25 2017

From: louiserockett@aol.com
Sent: Thursday, September 21, 2017 8:55 AM
To: Ito, Kevin
Subject: Honolua Bridge - Option 2

Thank you for taking our testimony.

In regard to the Honolua Bridge, I support Option 2.

your response to the needs of the majority of our community is appreciated.

sincerely

louise rockett
louiserockett@aol.com
P. O. Box 903
Lahaina, HI 96767

From: Ito, Kevin <kevin.ito@hawaii.gov>
Sent: Tuesday, June 19, 2018 8:54 AM
To: louiserockett@aol.com
Cc: Paul Arita; Gwendolyn Rivera
Subject: RE: Honolua Bridge - Option 2

Dear Ms. Rockett:

We thank you for your message dated September 21, 2017, providing comments on the Draft Environmental Assessment (EA) for the proposed Honolua Bridge project.
The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,
Kevin Ito

From: louiserockett@aol.com [mailto:louiserockett@aol.com]
Sent: Thursday, September 21, 2017 8:55 AM
To: Ito, Kevin <kevin.ito@hawaii.gov>
Subject: Honolua Bridge - Option 2

Thank you for taking our testimony.

In regard to the Honolua Bridge, I support Option 2.

your response to the needs of the majority of our community is appreciated.

sincerely

louise rockett
louiserockett@aol.com
P. O. Box 903
Lahaina, HI 96767

SEP 29 2017

Laffin
9 Dartmouth Dr
Hudson NH 03051

MANCHESTER NH 030
29 SEP 2017 PM 1 L

Kenneth Do
601 Kanokila
#6
Kapolei Hi
967

A note from
Curtis A. Laffin

I trust you will
NoT expand the
Honolua Bridge
to Two Lanes.
Thank Ya

DEC 14 2017
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION

AUG 0 1 2018

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7386

July 12, 2018

Mr. Curtis A. Laffin
9 Daniel Webster Drive
Hudson, New Hampshire 03051

Dear Mr. Laffin,

Subject: Draft Environmental Assessment (EA)
Honoapi'ilani Highway, Rehabilitation Of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated September 22, 2017, providing comments on the Draft EA for the proposed Honolua Bridge project.

The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

SEP 29 2017

Please be correct
do not expand
the Honolua Bridge
to two lanes

Mahalo
Jill Laffin
32 KA'OMOLU WAY
Kaunakakai HI
96748

Jill Laffin
32 Kai Olu Way
Kaunakakai HI

MANCHESTER NH 030
22 SEP 2017 PM 2 L

Kevin Ito DOT
601 Kamokila Blvd.
#688
Kapolei HI
96707

AUG 0 1 2018

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-DS 2.7385

July 13, 2018

Ms. Jill Laffin
32 Kaioluolu Way
Kaunakakai, Hawaii 96748

Dear Ms. Laffin:

Subject: Draft Environmental Assessment (EA)
Honoapiilani Highway, Rehabilitation of Honolua Bridge
Federal-Aid Project No. BR-030-1(37)

Thank you for your letter dated September 22, 2017, providing comments on the Draft EA for the proposed Honolua Bridge project.

The work being proposed at Honolua Bridge involves rehabilitating the existing bridge for continued use as a single travel lane and with no increase in width of the structure. This corresponds to "Alternative 2" as described in the Draft EA.

Should you have any questions, please contact Mr. Kevin Ito, Project Manager, at (808) 692-7548, Technical Design Services Section, Design Branch, Highways Division or by email at kevin.ito@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

REFERENCES X

X. REFERENCES

Ashdown, Inez; Lesley Bruce, Effie Cameron, D.E. Keane, Shuji Seki and Paul Van Zwalenburg; 1987 *Plantation days Remembering Honolua.* Maui Land & Pineapple Company, Inc., Kahului.

County of Maui, Emergency Management Agency, Tsunami Evacuation Map, September 2015.

County of Maui, Department of Fire and Public Safety Annual Report, 2015.

County of Maui, Department of Planning, County of Maui 2030 General Plan Countywide Policy Plan, March 2010.

County of Maui, Department of Planning, Maui Island Plan, December 2012.

County of Maui, Department of Planning, Socio-Economic Forecast: The Economic Projections for the Maui County General Plan 2030, June 2006.

County of Maui, Police Department; Maui Police Department Annual Report 2015.

County of Maui, West Maui Community Plan, February 1996.

County of Maui, Office of Economic Development, Maui County Data Book 2015.

Dega, Michael; Archaeological Inventory Survey of the Proposed Honolua Bay Surf Park, Lipoa Point, Honolua Ahupua'a, Lahaina (Formerly Ka'anapali) District, Maui Island, Hawai'i (TMK 4-2-01:005), Scientific Consultant Services, Inc., Honolulu 2007.

Department of Geography, University of Hawai'i, Atlas of Hawai'i, 3rd Edition, 1998.

Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 1500030266F, Effective Date: September 19, 2012.

Hawai'i Cooperative Park Service Unit, Western Region Natural Resources and Research Division, National Park Service, Hawai'i Stream Assessment, A Preliminary Appraisal of Hawai'i's Stream Resources, prepared for Commission on Water Resource Management, State of Hawai'i, December 1990.

Moore, Kenneth; Archaeological Survey of Honolua Valley, Maui, 1974.

Munekiyo & Hiraga, Inc. Environmental Assessment for Proposed Keawe Street Extension, Prepared for County of Maui, Department of Public Works and Environmental Management, June 2007.

Munekiyo & Hiraga, Inc. Draft Environment Assessment for Kuhua Street Extension, Prepared for County of Maui, Department of Public Works, March 2013.

Pickett, J.L., and M. Dega; An Archaeological Inventory Survey of 583-Acres at Lipoa Point, Honolua Ahupua'a, Lahaina (Formerly Kaanapali) District, Maui Island, Hawai'i (TMK: (2)4-1-001:010; (2)4-2-004:032 and portion of (2)4-1-001:009); Scientific Consultant Services, Inc. Honolulu, 2007.

State of Hawai'i, Commission on Water Resource Management, Hawai'i Stream Assessment. A Preliminary Appraisal of Hawai'i's Stream Resources, Report R84, December 1990.

State of Hawai'i, Department of Agriculture, Agricultural Lands of Importance to the State of Hawai'i, 1977.

State of Hawai'i, Department of Business, Economic Development, and Tourism, Population and Economic Projections for the State of Hawai'i to 2040, March 2012.

State of Hawai'i, Department of Education, Enrollment Data, 2017-2018 School Year.

State of Hawai'i, Department of Labor & Industrial Relations, Hawai'i Workforce Infonet; https://www.hiwi.org/admin/gsipub/htmlarea/uploads/LFR_LAUS_Urate_current.pdf (Accessed July 2018).

State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources, Atlas of Hawaiian Watersheds & Their Aquatic Resources, Maui Island, http://hawaiianwatershedatlas.com, accessed December 2014).

State of Hawai'i, Department of Land and Natural Resources, Office of Conservation and Coastal Lands: http://www6.hawaii.gov/dlnr/occl/subzone.php (Accessed May 2017).

State of Hawai'i, Department of Land and Natural Resources, Title 13, Chapter 5, Conservation District, Hawai'i Administrative Rules. (2011).

State of Hawai'i, Department of Transportation Highways Division, 2005 Standard Specifications.

United States Department of Agriculture Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawai'i, 1972.

University of Hawai'i, Land Study Bureau, Detailed Land Classification, Island of Maui, May, 1967 and 1998.

U.S. Census, 2010 Redistricting Data, accessed May 2017.

U.S. Environmental Protection Agency: http://www.epa.gov/otaq/toxics.htm, accessed October 2014.

U.S. Fish and Wildlife Service, National Wetland Inventory, May 1, 2017, http://www.fws.gov/wetlands/Data/Mapper.html, Accessed May 2017.

APPENDIX A

PROJECT ASSESSMENT REPORT

FINAL PROJECT ASSESSMENT REPORT

HONOAPIILANI HIGHWAY
REPLACEMENT OF HONOLUA BRIDGE
M.P. 32.40 – M.P. 32.51

District of Lahaina

Island of Maui

Prepared For:
State of Hawaii
Department of Transportation
Highways Division

Prepared by
Highway Design, Unit "E"
Design Branch
Highways Division

As a project scoping team, we have worked cohesively to provide the following project assessment report for the proposed project entitled, HONOAPIILANI HIGHWAY, REPLACEMENT OF HONOLUA BRIDGE

6/8/04

Li Nah Okita — Date
Project Engineer and Scoping Team Leader

Scoping Team Members:

Dale Suzuki, HWY-R

Peter Chan, HWY-T

Herbert Chu, HWY-LG

Bryan Toda, HWY-DH

John Williams, HWY –DB

The scoping team recommends Design Alternative #2

RECOMMEND APPROVAL:

JUN - 9 2004

GARY C.P. CHOY — Date
Design Branch Head

APPROVED:

6.14.04

GLENN M. YASUI — Date
Administrator, Highways Division

TABLE OF CONTENTS

Replacement of Honolua Bridge

INTRODUCTION

Project Location.

The project is located approximately between milepost 32.40 to 32.51 along Honoapiilani Highway (Route 30) on the northwestern coast of Maui, in the district of Lahaina, Island of Maui. See Figure 1 for Location Map.

Project Purpose.

Based on the current bridge replacement program within the State, this structure has a National Bridge Inventory (NBI) rating of 42.2 and warrants replacement. The purpose of the proposed project is to replace the Honolua Bridge with a bridge that meets current State and Federal Standards.

Project Description.

The current bridge is 24 feet long x 18 feet wide. Its structure number is 009000300300346. The bridge serves both inbound and outbound traffic on Honoapiilani Highway. The original bridge was built in 1924. Because the bridge is older than 50 years, it is a historical structure although it is not listed on the State of Hawaii "Draft Historic Bridge Inventory and Evaluation" dated May, 1996.

Possible work for this project includes replacing the bridge with a 44 feet wide bridge that will meet current State and Federal Standards. Actual length of the bridge will be determined with hydraulics report. The bridge may be designed as a prestressed concrete girder or plank bridge with shoulders and rails on both side of the bridge.

The proposed project lies within a farming area.

The proposed project is federally funded.

Existing Condition

Honoapiilani Highway is classified as a major collector within the project limit and is not included in the National Highway System (NHS). The posted speed limit is 25 miles per hour (mph). The roadway has two lanes and it is not divided.

Previous, On-Going, and Planned Projects in the Vicinity

The following are previous projects within or adjacent to the proposed project:

PROJECT NO.	BEGIN M.P.	END M.P.	AS-BUILT DATE	DESCRIP-TION
A 300-01-66	30.256	35.949	1965	Resurfacing
HWY-M-01-74	32.477	32.478	1974	Bridge Maint.
30A-01-91M	31.280	35.942	1991	Resurfacing

Past Traffic Counts

The following table indicates the average daily traffic as shown in the traffic summary.

AVERAGE DAILY TRAFFIC (ADT)	
YEAR	TOTAL
1999	2160
2000	1960
2001	1760
2002	1710
2003	1660

Traffic Safety:

There have been no significant accident sites identified within the project limits. See Figure 2.

DESIGN ALTERNATIVES

Three design alternatives are presented for consideration:

Design Alternative No. 1: "No-Build"

Estimated Construction Cost: **$0.00**

PROs
- No design, Right-of-Way or construction cost.
- No public inconvenience due to construction traffic delay.

CONs
- The bridge wiil remain substandard with regard to State and Federal Design and Seismic Standards.

Design Alternative No. 2: Construct New Structure Adjacent to Existing Bridge

Project Scope:

This alternative assumes the construction of new structure adjacent to the existing one. The new structure would be located upstream from the existing bridge. The existing bridge will handle all the traffic until the new bridge is completed. The new bridge is 44 feet wide (2-12 feet lanes, 2-8 feet shoulders, and 2-2 feet rails). Length of the bridge will be determined with hydraulics report.

Listed below are the major items of work:

- Replace the bridge to conform with Bridge Design Criteria, August 2002.
- Realign the existing roadway to both approaches of the new bridge.
- Provide pavement justification report containing pavement design and foundation types for the replacement bridge.
- Prepare a Hydraulic Report.
- Upgrade drainage system in accordance with the latest versions of the HDOT Criteria for Highways Drainage, dated 2/1/01 and the FHWA Hydraulic Engineering Circulars and Hydraulic Design Series.
- Install guardrails, end post connections and end treatments that are NCHRP 350 compliant.
- Install signage and pavement markings.
- Provide landscaping plans to restore any plantings as a result of the proposed new bridge.

- Provide 4 feet 6 inches high bikerail on the bridge.
- Provide Topographic Survey of the area.
- Prepare driveway adjustment map and Right-of-Way map which includes any land acquisition, construction parcels or easement .
- Coordinate with utility Companies for any utility relocation or adjustment.
- Prepare all required approved environmental documents and permits. These could include but are not limited to the Environmental Assessment, the Environmental Impact Statement, Section 106 of the National Historic Preservation Act, Water Quality Certification (401), Army Corps of Engineers Permit (404),. Conservation District Use Application Permit (CDUA), Stream Channel Alteration Permit (SCAP), Special Management Area Use Permit, NPDES permit for Construction Activities Dewatering, Hawaii Coastal Zone Management Program (CZM), Special Management Area Use Permit, and any other Department of Health permits. All permits should be obtained prior to advertising this project.
- Prepare a Pavement Justification Report and a Geotechnical Engineering Report providing foundation types recommendations for the replacement bridge.

Estimated Construction Cost: **$ 3,100,000**

Pros:

- The structure will meet current State and Federal Design standards.
- The safety and riding condition of the roadway will be improved.
- Lower construction cost compared to Alternative No. 3.
- Possible improvement to existing roadway geometrics.

Cons:

- Due to the anticipated increased length of the new bridge, the existing driveway located on the mauka side will be impacted by the design of the new bridge and its appurtenances.
- Access to the farm may be temporarily or permanently altered as a result of the proposed work.

Project Schedule:

- Project Time Schedule: Approximately 4 years
- Design Phase: Approximately 1.5 years
- Advertise, Bid Opening and Contract Award Phase: 3.5 months
- Right-of-Way Acquisitioin Time: 15 months
- Construction Phase: Approximately 1.5 years

Design Alternative No. 3: Construct A New Structure in the Location of the Existing Bridge Using Phased Detour Structure

Project Scope:

This alternative assumes the construction of new structure in the location of the existing bridge using detour structure. The new bridge is 44 feet wide (2-12 feet lanes, 2-8 feet shoulders, and 2-2 feet rails). Length of the bridge will be determined with hydraulics report.

Listed below are the major items of work:

- Replace the bridge to conform with Bridge Design Criteria, August 2002.
- Provide design of the temporary detour bridge in the Contract Plans.
- Provide pavement justification report containing pavement design and foundation types for the replacement bridge.
- Prepare a Hydraulic Report.
- Upgrade drainage system in accordance with the latest versions of the HDOT Criteria for Highways Drainage, dated 2/1/01 and the FHWA Hydraulic Engineering Circulars and Hydraulic Design Series.
- Install guardrails, end post connections and end treatments that are NCHRP 350 complaint.
- Install signage and pavement markings.
- Provide Topographic Survey of the area.
- Prepare Right-of-Way map which includes any land acquisition, construction parcels or easement .
- Coordinate with utility Companies for any utility relocation or adjustment.
- Prepare all required approved environmental documents and permits. These could include but are not limited to the Environmental Assessment, the Environmental Impact Statement, Section 106 of the National Historic Preservation Act, Water Quality Certification (401), Army Corps of Engineers Permit (404),. Conservation District Use Application Permit (CDUA), Stream Channel Alteration Permit (SCAP), Special Management Area Use Permit, NPDES permit for Construction Activities Dewatering, Hawaii Coastal Zone Management Program (CZM), Special Management Area Use Permit, and any other Department of Health permits. All permits should be obtained prior to advertising this project.
- Provide 4 feet 6 inches high bike rail on the bridge.
- Prepare a Pavement Justification Report and a Geotechnical Engineering Report providing foundation types recommendations for the replacement bridge.

Estimated Construction Cost: $ 3,300,000

Pros:

- The structure will meet current State and Federal Design standards.
- The safety riding condition of the bridge will be improved.

Cons:

- Higher construction cost compared to Alternative No. 2.
- Required detour structure.
- Access to the farm may be temporarily or permanently altered as a result of the proposed work.
- Roadway approaches to the bridge may remain substandard.

Project Schedule:

- Project Time Schedule: Approximately 4 years
- Design Phase: Approximately 1.5 years
- Right-of-Way Acquisition Time: 15 months
- Advertise, Bid Opening and Contract Award Phase: 3.5 months
- Construction Phase: Approximately 1.5 years

SUMMARY OF MAY 29, 2009 PUBLIC INFORMATION MEETING

APPENDIX A-1

COMMUNICATIONS PACIFIC

To: Ed Sniffen
Paul Arita

From: Andrew Garrett

Subject: **SUMMARY OF MAY 29, 2009 HONOLUA BRIDGE PUBLIC INFORMATION MEETING**

Date: June 23, 2009

Copies: Terrance Arashiro
Kevin Ito

For your review and information, Communications Pacific (CommPac) has prepared the following summary of the Honolua Bridge public information meeting hosted by the Department of Transportation (DOT) and Austin, Tsutsumi & Associates (ATA) on May 29, 2009. In addition to the summary, a sign-in sheet and comments that were submitted on the public comment sheets are attached.

PRESENTATION

Brennon Morioka, DOT director, began the meeting at 6:45 p.m. and welcomed the 25-member audience. Following a pule by Kahu David Kapaku, president of the Save Honolua Coalition, Morioka made the following points:

- The DOT is here to clarify our intentions for the project. Our consultants have been meeting with some of you to start the dialogue, and we'd like to start fleshing out some of your concerns. We believe it's important you have accurate information about the project, and that you understand the process that this project will go through.

- No decisions have been made. We will look at all alternatives, put them through an objective analysis, and let community input guide the environmental assessment. We're also trying to figure out who wants to be a part of this decision-making process as we go forward.

- We're not going to build something that the community can't live with. We want to make sure that our projects are a part of your community, not just something that goes through it.

- The dialogue doesn't stop here tonight. We'll continue to be in touch as this goes forward, since we want to do things the right way.

- A lot of people are asking why this project is even necessary. Some are even wondering if we're going to put in a two-lane bridge at the behest of private developers. That is not the case. Our sole priority for this project is safety.

Topa Financial Center
Fort Street Tower; Penthouse
745 Fort Street
Honolulu, HI 96813

tel 808.521.5391
fax 808.537.6836

commpac.com

- We have a Bridge Preservation Program that prioritizes bridge projects based on sufficiency ratings. Factors like the geometrics of the bridge, weight load capacity, hydraulic capacity and detour issues all contribute to the rating. This particular bridge has a score of 42.2. A score under 50 warrants replacement according to these guidelines. But replacement isn't the only option. Sometimes there are things we can do to raise the score through modern engineering techniques.

- We understand that this project is located in an area that many of you hold sacred, and we want to be both sensitive to and respectful of that.

- The current bridge is 18 feet by 24 feet. It was built in 1924, and was upgraded in the 1970s. There are no accommodations for pedestrians or bicyclists.

- One of our main concerns deals with weight load capacity. It's posted for 10 tons, but we have emergency vehicles that weigh more than that crossing the bridge. Each time this occurs it overstresses the bridge, and even though it may seem fine, it's only a matter of time before this bridge will fail.

- Both Chapter 343 and federal NEPA laws require an environmental assessment. This includes us having to analyze several options to attain our desired objective, which in this case is a safe bridge.

    - Option 1 is No-Build, where we do nothing. We know this is not a viable option, since we know what that would ultimately lead to. It may require us to place load restrictions on the bridge, and deny passage to fire trucks and other emergency vehicles.

    - Option 2 is to either replace the existing one-lane bridge with a new one-lane bridge, or to rehabilitate the existing one-lane bridge. We would either replace it with a new bridge that would look very similar to the bridge you see today, or we would upgrade it with engineering techniques. The exhibits show how the approach into the bridge would be modified as well.

    - Option 3 is to replace the existing one-lane bridge with a new two-lane bridge.

- We'll study the following during the EA process: archaeological and cultural studies, traffic impacts, water quality, flora and fauna surveys and hydraulic and drainage reports.

- So where do we go from here? I want to make sure that you understand that this meeting tonight was not technically required of us. The DOT is doing this voluntarily. The only public hearing we're required to hold is when we share the findings of the EA.

But we understand the sensitivities of this project, and we also want to make sure we get your comments now to help shape the direction of the EA.

- Next spring or summer, we'll be back here to share the results of the EA so we can get your comments. We'll then finish up the EA hopefully by the end of next year.
- In summary, this project is a high priority for us, primarily due to safety concerns. We'll be looking at three options and encourage public participation in this process. Again, the dialogue doesn't end here. Please feel free to contact us at the numbers on the screen.
- At this point, we'd like to turn it over for public input. You can either share your comments with us verbally, or you can fill out the public comment sheet you received when you entered.

DISCUSSION

Name	Comment
Gordon C. Cockett	There's suspicion over development beyond the bridge. The "head" of Maui is spiritual ("manawa"), which is sacred to Hawaiians. The one-lane bridge is a necessity: it blocks development beyond the bridge and slows traffic down. Guardrails have been hit; the area could use better signage. Widening bridge would lead to more accidents. As a member of Maui Police, I don't remember accidents at the bridge. Please don't widen it.
Jill Laffin	Right now, we have the power to stop what's happening to the area, which is sacred to the planet. People are frustrated over how fast things are happening. Use the bridge as a balance for what is best.
John Carty	I live in Honolua Valley and am a member of the Save Honolua Coalition (SHC). The two-lane bridge is not an option for this community; we will not tolerate it. I would like to see the rehab option selected. I'm particularly concerned about the core testing that has been done on the mauka side of the bridge near sacred sites. I hope this testing doesn't indicate the bridge will be moved toward the mauka side. I can confirm that there have been accidents in the past, but never head-on accidents. A wider bridge would encourage speeding. Don't forget that the area beyond the bridge is the gateway to the rest of sacred land. It is very symbolic. I'd also like to request a higher level of archaeology during the EIS process; we've had bad experiences in the past.
Norm Bizane	I'd like to commend DOT for being here and listening. I certainly wish other state agencies would do the same. I'm not from the area, but it is important to preserve sacred sites and the character of Maui's north shore. I personally oppose a two-lane bridge. It should remain as a one-lane bridge. A positive response would send a clear message about how projects should be decided.

Glen Kamaka	I was born and raised in Honokohua. My father worked at ML&P, doing heavy machinery work. The bridge has been there for many years; it's been sound and met the needs of the community. It does encourage people to slow down. The areas nearby are very sacred. I've begun fishing in the area again recently. Please keep it one-lane and add pedestrian and bike lanes.
Jo Anne Johnson	I'm very pleased that the DOT is here. I do have concerns about maintaining ambiance, rural character and tradition of this area, much like Hana. Please use the past experience with Hana bridges as a model. Honolua deserves the same respect and attention. The principal problem is speeding, particularly unwise decisions by drivers. Widening the roadways leads to increased speeding. I prefer the rehabilitation of the bridge. That certainly makes sense from a fiscal perspective, although I'm not convinced that this project qualifies as essential. The DOT's response to the community, and the community's to DOT, is very important. I'd like to request a flashing light system near or on guardrails, powered by solar technology, as well as better signage, to improve safety.
John Seabart	We need a bridge that is safe and sound. I like the idea of pedestrian and bike lanes outside of the bridge. Care should be given to approaches to make sure they don't encourage speeding.
Elle Cochran	Why is this project such a priority for the DOT? Is it part of larger assessment on a statewide scale? I live in Honolua, right near the bridge. From what I can tell, it doesn't seem to have heavy deterioration. If ML&P is moving away from pineapple production, there's no need for heavier weight load capacity. Is there even a need for pedestrian and bike lanes? I don't know of many bicyclists that come up this way. Is this project somehow tied to ML&P's coastal trail? Let me be clear: the two-lane alternative is not an option. Adding pedestrian and bike lanes would still widen the bridge. The money for this project could be better spent elsewhere. I'd like to see Cultural Surveys Hawaii (Tanya Lee-Greig) be hired for additional archaeological work. The bridge really adds to the character of the area and slows down drivers. Since the bridge is so old, is it not considered historic? I know that kanaka maoli support preserving this bridge.
Les Potts	I'm a member of the Honolua Advisory Council. I spend at least two hours a day cleaning up Lipoa Point, and used an 18-wheeler to clear cars recently. I just have to say that we have to keep the country country.
Ramon K. Madden	Thank you, Brennon, for facilitating this meeting. I agree with what's been said here this evening. We should keep the bridge as-is. Lighting the area would help. When people come upon the bridge, they recognize that they're entering a rural area, comparable to Hana. The bridge should be considered historic and be subject to preservation. I support fixing the existing bridge as a historic landmark.

Tamara Paltin	As a member of SHC, I agree with what's been said. Rehab and replacing are two different options; why are they considered under one option? I know that most people prefer rehabiltation over replacement. I'm completely against a two-lane bridge, and support the rehabilitation option. As a first-responder, I appreciate the safety issue raised in the presentation.
Ellen Livinski	I'm a 25-year resident of the area. Making the bridge wider will lead to more accidents. I support rehabilitation; it'll have less debris during construction.
Kekai Keahi	Simply, I'm against the two-lane bridge and all for the rehabilitation option. ML&P is weak, we don't need to compromise with them for the future of this area.
Kahu David Kapaku	Honolua is the gateway to the last open space on Maui. SHC committed to preserving and restoring this last open space. Know that once you develop an area, the stories from that area disappear. Widening the bridge to two-lanes will lead to development and a loss of those stories. I'm determined to keep these stories alive. I support the rehabilitation option. If you decide to build a new one-lane bridge, I say make it smaller. We support safety; less people in this area would be good. If moving the bridge makai eliminates the parking lot, that's fine with me. There's only one Maui; we need to keep it Maui.

NEXT STEPS

- ✓ CommPac to prepare meeting summary (done).
- ✓ CommPac to forward public comments sheets to DOT (done).
- ✓ DOT to assess improving signage at bridge.

If you have any questions about this summary, please contact Andrew Garrett at 543.3513 or agarrett@commpac.com.

AE:hs

Attachments: Sign-in sheet
Public comment sheets (2)

State Department of Transportation
Honolua Bridge: Sign-in Sheet

Name	Address	Organization	Phone	E-mail
Les Potts		Honolua Advisory Council		
Bernie Mound		Citizen		
John Seebart		#178		
Chris Hamilton				
Tamara Paltin		Save Honolua		

May 29, 2009
Lahaina Civic Center
6:30pm to 8:30pm

State Department of Transportation
Honolua Bridge: Sign-in Sheet

Name	Address	Organization	Phone	E-mail
Gordan C. Cockett		Maui Mike		
Elle Cochran		" "		
Wayne Cochran		"		
Glenn Kamaka				
Kahu Kapaka		Save Honolua		
Jo Anne Johnson		Govt.		
Amanda Stone		self		

May 29, 2009
Lahaina Civic Center
6:30pm to 8:30pm

State Department of Transportation
Honolua Bridge: Sign-in Sheet

Name	Address	Organization	Phone	E-mail
Jill Laffin		Self		
John Carty		Save Honolua		
Mary Carty		Self		
Dave Warren		Jesus Christ		
Ashlie Welte				
Norm Bezque		self		
Ramon K. Moln		State Legislature District 10 hopeful		
Ferdinand Cajigal		Kahului Hi		

May 29, 2009
Lahaina Civic Center
6:30pm to 8:30pm

Honolua Bridge Replacement/Rehabilitation Project

Public Comment Form

Name: Elle Cochran

Organization (if applicable) Maui Unite!

Phone / E-mail:

Comment: (please feel free to use the back):

- Why is this Bridge so high priority?
- Why can't an 80 yr old bridge be registered as "Historical" to be preserved?
- Please use a reputable Archaeologist, suggest Cultural Survey Hawaii - Hammett, (Tanya Greg)
- Has this improvement anything to do w/ MLP's Kapalua Shoreline Trail system?
- If Pineapple Cultivation + no development North of Bridge than why the need to Beef it up?

Mailing Address: DOT Highways / Attn: Kevin Ito / 601 Kamokila Blvd #688 / Kapolei, HI 96707
Fax Number: (808) 692-7555

- Andrew Garrett + Paul Aritze Dept telling me for safety. Safety is important. They say safety for the pedestrians / bicyclist. what pedestrians / bikers? where are they.
- Not a single death or major accident in 80 yrs on this Bridge.
- The one-lane slows people down + gives you the country feel.

Honolua Bridge Replacement/Rehabilitation Project

Public Comment Form

Name: DAVE WARREN

Organization (if applicable) PREACHER

Phone / E-mail:

Comment: (please feel free to use the back):

I AGREE WITH

GORDON C. COCKETTS

TESTIMONY

Mailing Address: DOT Highways / Attn: Kevin Ito / 601 Kamokila Blvd #688 / Kapolei, HI 96707
Fax Number: (808) 692-7555

APPENDIX B

PRELIMINARY ENGINEERING REPORT

PRELIMINARY ENGINEERING REPORT
HONOAPIILANI HIGHWAY REHABILITATION / REPLACEMENT OF HONOLUA BRIDGE
LAHAINA, MAUI, HAWAII

DRAFT

Rev. May 2017
Rev. December 2014
Rev. July 2011
October 2009

Prepared for:

State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5067

Prepared by:

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817-5031
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E-mail: atahnl@atahawaii.com
Honolulu • Wailuku • Hilo, Hawaii

PRELIMINARY ENGINEERING REPORT

FOR

HONOAPIILANI HIGHWAY

REHABILITATION / REPLACEMENT OF HONOLUA BRIDGE

LAHAINA, MAUI, HAWAII

PREPARED FOR:

State of Hawaii
Department of Transportation

Prepared By

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
Honolulu • Wailuku • Hilo, Hawaii

Rev. May 2017
Rev. December 2014
Rev. July 2011
October 2009

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EXHIBITS

APPENDICES

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. ARASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S., LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

PRELIMINARY ENGINEERING REPORT

FOR

HONOAPIILANI HIGHWAY

REHABILITATION / REPLACEMENT OF HONOLUA BRIDGE

LAHAINA, MAUI, HAWAII

I. INTRODUCTION

The purpose of this report is to provide an overview of the preliminary engineering design of the Honoapiilani Highway – Rehabilitation/Replacement of Honolua Bridge project in the district of Lahaina, Maui. This report evaluates the existing site conditions and defines requirements for roadway and bridge improvements, grading and drainage for the three design alternatives for the Rehabilitation/Replacement of Honolua Bridge project.

II. PROPOSED PROJECT

A. Location

The project is located approximately between milepost 32.40 to 32.51 along Honoapiilani Highway (Route 30) on the northwestern coast of Maui, in the district of Lahaina, Island of Maui. Honoapiilani Highway, a State arterial, provides access to the westernmost side of Maui from the Wailuku-Waikapu-Maalaea areas on Maui. The highway begins in downtown Wailuku and circumvents the West Maui Mountains, passing through Waikapu, Maalaea,

REPLY TO:
501 SUMNER STREET, SUITE 521 • HONOLULU, HAWAII 96817-5031
PHONE (808) 533-3646 • FAX (808) 526-1267
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OFFICES IN:
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII
HILO, HAWAII

Olowalu, Launiupoko, Lahaina, Kahana, Kapalua, Honolua, and ending at Honokohau Bay. From this point, the road continues as Kahekili Highway continuing around the northwestern coastline of Maui and ending back in Wailuku. The project area is bounded by land owned by Maui Land & Pineapple Company (TMKs: 4-1-001: 009 (por.), 4-2-001: 001, 4-2-004: 032), land owned by the State of Hawaii (TMK: 4-1-001: 010), and land owned by John Carty & Jay Carty Jr. (TMK: 4-1-001:005). Refer to Exhibit 1 for Location and Vicinity Map.

B. Project Purpose

The State of Hawaii has implemented a Highways Modernization Plan with the goal of improving highway safety and reducing traffic congestion through maintenance and upgrading of critical highway projects throughout the State of Hawaii. The Honolua Bridge Rehabilitation/Replacement project is included in this plan under the Bridge Preservation Program (Project Reference #S3-307B). The existing bridge structure has a National Bridge Inventory (NBI) sufficiency rating of 42.2 and warrants replacement or rehabilitation. A NBI sufficiency rating below 50 warrants replacement of the bridge structure. The purpose of the proposed project is to replace or rehabilitate the Honolua Bridge with a bridge that exceeds an NBI of 50 and meets current State and Federal Standards to the maximum extent feasible.

C. Project Description

The existing Honolua Bridge is approximately 24 feet long and 18 feet wide. The bridge is considered to be a one-lane bridge, serving both inbound and outbound traffic on Honoapiilani Highway.

The proposed project will evaluate three design alternatives for Honolua Bridge:

1. Alternative #1: "No Build"

This alternative will leave the bridge as is. The bridge will remain substandard, not meeting State and Federal Design and Seismic Standards. No design or construction costs will be incurred.

2. Alternative #2: Rehabilitation of Existing Bridge

With this alternative, the existing Honolua Bridge will be rehabilitated in place with a new non-corrosive fiber-reinforced polymer (FRP) bridge deck with the goal of obtaining a NBI sufficiency rating of 50 or higher while minimizing construction impact to the existing abutment structure and roadway. A temporary detour road and bridge on the makai side of the existing bridge will be constructed to allow traffic to pass during the rehabilitation of the bridge. The rehabilitated structure will remain at 18-feet wide and will be improved with one 12-feet wide travel lane and one 5-feet wide shoulder for pedestrian and bike travel on the makai side and a 1-foot wide shoulder on the mauka side and 4.5 feet high bike rails on the bridge railing.

3. Alternative #3: Construct a New Two-Lane Bridge Structure on Makai Side

In this alternative, a new two-lane FRP bridge structure will be constructed makai of the existing bridge. The existing bridge will be utilized to allow traffic to pass during the construction of the new bridge. The proposed bridge will be approximately 40 feet wide and shall consist of two 12-feet wide travel lanes, two 8-feet wide shoulders and 4.5 feet high bike rails on the bridge railing.

III. EXISTING CONDITIONS

A. Topography and Soil Conditions

The project site within the existing highway right-of-way is currently developed with the existing 24 feet long by 18 feet wide bridge structure and asphalt concrete paved roadway. The roadway is an undivided, two-lane roadway. At the bridge, the roadway narrows to a one-lane bridge. An existing guardrail system is in place. The surrounding area is covered with dense brush, weeds and tree canopies. The existing ground near the bridge structure is relatively flat with a slight slope downward from the north to south direction with elevations ranging from approximately 33 feet to 32.5-feet mean sea level (MSL).

The bridge crosses over Honolua Stream, an intermittent stream at the bridge which outlets at Honolua Bay. Refer to Exhibit 2 for Existing Topographic Plan.

Soil on the site is mainly stony alluvial land (rSM). rSM soil is typically found on 3 to 15 percent slopes, and consists of stones, boulders, and soil deposited by streams along the bottoms of gulches and on alluvial fans. Elevations range from near sea level to 1,000 feet MSL. The mean annual precipitation is 10 to 50 inches. Classifications are based on the Natural Resources Conservation Service. Vegetation consists of koa haole, African tulip trees, Java plum, monkey pod, and noni.

B. Archaeological Sites

Four features were documented in the vicinity of the proposed project by Scientific Consultant Services, Inc. The four features include the earth and basalt terrace (significant under Criterion D), the basalt wall (significant under Criteria C and D), the bridge (significant under Criteria C and D), and the basalt water diverting wall (significant under Criterion D). The terrace and basalt wall is located on the mauka side of Honolua Bridge on the north side of Honolua Stream. The basalt wall is located on both the mauka and makai side of Honolua Bridge on the north side parallel to Honolua Stream. The basalt water diverting wall is located on the makai side of Honolua Bridge along the north bank of Honolua Stream. Refer to the Archaeological Inventory Survey Report dated October 2011 for further detail on documented sites.

C. Climatology

The area of Honolua is generally warm and sunny throughout the year, with temperatures varying from 70 to 80 degrees Fahrenheit. The majority of the rainfall occurs between the months of October through April. Average annual rainfall for Honolua ranges between 25 to 35 inches.

D. Existing Infrastructure

1. Roadway and Bridge

Honoapiilani Highway (Route 30), in the vicinity of the project site, consists of a 24-feet wide asphalt concrete two-lane, undivided paved roadway and is classified as a major collector. The existing Honolua

Bridge is 24 feet long and 18 feet wide. The existing bridge is a one-lane bridge that serves both inbound and outbound traffic on Honoapiilani Highway. An existing guardrail system is in place. The posted speed limit on Honoapiilani Highway in the vicinity of the project site is 25 miles per hour (mph). As you approach the bridge, the posted speed limit reduces to 10 mph.

2. Drainage

The existing bridge structure crosses over Honolua Stream. Water only flows through the streambed during periods of heavy rain; otherwise, the streambed is dry. The streambed consists of small cobbles. The existing 100 year- 24 hour peak discharge was calculated to be 2,400 cubic feet per second (cfs). Hydrology calculations and 100 year flood limits were completed by WEST Consultants, Inc. Refer to Appendix A for the Existing Conditions 100-Year Floodplain.

E. Flood Zone

The project site sits in a designated flood zone "A", which is defined as special flood hazard areas subject to inundation by the 1% annual chance flood. The 1% annual flood (100-year flood) is the flood that has a 1% chance of being equaled or exceeded in any given year. For the zone "A" flood classification, no base flood elevations have been determined. Flood zone information is obtained from the Federal Emergency Management Agency, Flood Insurance Rate Map (FIRM), Panel No. 150003 0266 F, dated September 19, 2012. Refer to Exhibit 5 for Flood Zone Map.

IV. PROPOSED INFRASTRUCTURE IMPROVEMENTS

A. Roadway and Bridge Improvements

As previously stated, three design alternatives for Honolua Bridge will be evaluated for this project. No improvements would be done with Alternative #1. Below is a summary of the proposed roadway and bridge improvements for Alternative #2 and #3.

1. Alternative #2: Rehabilitation of Existing Bridge

With this alternative, the existing Honolua Bridge will be rehabilitated in place with a new bridge deck with the goal of obtaining a NBI sufficiency rating of 50 or higher while minimizing construction impact to the existing abutment structure and roadway. A temporary detour structure on the makai side of the existing bridge will likely be required to allow traffic to pass during the rehabilitation of the bridge. The rehabilitated structure will remain at 18-feet wide and will be improved with one 12-feet wide travel lane and one 5-feet wide shoulder for pedestrian and bike travel on the makai side and a 1-foot wide shoulder on the mauka side and 4.5 feet high bike rails on the bridge railing.

Based on an exploratory investigation of the existing bridge abutments conducted on October 28, 2010 by KAI Hawaii, Inc., it was concluded that the existing CRM abutments have sufficient foundational support with no indication of settlement or stress-related deterioration. The existing abutments should be able to be reused provided that the new bridge deck is not heavier than the existing deck and the rehabilitated bridge maintains its existing posted load of 10 tons. The material of the new bridge deck is proposed to be a non-corrosive prefabricated fiber-reinforced polymer (FRP).

The current guardrail and end treatment connections will be upgraded to comply with NCHRP 350. Signage and striping will be required and shall comply with State DOT Standards and the 2009 version of the Manual on Uniform Traffic Control Devices (MUTCD).

Proposed improvements for Alternative #2 include excavation and embankment, rehabilitation of the existing bridge, roadway signage and striping, and guardrails. A temporary detour road and bridge will be constructed on the Makai side of the existing bridge prior to rehabilitation of the existing bridge. Refer to Exhibit 3 for Alternative #2.

2. Alternative #3: Construct a New Two-Lane Bridge Structure on Makai Side

In this alternative, a new two-lane FRP bridge structure will be constructed makai of the existing bridge. Further design of the bridge will

determine how the documented archaeological sites will be affected. The existing bridge will be utilized to allow traffic to pass during the construction of the new bridge. The proposed bridge will be approximately 40 feet wide and shall consist of two 12 feet wide travel lanes, two 8 feet wide shoulders and 4.5 feet high bike rails on the bridge railing. Guardrails and end post and end treatment connections, compliant with NCHRP 350, will need to be installed. Signage and striping will be required and shall comply with State DOT Standards and the 2009 version of the Manual on Uniform Traffic Control Devices (MUTCD). The new bridge shall conform to the HDOT Bridge Design Criteria dated August 2002 and the latest AASHTO LRFD Bridge Design Specifications. The existing highway alignment in the vicinity of the project site will need to be adjusted to accommodate the new bridge location and shall comply with AASHTO guidelines in the 2004 edition of "A Policy on Geometric Design for Highways and Streets" to the maximum extent feasible. A pavement justification report and hydraulic report will be required. The drainage system will be upgraded to ensure compliance with the latest versions of the HDOT Design Criteria for Highway Drainage dated May 15, 2006 and the FHWA Hydraulic Engineering Circulars and Hydraulic Design Series.

Proposed improvements for Alternative #3 include excavation and embankment, construction of the new bridge, adjustment of roadway, roadway signage and striping, guardrails and bike rails. Nearby driveway accesses will also need to be adjusted to the new roadway and bridge location and alignment. Refer to Exhibit 4 for Alternative #3.

B. Grading and Drainage Plan

For Alternative #2, the project will require minimal excavation and embankment since the existing bridge abutments will remain intact and only a new bridge deck will be constructed. For Alternative #3, excavation and embankment will be required in order to construct the new bridge structure and realigned roadway. The site will be graded to minimize the cut and fill required with maximum 2H:1V slopes for embankments.

The proposed bridge under Alternative #3 will be designed and constructed to allow flows generated by Honolua Stream to pass under in conditions meeting or exceeding the current bridge design. Existing improvements and site conditions may place limitations or restrictions on the proposed bridge from allowing a higher capacity of flow under the bridge.

The Rational Method is used to determine the storm water runoff quantities for drainage areas of 100 acres or less. Hydrology calculations are based on 25 year – 1 hour storm recurrence interval in accordance with HDOT Design Criteria for Highway Drainage dated May 15, 2006. The storm recurrence interval is based on the existing roadway within the project vicinity being classified as a major collector. As required, the roadway drainage system shall be designed based on the 25 year – 1 hour storm. For drainage areas greater than 100 acres, the Hydrograph Method is used to determine storm water runoff, based on a 100 year – 24 hour storm. The existing 100 year- 24 hour peak discharge was calculated to be 2,400 cubic feet per second (cfs). Hydrology calculations and 100 year flood limits were completed by WEST Consultants, Inc. The proposed improvements are not expected to affect the existing drainage patterns and flows. Refer to Appendix B for Preliminary Hydraulic Model Assumptions and Models.

A hydraulic report would be required for the proposed bridge structure under Alternative #3. The drainage system would be designed in accordance with the latest versions of the HDOT Design Criteria for Highway Drainage dated May 15, 2006 and the FHWA Hydraulic Engineering Circulars and Hydraulic Design Series. Storm water best management practices (BMPs) will be designed in accordance with the HDOT Storm Water Permanent Best Management Practices Manual dated March 2007.

V. CONCLUSION

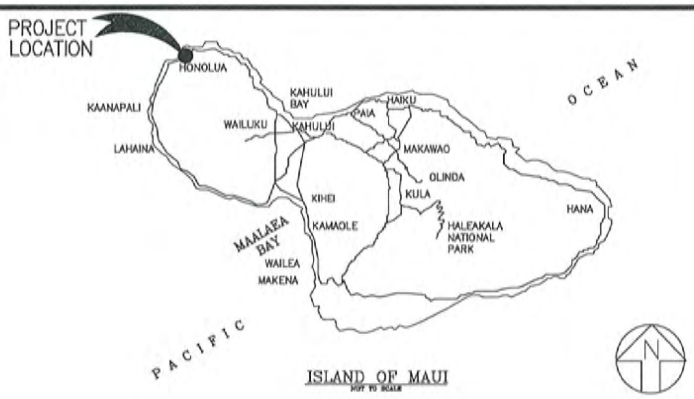
The proposed improvements for this project will be designed in accordance with the applicable rules and regulations of the Federal Highways Administration, State of Hawaii and the County of Maui design standards and guidelines, as applicable.

A National Pollutant Discharge Elimination System (NPDES) permit for discharge of storm water associated with construction activities will be obtained and the requirements of the approved NPDES permit and best management plan (BMP) will be adhered during construction. At a minimum silt fences, diversion berms, gravel egress, truck wash down areas and dust screens will be included in the BMP. Monitoring of the BMP during construction will be the responsibility of the selected contractor with general oversight by HDOT or their designated representative.

Other permits or certifications which may be required for this project are the State of Hawaii Conservation District Use Application (CDUA), U.S. Department of the Army Permit (404), Department of Health, Section 401 Water Quality Certification (WQC), Coastal Zone Management (CZM) Consistency Approval, and Stream Channel Alteration Permit (SCAP) and Special Management Area (SMA) Permit.

Based on the foregoing, the project is expected to have no adverse effects to the existing facilities and to the surrounding environment.

EXHIBITS



LOCATION MAP

NOT TO SCALE

VICINITY MAP

NOT TO SCALE

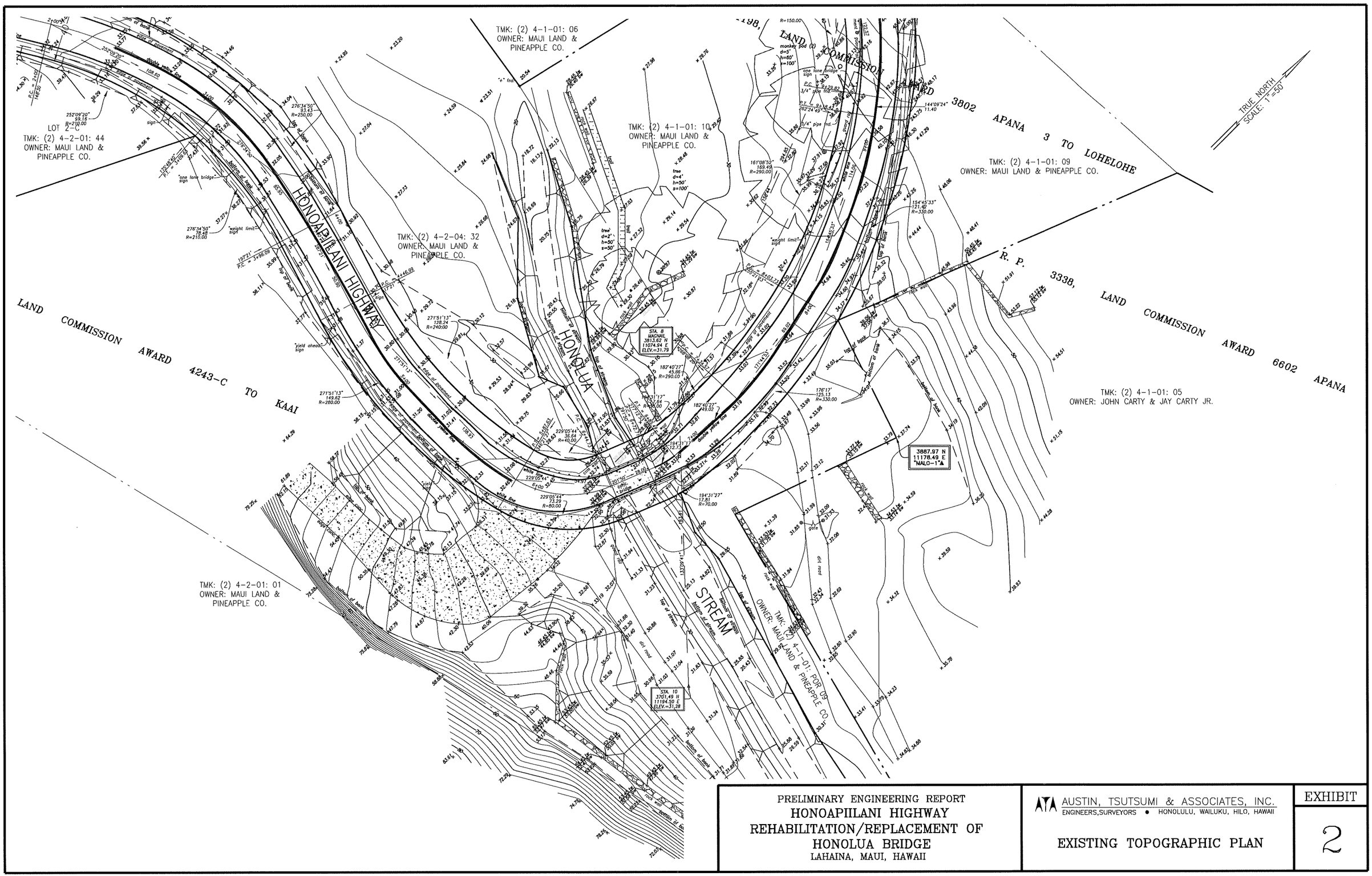
PRELIMINARY ENGINEERING REPORT
HONOAPIILANI HIGHWAY
REHABILITATION/REPLACEMENT OF
HONOLUA BRIDGE
LAHAINA, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HAWAII

PROJECT LOCATION &
VICINITY MAP

EXHIBIT
1

MAY 2017



PRELIMINARY ENGINEERING REPORT
HONOAPIILANI HIGHWAY REHABILITATION/REPLACEMENT OF HONOLUA BRIDGE
LAHAINA, MAUI, HAWAII

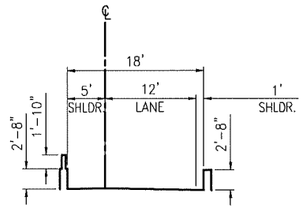
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII

EXISTING TOPOGRAPHIC PLAN

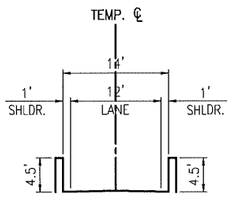
EXHIBIT 2

JOB NO. M-08-077

MAY 2017



PROPOSED
BRIDGE CROSS SECTION
SCALE: 1"=20'



TEMPORARY
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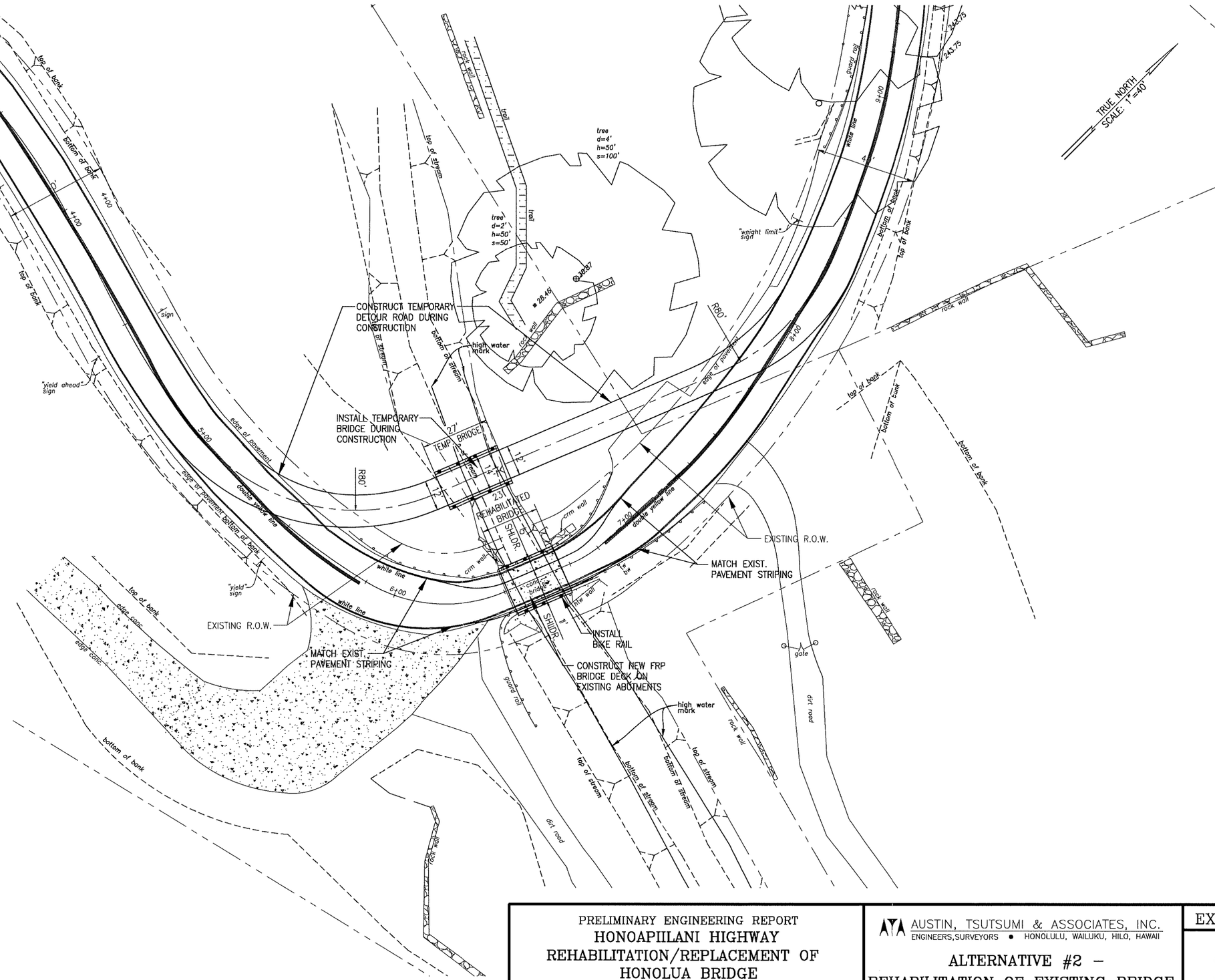


PRELIMINARY ENGINEERING REPORT
HONOAPIILANI HIGHWAY
REHABILITATION/REPLACEMENT OF
HONOLUA BRIDGE
LAHAINA, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HILO, HAWAII

ALTERNATIVE #2 –
REHABILITATION OF EXISTING BRIDGE

EXHIBIT
3

JOB NO. M-08-077

MAY 2017

REMOVE "ONE LANE BRIDGE" SIGN AND POST

REMOVE "YIELD AHEAD" SIGN & POST

REMOVE "YIELD" SIGN & POST

REMOVE "ONE LANE BRIDGE" SIGN & POST

AC TRANSITION– MATCH EXIST EDGE OF PAVEMENT

AC TRANSITION– MATCH EXIST EDGE OF PAVEMENT

METAL BEAM GUARDRAIL W/ END POST TREATMENT

METAL BEAM GUARDRAIL W/ END POST TREATMENT

METAL BEAM GUARDRAIL W/ END POST TREATMENT

METAL BEAM GUARDRAIL W/ END POST TREATMENT

BIKE RAIL ON BRIDGE WALL

BIKE RAIL ON BRIDGE WALL

TRANSITION CONC. DRIVEWAY TO NEW AC PAVEMENT

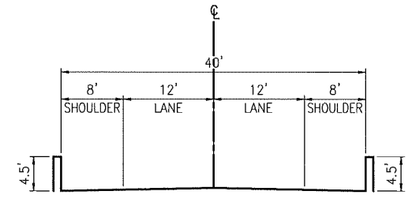
TRANSITION DIRT /ROAD TO NEW AC PAVEMENT

PROPOSED R.O.W.

NEW BRIDGE 40'

TRUE NORTH
SCALE: 1"=40'

PROPOSED
BRIDGE CROSS SECTION
SCALE: 1"=20'



PRELIMINARY ENGINEERING REPORT
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LAHAINA, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
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ALTERNATIVE #3 –
NEW TWO–LANE BRIDGE

EXHIBIT
4

JOB NO. M–08–077

MAY 2017

HONOAPILANI HIGHWAY

75
66
117
138
220
275
330
363
438
490
547
600
652
705

Notes:
100-year peak discharge: 2,400 cfs.
Detailed topo provided by ATA Hawaii.
Topo outside of detailed topo was interpolated from USGS contours.

Honolua Bridge
Existing Conditions
100-year Floodplain

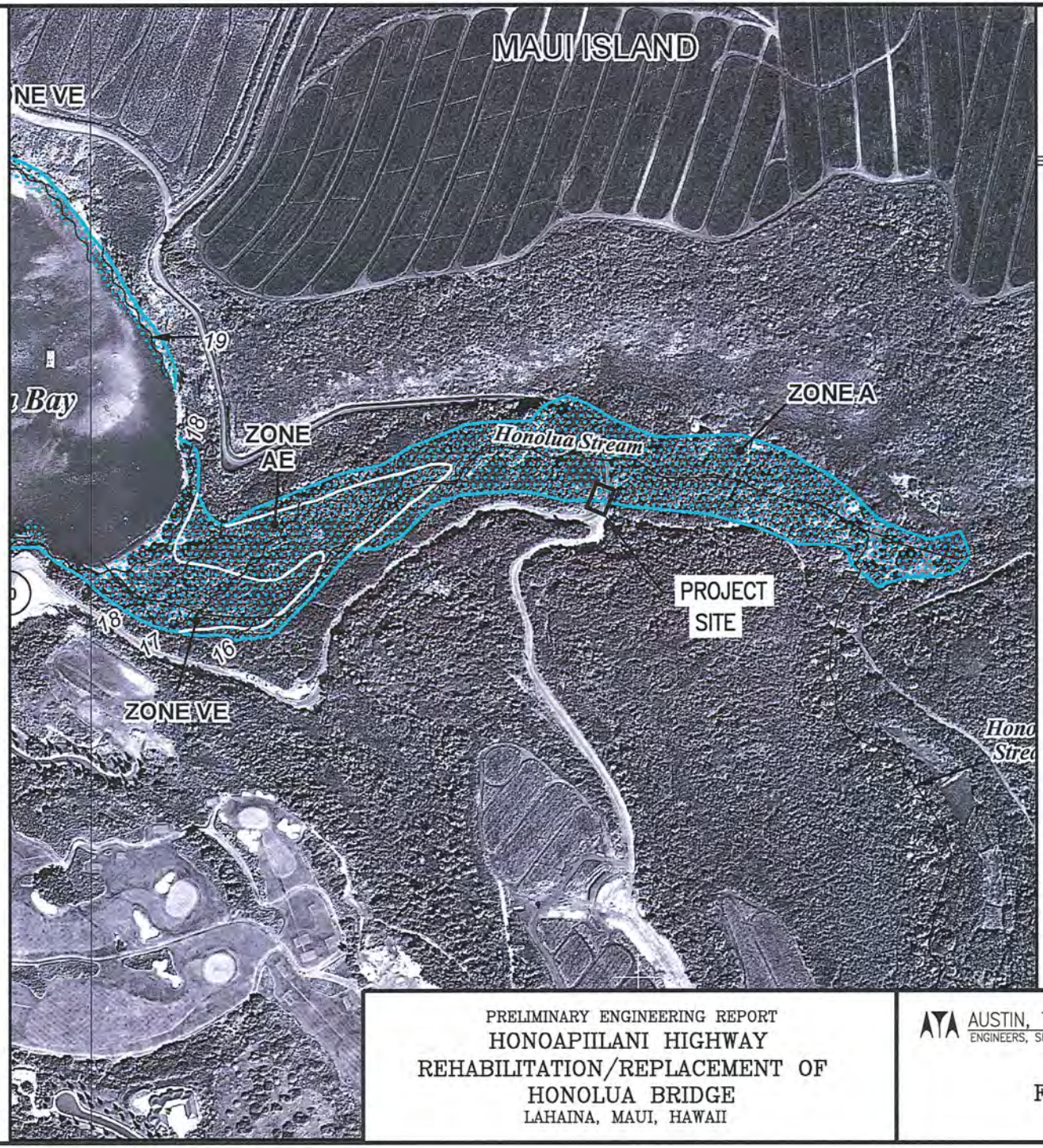
0 50 100 200 Feet

N W E S

DRAFT

January 2009

WEST CONSULTANTS, INC.



MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0266F

FIRM

FLOOD INSURANCE RATE MAP

MAUI COUNTY, HAWAII

PANEL 266 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MAUI COUNTY	150003	0266	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
1500030266F

MAP REVISED
SEPTEMBER 19, 2012

Federal Emergency Management Agency

PRELIMINARY ENGINEERING REPORT
HONOAPIILANI HIGHWAY
REHABILITATION/REPLACEMENT OF
HONOLUA BRIDGE
LAHAINA, MAUI, HAWAII

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, WAILUKU, HAWAII

FLOOD ZONE MAP

EXHIBIT 5

MAY 2017

APPENDICES

APPENDIX A

EXISTING CONDITIONS 100-YEAR FLOODPLAIN

APPENDIX B

PRELIMINARY HYDRAULIC MODEL ASSUMPTIONS AND RESULTS

Alternative #2 (Rehab Existing Bridge)

Model Assumptions

- Span: 20'
- Deck Width: 20'
- Deck Depth: 24"
- Railing Height: 3.5'
- Deck placed on existing abutments
- Low Chord Elevation: 30.82 ft

Model Results

- 100-year design discharge overtops bridge/roadway, which is the same as existing conditions (Figure 1)
- No rise in 100-year WSEL upstream compared to existing conditions (Figure 2)

Alternative #3 (Replacement Bridge)

Model Assumptions

- Span: 30'
- Deck Width: 42'
- Deck Depth: 30"
- Railing Height: 3.5'

Model Results

- Low Chord Elevation: 34.5 ft
- Bridge can pass the 100-year design discharge with 2 ft freeboard (Figure 3)
- No rise in 100-year WSEL upstream compared to existing conditions (Figure 4)

APPENDIX C

PHOTOS OF EXISTING SITE CONDITIONS

Photo 1 – Existing Honolua Bridge looking south

Photo 2 – Streambed under bridge structure

Photo 3

Photo 4 – Underside of bridge

Photo 5

Photo 6 – Honolua Stream

APPENDIX

B-1

HYDRAULIC AND SCOUR ANALYSIS

HONOAPIILANI HIGHWAY
HONOLUA BRIDGE REPLACEMENT
HYDRAULIC & SCOUR ANALYSIS

Prepared for:

State of Hawaii, Department of Transportation
Kapolei, Hawaii

Austin, Tsutsumi & Associates, Inc.
Honolulu, Hawaii

Prepared by:

WEST Consultants, Inc.
San Diego, California

Honoapiilani Highway
Honolua Bridge Replacement
Hydraulic and Scour Analysis

Prepared for:

State of Hawaii, Department Transportation
Design Branch
601 Kamokila Boulevard, Room 688
Kapolei, HI 96707

and

Austin, Tsutsumi & Associates, Inc.
501 Sumner Street, Suite 521
Honolulu, HI 96817

Prepared by:

WEST Consultants, Inc.
11440 W. Bernardo Court, Suite 360
San Diego, CA 92127

This work was prepared by me or under my supervision.

November 2008 Draft Report

Signature — April 30, 2012 *Expiration Date of License*

May 2018 Final Report

Signature — April 30, 2020 *Expiration Date of License*

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APPENDICES

1 INTRODUCTION

1.1 Study Purpose

WEST Consultants, Inc. (WEST) was contracted by Austin, Tsutsumi & Associates (ATA) to conduct a hydraulic and scour analysis for a proposed replacement of the crossing on Honoapiilani Highway over Honolua Stream on Maui. ATA is the prime contractor on this project for the State of Hawaii, Department of Transportation (HDOT).

This report describes the hydraulic modeling, scour analysis, and erosion/scour protection recommendations for the bridge. Peak discharges were estimated using a discharge-drainage area relationship developed for gaged watersheds within the West Maui Mountains. Water surface elevations for Honolua Stream were determined using the HEC-RAS hydraulic model.

A general location map is provided as Figure 1-1. A site location map is provided as Figure 1-2.

1.2 Data Collection and Review

1.2.1 Technical Data

Existing technical data such as previous flood studies, topographic data, existing bridge plans, floodplain maps, and hydrologic data were reviewed. Data sources included ATA, HDOT, the Federal Emergency Management Agency (FEMA), and the U.S. Geological Survey (USGS).

1.2.2 Field Reconnaissance

Jeff Bradley (WEST) conducted a detailed field reconnaissance trip on December 15, 2005. Jake Gusman also conducted a detailed site visit on February 22, 2009.

The purpose of the site visit for WEST was to become familiar with the expected flow patterns at the project site and to record field data for the hydraulic and scour analysis. In general, Manning's roughness values for the channel and overbanks were estimated, field evidence of degradation was investigated, and the bridge structure was examined.

1.3 Acknowledgments

Jake Gusman, P.E., served as WEST project manager through completion of the draft report in November 2008. Darren Bertrand performed hydrologic computations and hydraulic modeling. Kurt Baron provided Geographic Information Systems (GIS) services. Martin Teal, P.E., P.H., was the WEST Principal in Charge, performed quality assurance reviews of the results and draft study report, and prepared the final study report.

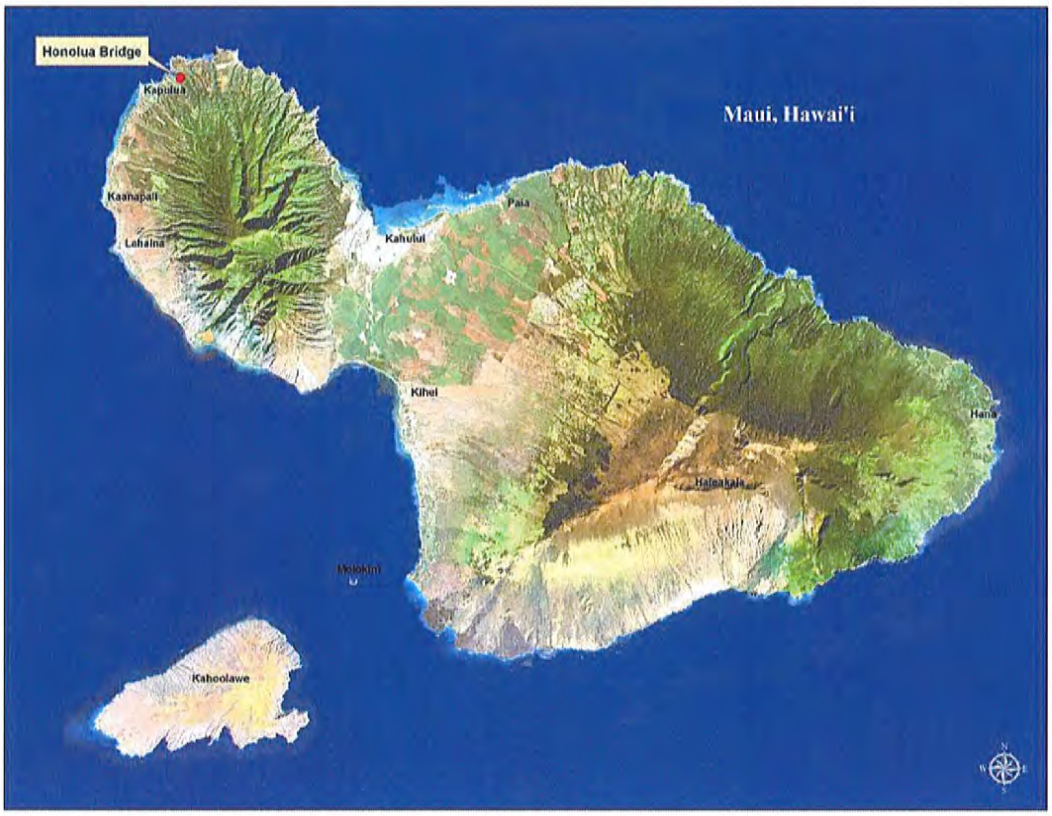


Figure 1-1. General Location Map.

Figure 1-2. Honolua Bridge Site Location Map

2 HYDROLOGIC ANALYSIS

Due to the lack of historical peak discharge data from Maui County, the State of Hawaii and USGS surface water gages for the Honolua Stream, peak discharges were computed for the study reach by WEST.

To develop updated peak discharge estimates based on the best available data, WEST obtained U.S. Geological Survey (USGS) stream gage data for four gages on the leeward side of Maui. By using log-log relationships of discharge to drainage area for the four gages in the vicinity of Honolua Stream, the 100-year and 500-year peak discharges were computed.

2.1 Previous Studies

The FEMA Flood Insurance Rate Map (FIRM) community-panel number 150003 00266 indicates the area of the project site has only been mapped by approximate methods. Currently, FEMA base flood elevations have yet to be determined for the Honolua Bridge Replacement project site. The FEMA Flood Insurance Study (FIS) for Maui County (FEMA, 2015) does not provide any discharges for Honolua Stream.

2.2 Regional Flood Frequency Analysis

2.2.1 Stream Gage Data

The four USGS gages that were selected for comparison with Honolua Stream are presented in Table 2.1. These gages were selected based on their extended period of record, general proximity to Honolua Stream, drainage area, and physical similarities to the Honolua Stream watershed.

Table 2-1. USGS Gage

USGS Number	Description	Drainage Area(mi^2)	Period of Record
16643300	Kauaula Stream Near mouth near Lahaina, Maui, HI	4.12	46 years
16630200	Honokowai Stream at Honokowai, Maui, HI	5.59	45 years
16638500	Kahoma Stream near Lahaina, Maui, HI	5.22	40 years
16646200	Olowalu Stream at Olowalu, Maui, HI	4.08	46 years

WEST used the HEC-SSP (Statistical Software Package) computer program to develop a flood frequency curve for all four gages. HEC-SSP uses techniques described in the revised Bulletin 17B *Guidelines for Determining Flood Flow Frequency* (USGS, 1982). The resulting 100-year and 500-year peak flows for the gages studied are presented in Table 2-2 below.

Table 2-2. Computed Peak Flow

USGS Number	Description	100-year	500-year
16643300	Kauaula Stream Near mouth near Lahaina, Maui, HI	2,225	3,802
16630200	Honokowai Stream at Honokowai, Maui, HI	4,200	7,817
16638500	Kahoma Stream near Lahaina, Maui, HI	4,866	7,103
16646200	Olowalu Stream at Olowalu, Maui, HI	1,955	2,668

2.2.2 Regional Regression Analysis

Once the estimated peak discharges for the four USGS gages were computed using HEC-SSP a log-log relationship of discharge to drainage area was developed to estimate the peak discharges for Honolua Stream. Based on the discharge-drainage area relationship and the size of the Honolua drainage area (4.3 mi^2), the estimated 100-year peak discharge is 2,400 cfs and the 500-year peak discharge is 3,400 cfs. The log-log relationships for the 100-year and 500-year peak discharge to drainage area are provided in Appendix A.

2.3 USGS Regional Regression Equations

During the course of the study, the USGS released new regional regression equations for the State of Hawai'i (Oki et al., 2010). Maui is divided into 2 regions, as illustrated in Figure 2-1 below. There is a large difference in the computed 100-year peak discharges between the two regional regression equations, with the Region 8 equation computing much higher discharges than the Region 7 equation.

It should be noted that the four USGS gages used in the Regional Flood Frequency Analysis were all located in Region 7.

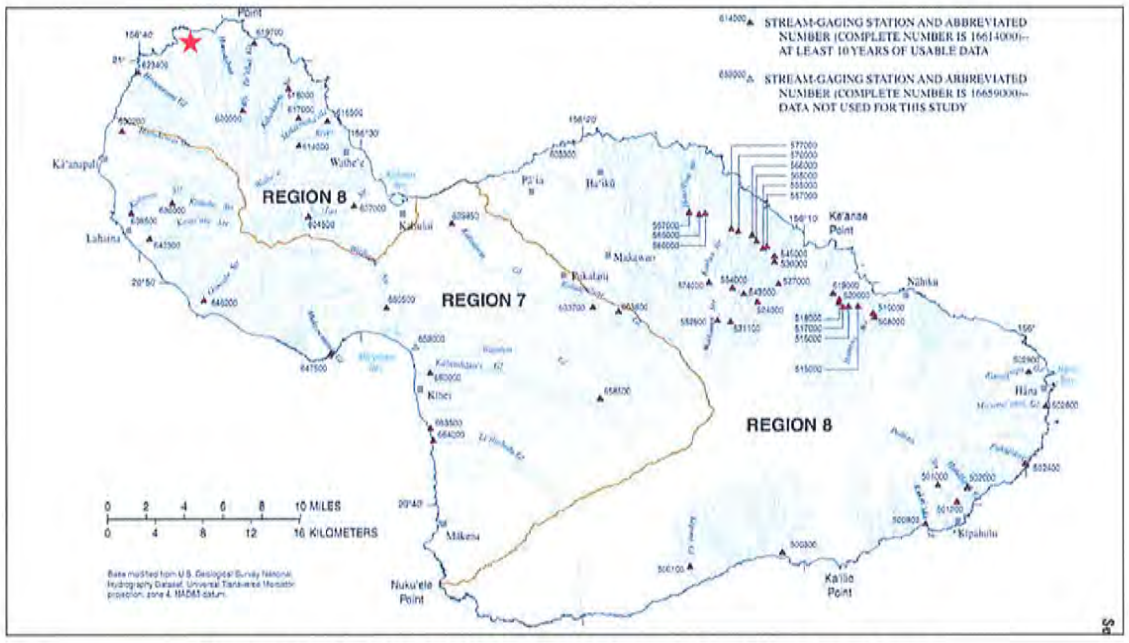


Figure 2-1. USGS (2010) Regional Regression Equation Zones

The Honolua Stream watershed is included in Region 8 (see Figure 2-2), although the headwaters are close to Region 7. A summary of the peak discharges computed using the Region 7 and Region 8 equations, as well as the Regional Flood Frequency Analysis are provided in Table 2-3.

Table 2-3. Summary of Computed Peak Discharges

Regression Equation	100-year Peak Discharge
Regional FFA	2,400 cfs
USGS Region 7 (2010)	2,600 cfs
USGS Region 8 (2010)	8,000 cfs

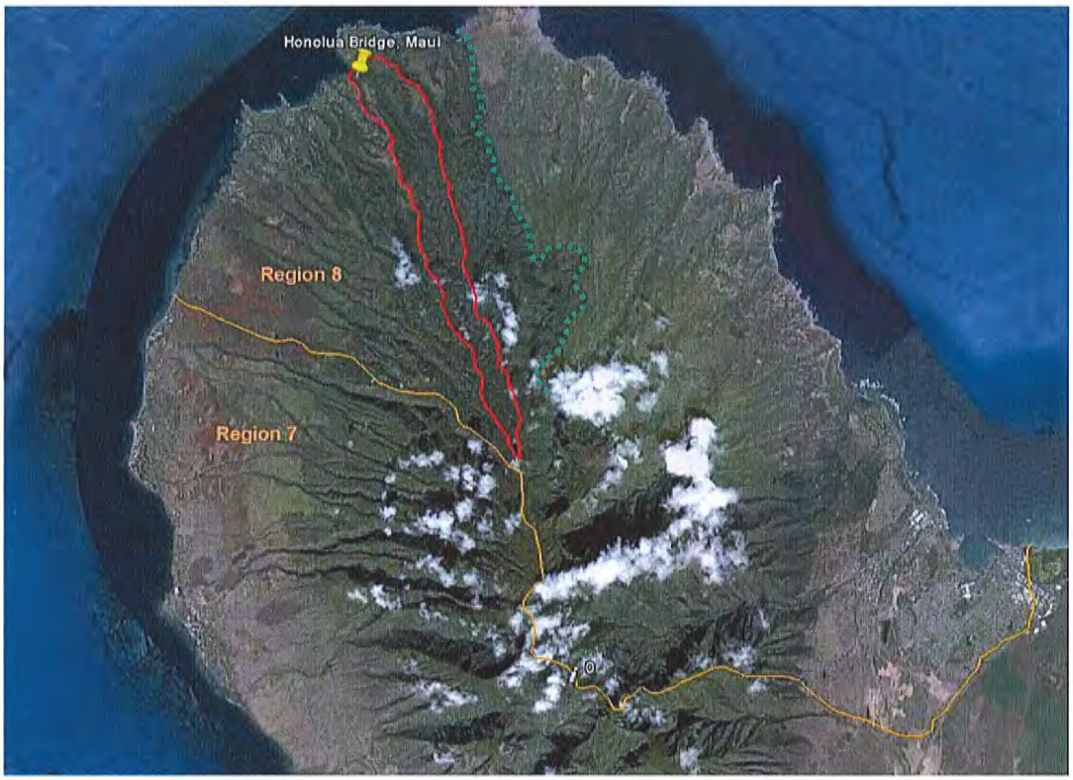


Figure 2-2. Aerial showing Honolua Stream Watershed and Vegetation Change (dotted line)

The following observations were made regarding the Region 7 and 8 computed discharges and watershed conditions:

- **Region 8 computed discharges appear to be too high for Honolua.** A preliminary HEC-RAS model run using the 8,000 cfs discharge resulted in a water surface elevation approximately 7 feet above the existing roadway. Based on the full set of Region 8 equations, a 2,400 cfs discharge would be close to the 2-year event (rather than close to the 100-year event based on the Region 7 equation). This would mean that the existing bridge/roadway overtops by 3 or more feet every other year on average. However, we have

found no evidence that this is the case. Therefore, the Region 8 computed discharges appear to be significantly too large.

- **Watershed cover is more similar to Region 7, not Region 8, watersheds**. The Honolua Stream watershed, and especially its upper reaches, is close to the dividing line between Region 7 and Region 8. The Honolua Stream watershed has similar vegetation and hydrologic conditions to the upper reaches of leeward side watersheds in Region 7 (Figure 2). The Honolua Stream watershed is highly vegetated and has distinctly denser vegetation than the watersheds in Region 8 on the windward side. This can also be observed when driving from Honolua Bay to Waihee on the Kahekili Highway.
- **Region 7 computed discharges appear to be appropriate for Honolua.** The computed 100-year discharge using the Region 7 equation (2,600 cfs) compares closely with the estimate obtained by WEST (2,400 cfs) using 4 similar watersheds with gage data available.

2.3.1 Adopted Peak Discharge

The FEMA FIS does not provide a discharge for Honolua Stream. Regional flow frequency analysis using gages from surrounding watersheds with long periods of record yielded an estimate of 2,400 cfs for the 100-year discharge at the bridge. Based on the results of the USGS Region 7 and Region 8 regression equations, watershed conditions, and engineering judgment, we believe that the Region 7 regression equations are the most applicable to the Honolua Stream watershed and the Honolua Bridge project. This method provided an estimate of 2,600 cfs for the 100-year discharge which compared well with the estimate from the regional frequency analysis. Therefore, 2,600 cfs was adopted as the 100-year design discharge for the bridge.

3 EXISTING HYDRAULIC ANALYSIS

WEST performed hydraulic modeling to estimate the flood elevations for Honolua Stream, and to determine the capacity of the existing channel at the bridge location. The U.S. Army Corps of Engineers' HEC-RAS (River Analysis System) computer program was used to compute flood elevations.

3.1 Model Input Data

3.1.1 Topographic Data

Two sources of topographic data were used in this study. Sources and descriptions of the data are provided below.

- A CAD file with onsite topography was provided by ATA which included 1-foot contour interval topography as well as spot elevation data. The survey covered the majority of the study site.
- 10-foot contour interval topography from the USGS quadrangle map (1983) was used for overbanks and outlying areas that were beyond the limits of the ATA topography.

The two data sets were combined into a single TIN (Triangulated Irregular Network) within the ArcView GIS program. All elevations in this study are referenced to the NGVD 1929 vertical datum.

3.1.2 Cross Sections

The HEC-GeoRAS extension to ArcView was used to cut cross sections from the TIN. These cross sections were imported into the HEC-RAS computer program, Version 4.1 (HEC, 2010), to create the hydraulic model.

3.1.3 Manning's Roughness

Manning's roughness values were selected based on field observations, aerial photography, engineering judgment, and the use of Cowan's method for determining roughness for channels and floodplains. Based on Cowan's method the main channel both upstream and downstream of the bridge was assigned a Manning's *n* of 0.07, except for the upstream and downstream bounding cross sections which were assigned a value of 0.05 based on the lack of instream vegetation and large rocks. The floodplain overbanks were assigned Manning's *n* values of 0.08 to 0.12 based on the dense trees and brush in the overbank area.

Field photos of Honolua stream are shown in Figure 3-1 and Figure 3-2.

Figure 3-1. Honolua Stream Channel looking upstream of Honoapiilani Highway Bridge.

Figure 3-2. Honolua Stream overbank area in the vicinity of the Honoapiilani Highway Bridge.

3.1.4 Existing Bridge

The Honoapiilani Highway Bridge over Honolua Stream was the only structure within the study reach. No as-built plans were available for the structure; so survey data and photographs were used to obtain the following dimensions and parameters that were used to model the existing bridge in the HEC-RAS model:

- 20-foot length between vertical abutments; 18.2-foot width (in direction of flow)
- 3.25-foot thickness for bridge deck (not including barrier/railing)
- Concrete rail/barrier on bridge deck: 2.5-foot height

Field photos of the Honoapiilani Highway Bridge are shown in Figure 3-3 and Figure 3-4.

Figure 3-3. Honolua Bridge, looking at the upstream face.

Figure 3-4. Honolua Bridge, looking upstream through the bridge.

3.1.5 Downstream Boundary Conditions

The downstream limit of the model was located approximately 190 feet downstream of the bridge. A slope of 0.012 was assumed for a normal depth downstream boundary in the subcritical flow regime.

3.2 Hydraulic Model Results

HEC-RAS hydraulic model results for the existing Honolua Bridge are provided in Appendix B, including profile plot, output table, and model cross sections.

3.2.1 Capacity of Existing Bridge

The capacity of the existing bridge is approximately 960 cfs, far below the 100-yr computed peak discharge of 2600 cfs.

3.2.2 100-year Flood Elevations

The computed 100-year water surface elevation at the upstream face of the existing bridge was approximately 36.4 feet. The roadway elevation at the deck of the bridge is approximately 32.8 feet. Therefore, the existing bridge will be overtopped by 3.6 feet during a 100-year flood. Figure 3-5 shows the profile plot for the 100-year existing conditions.

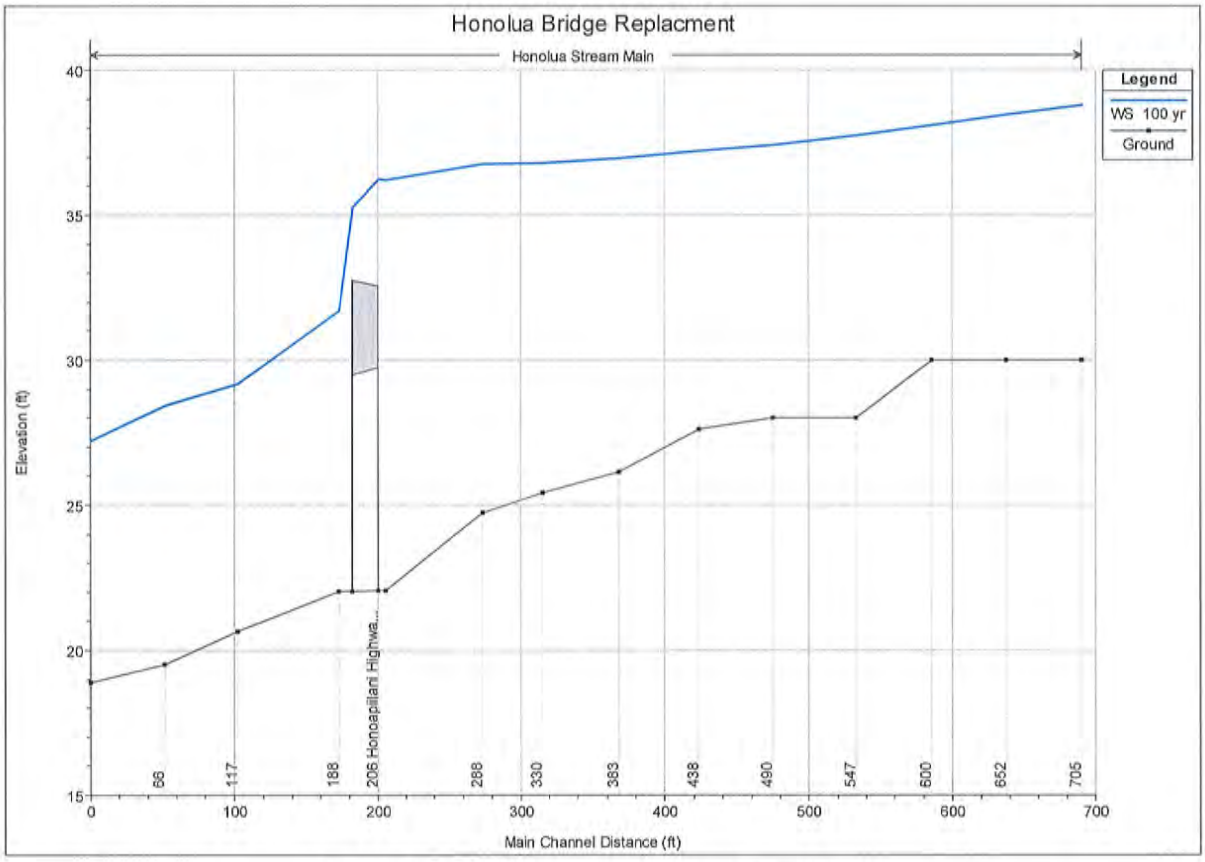


Figure 3-5. 100-year Existing Conditions Profile.

4 PROPOSED HYDRAULIC ANALYSIS

WEST performed hydraulic modeling to estimate the capacity and impacts of two separate bridge replacement and rehabilitation alternatives for the Honolua Bridge. The first alternative (Alternative #2) is a rehabilitation of the existing structure and will utilize the existing abutments. The current bridge deck will be replaced by a new Fiber Reinforced Polymer (FRP) Composite bridge. The second alternative (Alternative #3), will be a bridge replacement and will move the new structure approximately 30 feet to the makai side of the existing bridge.

4.1 Alternative #2 – Rehabilitation Option

4.1.1 Proposed Bridge

The proposed bridge deck will be placed on the existing abutments and will be raised only slightly as a concrete cap will be poured/placed on top of each abutment to serve as a level bearing surface for the new FRP deck. The new deck will span 20 feet and will have a depth of approximately 24". The following dimensions and parameters were used to model Alternative #2 in the HEC-RAS model:

- Barrier/railing: 3.6 feet
- Width of road: 20 feet
- Deck thickness: 2.0 feet
- Span: 20 feet
- Roadway profile based on elevation data provided by ATA

4.1.2 Manning's Roughness

Manning's roughness values were not changed for Alternative #2 and are representative of the existing conditions roughness values (see Section 3.1.3).

4.1.3 Hydraulic Model Results

HEC-RAS hydraulic model results for the proposed rehabilitation of the Honolua Bridge are provided in Appendix B.

4.1.4 100-year Flood Elevations

Based on the hydraulic model results for the 100-year discharge, the proposed bridge has little impact on the computed water surface elevations compared to existing conditions (see Table 4-1).

Flood elevations decrease due to the proposed deck having a smaller depth as compared to the existing structure. The depth of the deck is reduced by approximately 1.25 feet compared to the existing deck. The largest reduction in the 100-year flood surface elevation is 0.06 feet. This decrease in elevation is expected due to the small increase in capacity of the bridge opening caused by the reduction in deck thickness. A profile plot comparison between Alternative #2 and the existing condition shows slight decrease in water surface elevations (Figure 4-1).

Table 4-1. Hydraulic Model Results (100-year Discharge) – Alternative #2 vs. Existing Bridge.

River Station	Existing 100-yr WSEL (ft)	Alternative #2 100-yr WSEL (ft)	Elevation Change (ft)
705	38.81	38.8	-0.01
652	38.46	38.45	-0.01
600	38.09	38.08	-0.01
547	37.74	37.71	-0.03
490	37.4	37.37	-0.03
438	37.23	37.19	-0.04
383	36.97	36.94	-0.03
330	36.8	36.76	-0.04
288	36.77	36.73	-0.04
220	36.21	36.15	-0.06
Existing Honolua Bridge			
188	31.7	31.7	0
117	29.18	29.18	0
66	28.44	28.44	0
15	27.24	27.24	0

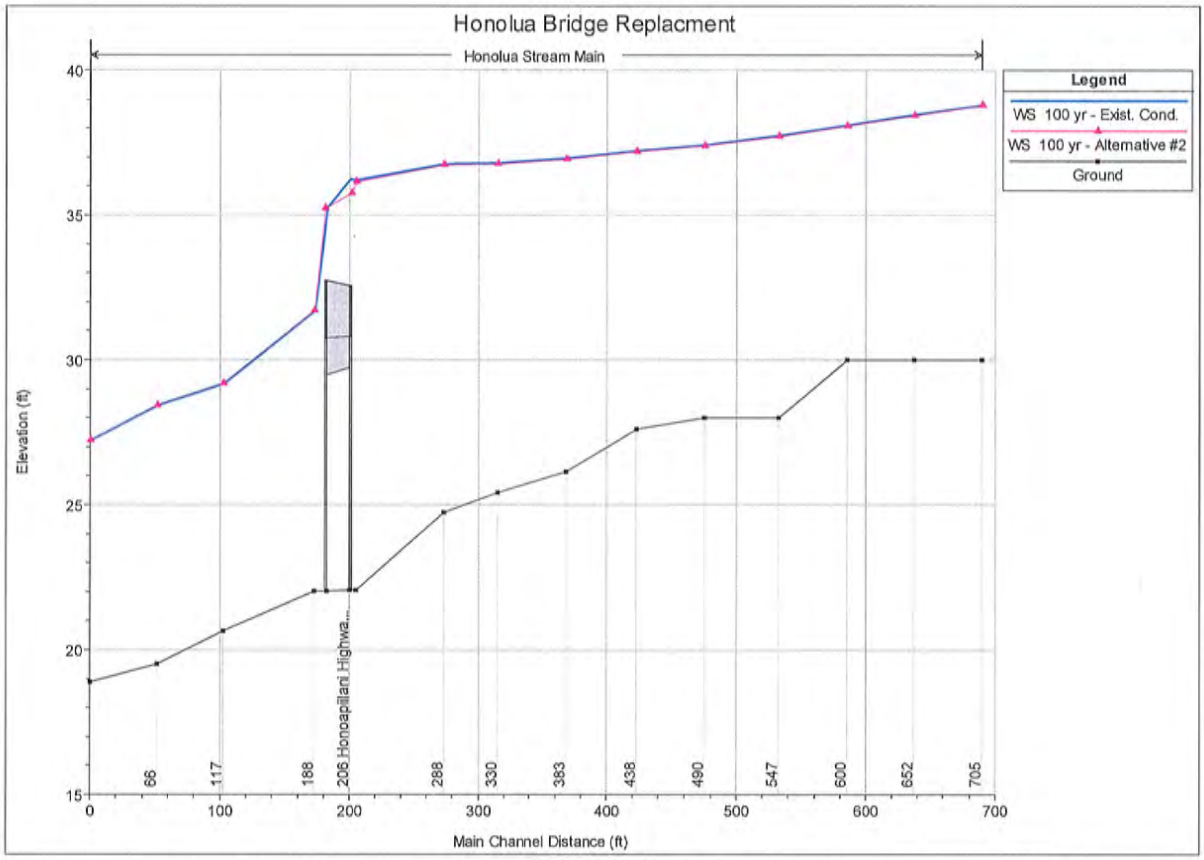


Figure 4-1. 100-year Flood Profile Comparison – Alternative #2 vs. Existing

4.2 Alternative #3 – Replacement Option

4.2.1 Proposed Bridge

The proposed replacement bridge will be placed on the makai side of the existing bridge, approximately 30 feet downstream. The proposed bridge will span 40 feet across the existing channel and will be 40 feet wide with a deck thickness of 2.5 feet. The existing bridge and abutments have been removed from the current model to represent proposed conditions. The following dimensions and parameters were used to model Alternative #3 in the HEC-RAS model:

- Barrier/railing: 3.5 feet
- Width of road: 40 feet
- Deck thickness: 2.5 feet
- Span: 40 feet
- Roadway profile based on proposed deck elevation

Based on plans provided by ATA there was no indication of deck height. For the current study the deck height was set to an elevation that would allow the full 100-yr to be conveyed through the bridge opening.

4.2.2 Manning's Roughness

Manning's roughness values were changed for Alternative #3 at station 220 and 117. The Manning's roughness in the channel was increased from 0.05 to 0.07 at station 220, and decreased from 0.07 to 0.05 at station 117 to match the roughness of the channel upstream and downstream of the existing bridge.

4.2.3 Hydraulic Model Results

HEC-RAS hydraulic model results for the proposed replacement of the Honolua Bridge are provided in Appendix B.

4.2.4 100-year Flood Elevations

Based on the hydraulic model results for the 100-year discharge, the proposed bridge results in lower computed water surface elevations compared to existing conditions (see Table 4-2).

Flood elevations decrease due to the proposed deck having a smaller depth and longer span as compared to the existing structure. The depth of the deck is reduced by approximately 9 inches compared to the existing deck and the span is increased by approximately 20 feet. The largest reduction in the 100-year flood surface elevation is 3.87 feet. This decrease in elevation is expected due to the increase in capacity of the bridge opening caused by the reduction in deck thickness and increase in the span of the bridge. A profile plot comparison between Alternative #3 and the existing condition shows the change in water surface elevations (Figure 4-1).

Table 4-2. Hydraulic Model Results (100-year Discharge) – Alternative #3 vs. Existing Bridge.

River Station	Existing 100-yr WSEL (ft)	Alternative #3 100-yr WSEL (ft)	Elevation Change (ft)
705	38.81	38.61	-0.20
652	38.46	38.2	-0.26
600	38.09	37.71	-0.38
547	37.74	37.19	-0.55
490	37.4	36.67	-0.73
438	37.23	36.4	-0.83
383	36.97	36	-0.97
330	36.8	35.65	-1.15
288	36.77	35.57	-1.20
220	36.21	32.34	-3.87
206	Existing Bridge		
188	31.7	31.74	0.04
132	Proposed Bridge		
117	29.18	29.21	0.03
66	28.44	28.32	-0.12
15	27.24	27.24	0

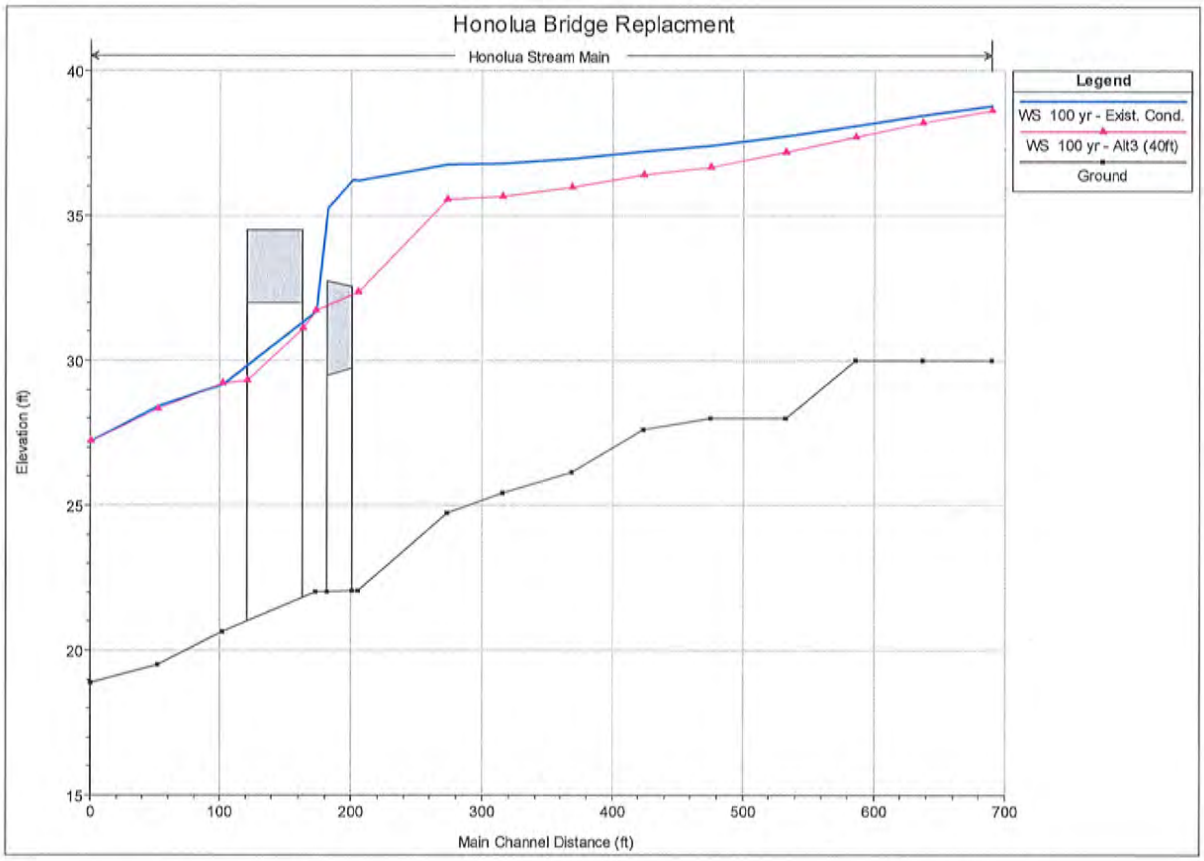


Figure 4-2. 100-year Flood Profile Comparison – Alternative #3 vs. Existing

5 EROSION/SCOUR PROTECTION

This section describes recommendations for erosion/scour protection for the channel and embankments in the vicinity of the proposed replacement bridge. During the course of the project, ATA selected Bridge Alternative #2 to rehabilitate the existing bridge. The following analysis and scour protection recommendations are for Alternative #2.

5.1 Abutment Scour

The NCHRP 24-20 abutment scour approach, provided in the Hydraulic Engineering Circular Number 18 (HEC-18), was used to determine the approximate scour which is expected to occur during a 200-year flood event (FHWA, 2012). This method accounts for local scour from the abutment and contraction scour. Bend scour and pier scour were not considered because Alternative #2 for the Honoapiilani Bridge crossing at Honolua Stream will not have piers, nor will it be located at a bend.

The 200-year flow was defined by interpolating between the resulting peak discharges from the Region 7 USGS regression equations for Maui referenced in section 2.3 of this report. The USGS regression equations provide estimates of the 10-, 25-, 50-, 100-, and 500-year peak discharges. The resulting peak discharges were plotted on a log-log plot against the corresponding return period in years. From the plot, 3,400 cfs was determined to be the approximate 200-year discharge. Appendix A details the results of the flood frequency analysis.

A steady flow hydraulic analysis was performed with HEC-RAS 4.1, using the 200-year flow to determine the upstream and bridge hydraulic parameters used in the NCHRP 24-20 abutment scour approach. The resulting total scour for Alternative #2 is 7 feet.

5.2 Recommended Scour Depth

The proposed retrofit does not involve a change to the existing abutments or other substructure elements. Due to the lack of observed scour over a long period of time and the large grain size of the existing bed material, WEST does not recommend countermeasures to protect the existing abutments from scour, although normal scour monitoring during inspections should be continued.

5.3 Riprap Sizing

As noted in Section 5.2, abutment scour countermeasures are not considered necessary. WEST recommends monitoring of scour conditions as part of routine bridge inspections.

6 REFERENCES

California Department of Transportation (2000). *California Bank and Shore Rock Slope Protection Design*, October 2000.

Chow, V.T. (1959) *Open-Channel Hydraulics.* New York: McGraw-Hill Publishing Company.

FHWA (1989). *Design of Riprap Revetment*, Hydraulic Engineering Circular No. 11 (HEC-11), March 1989 (The 1995 edition of this circular is in Metric, with some equations corrected from the 1989 edition).

FHWA (2012). *Evaluating Scour at Bridges*, Hydraulic Engineering Circular No. 18 (HEC-18), April 2012 (Fifth Edition).

FHWA (2009). *Bridge Scour and Stream Instability Countermeasures*, Hydraulic Engineering Circular No. 23 (HEC-23), September 2009 (Volume 2).

FEMA (2015). *Flood Insurance Study, Maui County, Hawaii.* Federal Emergency Management Agency. Revised November 4, 2015.

HEC (2010). *HEC-RAS River Analysis System – User's Manual*, Version 4.1, January 2010, U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC), Davis, California.

NOAA (2001). *Land Use and Land Cover GIS Coverage*, National Oceanic and Atmospheric Administration, Coastal Services Center, Charleston, South Carolina.

NRCS (1986). *Technical Release 55, Urban Hydrology for Small Watershed*, Second Edition, U.S. Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.

NRCS (2006). *Hydrologic Soil Group GIS Coverage*, U.S. Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.

Oki, D.S., Rosa, S.N., and Yeung, C.W., (2010). "Flood Frequency Estimates for Streams on Kaua'i, O'ahu, Maui and Hawai'i, State of Hawai'i," *U.S. Geological Survey Scientific Investigations Report 2010-5035*, 121 p.

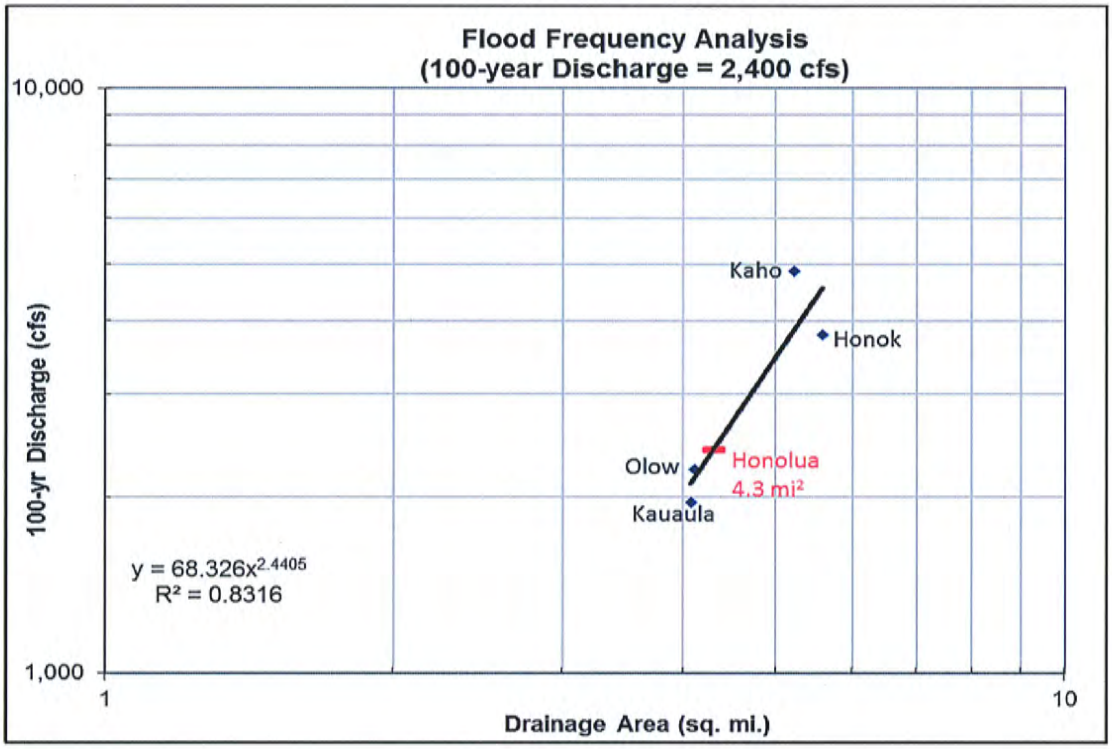
USGS (1982). *Bulletin #17B – Guidelines for Determining Flood Flow Frequency*, Prepared by Interagency Advisory Committee on Water Data, Hydrology Subcommittee. Published by U.S. Geological Survey (USGS), Office of Water Data Coordination.

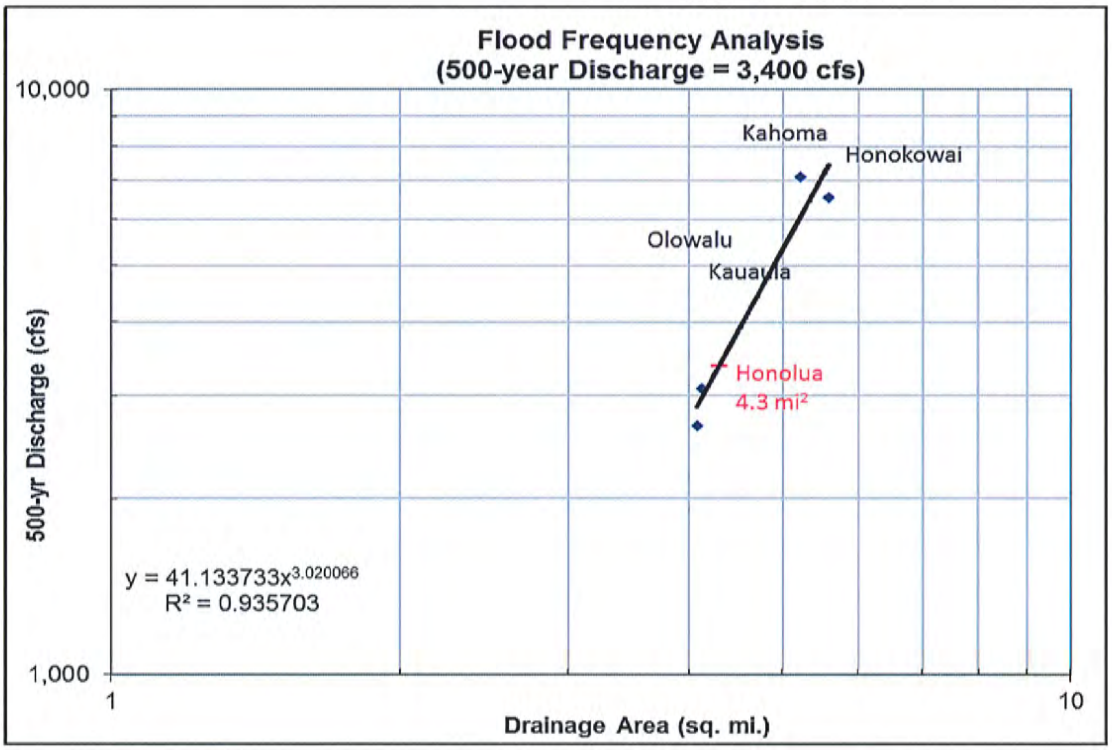
US Weather Bureau (1962), *Rainfall-Frequency Atlas of the Hawaiian Islands*, Technical Paper No. 43, Washington, D.C.

WEST Consultants (2004). *Riprap Design System, Version 3.0 User's Guide.*

APPENDIX A

Flow Frequency Analysis


Flood Frequency Analysis
(100-year Discharge = 2,400 cfs)
10,000
1,000
100-yr Discharge (cfs)
Kaho
Honok
Olow
Honolua
4.3 mi²
Kauaula
y = 68.326x^2.4405
R² = 0.8316
1
10
Drainage Area (sq. mi.)


Flood Frequency Analysis
(500-year Discharge = 3,400 cfs)
10,000
1,000
500-yr Discharge (cfs)
Kahoma
Honokowai
Olowalu
Kauaula
Honolua
4.3 mi²
y = 41.133733x^3.020066
R² = 0.935703
1
10
Drainage Area (sq. mi.)

APPENDIX B

HEC-RAS
Hydraulic Model Results

Existing Conditions

Table B-1. Hydraulic Model Results (100-year Discharge) – Existing Bridge.

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Main	705	2600	30	38.81	35.97	39.26	0.006385	6.61	751.46	220.68	0.42
Main	652	2600	30	38.46	35.82	38.92	0.006434	6.59	747	226.73	0.42
Main	600	2600	30	38.09	35.69	38.57	0.006893	6.72	727.42	223.28	0.43
Main	547	2600	28	37.74	35.17	38.22	0.006341	6.62	723.38	221.34	0.41
Main	490	2600	28	37.4	34.72	37.87	0.005847	6.32	729.08	222.02	0.4
Main	438	2600	27.6	37.23	33.78	37.59	0.003954	5.43	783.78	220.77	0.33
Main	383	2600	26.13	36.97	34.05	37.37	0.004408	5.91	801.24	217.83	0.35
Main	330	2600	25.41	36.8	33.92	37.14	0.00368	5.77	890.29	225.26	0.32
Main	288	2600	24.73	36.77	32.77	36.98	0.002155	4.63	1076.45	219.93	0.25
Main	220	2600	22.07	36.21	31.74	36.73	0.002386	6.93	830.35	222.38	0.34
Main	206	Bridge									
Main	188	2600	22.03	31.7	31.7	34.43	0.014925	13.75	244.28	61.53	0.84
Main	117	2600	20.64	29.18	29.18	31.76	0.030816	13.22	231.07	60.62	0.87
Main	66	2600	19.5	28.44	28.44	29.9	0.022125	11.28	381.4	139.79	0.73
Main	15	2600	18.88	27.24	26.19	27.96	0.012021	8.38	509.58	144.14	0.55

Proposed Conditions

Table B-2. Hydraulic Model Results (100-year Discharge) – Alternative 2.

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Main	705	2600	30	38.8		39.25	0.006421	6.63	749.34	220.15	0.42
Main	652	2600	30	38.45		38.91	0.006485	6.61	744.07	226.02	0.42
Main	600	2600	30	38.08		38.56	0.006963	6.74	723.63	222.16	0.43
Main	547	2600	28	37.71		38.21	0.006428	6.65	718.28	220.06	0.42
Main	490	2600	28	37.37		37.84	0.005946	6.35	722.68	220.2	0.4
Main	438	2600	27.6	37.19		37.57	0.004019	5.46	776.76	218.64	0.33
Main	383	2600	26.13	36.94		37.33	0.004488	5.95	793.25	215.33	0.35
Main	330	2600	25.41	36.76		37.1	0.003751	5.81	881.18	222.78	0.32
Main	288	2600	24.73	36.73		36.94	0.002185	4.65	1067.67	217.09	0.25
Main	220	2600	22.07	36.15	31.74	36.69	0.00246	7.02	816.62	220.67	0.35
Main	206	Bridge									
Main	188	2600	22.03	31.7	31.7	34.43	0.014918	13.75	244.25	61.55	0.84
Main	117	2600	20.64	29.18	29.18	31.76	0.030816	13.22	231.07	60.62	0.87
Main	66	2600	19.5	28.44	28.44	29.9	0.022125	11.28	381.4	139.79	0.73
Main	15	2600	18.88	27.24	26.19	27.96	0.012021	8.38	509.58	144.14	0.55

Table B-3. Hydraulic Model Results (100-year Discharge) – Alternative 3.

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Main	705	2600	30	38.61		39.11	0.007157	6.89	709.71	210.02	0.44
Main	652	2600	30	38.2		38.72	0.0075	6.95	689.88	210.27	0.45
Main	600	2600	30	37.71		38.3	0.008695	7.29	646.98	201.81	0.48
Main	547	2600	28	37.19		37.83	0.008797	7.43	610.18	191	0.48
Main	490	2600	28	36.67		37.32	0.008947	7.32	582.31	177.34	0.48
Main	438	2600	27.6	36.4		36.9	0.005989	6.24	624.23	165.6	0.4
Main	383	2600	26.13	36	34.09	36.55	0.006966	6.88	619.99	155.44	0.43
Main	330	2600	25.41	35.65	33.87	36.19	0.006431	7.03	656.58	176.7	0.42
Main	288	2600	24.73	35.57	32.73	35.93	0.003928	5.78	755.27	183.01	0.33
Main	220	2600	22.07	32.34	31.83	35.11	0.029696	13.7	217.41	40.11	0.81
Main	188	2600	22.03	31.74	31.74	34.41	0.014547	13.61	245.37	62.14	0.83
Main	132	Bridge									
Main	117	2600	20.64	29.21	29.21	31.87	0.015887	13.33	232.55	61.19	0.87
Main	66	2600	19.5	28.32	28.32	29.87	0.023685	11.55	360	136.58	0.76
Main	15	2600	18.88	27.24	26.19	27.96	0.012021	8.38	509.58	144.14	0.55

APPENDIX C

ARCHAEOLOGICAL INVENTORY SURVEY

SCS Project Number 1023-5

AN ARCHAEOLOGICAL INVENTORY SURVEY REPORT FOR A BRIDGE REPLACEMENT IN HONOLUA, HONOLUA AHUPUA`A, LĀHAINA DISTRICT, MAUI ISLAND [TMK: (2) 4-1-001:05 (por.), :09 (por.) and :10 (por.)]

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Honolulu, HI 96817

ABSTRACT

Scientific Consultant Services, Inc. (SCS) completed Archaeological Inventory Survey of a 1.62 acre project area in Honolua, Honolua Ahupua`a, Lāhaina District, Maui Island, Hawai`i [TMK: (2)4-1-001:05 (por.), :09 (por.) and :10 (por.)]. An Architectural Inventory Survey was also conducted for this project.

The project area is located at the Honolua Stream crossing on Honoapi`ilani Highway and includes all areas within a 150 foot radius from the center of the bridge. Two previously recorded sites from Moore (1974) were re-identified and recorded (SIHP No. 50-50-10-1471, Feature 12 and Site -1754 Feature 6). Two additional historic properties were also designated. The 1924 bridge crossing Honolua Stream was added as a feature to Moore's historic era site complex (Site -1754) and designated as Feature 11. In addition, a water diversion wall along the east side of Honolua Stream, just west (*makai*) of the bridge, was also documented.

Site -6812 (water diversion wall) is considered significant under Criterion D. Site -1754 Feature 11 (Honolua Bridge) is considered significant under Criteria C and D. Archaeological Monitoring is recommended during all original ground altering work within the project area.

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INTRODUCTION

Scientific Consultant Services, Inc. (SCS) completed Archaeological Inventory Survey of a 1.62 acre project area in Honolua, Honolua Ahupua`a, Lāhaina District, Maui Island, Hawai`i [TMK: (2)4-1-001:05 (por.), :09 (por.) and :10 (por.)] (Figures 1 and 2). The project area is located at the Honolua Stream crossing on Honoapi`ilani Highway and includes all areas within a 150 foot radius of the center of the bridge. The project area was defined by the area of potential effect: the maximum extent of the bridge and bypass during proposed construction activities. An Archaeological Inventory Survey was conducted to mitigate any archaeological concerns associated with the bridge improvements and give recommendations on any identified sites prior to any construction activities. In addition, an Architectural Inventory Survey was also conducted by Mason Architects, Inc., the results of which are also presented herein.

Archaeological work in the project area was conducted to determine whether historic properties were present in surface or subsurface contexts. The Inventory Survey included pedestrian survey, photographic documentation, written observations of landscape, and plan view mapping. During the Inventory Survey, two previously recorded sites from Moore (1974) were re-identified and recorded (SIHP No. 50-50-10-1471, Feature 12 and -1754 Feature 6). Two additional historic properties, the bridge crossing Honolua Stream, was added as a feature to Moore's historic era site complex (-1754) and designated as Feature 11. In addition, a water diverting wall along Honolua Stream (-6812) was documented.

The current project area has been subjected to four previous Inventory Survey studies. Moore (1974) identified 12 sites in Honolua Bay proper. In 2002, SCS conducted an Archaeological Inventory Survey and executed a Burial Treatment Plan for an adjacent parcel of land on the north side of Honolua Stream. In 2006, SCS conducted an Inventory Survey of Lipoa Point, which included a small portion of the present study area. The original Inventory Survey for Lipoa Point (Pickett and Dega 2007) was supplemented by addendum Inventory Survey in Honolua Bay proper (Dega 2007). All the projects are summarized below.

PERSONNEL

The scope of work for the Inventory Survey included archival research in the vicinity or the project area, a 100% pedestrian survey and documentation of the bridge and the surrounding area of potential effect for the proposed improvements. Fieldwork was conducted on February 24 and 25, 2009 and September 9, 2010 by SCS archaeologist David Perzinski B.A., under the overall direction of Michael Dega, Ph.D.

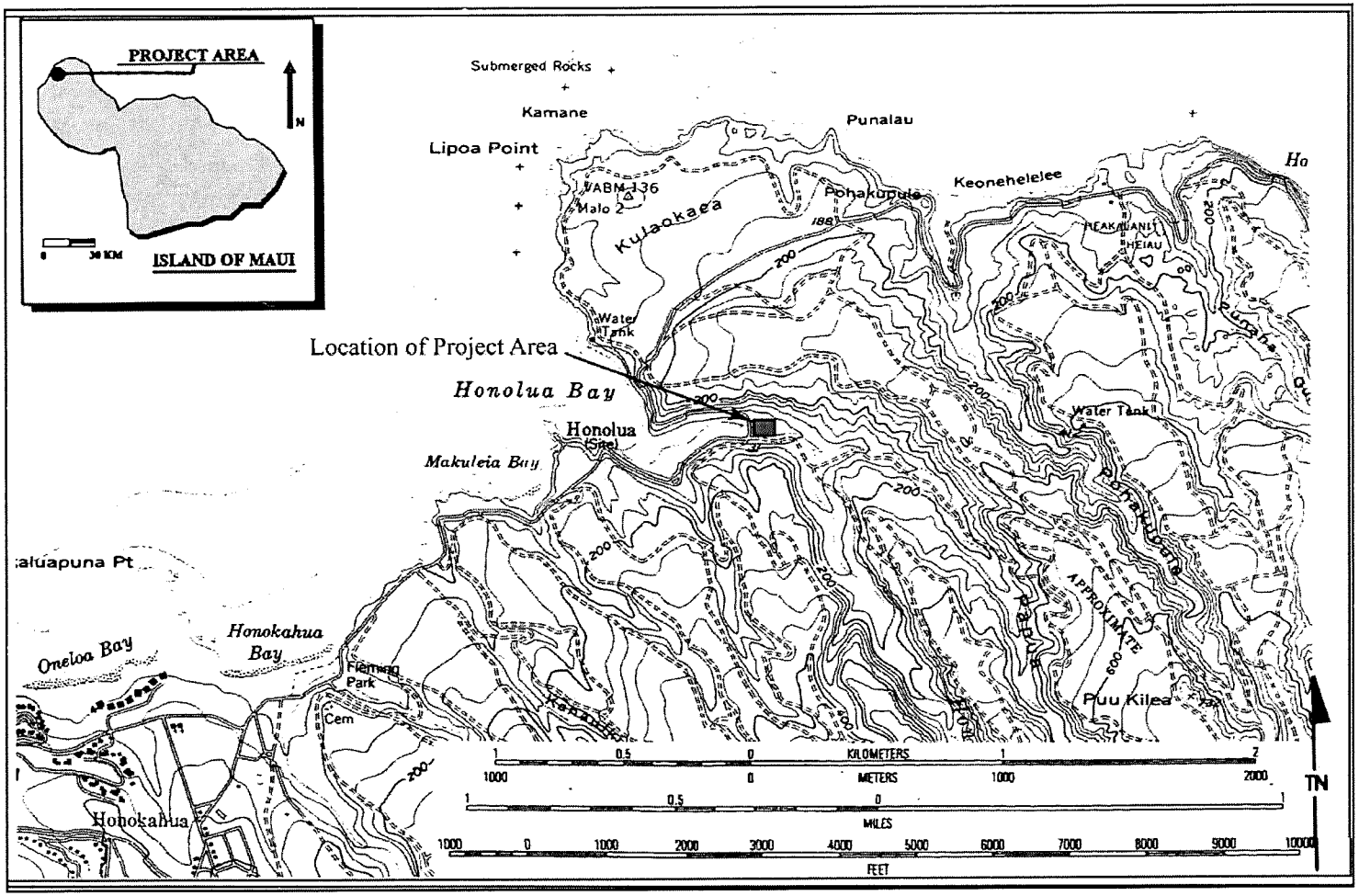


Figure 1: USGS Topographic Map Showing Project Area Location

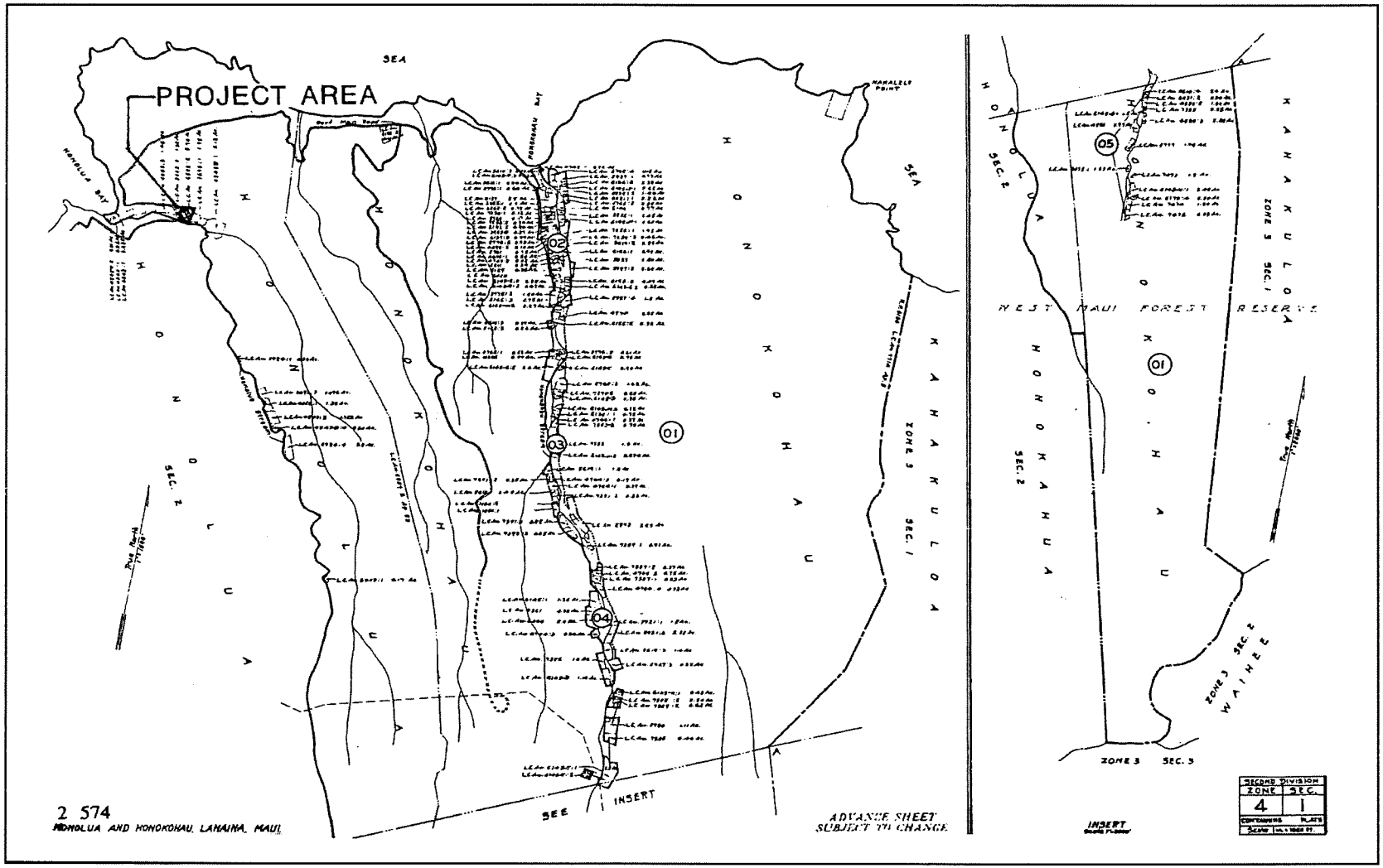


Figure 2: Tax Map Key [TMK (2) 4-1] Showing Location of Project Area

PROJECT SCOPE

Based on the Preliminary Engineering Report for the rehabilitation/replacement of Honolua Bridge, prepared for the State of Hawaii Department of Transportation by Austin, Tsutsumi, & Associates, Inc. (ATA 2009, revised 2011), the purpose of the project is to replace or rehabilitate Honolua Bridge with a bridge that exceeds a National Bridge Inventory (NBI) sufficiency rating of 50. This rating would meet current State and Federal standards for bridge safety and functionality. At present, Honolua Bridge carries a 42.2 NBI rating and according to project engineers and the State DOT, warrants replacement of the bridge structure. Based on the report, the existing bridge is 24 feet long by 18 feet wide and is considered as a one-land bridge. The current project is currently evaluating four design alternatives, and has presented these at meetings with the community (see Consultation section below). The four alternatives are as follows:

Alternative #1: No Build. This alternative will leave the bridge "as is" but remain below State and Federal standards.

Alternative #2: Rehabilitation of Existing Bridge. This alternative suggests that the bridge will be rehabilitated in place with a new, non-corrosive, fiber-reinforced polymer bridge deck. The structure will remain 18 feet wide but will be improved with one 12-foot wide travel lane and one 5-foot wide shoulder lane for pedestrians and others.

Alternative #3: Construct a New Two-Lane Bridge Structure on *Makai* Side. This alternative proposes a new, two-lane bridge structure be built on the *makai* side of the existing bridge. The new bridge would be 40 feet wide and contain two 12-foot wide travel lands, two 8-foot wide shoulders, and 4.5 feet high bike rails on the bridge railing.

Alternative #4: Construct a New Two-Lane Bridge Structure on *Mauka* Side. This alternative proposes constructing a new, two-lane bridge on the *mauka* side of the existing bridge. This bridge would be 40 feet wide, contain two 12-foot travel lanes, two 8-foot wide shoulders, and 4.5 feet high bike rails on the bridge railing.

ENVIRONMENTAL SETTING

The project area is located on the northwestern coast of Maui Island, approximately 16 kilometers (10 miles) north of Lāhaina town,. The project area lies at an elevation of 20-35 feet A.M.S.L. and consists of an approximately 1.62-acre land parcel surrounding the bridge crossing at Honolua Stream. Honolua Bay has become extremely popular with both locals and visitors alike. Surrounding lands are presently in conservation, while right of way lands cover most of the current project area.

RAINFALL

The project area lies within a coastal windward setting that provides constant active water movement. Average annual rainfall is calculated between 30 to 40 inches near the coast (Price 1983:62). Peak precipitation occurs during winter months, which are November through April.

At higher elevations within Honolua Ahupua`a, the amount of rainfall triples and even quadruples that of the coastal region where mountain areas receive over 300 inches (ibid.). Water flows from the upland watersheds down-slope through the project area providing a secondary water source due to upland slope wash.

HYDROLOGY

Both cyclical and larger constantly flowing streams provide local drainages for the abundant water supplies from higher elevations. The active water movement provides nutrition for wild and cultivated plants while creating soil depositions acquiescent to cultivation. Archaeological evidence of past agronomic activities is evidenced by rock terraces that are common throughout the area. Presumably, traditional dietary staples such as taro and other indigenous crop plantings would have thrived in this prime ecosystem.

VEGETATION

Majority of the study area is composed of a canopy of various trees and low shrubs, vines, and grasses, which form a dense under foliage. Many indigenous plants have been over-run by introduced plants including, *koa haole* (*Leucaena latisiliqua*), African Tulip trees (*Spathodea campanulata*), Java Plum (*Syzygium cumini*), castor bean (*Ricinus communis*), and monkey pod (*Pithecellobium saman*). Observed native plant species consist of medicinal *noni* (*Morinda citridolia*) and *kukui* (*Aleurites moluccana*).

SOILS

According to Foote *et al.* (1972:120); project area soils are primarily composed of the Stony Alluvial Land Series (rSM). Soil refers to the *in situ* decomposition of underlying materials and sediment refers to transported and/or deposited soils. The project area lands consist of stones, boulders, and sediment deposited by streams along the bottom of gulches and alluvial fans. Honolua Stream is the major force in such depositional actions. The accumulation of these deposits occurs on slopes with a 3% to 15% gradation and occurs within ranges of sea level to 304.8 meters (1,000 feet) above mean sea level.

HISTORICAL BACKGROUND

OVERVIEW

The current project area is located in the traditional Hawaiian land division of Honolua Ahupua`a within the traditional cultural district (*moku*) of Kā`anapali. Land areas within the district have a wide variety of descriptions and locations inclusive of broad agricultural uplands all the way from thousands of feet in elevation down to sea level. Coastal and mountain regions have been studied that provide strong evidence of Traditional Hawaiian (pre-Contact), Contact, and post-Contact subsistence patterns. Intensive research with attention to oral tradition and local folklores is most effective to identify or re-create pre-Contact, traditional Hawaiian, and sometimes even post-Contact contexts.

TRADITIONAL LAND USE

The study area is situated within Honolua Valley, one of five valleys within the former Kā`anapali District. The streams of these five valleys (Honokawai, Kahana, Honokahua, Honolua, and Honokohau) drain the western slopes of the West Maui watershed. In traditional Hawaiian times, the five valleys provided West Maui with rich, substantial lands amenable to the construction and use of large agricultural systems. Hawaiians in the area developed extensive irrigated taro terraces (*lo`i*) and drainage systems (*`auwai*) that supported a large population. The area is known for "extensive *lo`i* lands in tier valley bottoms, where terraces rose tier on tier in symmetrical stone-face *lo`i*...Honokahau in particular...had the most extensive *lo`i* along this coast" (Handy & Handy 1972:494). Indeed, some of the most extensive and fertile wet land taro patches were located throughout the area (Kirch and Sahlins, 1992 Vol. 1:19). Inland resources such as taro, sweet potatoes, etc. were brought to *ali`i* residences at the coast from nearby plantations.

Extensive cultivation of dryland taro and sweet potatoes, supplemented by coastal fishing, supported a sizeable ancient Hawaiian population. Throughout all of Hawai`i, coastal lands were utilized for chiefly residences and Honolua was no different. Oceanfront areas provided easily accessible resources such as elaborate offshore and onshore fish ponds as well as open-ocean, or deep-water fishing.

Honoapi`ilani Highway divides the current study area into arbitrary upper (*mauka*) and lower (*makai*) land portions. The highway is named for one of Maui's well known traditional Hawaiian high chief (Kihapi`ilani) responsible for an elaborate trail that encircled Maui in the early 1500s. The trail is known to some as Alanui Kahiko or, "Maui's ancient coastal highway" (Joesting 1986:3-4). The trail is also known as the Kihapi`ilani Trail according to Walker (1931:301). Trails were key components to village life in ancient days and the extraordinary engineering feat of the Alanui Kahiko is legendary.

Remnants of the ancient trail are still scattered throughout the island today. Sections can be seen "from Honolua to Honokohau and Kahakuloa...Disregarding elevations and depressions it takes the shortest route between two points that is possible for foot travel" (Walker 1931:301). According to Joesting (1986), the Alanui Kahiko was wide enough to fit eight of the king's soldiers next to each other. The waterworn cobble-paved trail was so wide and efficient that it was unnecessary to widen after the introduction of horses and ox-carts. Although some sections

of the King's Highway remain, most architecture has now been destroyed through modern development.

Kamakau (1964: 39) refers to a burial site used by the *maka`āinana* (common folk) of the district: "Waiuli...is a deep pit where the corpses of the common people were thrown...It is directly *Mauka* of Honokohau, Honolua, and Honokahua, and for those from Lahaina to Kahakuloa, it was the common burial place". Those who died on Molokai were also laid to rest there.

TRADITIONAL LAND TENURE

According to Kamakau (1964), traditional Hawaiian land tenure was a system formed in order to care for the land. Around the fourteenth century, various individual island *mo`i* (King/ultimate ruler) believed the land should be surveyed as to be permanently marked. The land system was needed to avoid disputes between neighboring *ali`i* (chiefs). A *kahuna* (priest/expert) named Kālaika`ōhia is said to have carved the land into districts (*moku*) and numerous smaller divisions (i.e.: *ahupua`a, `okana, `ili* etc.) were also coordinated

The idea of holding land was not synonymous with owning it, but more like a trusteeship between the caretakers and the nature gods Lono and Kane (Handy & Handy 1972:41). The *ahupua`a* is the most well known of all traditional land divisions and is still relevant today. The a*hupua`a* land divisions vary in size and generally encompass land from the mountain to the sea. Traditionally, the areas were governed by a designated caretaker (*konohiki*) and those residing within the region had designated access to all mountain and marine resources. Chinen (1958:5) explains that all chiefs and commoners were entitled to a portion of the mountain and marine resources. Prior to a later migration, early traditional Hawaiians concentrated on caretaker and nature entities.

According to Pukui et al. 1972, somewhere between the eleventh and thirteenth centuries, a priest in Tahiti named Pa`ao, killed his son and nephew. He left his homeland, ventured to Hawai`i, and brought a heightened emphasis on fighting with his war god Kūkā`ilimoku. Hawaiian ways increased with socially approved hostile aggression. Exceeding all motives, dispute of land was the most common cause of war. "The religious heiau, once open to all, was walled off from the common people. Religious rites now included acts of cruelty. Human sacrifices were made." (ibid: 212). Pukui *et al* further explains that the war god Kūkā`ilimoku had become the ascendant deity and the Hawaiian population was on the decrease because of constant wars. Continued beliefs and honor of the nature god Lono, created some sanctuary during a four month season where war was prohibited, known as *makahiki.* However, segregation had been created that caused new burdens, which changed ancient ways forever.

CONTACT

From the late 1500s until contact in 1778, Maui was under one ruler, Kahekili, the brother of King Kamehameha I (Fornander 1969: 78). Four years later, Kahekili unified Maui, Lana`i, and Moloka`i (Barrére 1975). Kamehameha the Great is known for uniting all of the islands (with the aide of foreign weapons). In November 1778, Captain James Cook of the H.M.S. Cook sailed near Kahului and Kahekili visited the ship as it anchored off the northeast

coast. That same year, Cook landed on Kaua`i that' signifies the beginning of a drastic change to the political, agricultural, and social fabric of Hawai`i.

Landscapes and lifestyles changed drastically with the introduction of foreign animals and more influentially the foreign economy (Bartholomew 1994:118). Whale hunters, missionaries, businessmen, and curious foreigners migrated to the islands. Whalers were attracted to the beautiful and resourceful humpback whales that occupy the Hawaiian waters during the months of December through May. In the 1820s, Lahaina and Honolulu were central ports for whalers from around the globe. There were as many as six-hundred sailors interacting with the local residents at any given time in either town. According to Kame'eleihiwa (1992:140):

> As the *maka`āinana* flocked to the port towns to see the foreigners and their ships and to earn money, agriculture in the countryside was neglected...the population dwindled in outlying villages it became increasingly difficult to maintain the complicated irrigation systems necessary for wetland taro production, systems that required much communal labor. Drunkenness, which occurred perhaps from despair and especially when the fleet was in, became all too frequent among both foreigner and Hawaiian, while syphilis and other foreign diseases were freely exchanged.

Hawaiian natives lacked the immunity to fight many foreign diseases and consequently the population was drastically reduced.

Keōpūolani was one of Kamehameha I's wife's, the top ranking woman in all of Hawai`i, and the mother of many of his children (including Liholiho (Kamehameha II, and Kauikeaouli, Kamehameha III). In 1819, Keōpūolani, Ka`ahumanu, and Liholiho broke the ancient social structure (*`ai kapu*) by eating together (which was unheard of at the time). Men and women followed suit by eating together, women ate as they pleased, and *heiau* (religious shrines) were destroyed. The old ways were changing, so when missionaries arrived with their messages in 1820, the new religion was widely accepted. Lāhaina was one of Hawai`i's central locations for missionaries and Christian services. Lāhaina was also the center for education throughout the islands (originally established by missionaries). Many missionary families and Hawaiian royalty spent time learning and studying in Lāhaina.

With the breakdown of Native Hawaiian traditions and the influx of diseases, populations were decimated. More and more people from all directions of the globe were drawn to the Islands as the Native population dwindled. Eventually, a whole new society formed. A Hawaiian monarchy ensued and society changed drastically from ancient Hawaiian days. Lāhaina was once the port of choice for commercial endeavors that succeeded the traditional economy. With the demise of the whaling industry and the Capitol location change of the Hawaiian Kingdom from Lāhaina to Honolulu, population fluctuated. By the mid-1800s the area was entirely converted from traditional agriculture to commercial sugar cane. This time period was a political turning-point for the Hawaiian Islands. Destabilization of Hawaiian society was further intensified by the profound reformation of communal land access through the Māhele.

MĀHELE

In 1848, the Māhele (division) led to the introduction and implementation of privatization that required both chiefs and commoners to retain private land title. The land that *maka`āinana* received was less than 1% of total lands, all of which needed to be surveyed. A total of 88,000 people submitted 14,000 requests for land and of these 8,500 were awarded. (Kame`eleihiwa 1992)

Under the Māhele and the first Land Commission of the Trust Territory of Hawai`i, lands were allocated in three ways. A third of all lands became Crown Lands belonging to the *ali`i*, a third was distributed to the chiefs, and a third was awarded to the general populace. In 1850, it became legal for foreigners to purchase land and they received large portions for diminutive prices.

According to Kame`eleihiwa (1992: 228-230), the amount of land given to the *ali`i* was determined by genealogical rank. Each needed to list the claimed lands by name of the *ahupua`a*, surrender half of their land, and pay the commutation fee, which was one third of the value of land. Honolua Ahupua`a was bestowed from Kamehameha III to the wife of Abenera Paki and the grand-niece of Kamehameha I; Laura Konia (1807-1857). Paki and Konia were the parents of Princess Bernice Pauahi who married Charles R. Bishop. Bishop started the first bank in Honolulu and established the Bishop Museum in honor of his late wife. The Bishop Estate Trust was left to support the Kamehameha School for Hawaiian Boys. Prior to her death in 1857, Konia left her lands to King William Lunalilo.

LAND COMMISSION AWARDS (LCAS)

For natives that had been cultivating and living on the lands, lengthy and costly procedures enabled them to possibly claim some of the plots. Awarded claims were called Land Commission Awards (LCAs) and each was issued a Royal Patent number (RP). The first Land Commission was formed in 1845, during which time all individuals holding land were required to submit their claims or forfeit their lands. A total of 37 LCAs were allocated for Honolua Ahupua`a.

LCA number 3802:3 was issued for land within the project area at Honolua Bay consisting of 1.3 acres. In 1853, the award was granted to Lohelohe, designated Apana 3 that was sweet potato land (*kula `uala*). The award actually consisted of four *apana*: a house lot, seventeen *lo`i*, a *kula `uala* (Apana 3) and *kula* land. Native Testimony documented that the apana awarded were also used by Lohelohe's parents during the time of Kamehameha I (Frazier 1973:124; Nakoa n.d:137).

In 1831, a census of Kā`anapali estimated the entire district population to be approximately 2,980 people (Schmitt 1973:18). The count was cut almost in half only five years later to 1,341 residents due to the effects of economics and wide-spread diseases (ibid). The population of West Maui continued to decline as the Pacific whaling industry collapsed in the 1860s. Throughout the island, sugar production emerged as the new industry. In Kā`anapali, coffee and pineapple cultivation were heavily initiated. In addition, cattle production/ranching were introduced through the establishment of Honolua Ranch.

HONOLUA RANCH

The *ahupua`a* of Honolua, Honokohua, Honokowai, Honokohau, Kahana, Mahinahina, and Mailepai all became part of Honolua Ranch [Ashdown 1972]. Much of the land given by Kamehameha I to John Young and Isaac Davis went to their descendants who had intermarried (Ahdown 1972). These lands include the *ahupua`a* of Honolua and Honokahua. At one point Honolua and Honokahua were owned by James Young (Kanehoa), the son of John Young, on which he started a coffee plantation.

In the later 19th century, these lands were owned by James Campbell, who first established the Honolua Ranch. Around 1888 or 1889 Campbell sold the lands of Honolua and Honokohua to Samuel Damon. Cattle ranching started in the area at this time and was continued by Henry Perrine Baldwin. Baldwin began purchasing and leasing land in Honolua acquired the lands from Campbell and others in the early 1890s in order "...to invest so the business of taro and fishing could prove profitable, along with the coffee and ranching there (Ashdown 1972).

David T. Fleming became manager of Honolua Ranch in 1911. Fleming was well-versed in pineapple production from the Haiku area and gradually began shifting the ranch's initiative to pineapple production. The Honolua Ranch/Baldwin Packers complex shifted from Honolua to Honokahua in 1915, and a pineapple cannery was constructed. A major commercial pineapple industry emerged in West Maui during the 1920s. The plantation communities of Honokahua and Napili emerged and developed as Honolua Ranch/Baldwin Packers pineapple operations grew. The population of the Lāhaina area increased with the successful economic operations of the pineapple plantation. Baldwin Packers merged with Maui Land and Pineapple in 1962. After this time, much of the Honolua Ranch lands were converted for resort development, a process that continues to this day. Both the Ritz-Carlton Kapalua and the Kapalua Bay Hotel are part of this ongoing process.

PREVIOUS ARCHAEOLOGY

GENERAL AREA STUDIES

This portion of Maui has a multitude of archaeological resources, some as of yet not formally recorded. The first archaeological investigations of West Maui occurred in 1928 during Winslow Walker's survey of Maui sites. Walker documented Honua`ula Heiau (Site 18), situated adjacent to the current project area. The *heiau* that is still intact consists of "remains of old stone platforms and walls. Measures 29 ft. on south, 46 on west, 54 on east. North wall 3 ft. thick" (Walker 1931:121). The *heiau* is located on the northern slopes of Honolua Valley approximately 100 meters northeast of the Honoapi`ilani Highway bridge of Honolua Stream. Figure 3 shows study locations.

Honua`ula Heiau was documented further during a survey conducted by Bishop Museum for Maui Land and Pineapple Co. Ltd. (Moore: 1974) According to the report, the *heiau* measures approximately 128 meters by 60 meters. It was recorded as a complex series of walls, platforms, and enclosures. The Bishop Museum Site number is D14-5 (SIHP -1471) and was deemed in "an excellent state of preservation and offers very good opportunity for further research" (Moore 1974: 6). The *heiau* was re-investigated during an Archaeological Inventory Survey conducted by SCS in July 2002 and a preservation plan was submitted in August of the same year (Dega 2002). Survey results intimated that the area was in permanent use for at least the last 500 years (Tome ibid.2002: 50).

Two additional *heiau* were documented in the area by Walker (1931). Kahauiki Heiau (Site 16) was identified within Honokahua Ahupua`a and is described as "a small irregular platform of stone whose walls have been taken for stock pens" (Walker 1931: 121). The other in Honolua and is known as Puhalakau (*Ai Maia*) Heiau (Site 17). This *heiau* was said to have been "*Makai* to Honolua Park along shore" (ibid.). Puhalakau (*Ai Maia*) Heiau has not been re-located and was assessed in 2007 as having been destroyed (Dega 2007). Numerous *heiau* are said to be located in the neighboring Honokahau Ahupua`a including Iliilikea Heiau and Maiu Heiau. (Walker Sites 19 & 20 ibid.). In addition, an ancient *holua* slide was described as crossing "a hilly part of what is now the West Maui Gold Links at Honolua" (Walker 1931: 329). In ancient days, *holua* slides were almost exclusively utilized by chiefs. The slide was not identified during survey in 2002 (Ibid.) and the exact locale is presently undetermined.

In 1973, the Bishop Museum conducted archaeological reconnaissance survey for Maui Land and Pineapple Company in connection with a Honolua Development (Kirch 1973). The study area encompassed a total area of coastal land strip (southwest of the current project area) from Fleming Beach (also known as Stables Beach) at Kapalua to Fleming Park at Honokahua Bay. The survey also included four inland gulches. The Honokahua Burial Site (SIHP-1342) was first identified during this survey. In addition, a site complex composed of eight features was identified at Hawea Point (SIHP-1346). The site was interpreted as a temporary Hawaiian occupation area utilized during marine exploitation and post-dating AD 1500. SIHP -1347, a rock-shelter was documented on Hawea Point cliff face. A stone terrace platform (SIHP-1348) was located on a peninsula overlooking Oneloa Bay. Numerous additional archaeological sites were identified during the survey including a house site, enclosure, terrace, and a midden deposit (SIHP-1345) along the southern flank of Honokahua Stream.

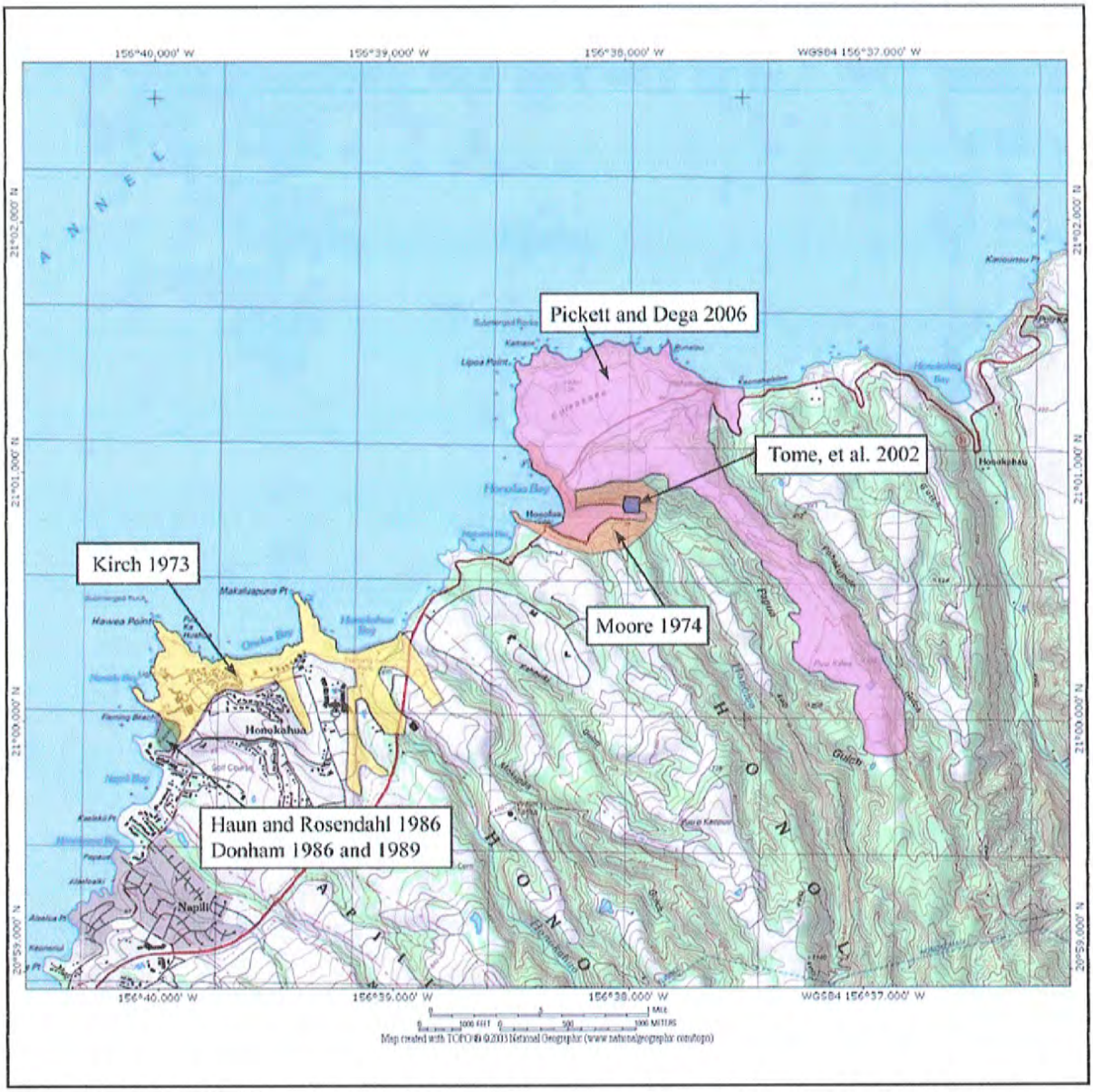


Figure 3: USGS Topographic Map Showing Location of Previous Archaeological Studies in the Vicinity of the Project Area.

At least three studies were conducted within the originally proposed Ritz-Carlton hotel site (Hotel Development Site 2-H) at Honokahua (Kapalua- south of current study). In 1986, human skeletal remains were identified in six different areas during archaeological reconnaissance survey conducted by Paul H. Rosendahl, Inc (PHRI) (Haun and Rosendahl 1986). Results expanded the Honokahua Burial site to the south and west (SIHP-1342).

An additional survey was conducted by PHRI in the same year, which included intensive surface and sub-surface testing (Donham 1986). Eight archaeological sites were identified, including the previously recorded Honokahua Burial Site. A pre-Contact trail was documented and a sub-surface cultural layer encountered. Three historic sites associated with Honolua Ranch Stables were also recorded. Honokahua was extensively utilized as an ancient Hawaiian burial ground. Tentative boundaries for the site were delineated, including a formulation of high, medium, and low probability areas for additional human burials.

Archaeological Data Recovery and mitigation excavations were conducted during 1987-1988 within the Honokahua burial site. The area was obviously extensively utilized as an ancient Hawaiian resting place/burial ground. The burial site was described as a multi-component burial site with over 1,200 ancient Hawaiian burials. According to Donham (1989), radiocarbon dates indicated that initial utilization of the coast was as early as AD 600. After much debate and intensive involvement of native Hawaiian groups, the location of the Hotel shifted and the human burials were re-interned to their original locations. The area was slated for permanent preservation. Archaeological work associated with the development of the Kapalua/Ritz-Carlton Resort by PHRI resulted in over 24 archaeological reports submitted between 1986 and 1993.

Recent Inventory Survey and Archaeological Monitoring for the Kapalua Residences project, occurring over the site of the former Kapalua Bay Hotel, led to the documentation of multiple significant sites. Monohan (2005) conducted Inventory Survey that led to the identification of one significant site (SIHP No. 50-50-01-5565), a buried cultural layer located in sandy deposits between 80–150 cm (31.5–59.1 inches) below the present ground surface, on the prominent rocky point just north of Kapalua Bay Beach. This site consists of charcoal-stained sediment, diffuse and concentrated charcoal, fire-cracked rock, and several stone tools. A radiocarbon date of 210 ± 60 BP was obtained from this buried layer. The layer represents a Traditional-period activity area, likely reflecting temporary habitation. Addendum Inventory Survey of the project area, post-hotel demolition and conducted in 2008 (Perzinski and Dega 2009), led to the identification of three additional sites. Site -5565 consists of the previously documented cultural layer located in the southwestern portion of the project area. Site -6260 consists of two *in situ* human burials (Features A and B). Feature A was encountered during monitoring of the bulldozing in the Building 5 footprint. Feature B was later encountered during manual testing. Site -6278 consists of five *in situ* human burials, two of which (Features A and B) were encountered during addendum fieldwork and three (Features C-E) during monitoring.

Archaeological Monitoring of the overall 23-acre project area noted above led to the identification of four sites (or portions of). A portion of Site -5565 was encountered in the southwestern portion of the project area, which had been documented initially during the initial Inventory Survey (Monahan 2005) and again during the addendum survey work (Perzinski and Dega 2009). Site -6228 was encountered in the southern portion of the project are and consisted of three *in situ* human burials. Site -6260 was also encountered in the southern portion of the project area and consisted of two *in situ* human burials. Feature A was encountered during monitoring and Feature B was encountered during addendum survey work. Site -6278 was encountered in the southern portion of the project area as well, and consisted of five *in situ* human burials. Features A and B were encountered during the addendum survey work and Features C-E were encountered while monitoring. A fair number of isolated human remains

were also collected during the Monitoring program, these remains having been previously disturbed during hotel construction in the early 1970s.

PHRI conducted an archaeological survey in Honokahau that investigated Ili`ilikea Heiau and Maiu Heiau (Walker Sites 19 & 20) (Rogers and Rosendahl 1992). The previously established boundaries were expanded and additional features were recorded directly associated with the two heiau. Additional investigations were recommended to expand upon the understanding of pre-Contact and proto-historic cultural patterns on the north coast of Maui.

Fredericksen and Fredericksen (1996) recorded the remains of an *in situ* human burial at Fleming Beach Park). The burial was discovered in a basin-shaped pit during machine trench excavations for a sewer line. The burial represented a native Hawaiian individual and was found in a flexed position.

More recently, as part of the development of the Kapalua Coastal Trail, Inventory Survey was conducted of the propose routing, the northern terminus of the trail being at Honolua Bay (Tome and Dega 2008). A total of four previously recorded sites within the proposed trail corridor were re-identified and assessed, including Sites 50-50-01-1346 and -1347, which were first identified by Kirch (1973a) on Hāwea Point, Site 50-50-01-5565, which was initially identified by Monahan (2005), and Site 50-50-01-1342, the Honokahua Burial Grounds identified by Kirch (1973a) and Donham (1989). Surface site clusters were identified at Hāwea Point, in the central portion of the project area (Honokahua Burial Grounds), and beyond the trail terminus at Honolua Bay. Pertinent to the current project area, as quoted from Tome and Dega (2008:41):

> "Segment 29 is the final segment of the proposed Kapalua Coastal Trail route that was surveyed during this study. Segment 29 includes a portion of Honoapi`ilani Highway (right-of-way). From the Highway, the trail will descend the steep slope via stone steps to provide access to the Honolua Bay area. While several *kuleana* parcels are present within the valley near the shoreline, and documented sites occur on the parcel (Moore 1974; see also Pickett and Dega 2007), the trail will not pass through any of these parcels or sites as it terminates on an existing dirt road at the southern, upper portion of Honolua Bay proper near the highway."

PROJECT AREA ENVIRONS

SCS (Tome *et al.* 2002) conducted Archaeological Inventory Survey on an adjacent parcel on the north side of Honolua Stream. In addition to identifying and remapping the Moore (1974) sites, several additional agricultural, ceremonial and habitation features were recorded.

The following summary provides additional information of the results of the survey (Tome *et al.* 2002:i):

> Archaeological Inventory Survey conducted on a 2.62 acre parcel located on Maui's northern coastline of Honolua, Honolua Ahupua`a, Lāhainā District, Maui Island, Hawai`i (TMK: 4-1-01:05) led to the reidentification and discovery of several significant ceremonial, agricultural, and house sites. The reidentification of two previously recorded archaeological sites [Honuaula Heiau (State Site Number 50-50-01-1471)] and a historic house site with associated basalt rock features (State Site Number 50-50-01-1758)] revealed a system of features constructed and utilized at various periods from traditional through historic times. Associated cultural materials affirm this interpretation.
>
> Several sites, including two agricultural features, at Site-1471, exhibit rebuilding and modification through time. Earliest use of one large agricultural terrace has been dated herein to A.D. 1480-1680, firmly within traditional times. Coterminously, the subject parcel contains a complex picture of land use (habitation, ceremonial pursuits, agriculture) over a c. 500-year period.

As noted above, a large-scale Inventory Survey was conducted of Lipoa Point and environs, portions of which included the northern flanks of Honolua Bay (Pickett and Dega 2007). Archaeological Inventory Survey was conducted on approximately 583 acres at Līpoa Point, Honolua Ahupua`a, Lahaina (formerly Kā`anapali) District, Maui Island, Hawai`i [TMK: (2) 4-1-001:010; (2) 4-2-004:032; and portion of (2) 4-1-010:009]. This survey included the Lipoa Point area and re-survey of Honolua Bay proper. The current landowner is Kapalua Land Company. The survey led to the identification of twenty-three sites consisting of forty-three individual features. Significant portions of the Lipoa Point area had been previously utilized as fields for commercial pineapple cultivation. No surface or sub-surface features were discovered in any of the active or fallow pineapple fields. Identified sites were primarily located along the rugged coastline (*makai*), with a single site identified in the upper (*mauka*) section of the project area.

The identified sites relate to traditional pre-Contact Hawaiian settlement, historic ranching (50-50-01-5919), and the Plantation-era (50-50-01-5926). Seventeen pre-Contact sites were identified in the project area. These traditional sites are associated with permanent habitation, temporary habitation, ceremonial activities, agriculture, and transportation. Traditional site types identified during the survey include: permanent habitation enclosures, terraces, and a platform; temporary habitation loci were represented by L-shapes, C-shapes, an overhang or cave, and terraces; agricultural terrace complexes, terraces, and modified outcrops; a ceremonial coral concentration, a waterworn cobble and pebble concentration, an upright; and a trail for transportation to the occupation and activity areas. Nine sites are interpreted to be associated with historic habitation, agriculture, ranching, transportation, and ceremonial practices. Two sites were subject to radiocarbon dating. Site -5921 yielded a modern (contaminated) date from a subsurface feature and Site -5932 yielded a Layer I cultural stratum date of A.D. 1660-1960 (2 Sigma), most likely dating late traditional-period of the site.

Sites previously documented by Moore (1974) at Honolua Bay were also re-identified during two phases of work. Some of these sites will be preserved or subject to burial treatment.

All documented sites are historically significant under Criterion D. A majority of the sites are slated for permanent preservation.

The final Inventory Survey in the area was conducted in late 2006 and represented an addendum Inventory Survey of a proposed Surf Park at Honolua Bay (Dega 2007). The project area, measuring some 6.4-acres, was considered as part of the larger Lipoa Point project area. Survey was primarily focused on re-identification and assessments of the sites recorded in the area by Moore (1974), as well as identifying any other sites that were present but no previously recorded. As stated in the Lipoa Point report (Pickett and Dega 2007; see also Dega 2007), two previously identified sites occurred within this 6.4 acre area: Site -5927 (C-shape terrace) and Site -5929 (historic road terrace).

Site -5927, a traditional/historic C-shaped terrace structure, is a single feature site (Feature 1). Feature 1 consists of a roughly C-shaped rock terrace and is located at the base of a steep western slope 7.5 meters from the edge of the sea, outside the northeast end of Honolua Bay. The stacked terrace is constructed of angular and sub-angular medium to large basalt cobbles with small boulders approximately 3-4 courses high. The terrace face is on the west with about a 50° slope, and there is a relatively level pad approximately 1.5 meters to the east. Length of the terrace is 5.5 meters and width is approximately 0.90 meters. The structure incorporates pieces of metal and asphalt on the northern end. The feature is of relatively recent origin but, may be reconstructed from traditional architecture.

Site -5929 consists of an historic period road terrace (retaining wall function) related to the historic road above and around Honolua Bay. The terrace is located at the top on the edge of a steep, western slope just beneath the existing dirt road. The stacked terrace is constructed of 4-6 courses of "cut stone block" style masonry that indicates an early historic nature. The exposed length of the terrace is more than 4 meters and the height is greater than 1.35 meters.

SETTLEMENT PATTERNS

OVERVIEW

Documents, including native and foreign testimonials from Māhele land recipients, inherently establish historic land utilization and settlement patterns for the area. Documentation and oral traditions attest to the perpetual utilization of traditional Hawaiian land management systems that are employed within the pre-Contact political and cultural fabric of Hawaiian societies. Settlement patterns specify the multi-functional uses of land in the project area for both long-use permanent habitation and intensive agricultural subsistence strategies. In traditional Hawaiian times, the area presented rich, substantial lands amenable to the construction and use of large agricultural and religious networks that presumably supported a permanent sizable population.

HYPOTHESES

Based on a general archaeological settlement model of the Hawaiian Islands established by Kirch (1985), colonizing settlement of West Maui is thought by some to have occurred somewhere between A.D. 300 to 600. From nearby Honokahua, Donham (1989) acquired

radiocarbon dates that indicated initial utilization of the coastal areas during A.D. 600. Balicki (1988) gathered evidence for occupation in the area dating A.D. 1010-1150. Pollen samples have indicated initial settlement of the islands from around A.D. 900 (Athens *et al.* 1995). Utilizing data from other Hawaiian Islands, the coast and portions of West Maui's lower valleys were thought to have been occupied somewhere between A.D. 300 and 600 (Cordy *et al.* 1978:66). However, there is some argument also for initial colonization or occupation of the Hawaiian Islands from a c. A.D. 900. The data supporting this timing is primarily derived from palynological analysis which, at this juncture, appears more robust then the scattered radiocarbon dates that may be subject to old wood problems, among others.

Definite settlement patterns are evidenced from previously obtained archaeological data collected from random samples (i.e.: radiocarbon and pollen dating), and concentration on oral history passed through generations. That being stated, settlement pattern models for the entire area are based on a quantity of empirical evidence and inferences.

A generic settlement model was formulated based on the ecological and political aspects of individual *ahupua`a* developments (Cordy *et al.* 1978). The model associates a pattern of temporary habitations and wetland agricultural activities within upper valley areas, versus more permanent habitations with associated heiau and human burials, along lower valley slopes and in coastal regions. Dryland agricultural sites more likely occur along broad alluvial fans at the base of mountain slopes. Cordy's model infers the inherent natural topographical constrictions of the narrow upper valleys were less likely to support population activities associated with permanent habitation, in comparison to the life-sustaining areas of alluvial plains and marine resource accessibility along coastal areas. The model is an inference based on empirical evidence and seemingly applies based on previously obtained archaeological data surrounding the current project area. The coastal, valley, and mountain environments of West Maui provide a full range of exploitable resources including both wet- and dry-land agriculture. The windward areas are postulated to have been settled very early in the colonization process, much earlier than areas on the leeward sides. Numerous archaeological sites have been documented within and near the current project area including *heiau*, human burials, petroglyphs, monumental architectural agricultural complexes, ancient trails, a *holua* slide, as well as a number of permanent and temporary habitation sites. The presence of these remaining archaeological sites is indicative that Honolua Valley supported a substantial and presumably elite traditional Hawaiian population.

METHODS

The current Archaeological Inventory Survey took place on February 24 and 25, 2009 by SCS archaeologist David Perzinski B.A., under the overall direction of Michael Dega, Ph.D. The 1.6-acre project area was defined by a 150 foot radius encircling the bridge and included a 100% pedestrian survey using 5 meter transects. Visibiity in the project area was good-very good. All sites that were encountered were documented with scale drawings using tape and compass, photographs and written observations. Sites were then plotted on a plan view map of the project area provided by the client and site bounderies were determined by the visible surficial extent of the sites. No testing was conducted during the current survey; one site previously identified during Inventory Survey in 2002 (Tome *et al.* 2002) was previously tested and yielded no cultural materials.

CONSULTATION

Multiple consultation meetings per the Honoapiilani Highway Rehabilitatio/Replacement of Honolua Bridge have occurred since 2009. The following lists the dates of the major consulation meetings, as well as the individuals or groups consulted during the course of the project.

In May, 2009, Austin, Tsutsumi and Associates (ATA) and Communications Pacific (CP) met with community leaders to discuss conceptual plans for the Honolua Bridge project. These include the following individuals and their affiliation: Zeke Kalua (West Maui Taxpayers Association), Perry Artates (Hawaii Operating Engineers Industry Stabilization Fund), Lori Sablas (Kaanapali Beach Hotel/Maui Planning Commission), Kahu David Kapaku (Save Honolua Coalition), Kalani Ho (Maui Land and Pineapple), Charlie Maxwell (Maui/Lanai Islands Burial Council), Irene Bowie (Maui Tomorrow), Gordon Cockett (Maui Tomorrow), Elle Cochran (Save Honolua Coalition, County Council Member), and John Carty (Save Honolua Coalition/Honolua Valley resident). Comments were primarily centered on concerns over construction of a larger bridge (two lanes) and the effects this would have on the Honolua area, in general. No substantive archaeological concerns were expressed per the actual area of potentail effect.

In August, 2010, Austin, Tsutsumi and Associates (ATA) and Communications Pacific (CP) again met with stakeholders of the project to update them on latest developments for the project and to receive additional comments on the project. The meetings occurred July 26, 27, and August 5, 2010 on Maui. The following individuals were consulted: Lori Sablas, Maui Planning Commission/Ka'anapali Beach Hotel, Les Potts (Lipoa Point Advisory Council), Dickie Moon, (Lipoa Point Advisory Council), Scott Fisher (Vice-Chair, Maui/Lanai Islands Burial Council),
Gordon Cockett (Maui Tomorrow), Elle Cochran (Save Honolua Coalition/Maui County Council), Isao Nakagawa (retired Maui Land & Pineapple employee), John Carty (Save Honolua Coalition), and Kalani Ho (Maui Land & Pineapple). Several comments from this consultation involved historic preservation. First, there were comments regarding stewardship of the nearby *heiau*. While the site is not adversely affected by the proposed bridge project, it is in the nearby area and its preservation should be paramount to the community. The community should work out a plan for care of the preserved site. Second, there was a comment about SHPD conducting an architectural review of the bridge/bridge project. In a SHPD review letter dated August 17, 2009 (Log No.:2009.2358, Doc No.:0908ST12), the State asked for more information about the history of the bridge, if the bridge is a "good example" of its type, etc. and also to provide additional information on the proposed project itself. The current document has fulfilled these requests. All other comments pertained mostly to the various options of bridge rehabilitation or replacement.

RESULTS OF FIELDWORK

In total, two previously documented historic properties consisting of a terrace (SIHP No. 50-50-10-1471 Feature 12), and a wall (-1754 Feature 6) were encountered. In addition, the

historic bridge (-1754 Feature 11) crossing Honolua Stream and a water diverting wall (-6812) was documented during the archaeological inventory survey.

SIHP No.: 50-50-10-1471 **Condition:** Good
Site Type: Terrace
Function: Agriculture
Feature (#): 1
Age: Pre-Contact to Historic
Significance: Criterion D
Recommendation: No Further Work

Description:

Site -1471, Feature 12 (designated by Moore 1974) consists of an earth and basalt terrace located on the north side of Honolua Stream and situated approximately 4 meters east of Honoapi`ilani Highway on its western extent (Figures 4-7). The terrace is oriented 106/286 degrees True North and measures a maximum of 24 meters long with the basalt portion measuring a maximum of 12 meters. The height of the terrace ranges from 40-103 cm (4-8 courses) on the basalt portion and 30-40 cm on the earthen portion. The terrace wall is constructed of waterworn basalt and at least three waterworn aggregate boulders indicating an historic date for construction. The surface of the terrace is strewn with cobbles to a maximum width of 2.55 meters.

Along the southwestern end of the basalt portion of the terrace is a poorly constructed waterworn cobble and boulder mound. The mound measures 1.5 by 2.0 meters (roughly oval) and has a maximum height of 50 cm. It is unknown what the function of the mound is, though the stones were of the same size as those in the terrace wall suggesting that they were once part of the terrace wall and are remnants of a collapsed portion of the terrace.

The terrace was first recorded by SCS in the 2002 Inventory Survey. Though the feature retains the same site designation as Honuaula Heiau, it is in no way, other than spatially, associated with it. During the 2002 Inventory Survey, one test unit was placed atop the terrace in an attempt to better define the function and age of the terrace wall. Excavation revealed no cultural materials or layers suggesting the terrace was utilized for agriculture. Per the reviewed and accepted Inventory Survey Report (Tome *et al.* 2002) "no further work" was recommended for the feature.

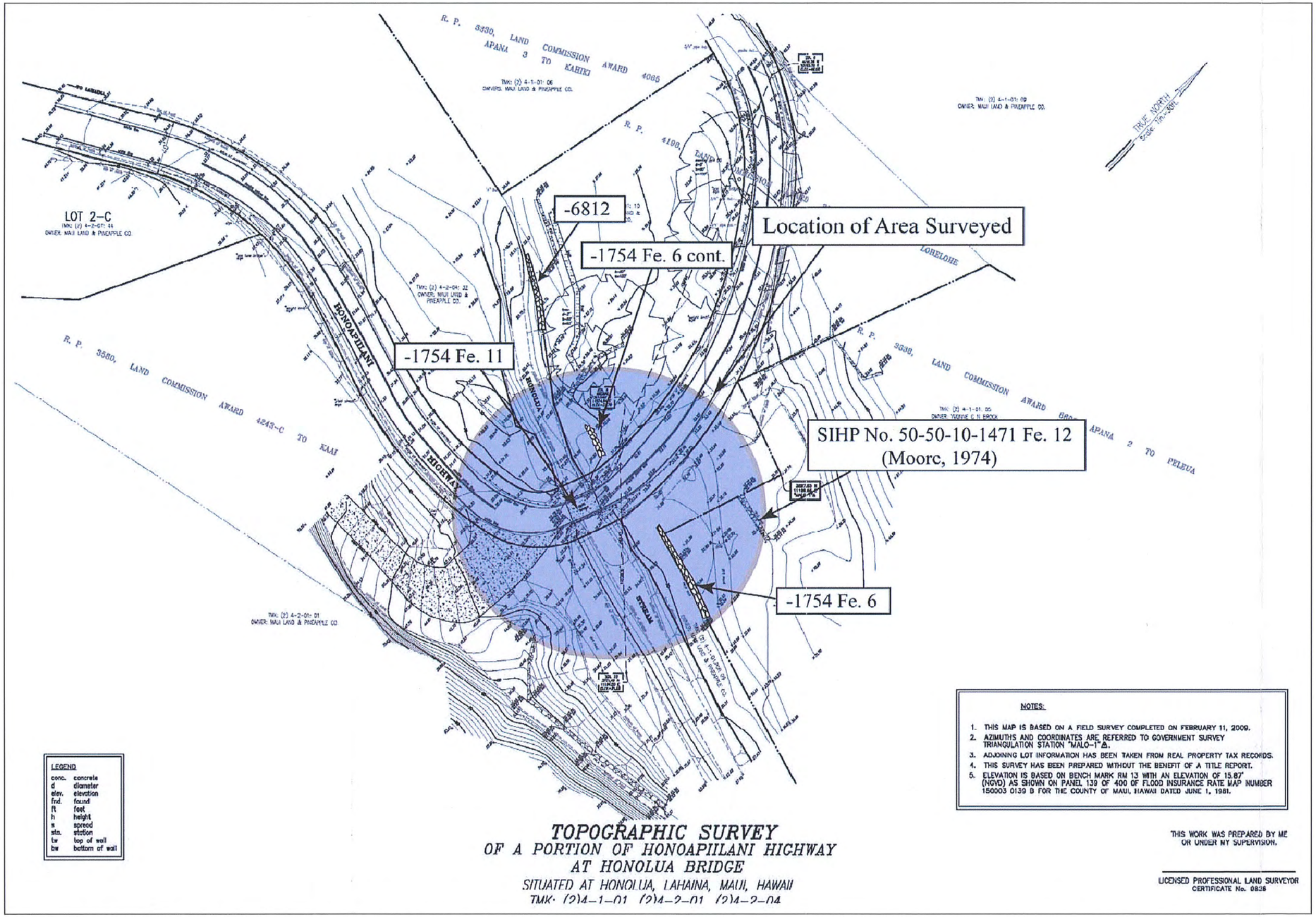


Figure 4: Project Area Map Showing Location of Survey Area and Sites

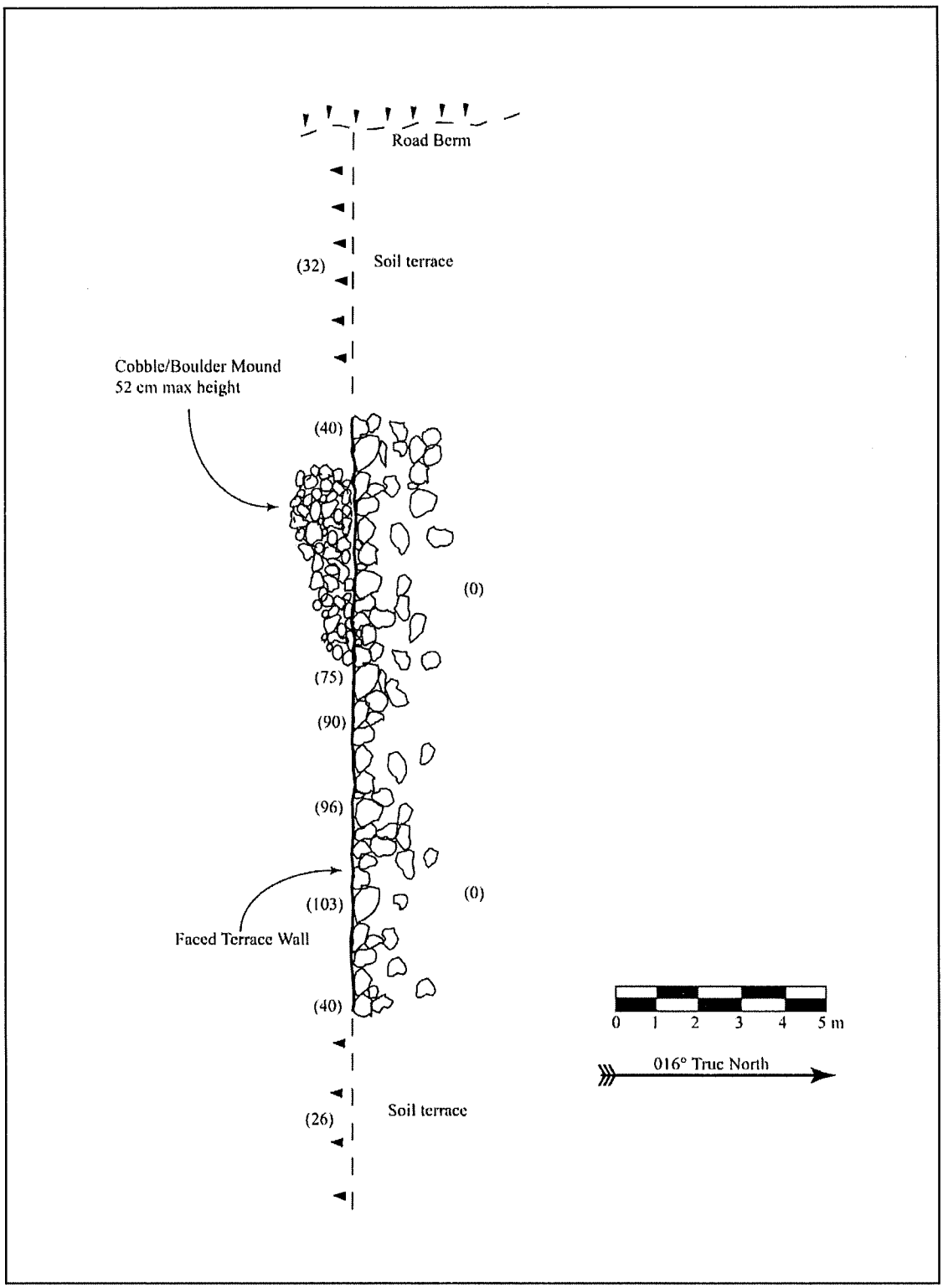


Figure 5: Plan View of Site 50-50-10-1471 Feature 12

Figure 6: View East of Agricultural Terrace (SIHP No. 50-50-10-1471)

Figure 7: View North of Terrace Wall (note: waterworn aggregate at base on left side of scale tape)

SIHP No.: 50-50-10-1754 **Condition:** Fair
Site Type: Wall and Bridge
Function: Flood Defense and Transportation
Feature (#): 2
Age: Historic
Significance: Criterion D
Recommendation: No Further Work

Site -1754, Feature 6 consists of a basalt wall paralleling the north side of Honolua Stream approximately 8 meters from the north bank (Figure 8 and 9). The wall reportedly extends up Honolua Valley and was previously documented by Moore (1974):

> Feature 6 is a discontinuous rock wall running along the N side of Honolua Stream. Beginning as a single line of stones mauka of the dirt-road crossing, and broken down in several places, the wall appears to be a defense against flooding. The wall height varies considerably, but averages between 1.1 and 1.3 m in undamaged sections. Stacked with water-worn boulders from the stream bed, the wall is in only fair condition and appears never to have been as well faced as wall feature 2 (Moore, 1974:10).

The portion examined during this Inventory Survey measures 21 m in length by 1 meter wide. This portion of the wall has a maximum height of 98 cm and is built of 3-4 courses of waterworn basalt cobbles and boulders in undamaged sections. The condition of the wall varies from nearly destroyed to intact. The western portion that comes within 5 meters of the bridge and consists of scattered cobbles and boulders. It is likely that this portion of the wall was damaged during the original construction of the bridge and/or Honoapi`ilani Highway.

On the *makai* side of the highway the feature can be seen extending from beneath the parking lot fill (Figures 10 and 11). This portion is heavily worn and only the footprint (maximum 1.4 m in width) of the wall is visible due to heavy pedestrian traffic that crosses the feature. The wall footprint is identifiable by numerous basalt cobbles and boulders that are nearly at ground level (<15 cm above surface). The wall extends down the valley roughly paralleling Honolua Stream.

Feature 11 consists of a one-lane bridge located at the base of Honalua Highway. The original bridge dates to 1924, with rehabilitation and repairs occurring in 1973. The bridge is paved with asphalt with a concrete guardrail over a concrete box drain spanning the stream (Figures 12-14). The bridge measures 7.1 m in length with an overall width of 4.9 meters. The west (*makai*) face of the bridge consists of 4.0 meter long by 3.1 meter high concrete box flanked by a 3.8 meter long by 2.0 m wide by 2.7 m high basalt and concrete stone face on the south end and a 3.7 meter long by by 2.0 m wide by 2.3 m high on the north side. The east (*mauka*) side of the bridge is flanked by an L-shaped concrete and basalt support wall measuring 3.4 m long by 3.6 m wide with a height of 75 cm on the south side and a wedge-shaped concrete and basalt support wall on the north side.

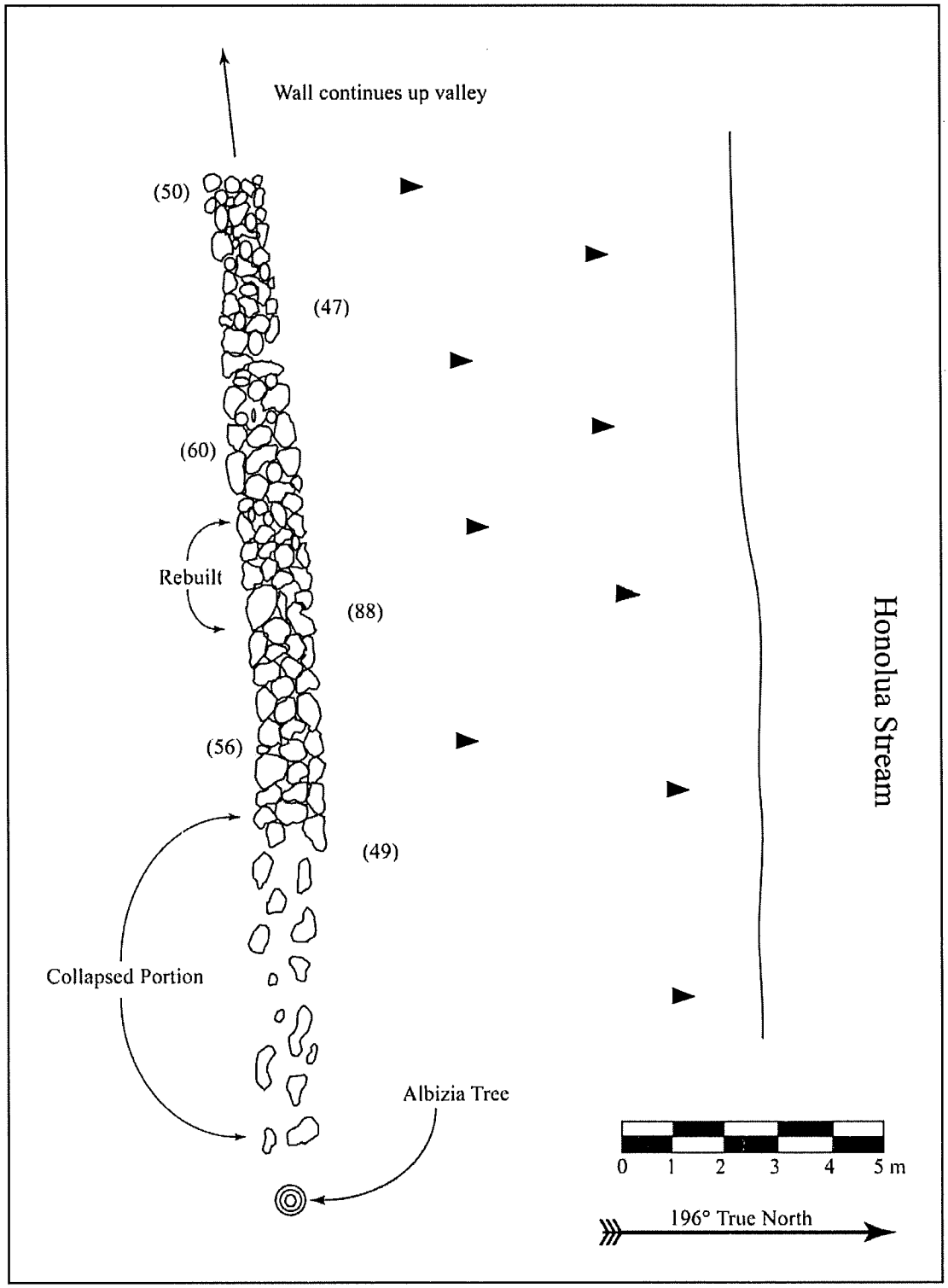


Figure 8: Plan View of Wall (SIHP No. 50-50-10-1754 Feature 6)

Figure 9: View East of Wall (note collapsed portion in foreground)

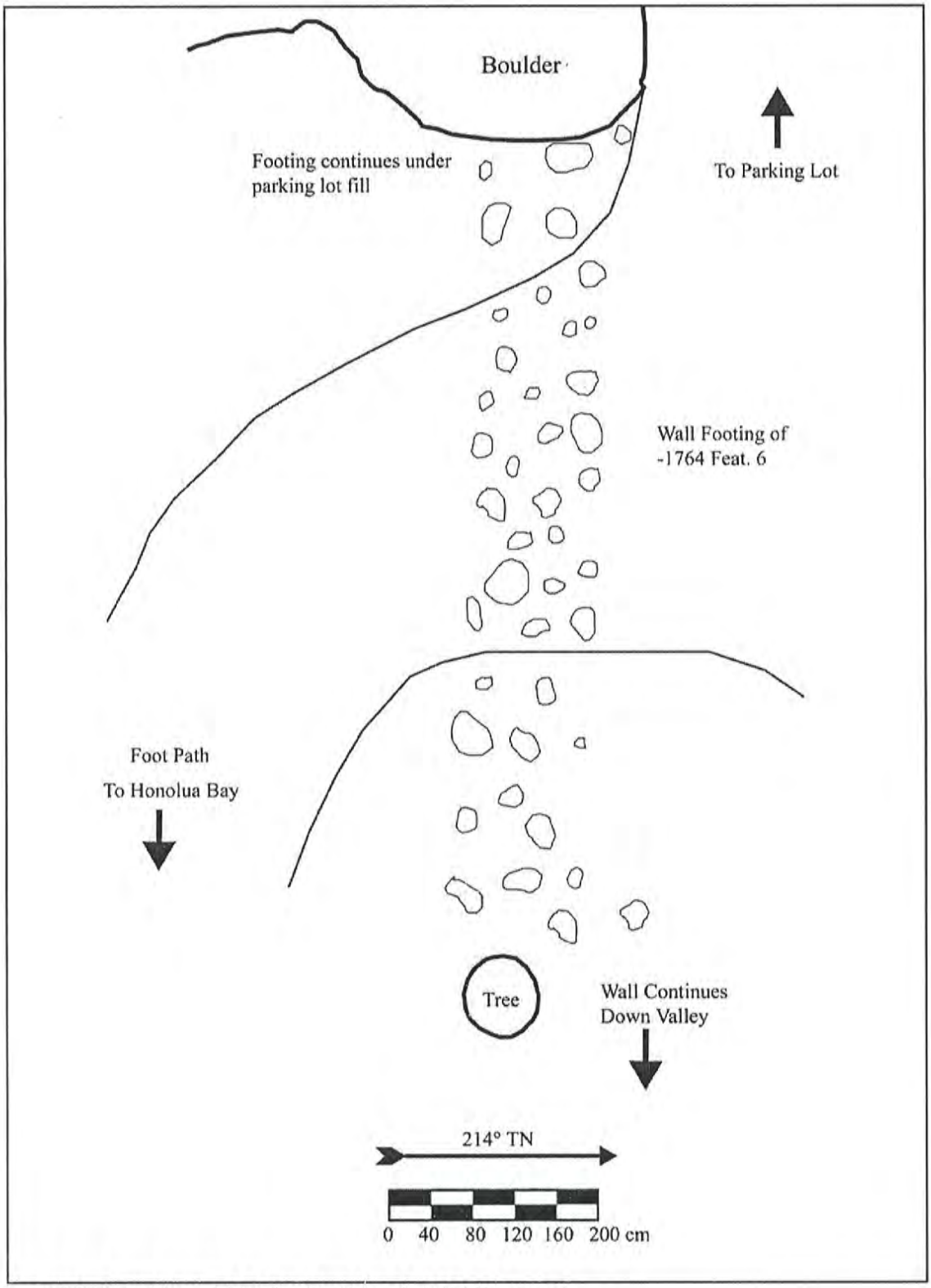


Figure 10: Plan View of *Makai* Portion of -1754 Feature 6

Figure 11: View East of *Makai* Portion of -1754 Feature 6

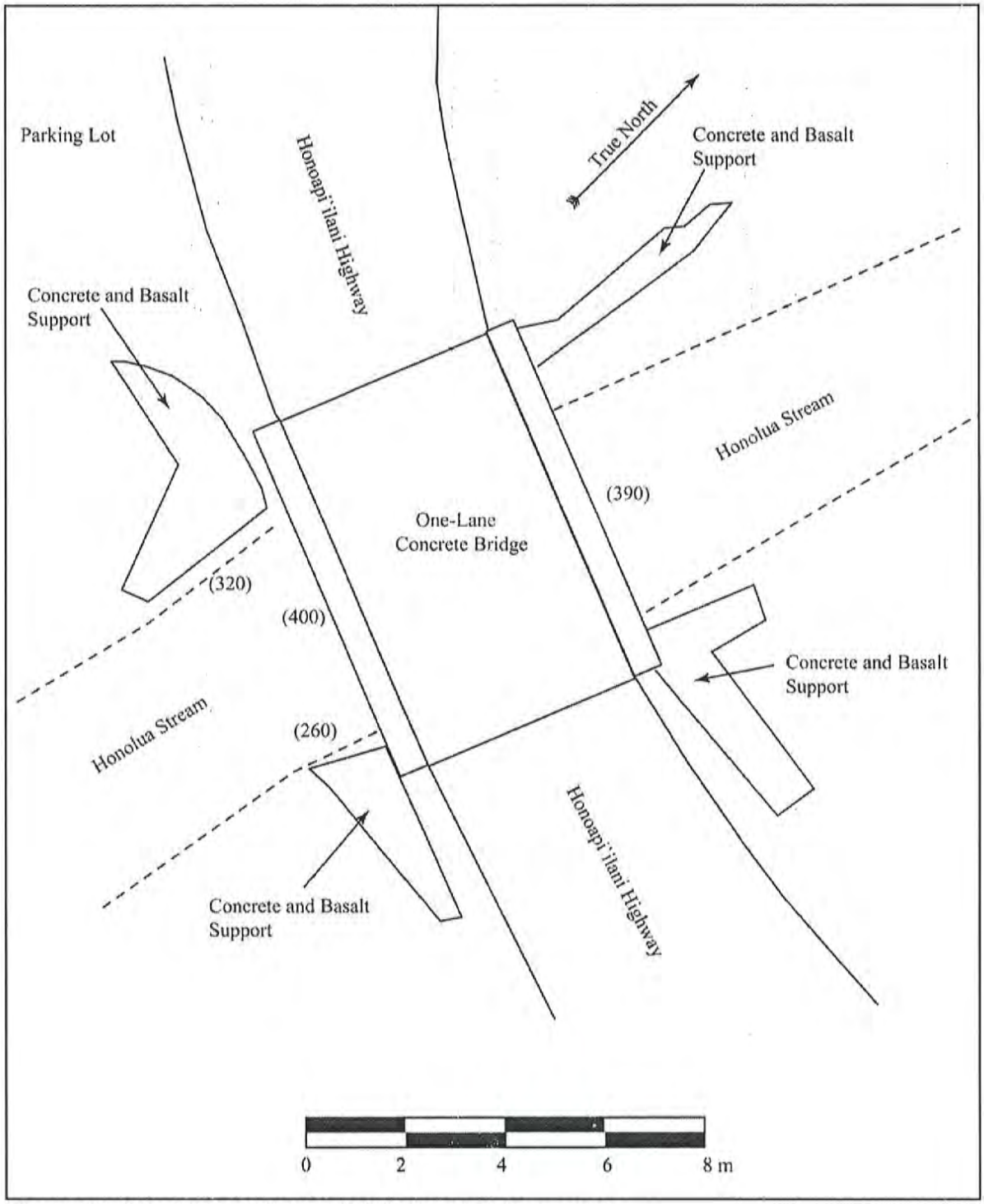


Figure 12: Plan View of Bridge (SIHP No. 1754 Feature 11)

Figure 13: View East of SIHP No. -1754 Feature 11 Showing Bridge Crossing Honolua Stream

Figure 14: View South of SIHP No. -1754 Showing Bridge

SIHP No.: 50-50-10-6812 **Condition:** Good
Site Type: Wall
Function: Water Diversion
Feature (#): 1
Age: Historic
Significance: Criterion D
Recommendation: No Further Work

Site -6812 consists of a basalt wall built along the north bank of Honolua Stream, just west (less than 50 m) from the bridge (Figures 15 and 16). The wall appears to be an erosion control structure to prevent the outside bend of the bank from further erosion. The wall measures approximately 18 m in length with a maximum height of 1.5 m (up to 5 courses). The wall is constructed of basalt cobbles and boulders that abut the north side of the stream and appears to have been built to prevent Honolua Stream from meandering into the valley.

Architectural Inventory Survey

An Architectural study was also commissioned for the project, in partial response to the SHPD requesting additional information on the significance of Honolua Bridge and other questions related to potential work on the bridge itself. This survey has been included as Appendix A and provides much more detail about the bridge and its significance.

DISCUSSION AND CONCLUSIONS

Archaeological Inventory Survey within a 1.6-acre project area, most of which is developed per Honolua Highway and the existing bridge, revealed the present of two previously documented historic properties and one previously undocumented water diversion wall. The two sites consist of a terrace (SIHP No. 50-50-10-1471 Feature 12) and a wall (-1754 Feature 6). The former was interpreted as a pre-Contact/historic period agricultural terrace and the latter, the wall, is an historic-period retaining wall associated with the adjacent road. Additionally, the historic bridge (-1754 Feature 11) crossing Honolua Stream and a water diverting wall (-6812) in Honolua Stream were documented during this Archaeological Inventory Survey.

A total of four sites were documented within the area of potential effect for this project, two of which were previously documented, the bridge, previously given a State site number and the water diverting wall. While the general Honolua area contains a wide variety of site types and temporal affiliations, the current project area was delimited by previous construction (road, bridge), which likely altered the prehistoric landscape to its state today. An architectural study of the bridge itself is discussed in more detail and provides historic and functional information on the bridge (see Appendix A).

Figure 15: View Northeast of SIHP No. -6812.

Figure 16: View Southwest of SIHP No. -6812.

SIGNIFICANCE ASSESSMENTS

Three sites comprised of four features documented in the project area during this Archaeological Inventory Survey at TMK: (2) 4-1-001:05 (por.), 009 (por.) and 010 (por.) were considered significant. One of the features (SIHP No. 50-50-10-1471 Feature 12) was previously identified and was found significant under Criterion D. Site -1754 Feature 6 was found significant under Criteria C and D. No further work was previously recommended on the sites. The SHPD accepted this finding and recommendation. The current revised document has not altered the original assessment nor recommendations.

Site -6812 (water diverting wall) is considered significant under Criterion D and Site -1754 Feature 11 (bridge) is considered significant under Criteria C and D. The two features composing the site have been evaluated for significance according to the criteria established for the State and National Register of Historic Places. The five criteria are listed below:

Criterion A: Site is associated with events that have made a significant contribution to the broad patterns of our history;
Criterion B: Site is associated with the lives of persons significant to our past;
Criterion C: Site is an excellent site type; embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual construction;
Criterion D: Site has yielded or has the potential to yield information important in prehistory or history;
Criterion E: Site has cultural significance; probable religious structures or burials present (State of Hawai`i criteria only).

SIHP No. 50-50-10-1754

The wall (Feature 6) and historic bridge (Feature 11) have been determined to be significant under Criteria C for yielding important information on the construction methods, materials, and type (as reinforced concrete tee bridge) and under Criteria D for information content. No further work is recommended for the wall (Feature 6) or the historic bridge (Feature 11), both features having been documented during multiple projects in the area.

SUMMARY AND RECOMMENDATIONS

An Archaeological Inventory Survey conducted at the Honolua Stream crossing of Honoapi`ilani Highway led to the documentation of two previously recorded features (Site -1471 Feature 12 and Site -1754 Feature 6), as well as one new feature (-1754 Feature 11) (see Figure 4) and one new site (-6812). The new feature consists of a bridge originally constructed in 1924 (and repaired in 1973) which crosses Honolua Stream and was included into the site documented by Moore (1974) as having been related to historic activities (transportation). The new site consists of a water diverting wall along the east side of Honolua Stream, just west (*makai*) of the bridge.

SIHP No. 50-50-10-1471

SIHP No. -1471 Feature 12 (agricultural terrace) was previously recommended for "no further work" (Tome *et al.* 2002). The feature has been adequately documented during multiple projects. No additional work is recommended for this site.

SIHP No. 50-50-10-1754

No further work is recommended for the wall (Feature 6) or bridge (Feature 11). It is believed that both features have been adequately documented and additional archaeological research would not contribute any further to the understanding of Hawaiian history or prehistory.

SIHP No. 50-50-10-6812

No further work is recommended for the water diverting wall along the north side of Honolua Stream. It is believed that the site has been adequately documented and additional archaeological research would not contribute to any further understanding of Hawaiian history or prehistory.

ARCHAEOLOGICAL MONITORING

Archaeological Monitoring is recommended during any subsurface disturbance (including excavation as well as grubbing/bulldozing) for any bridge or highway improvements at Honolua Bay. This recommendation is made to protect any additional cultural resources and/or inadvertent burials that may be encountered during subsurface excavation on the bridge. An Archaeological Monitoring Plan would be required to be prepared and accepted by the SHPD prior to ground altering activities associated with this project.

REFERENCES

Ashdown, I

1972 *History of Hoolua Ranch.* Prepared for Maui Land and Pineapple Company,On File SHPD, Kapolei.

Austin, Tsutsumi, & Associates, Inc.

2011 *Preliminary Engineering Report: Honoapiilani Highway Rehabilitation/Replacement of Honolua Bridge, Lahaina, Maui, Hawaii* (draft). ATA, Honolulu.

Barrére, D.B.

1975 *Wailea: Waters of Pleasure for the Children of Kama.* B.P. Bishop Museum, Honolulu, HI. Prepared for the Wailea Development Company.

Bartholomew, Gail and Bren Bailey

1994 *Maui Remembers: A Local History.* Mutual Publishing, Honolulu, HI.

Chinen, J.

1958 *The Great Māhele.* University of Hawai`i Press, Honolulu.

Cooper, G. and G. Daws

1985 *Land and Power in Hawaii.* Benchmark Books, Honolulu, HI

Cordy, R.

1981 *A Study of Prehistoric Social Change: The Development of Complex Societies in the Hawaiian Islands.* Academic Press, New York, NY.

Dega, Michael

2002 *Burial Treatment Plan for a Property in Honolua, Honolua Ahupua`a, Lahaina District, Maui Island, Hawai`i [TMK: 4-1-01:005].* Scientific Consultant Services, Inc., Honolulu.

2007 *Archaeological Inventory Survey of the Proposed Honolua Bay Surf Park, Lipoa Point, Honolua Ahupua`a, Lāhainā (Formerly Kā`anapali) District, Maui Island, Hawai`I [TMK: (2) 4-1-001:010; (2) 4-2-004:032; and portion of (2) 4-1-001:009*]. Scientific Consultant Services, Inc., Honolulu.

Donham, T.K.

1986 *Archaeological Survey Test Excavations, Kapalua Hotel Development Site 2-H, Kapalua Bay Resort.* PHRI Report 224-052286. Prepared for Kapalua Land Co., Ltd. On file SHPD.

1989 *Addendum Report: Additional Subsurface Testing of Area III: Subsurface Archaeological Testing, Revised Ritz-Carlton Kapalua Hotel, Project Site Areas I, IIand III. Land of Honokahua, Lāhainā District, Island of Maui.* Paul H. Rosendahl,Ph.D., Inc. On file SHPD, Kapolei.

Fornander, A.
1969 *The Polynesian Race:Its Origins and Migrations.* Volume II, Charles E Tuttle Company, Tokyo, Japan

Foote, D.E., E.L. Hill, S. Nakamura, and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* U.S. Department of Agriculture, Soil Conservation Science and University of Hawai`i Agricultural Experimentation Station. Washington D.C., U.S. Govt. Printing Office.

Fredericksen, E.M. and D.L. Frederick
1996 *Additional Archaeological Inventory Survey Subsurface Testing at Kapalua Bay Hotel, Honokahua and Napili 2-3 Lāhainā District, Maui Island.* Prepared for Robert McNatt, Kapalua Land Company Ltd, Xamanek Researchers, Pukalani, Maui

2000 *An Archaeological Inventory Survey of Honoapi`ilani Highway Corridor From Alaelae Point to Honolua Bay, Honolua and Honokahua Ahupua`a, Lāhainā District, Maui Island.* Xamanek Researchers. On file SHPD Kapolei

Fraizer, F. (Translator)
1972 *Native Register* (Volume 6). On file, Hawai`i State Archives

Giambelluca, T.W., M.A. Nuller, and T.A. Schroeder
1986 *Rainfall Atlas of Hawai`i.* Report R76. Water Resources Research Center, University of Hawai`i Manoa, for the Department of Land and Natural Resources, State of Hawai`i, Honolulu, HI.

Griffen, P.B., and G.W. Lovelace (Eds.)
1972 *Survey and Salvage-Honoapi`ilani Highway. The Archaeology of Ka`anapali from Honokawai to `Alaeloa Ahupua`a.* Archaeological Research Center Hawai`i, Inc.

Handy, E.S.C.
1940 *The Hawaiian Planter, Vol. I: His Plants, Methods and Areas of Cultivation.* Bishop Museum Bulletin 161. Honolulu HI

Handy, E.S. Craighill and E.G. Handy
1972 *Native Planters in Old Hawai`i.* Bishop Museum Bulletin 233. Honolulu

Haun, A.E. and J.D. Henry
2001 *Archaeological Site Preservation Plan Sites 4141 and 4143 Land of Honolua, Lahaina District, Island of Maui.* On file SHPD, Kapolei.

Haun, A.E. and P.H. Rosendahl
1986 *Archaeological Field Inspection, Kapalua Hotel Development Site, Land of Honokahua, Lahaina, Islan of Maui.* PHRI Report 221-021286. On File SHPD, Kapolei

Jimenez, J.A. and P.H. Rosendahl
1995 *Archaeological Inventory Survey, Honolua Coastal Parcel. Land of Honolua, Lāhainā District, Island of Maui [TMK: (2) 4-2-4:31*]. Prepared for Mr. JBrennan. PHRI. On File SHPD, Kapolei.

Joesting, Ann
1986 *Historical Research for the Makena-Keoneoio Road in Makena, Maui.* Bishop Museum, Honolulu

Ka`ai, M.
1992 *Honokohau Ahupua`a Maui: An example of Rural Hawaiian Settlement and Land Use*. On File SHPD, Kapolei.

Kamakau, Samuel
1964 *Ka Po`e Kahiko*. Bishop Museum Special Publication 51. Honolulu.
1992 *Ruling Chiefs of Hawaii*. Revised Edition. Kamehameha Schools Press, Honolulu

Kame`eleihiwa, Lilikā
1992 *Native Land and Foreign Desires: Pehea La E Pono Ai?* Bishop Museum Press. Honolulu

Kay, E..A.
1979 *Hawaiian Marine Shells. Reef and Shore Fauna of Hawaii. Section 4: Mollusca.* Bishop Museum Press, Honolulu

Kirch, P.V.
1973 *Archaeological Survey of the Honolua Development Area, Maui (TMK: 4-2-01)*. Department of Anthropology, B.P. Bishop Museum, Honolulu. Prepared for Maui Land and Pineapple Company, Ltd.

1985 *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory.* University of Hawai`i Press, Honolulu

Kirch, P.V. and M. Sahlins
1992 *Anahulu: The Anthropology of History in the Kingdom of Hawaii*, Volume One (Historical Ethnography) and Volume Two (The Archaeology of History). University of Hawai`i Press, Honolulu

Komori, E.
1983 *Archaeological Investigation at Kahana Gulch, Lahaina District, Island of Maui.* Department of Anthropology, B.P. Bishop Museum, Honolulu.

Krauss, B.H.
1993 *Plants in Hawaiian Culture.* University of Hawai`i Press, Honolulu

Kuykendall, R.S.
1938 *The Hawaiian Kingdom.* Vol. 1. University of Hawai`i Press. Honolulu.

Lucas, Paul F. Nahoa
1995 *Dictionary of Hawaiian Legal Land-terms. Native Hawaiian Legal Corporation.* University of Hawai`i Committee for the Preservation and Study of Hawaiian Language, Art and Culture. University of Hawai`i Press.

Monahan, C.
2005 *An Archaeological Inventory Survey Report on Three Contiguous Parcels Measuring Approximately 25.3 Acres in Kapalua, Napili 2–3 Ahupua`a, Lahaina District, Maui Island, Hawai`i [TMK: 4-2-04: 27, 28, and 29*]. Scientific Consultant Services, Inc., Honolulu.

Moore, K.R
1974 *Archaeological Survey of Honolua Valley, Maui.* Department of Anthropology, B.P. Bishop Museum, Honolulu Ms. 042274

Munsell Soil Color Charts
2000 Revised Edition. GretagMacbeth, New Windsor, New York, New York.

Nakoa, S. (Translator)
n.d. *Native Testimony (*Volume 5). On File, Hawai`i State Archives, Honolulu

Perzinski, D., and M. Dega
2009 *Addendum Archaeological Inventory Survey on a Portion of 25.3 Acre Parcel in Kapalua, Napili 2–3 Ahupua`a, Lahaina District, Maui Island, Hawai`i [TMK: 4-2-04: 27, 28, and 29*]. Scientific Consultant Services, Inc., Honolulu.

Pickett, J.L., and M. Dega
2007 *An Archaeological Inventory Survey of 583-Acres at Lipoa Point, Honolua Ahupua`a, Lāhainā (Formerly Kā`anapali) District, Maui Island, Hawai`i [TMK: (2) 4-1-001:010; (2) 4-2-004:032; and portion of (2) 4-1-001:009*]. Scientific Consultant Services, Inc., Honolulu.

Price, S.
1983 Climate. In *Atlas of Hawai`i*, Ed. By W. Armstrong, P 62. The University of Hawai`i, Honolulu

Pukui, M.K, E.W. Haertig, and C.A. Lee
1972 *Nānā I Ke Kumu: Look to the Source Volume II.* Hui Hānai. Honolulu, Hawai`i.

Pukui, M.K., S. Elbert, and E.T. Mookini
1974 *Place Names of Hawaii.* Revised and Expanded Edition. University of Hawaii Press, Honolulu, HI.

Rogers, J.D. N.d P.H. Rosendahl
1992 *Archaeological Survey and Recording, Ili`ilikea and Maui Heiau on the North Coast of Maui.* PHRI. On file SHPD.

Schmitt, R.C.
1972 *The Missionary Causes of Hawai`i.* Pacific Anthropological Records #20 Department of Anthropology, B.P. Bishop Museum , Honolulu

Sterling, E.P.
1998 *Sites of Maui.* B.P. Bishop Museum Press, Honolulu.

Thrum, T.G.
1909 *Heiau and Heiau Sites throughout the Hawaiian Islands.* Hawaiian Almanac and Annual for 1909: 36-48.

1917 *Maui's Heiau and Heiau Sites Revisited.* Hawaiian Almanac and Annual for 1917: 52-62

Tome, G., and M. Dega
2008 *An Archaeological Inventory Survey for the Proposed Kapalua Coastal Trail Located in the Areas of Nāpili, Kapalua, Honokahua, and Honolua, Ahupua`a of Nāpili 2 & 3, Honokahua, and Honolua, Lāhainā District, Island of Maui, Hawai`i [TMK: (2) 4-2 001 through 005*]. Scientific Consultant Services, Inc., Honolulu.

Tome, G.I. Calis and M. Dega
2002 *An Archaeological Inventory Survey of Honolua, Honolua Ahupua`a, Lahaina District, Island of Maui, Hawai`I (TMK: 4-1-01: 05).* Scientific Consultant Services, Inc. Honolulu

Waihona `Aina Corporation
2005 *Mahele Database*. www.waihona.com. Kaneohe, HI.

Walker, A.T. and P.H. Rosendahl
1985 Testing Cultural Remains Associated with the Kahana Desilting Basin, Honolua Watershed, Land of Kahana, Lahaina District, County of Maui. PHRI Report 128-011589. Prepared of U.S. Department of Agriculture Soil Conservation Service, Honolulu, HI

Walker, W.M.
1931 Archaeology of Maui. Ms. On file at SCS, Inc. Honolulu, HI

APPENDIX A: INVENTORY CHECKLIST

ARCHITECTURAL INVENTORY SURVEY (AIS) CHECKLIST

1. **HISTORIC NAME OF PROPERTY:** Honolua Stream Bridge
2. **LOCATION/ADDRESS:** Milepost 32.40 Honoapiilani Highway (Rt. 30), Lahaina, Maui
3. **TMK NUMBER:** adjacent to TMKs 4-2-001:001, 4-2-004:032, 4-1-001:010, 4-1-001:009
4. **PROPERTY OWNER:** State of Hawaii

5. **APPLICABLE NATIONAL REGISTER CRITERIA (check one or more qualifying criteria):**

[✓] **Criterion A**-- Property is associated with events that have made a significant contribution to the broad patterns of our history.

[ ] **Criterion B**—Property is associated with the lives of persons significant in our past.

[ ] **Criterion C**—Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] **Criterion D**—Property has yielded or is likely to yield, information important in prehistory or history.

or Criteria Considerations: (circle one or more) A B C D E F G

6. **INTEGRITY: Does the property retain its historic integrity? Check applicable aspects of integrity retained.**

[✓] **Location** [✓] **Design** [✓] **Setting** [✓] **Materials** [✓] **Workmanship** [✓] **Feeling** [✓] **Association**

7. **NR ELIGIBILITY: Is the property eligible for listing on the National Register of Historic Places?**

Yes [✓] **No** [ ] **If "No", then why?**

MASON ARCHITECTS, INC. PROPOSED RECOMMENDATIONS/MITIGATION MEASURES:

No further architectural documentation (HABS/HAER) required.

NOTE:
MAI was hired by Austin, Tsutsumi & Associates, Inc. to prepare this report in response to a request by SHPD to "provide additional survey documentation describing the bridge's significance such as, the designer/builder, its contribution to the development of the island, the number of bridges of its type remaining on Maui/the State of Hawaii, if this is a good example of its type, etc." A previous archaeological inventory survey report, produced by Scientific Consultant Services, Inc. that was submitted to SHPD (2009) evaluated the bridge eligible under Criteria "C" and "D" (P. Aiu letter, August 17, 2009, log # 2009. 2358, doc # 0908ST12).

ARCHITECTURAL INVENTORY SURVEY REPORT

to determine the significance of a property potentially eligible for nomination to the National Register of Historic Places

SHPD Doc Number: _____

TMK: adjacent to 4-2-001: 001, 4-2-004: 032, 4-1-001: 010, 4-1-001: 009

1. Name of Property

Historic name Honolua Stream Bridge

Other names/site number _____

2. Location

Street & Number Milepost 32.40 on Honoapiilani Highway (Rt. 30) ☐ not for publication

City or Town Lahaina X vicinity

State Maui **Code** HI **County** Maui **Code** 009 **Zip code** 96761

3. Property Owner

Name State of Hawaii

Street & Number 869 Punchbowl St. **Telephone** 808-587-2220

City or Town Honolulu **State** Hawaii **Zip code** 96813

4. Geographical Data

Acreage of Property Less than 1 ac.

Verbal Boundary Description (describe the boundaries of the property)

UTM (NAD 83) 04.745960.2325500

Honoapiilani Highway (State Rt. 30) at the crossing on Honolua Stream

Boundary Justification (explain why the boundaries were selected)

UTM point is the locaton of the 23' long bridge.

5. Form Prepared By

Name/Title Dee Ruzicka, Architectural Historian

Organization Mason Architects, Inc. **Date** October 2011

Street & Number 119 Merchant St., #501 **Telephone** 808-536-0556

City or Town Honolulu **State** Hawaii **Zip Code** 96813

E-mail dr@masonarch.com

6. Classification

Ownership of Property
(Check as many boxes as apply)

- [ ] private
- [ ] public - Local
- [X] public - State
- [ ] public - Federal

Category of Property
(Check only one box)

- [ ] building(s)
- [ ] district
- [ ] site
- [X] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
----	----	buildings
----	----	sites
----1	----	structures
----	----	objects
----1	----	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

n/a

Number of contributing resources previously listed in the National Register

None

7. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation/ road-related/

Current Functions
(Enter categories from instructions)

Transportation/ road-related

8. Description

Architectural Classification
(Enter categories from instructions)

other – bridge

Materials
(Enter categories from instructions)

Stone

Concrete

Foundation: Lava rock masonry

Walls: n/a

Roof: n/a

Other: Reinforced concrete

Narrative Description and Integrity Assessment

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with a summary paragraph that briefly describes the reason this report was requested and the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

MAI was hired by Austin, Tsutsumi & Associates, Inc. to prepare this report in response to a request by SHPD to "provide additional survey documentation describing the bridge's significance such as, the designer/builder, its contribution to the development of the island, the number of bridges of its type remaining on Maui/the State of Hawaii, if this is a good example of its type, etc." A previous archaeological inventory survey report, produced by Scientific Consultant Services, Inc. that was submitted to SHPD (2009) evaluated the bridge as eligible under Criteria "C" and "D" (P. Aiu letter, August 17, 2009, log # 2009. 2358, doc # 0908ST12).

The Honolua Stream Bridge is a small tee-beam reinforced concrete deck bridge on lava rock and concrete mortar abutments with a single, approximate 20' span over the stream that carries one lane of vehicular traffic. The bridge has plain solid parapets. It is in a forested, rural setting and is located at the apex of a sharp curve where the highway crosses the stream. The bridge is in good condition and retains much historic integrity.

Narrative Description

The Honolua Stream Bridge is a concrete tee-beam deck bridge (Hawaii Heritage Center 1990, 52, 53) with a 17' wide roadway that accommodates a single lane of vehicle traffic. It carries the two-lane State Route 30 (Honoapiilani Highway) over the (intermittent) stream on a single span of 20'-4". The solid parapets are concrete, 7" thick with ¾" chamfered edges. There are no inscriptions on either parapet and they are unadorned, with no end stanchions. Each parapet is 23'-6" long and 2'-8" high from the roadway deck. The overall outboard height of the parapets is 4'-4" from their top edge to the bottom surface of the concrete deck. The outboard edge of each parapet has a beveled concrete string course at its bottom edge that is 9" high and projects about 2" from the face of the parapet. The bridge has no curbs at the edges of its roadway, the asphalt road paving comes right up to the inboard edge of each parapet.

The parapets have a painted finish that is peeling. The south end of the downstream parapet has a section extending about 3'-6" from its end that appears to be the repair of a broken section; it has a finish different (smoother) from the rest of the parapet. There is a pronounced, irregular joint where this repair concrete joins the rest of the parapet. At the ends of each parapet, two W-beam guardrails are fastened using ¾" steel bolts through the parapet, three bolts per W-beam. The guardrails extend along the sides of the roadway some distance from the parapets, secured to vertical I-beam posts that are anchored in the earth.

The bridge abutments are constructed of uncoursed lava rock masonry with concrete mortar joints and a horizontal concrete step that supports the ends of the span. Each abutment is about 7' high and is battered about 6" on the side facing the streambed. The upstream and downstream ends of each abutment have a more shallow batter, about 1'-6". At its base, where it rises from the streambed, the north abutment has a small low curb (about 6" high and 6" wide) of lava rock cobbles set in concrete mortar. The south abutment has no curb in the streambed. The retaining wing walls are also battered and built of lava rock and concrete mortar. Each wing wall has a concrete cap. The upstream portion of the south wing wall has a shotcrete coating.

The concrete underside of the bridge deck has four longitudinal concrete girders. Each girder is 1'-4" high and 1'-2" wide. The girders have a 3'-6" space between them. At the abutments, this space is filled with a vertical wood board. The upstream and downstream girders are each about 1'-8" from the outboard edges of the deck. The concrete surfaces of the underside of the bridge deck and girders have a patterned finish from the impressions left by the forming boards. At several places, large (3") lava rock aggregate is exposed where it contacted the forming boards. The tee-beam design of the bridge refers to the pattern of the reinforcing steel within the longitudinal girders (Heritage Center 2006, 78).

The setting of the Honolua Stream Bridge is rural and forested, with no buildings along the highway in the vicinity. Several residences are located mauka and north of the bridge on a private road and are barely visible through the trees and undergrowth. Two dirt parking areas are located just past each end of the bridge on the makai side of the highway. These parking areas are widened areas of dirt at the road shoulder that are used by persons accessing the undeveloped trail to Honolua Bay that extends makai of the bridge to the shoreline.

Assessment of Integrity
(Indicate whether the property has historic integrity in terms of location, setting, design, materials, workmanship, feeling, and association)

Integrity of location of the bridge is retained. It is in its original location.

Integrity of setting of the bridge is retained. It remains rural and forested.

Integrity of design of the bridge is retained. The elements of its original form, plan, and style are apparent in the parapet, abutments and wing walls, concrete deck and girders. Its tee-beam design is intact, due to the lack of any modifications to its girder system. However, integrity of design is somewhat diminished by the addition of W-beam guardrails.

Integrity of materials of the bridge is retained. The concrete and lava rock of the original construction of the bridge are apparent. However, integrity of materials has been somewhat diminished by the addition of W-beam guardrails.

Integrity of workmanship of the bridge is retained. The evidence of the craftsmanship and labor in building the bridge is seen in the impressions of the board forms used in its construction, the lava rock masonry, and the chamfered parapets.

Integrity of feeling of the bridge is retained. It expresses the aesthetic and the historic sense of the time it was built.

Integrity of association of the bridge is retained. The bridge is sufficiently intact to convey its relationship with the early development of the Honoapiilani Highway.

In summary, the Honolua Stream Bridge still retains a full measure of integrity of location, setting, feeling and association. Integrity of design and materials are reduced due to the addition W-beam guardrails. All aspects of integrity are still present in amounts ample for the property to retain the identity for which it is significant and to allow listing in the National Register of Historic Places.

9. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [ ] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply)

Property is:

- [ ] A owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from NR instructions)

transportation

Period of Significance

1924 – 1927

Significant Dates

1924

Significant Person
(Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

A. Paul Low, Maui County Engineer (1916-1928)

Period of Significance (justification)

The Honolua Stream Bridge was built in 1924 and was the only improved route for travel between the Honolua and Honokohau areas and the rest of Maui, including the Island center at Wailuku/ Kahului. The bridge continued this major role as the area's only improved roadway until 1927 when three bridges were built along the section of the West Maui Belt Road that would become Kahekili Highway (Route 340). This roadway linked West Maui directly with Wailuku, providing an alternate route eastward without having to travel the long way around through Lahaina.

Statement of Significance Summary Paragraph (provide a summary paragraph that includes level of significance—local, state, or national, and applicable criteria)

The Honolua Stream Bridge is significant at the local level under National Register Criterion A for its association with the development of the Maui Belt Road system in West Maui.

Narrative Statement of Significance

Criterion A:

The Honolua Stream Bridge is significant under National Register Criterion A for its association with the development of the Maui Belt Road system in West Maui. When it was built in 1924 it linked the areas of Honokohau and Kula o Kalalaoloa with the rest of Maui, Lahaina to the south and ultimately, Kahului. It was a part of the only improved roadway serving this portion of the Island until 1927 when bridges to the east provided an alternate route.

Developmental history/additional historic context information (if appropriate)

In 1905, the Territory of Hawaii passed the County Act, which allowed the counties to levy taxes and gave them responsibility (under the county board of supervisors) for road construction that was formerly under the Territorial Department of Public Works. These early efforts at road and bridge construction by the counties was hampered by their chronic shortage of funds and relied heavily on Territorial appropriations. Maui County bridge building struggled to keep up with the island's economic development and transportation requirements. In 1911 the Territory issued bonds for belt road construction that created a spike in bridge building that lasted for several years. The earliest concrete tee-beam bridges on Maui date from this period. Thirteen tee-beam bridges were built between 1910 and 1912.

From the earliest days of county bridge and road building, it was recognized that the creation of improved belt roads with modern bridges around the perimeter of each island was of great importance to linking each island's communities and growing economies.

> "The construction of improved modern vehicular roads, especially the up-to-date replacement of older, weak timber bridges by steel truss and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications and helped stimulate the economic and social growth of the then relatively isolated communities" (Heritage Center 2006, 35).

On Maui, the dialog and editorial opinion about the construction and upgrading of the belt road very often centered on the Hana district and its potential for increased tourist business that an improved road with modern bridges would bring (Duensing 2007 and Hawaii Heritage Center 1990, 5) Although Hana received much of the attention, the belt road around West Maui would have had equal importance given the area's intensive pineapple and sugar cultivation and growing population. Maui's population about doubled from 1900 to 1940, growing from 27,900 to 55,900. During this period belt roads were ranked high in importance for the island infrastructure, along with roads linking seaports with federal installations such as military bases or national parks (Heritage Center 2006, 35,36).

In the area surrounding the bridge, Baldwin Packers had the large Honolua (pineapple) Plantation, a segment of land covering about 12 miles of shoreline from Poelua Bay in the north to about Honokowai in the south and extending up the slope nearly to Puu Kukui (Larsen 2010, 453-54). Baldwin Packers, in the pineapple business since about 1912, was incorporated in 1923, a year before the Honolua Stream Bridge was built. Although Baldwin Packers used the rail line of the Pioneer Sugar Co. to transport its fruit from field to cannery at Lahaina, the belt road and bridge would have been important for any vehicles travelling through the plantation, and for access to much of their 2,500 acres of land in West Maui that was planted in pineapple.

Ca. 1924, the year that the Honolua Stream Bridge was built, the belt road around West Maui heading east ended at Honokohau Stream, about 2 miles east of Honolua Stream Bridge (USGS ca. 1924). From as early as 1900 there was interest in completing the West Maui Belt Road section from Honokohau to Waihee (*Maui News* September 8, 1900, 2).

When it was built, the Honolua Stream Bridge, near the eastern terminus of the belt road, would have been an important component that allowed area residents access to Lahaina and on to Kahului and Wailuku. The bridge would also have provided easier access to irrigation facilities in the north such as the main diversion point and gauging station for the 12 million gallon per day (mgd) Honokohau Ditch at Honokohau Gulch. Also built in 1924 was the bridge crossing

Anakaluahine Stream, east of Honokohau. The construction of this bridge meant that the West Maui Belt Road was extended to at least this point.

In 1927 three bridges were built on the section of the belt road connecting Honokohau with Waihee and Wailuku; Papanahoa Stream, Wailena Gulch, and Makamakaole Stream (Hawaii Heritage Center 1990, 11, 22). This improved the section of the West Maui Belt Road that would become Kahekili Highway (Maui County Route 340) and allowed easier access to the Wailuku area for the population of West Maui. The opening of this road provided an alternate route to Wailuku without having to travel the long way around through Lahaina and gave "the people of the north end of the island an outlet to the Wailuku and Kahului markets" (*Maui News* September 8, 1900, 2).

In 1925, Hawaii received a large sum of federal funds for road and bridge construction. Before this, the Territory had been unable to collect much of its share of federal funding that the states had received since 1917. The Hawaii Territorial Highway Department was created in 1925 to oversee the distribution of this funding. The Honolua Bridge, dating from 1924, was built under the direction of the Maui County Engineer, who was Paul (A.P.) Low. Mr Low served as County Engineer from 1918 to 1928, during which time he was responsible for the construction of at least 23 bridges, 19 of them concrete tee-beam type. In 1924, two concrete tee-beam bridges were built on Maui, Honolua Stream Bridge and Honomaele Stream Bridge in Hana. In 1925 one concrete tee-beam type was built on Maui, and in 1926, with the advent of federal funds, 12 bridges were built (9 of them concrete tee-beam type). Earlier, Mr. Low had built 6 bridges during 1920-22, all of them concrete tee-beam type (Hawaii Heritage Center 1990) The four bridges that were built in 1924 and 1927 (mentioned above) along the Kahekili Highway are not described in the *Historic Bridge Inventory and Evaluation. Islands of Maui and Molokai.* These four bridges were dropped from the 1990 Maui Historic Bridge Inventory and not studied in 1990 due to their reconstruction in 1976 and 1980 which resulted in their being determined ineligible for the NRHP.

For concrete tee-beam bridges on Maui, the approximate 20' span of the Honolua Stream Bridge (23'-6" overall length) is typical among the pre-WWII bridges. There are a number of single span bridges of this type with overall lengths of 23' to 24'. The maximum span for this type of bridge on Maui is 50' to 54'. Some of these bridges have overall lengths of 150' that are formed of 3 spans. One long tee-beam bridge (97') is composed of five spans. The Honolua Stream Bridge is not especially noteworthy from a design or construction standpoint, but is a good, typical example of this common bridge type.

Among the inventoried bridge types on Maui and in Hawaii, Maui has 82 pre-World War II bridges, and 56 of them are tee-beam bridges. The State of Hawaii has 199 bridges, and 169 of them date from pre-World War II. Sixty-four of the 199 are tee-beam bridges, of which 55 of them are pre-war (Hawaii Heritage Center 1990 and Heritage Center 2006).

10. Major Bibliographical References

Bibliography

Department of Transportation Highways Division, State of Hawai. Historic plans for Honolula Stream Bridge. From DOT Highways planfiles. Various dates 1974-2003.

Duensing, Dawn E. "The Hana Belt Road, Paving the Way for Tourism." *The Hawaiian Journal of History*. Vol. 41. 2007.

Hawaii Heritage Center. *Historic Bridge Inventory and Evaluation, Islands of Maui and Molokai*. Honolulu: State of Hawaii, Department of Transportation Highways Division. September 1990.

The Heritage Center. *State of Hawaii, Historic Bridge Inventory and Evaluation*. Honolulu: School of Architecture, University of Hawaii at Manoa. June 2006.

Larsen, Jack L., with Dr. Thomas A. Marks. *1894-2010, Hawaiian Pineapple Entrepreneurs*. Sheridan, OR: Private publisher. 2010.

Maui News
Editorial "West Maui Belt Road," September 8, 1900. P. 2.

"Supervisor Authorizes Improvements, Lahaina District" April 7, 1906. P.1.

US Geological Survey (USGS). Honolua Quadrangle. At Hawaii State Archives. Ca. 1924.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #_____
____recorded by Historic American Engineering Record #_____

Primary location of additional data:

____State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository:

Historic Resources Survey Number (if assigned _____

11. Sketch Map and Photographs

Sketch map. Not to scale.

USGS 7.5 min series, Napili Quadrangle. 1997. NAD 83.
UTM location of Honolua Stream Bridge 04.745960.2325500
North at top.

Figure 1.
Sketch of Honolua Stream Bridge, showing current conditions.

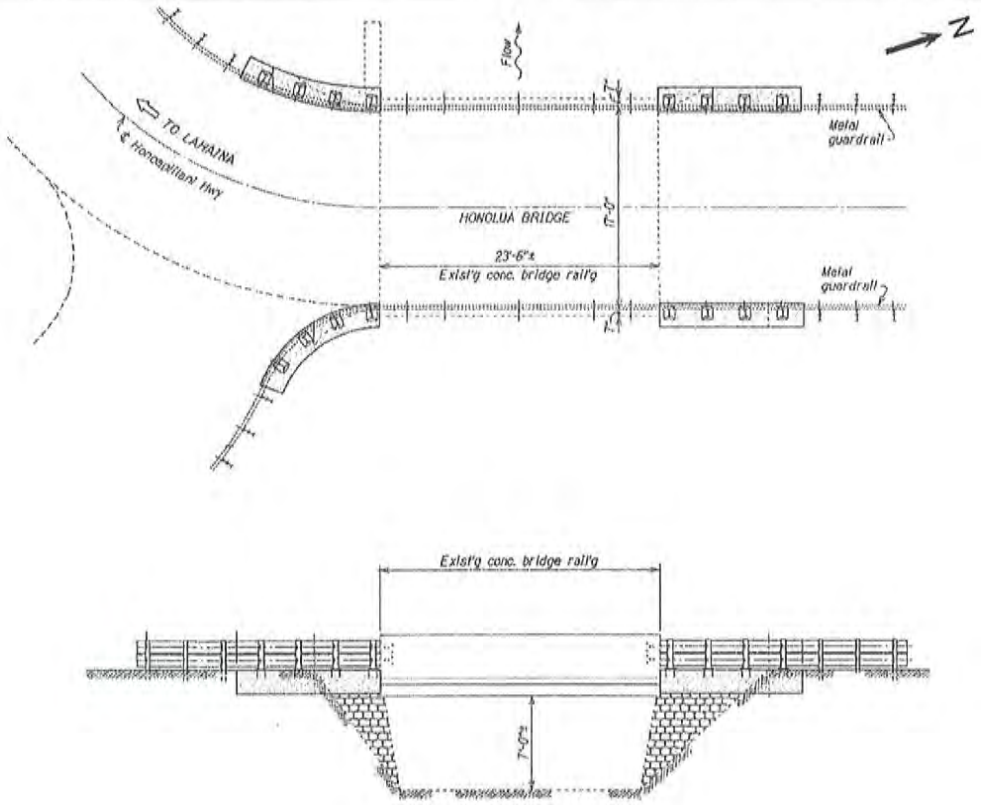
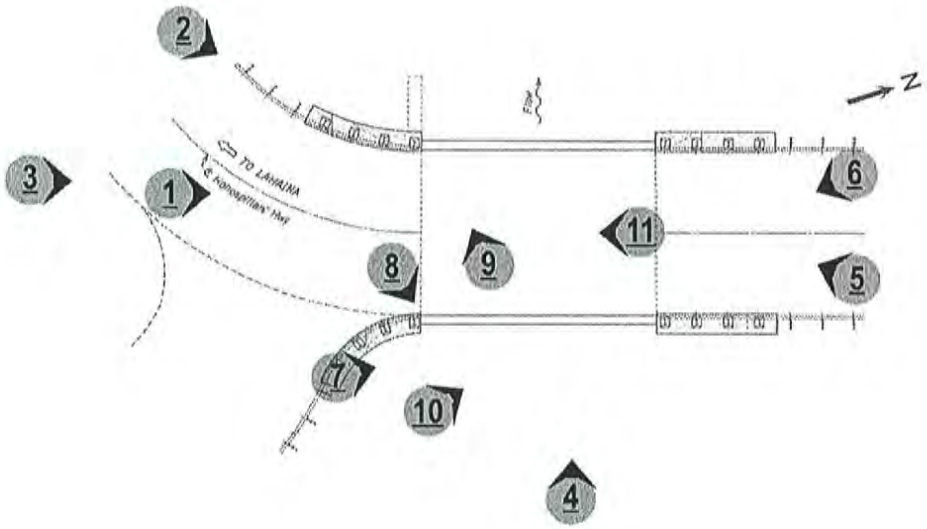


Figure 2.
Portion of ca. 1924 USGS topographic map showing the location of the Honolua Stream Bridge (added arrow) and the route of the road that would become Route 30, Honoapiilani Highway (dotted line added by MAI). Note that the road from Lahaina ends near Honokohau Stream. North at top. *(USGS ca. 1924. Hawaii State Archives, call # G4382.M3:3H59 [192] .U54.G4 half)*

Name of Property: Honolua Stream Bridge
City or Vicinity: Lahaina, Maui
County: Maui **State:** Hawaii
Photographer: Dee Ruzicka, Mason Architects, Inc.
Photographed: Sept. 2011. Original digital files at Mason Architects, Inc. 119 Merchant St. #501 Honolulu, HI 96813

Photo Key for Honolua Stream Bridge photos (11 photos).



Photograph 1.
HI_MauiCounty_HonoluaStreamBridge_0001.
Overview of the bridge. View facing north, upstream to the right.

Photograph 2.
HI_MauiCounty_HonoluaStreamBridge_0002.
Overview of the bridge showing the plain, solid parapets. View facing northeast.

Photograph 3.
HI_MauiCounty_HonoluaStreamBridge_0003.
Wide overview of the bridge showing the rural setting with a parking area in the left background. View facing north.

Photograph 4.
HI_MauiCounty_HonoluaStreamBridge_0004.
View of the bridge from the streambed on the upstream side. View facing west.

Photograph 5.
HI_MauiCounty_HonoluaStreamBridge_0005.
Parapet on the downstream side of the bridge. Note the repaired section at the far end. View facing southwest.

Photograph 6.
HI_MauiCounty_HonoluaStreamBridge_0006.
Parapet on the upstream side of the bridge. View facing southeast.

Photograph 7.
HI_MauiCounty_HonoluaStreamBridge_0007.
Outboard side of the upstream parapet. Note the beveled string course at the lower edge of the parapet. View facing northwest.

Photograph 8.
HI_MauiCounty_HonoluaStreamBridge_0008.
Detail of the south end of the upstream parapet showing the chamfered edges. View facing northeast.

Photograph 9.
HI_MauiCounty_HonoluaStreamBridge_0009.
Detail of the repaired area of the downstream parapet. View facing southwest.

Photograph 10.
HI_MauiCounty_HonoluaStreamBridge_0010.
North abutment of the bridge showing the lava rock and mortar construction and the small curb at its base. On the underside of the bridge deck, note the shotcrete coating of the first (upstream) longitudinal beam. View facing northwest.

Photograph 11.
HI_MauiCounty_HonoluaStreamBridge_0011.
Underside of the bridge showing the south abutment. Wood boards fill the spaces between the beams atop the abutment. Note the board formed concrete of the beams and deck. View facing south.

STATE HISTORIC PRESERVATION DIVISION LETTER DATED FEBRUARY 7, 2014

APPENDIX C-1

FEB 11 2014

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

ESTHER KIA'AINA
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD STE 555
KAPOLEI HI 96707

DATE: February 7, 2014

LOG: 2014.00409
DOC: 1402AB23

TO: Colleen Suyama
Munekiyo & Hiraga, Inc.
305 High St., Suite 104
Wailuku, HI 96793

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Consultation**
Project: Proposed Honolua Bridge Rehabilitation
Owner Name: County of Maui
Address: Bridge over Honolua Stream, Honolua Ahupuaa, Lahaina
Tax Map Key: (2) 4-1-001:005,:009, :010

Date Received by SHPD: January 29, 2014

Description of Project/Undertaking: The project is a proposed bridge rehabilitation or replacement. If rehabilitated, the bridge project will involve increasing the bridge's sufficiency rating. If a new bridge needs to be constructed, the old bridge may need to be demolished.

Area of Potential Effect (APE): The extant bridge, the right-of-way and the surrounding parcels.

Description of Resource: The resource is a one lane bridge that crosses Honolua Stream. It is a concrete tee-beam bridge that remains intact and is in fair condition. Attached to the approaches of the solid concrete parapets are three beams from the highway. The concrete rock masonry abutments are original. In 1974 the bridge was rehabilitated with spall repairs.

Architecture: The bridge is eligible for the National Register of Historic Places under Criterion C for its associations with early developments in concrete bridge construction in Hawaii. It is an intact example of a 1920s concrete tee-beam bridge that is typical of its period in its use of materials, method of construction, craftsmanship and design. The rock abutments are a potentially eligible historic resource.

SHPD Determination: Based on the information provided and correspondence with the Maui County Planning Department, there appears to be concern about the rehabilitation of the bridge. Testimony from the December 6th, 2012 Maui Cultural Resources Commission meeting (page 5) relate that people do not want the bridge to be widened, and there is concern that cultural practices and resources are located in that area. However, in order to make a determination, SHPD needs a Secretary of the Interior's Standards (SOI) qualified architectural historian to make a determination of affect for the project. If the architectural historian determines that there is an adverse effect and SHPD concurs, then consulting parties will be contacted and the Section 106 process will be initiated.

Any questions should be addressed to Anna Broverman, SHPD Architectural Historian at Anna.E.Broverman@hawaii.gov

Mahalo for the opportunity to comment.

Mike Gushard
Acting Architecture Branch Chief, Hawaii Historic Preservation Division

STATE HISTORIC PRESERVATION DIVISION LETTER DATED FEBRUARY 23, 2015 AND ARCHITECTURAL INVENTORY SURVEY

APPENDIX

C-2

DAVID Y. IGE
GOVERNOR OF HAWAII

CARTY S. CHANG
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DANIEL S. QUINN
INTERIM FIRST DEPUTY

W. ROY HARDY
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

February 23, 2015

Meesa Otani, Environmental Engineer
U.S. Department of Transportation
Federal Highway Administration
300 Ala Moana Blvd., Room 3-306
Box 50206
Honolulu, HI 96850-3306

LOG NO: 2014.03793
DOC NO: 1502MD36
Archaeology

Dear Ms. Otani:

SUBJECT: **Hawai'i Revised Statute Chapter 6E-8 Historic Preservation Review and National Historic Preservation Act (NHPA) Section 106 Consultation – Draft Archaeological Inventory Survey for the Honolua Bridge Replacement Honolua Ahupua'a, Lāhainā District, Island of Maui TMK (2) 4-1-001:005 (por.), 009 (por.) and 010 (por.)**

Thank you for the opportunity to review the draft report titled *Archaeological Inventory Survey Report for a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhaina District, Maui Island, [TMK: (2) 4-1-001:05 (por.), :09 (por.) and :10 (por.)]* (Perzinski and Dega July 2014; SCS Project Number 1023-6), which we received on August 18, 2014. We apologize for the delayed review. We previously reviewed an earlier draft of this report and requested revisions (*Log No. 2013.2341, Doc. No. 0313LS01*). We have since been informed that this project has been identified in the FY 2011 Statewide Transportation Improvement plan as having federal, state and local funding through the System Preservation Programming. Thus, this project is a federal undertaking as defined by 36 CFR 800.16(y), requiring historic preservation review under Section 106 of the National Historic Preservation Act (NHPA) and compliance with the National Environmental Policy Act (NEPA), and is a project subject to Hawai'i Revised Statute (HRS) Chapter 6E-8 requirements.

The bridge is owned by Maui County and it is located at mile post 32.40 on the Honoapiilani Highway (Route 30) on the west side of Maui. The bridge (originally constructed in 1924) has a sufficiency rating of 42, therefore it is being considered for replacement with a wider, longer structure on the same alignment. Project alternatives are being considered, including a No-Build alternative; repair/rehabilitation/widening of existing structure; and a new structure on new alignment either downstream or upstream from the current crossing.

This archaeological inventory survey (AIS) was prepared at the request of Austin, Tsutsumi & Associates, Inc. and the initial reviews were conducted pursuant to HRS Chapter 6E-8 only (*Log No. 2009.2358, Doc. No. 0908ST12*). Archaeological field survey was conducted on February 24 and 25, 2009; Dr. Michael F. Dega, Ph.D. served as the Principal Investigator. The area of potential effect (APE) for the purposes of the archaeological survey was defined as a 150 foot radius encircling the bridge (approximately 1.6 acres total). The survey newly identified Site 50-50-10-6812 (a water-diverting wall located along the east side of Honolua Stream), and further documented Feature 12 (terrace) at previously recorded Site 50-50-10-1471 and Features 6 (wall) and 11 (historic bridge) at previously recorded Site 50-50-10-1754. The AIS involved pedestrian survey only.

Site 6812 and the features of Sites 1471 and 1754 are identified as eligible for the State and National Register of Historic Places (NRHP) under Criterion D (has yielded, or has potential to yield, information to prehistory or history). Site 1754 Feature 11 (historic bridge) is also identified as eligible under Criteria A (associated with events that have

made a significant contribution to the broad pattern of history) and C associated with the lives of significant persons in the past). Site 1472 Feature 12 (Moore 1974) and Site 1754 Feature 6 (Tome 2002) were previously recommended for no further work. Site 1754 Feature 11 has been documented both in this AIS and in an architectural survey, and is recommended for no further work. We concur with these assessments. We also concur that archaeological monitoring may be appropriate for future work involving this project.

The AIS meets the requirements of Hawai'i Administrative Rule § 13-276. It is accepted by SHPD. Please send one hardcopy of the final document, clearly marked FINAL, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

Initially, this project was reviewed for compliance with HRS Chapter 6E-8; however, due to the federal funds provided by the U.S. Federal Highways Administration for this project, this bridge repair/replacement project is subject to multiple environmental reviews including NEPA, Section 106 of the NHPA, and Section 4(f) of the DOTA (among others). The State Historic Preservation Officer (SHPO) accepts this report as a baseline, existing-conditions report only. It is early in the NEPA planning and environmental review process; therefore, project alternatives will determine the extent to which further cultural resources work will be needed. Section 106 of the NHPA alone will require the delineation of an APE that takes into consideration the locations/alignments of all the alternatives considered during project development and the potential direct, indirect, and cumulative impacts causes by the proposed project.

Please contact Maui Lead Archaeologist Morgan Davis at (808) 243-4641 or at Morgan.E.Davis@hawaii.gov if you have any questions or concerns regarding this letter.

Mahalo,

Alan S. Downer, Ph.D.
Deputy State Preservation Officer
Historic Preservation Division

cc: County of Maui
Department of Planning
(Planning@co.maui.hi.us)

County of Maui
Department of Public Works – DSA
(Renee.Segundo@co.maui.hi.us)

County of Maui
Cultural Resources Commission
(Annalise.Kehler@co.maui.hi.us)

Michael F. Dega, Ph.D.
Scientific Consultant Services, Inc.
(mike@scshawaii.com)

Austin, Tsutsumi & Associates, Inc.
501 Summer Street, Suite 521
Honolulu, Hawaii 96817

Ferdinand Caijal
State of Hawaii Department of Transportation
(Ferdinand.Caijal@hawaii.gov)

ARCHITECTURAL INVENTORY SURVEY (AIS) CHECKLIST

1. **HISTORIC NAME OF PROPERTY:** Honolua Stream Bridge

2. **LOCATION/ADDRESS:** Milepost 32.40 Honoapiilani Highway (Rt. 30), Lahaina, Maui
3. **TMK NUMBER:** adjacent to TMKs 4-2-001:001, 4-2-004:032, 4-1-001:010, 4-1-001:009
4. **PROPERTY OWNER:** State of Hawaii

5. **APPLICABLE NATIONAL REGISTER CRITERIA (check one or more qualifying criteria):**

[✓] **Criterion A**-- Property is associated with events that have made a significant contribution to the broad patterns of our history.

[ ] **Criterion B**—Property is associated with the lives of persons significant in our past.

[ ] **Criterion C**—Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] **Criterion D**—Property has yielded or is likely to yield, information important in prehistory or history.

or Criteria Considerations: (circle one or more) A B C D E F G

6. **INTEGRITY: Does the property retain its historic integrity? Check applicable aspects of integrity retained.**

[✓] **Location** [✓] **Design** [✓] **Setting** [✓] **Materials** [✓] **Workmanship** [✓] **Feeling** [✓] **Association**

7. **NR ELIGIBILITY: Is the property eligible for listing on the National Register of Historic Places?**

Yes [✓] **No** [ ] **If "No", then why?**

MASON ARCHITECTS, INC. PROPOSED RECOMMENDATIONS/MITIGATION MEASURES:

No further architectural documentation (HABS/HAER) required.

NOTE:
MAI was hired by Austin, Tsutsumi & Associates, Inc. to prepare this report in response to a request by SHPD to "provide additional survey documentation describing the bridge's significance such as, the designer/builder, its contribution to the development of the island, the number of bridges of its type remaining on Maui/the State of Hawaii, if this is a good example of its type, etc." A previous archaeological inventory survey report, produced by Scientific Consultant Services, Inc. that was submitted to SHPD (2009) evaluated the bridge eligible under Criteria "C" and "D" (P. Aiu letter, August 17, 2009, log # 2009. 2358, doc # 0908ST12).

ARCHITECTURAL INVENTORY SURVEY REPORT

to determine the significance of a property potentially eligible for nomination to the National Register of Historic Places

SHPD Doc Number: _____

TMK: adjacent to 4-2-001: 001, 4-2-004: 032, 4-1-001: 010, 4-1-001: 009

1. Name of Property

Historic name Honolua Stream Bridge

Other names/site number _____

2. Location

Street & Number Milepost 32.40 on Honoapiilani Highway (Rt. 30) ☐ not for publication

City or Town Lahaina X vicinity

State Maui **Code** HI **County** Maui **Code** 009 **Zip code** 96761

3. Property Owner

Name State of Hawaii

Street & Number 869 Punchbowl St. **Telephone** 808-587-2220

City or Town Honolulu **State** Hawaii **Zip code** 96813

4. Geographical Data

Acreage of Property Less than 1 ac.

Verbal Boundary Description (describe the boundaries of the property)

UTM (NAD 83) 04.745960.2325500

Honoapiilani Highway (State Rt. 30) at the crossing on Honolua Stream

Boundary Justification (explain why the boundaries were selected)

UTM point is the locaton of the 23' long bridge.

5. Form Prepared By

Name/Title Dee Ruzicka, Architectural Historian

Organization Mason Architects, Inc. **Date** October 2011

Street & Number 119 Merchant St., #501 **Telephone** 808-536-0556

City or Town Honolulu **State** Hawaii **Zip Code** 96813

E-mail dr@masonarch.com

6. Classification

Ownership of Property
(Check as many boxes as apply)

- [ ] private
- [ ] public - Local
- [X] public - State
- [ ] public - Federal

Category of Property
(Check only **one** box)

- [ ] building(s)
- [ ] district
- [ ] site
- [X] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
----	----	buildings
----	----	sites
----1	----	structures
----	----	objects
----1	----	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

n/a

Number of contributing resources previously listed in the National Register

None

7. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation/ road-related/

Current Functions
(Enter categories from instructions)

Transportation/ road-related

8. Description

Architectural Classification
(Enter categories from instructions)

other – bridge

Materials
(Enter categories from instructions)

Stone

Concrete

Foundation: Lava rock masonry

Walls: n/a

Roof: n/a

Other: Reinforced concrete

Narrative Description and Integrity Assessment

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the reason this report was requested and the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

MAI was hired by Austin, Tsutsumi & Associates, Inc. to prepare this report in response to a request by SHPD to "provide additional survey documentation describing the bridge's significance such as, the designer/builder, its contribution to the development of the island, the number of bridges of its type remaining on Maui/the State of Hawaii, if this is a good example of its type, etc." A previous archaeological inventory survey report, produced by Scientific Consultant Services, Inc. that was submitted to SHPD (2009) evaluated the bridge as eligible under Criteria "C" and "D" (P. Aiu letter, August 17, 2009, log # 2009. 2358, doc # 0908ST12).

The Honolua Stream Bridge is a small tee-beam reinforced concrete deck bridge on lava rock and concrete mortar abutments with a single, approximate 20' span over the stream that carries one lane of vehicular traffic. The bridge has plain solid parapets. It is in a forested, rural setting and is located at the apex of a sharp curve where the highway crosses the stream. The bridge is in good condition and retains much historic integrity.

Narrative Description

The Honolua Stream Bridge is a concrete tee-beam deck bridge (Hawaii Heritage Center 1990, 52, 53) with a 17' wide roadway that accommodates a single lane of vehicle traffic. It carries the two-lane State Route 30 (Honoapiilani Highway) over the (intermittent) stream on a single span of 20'-4". The solid parapets are concrete, 7" thick with ¾" chamfered edges. There are no inscriptions on either parapet and they are unadorned, with no end stanchions. Each parapet is 23'-6" long and 2'-8" high from the roadway deck. The overall outboard height of the parapets is 4'-4" from their top edge to the bottom surface of the concrete deck. The outboard edge of each parapet has a beveled concrete string course at its bottom edge that is 9" high and projects about 2" from the face of the parapet. The bridge has no curbs at the edges of its roadway, the asphalt road paving comes right up to the inboard edge of each parapet.

The parapets have a painted finish that is peeling. The south end of the downstream parapet has a section extending about 3'-6" from its end that appears to be the repair of a broken section; it has a finish different (smoother) from the rest of the parapet. There is a pronounced, irregular joint where this repair concrete joins the rest of the parapet. At the ends of each parapet, two W-beam guardrails are fastened using ¾" steel bolts through the parapet, three bolts per W-beam. The guardrails extend along the sides of the roadway some distance from the parapets, secured to vertical I-beam posts that are anchored in the earth.

The bridge abutments are constructed of uncoursed lava rock masonry with concrete mortar joints and a horizontal concrete step that supports the ends of the span. Each abutment is about 7' high and is battered about 6" on the side facing the streambed. The upstream and downstream ends of each abutment have a more shallow batter, about 1'-6". At its base, where it rises from the streambed, the north abutment has a small low curb (about 6" high and 6" wide) of lava rock cobbles set in concrete mortar. The south abutment has no curb in the streambed. The retaining wing walls are also battered and built of lava rock and concrete mortar. Each wing wall has a concrete cap. The upstream portion of the south wing wall has a shotcrete coating.

The concrete underside of the bridge deck has four longitudinal concrete girders. Each girder is 1'-4" high and 1'-2" wide. The girders have a 3'-6" space between them. At the abutments, this space is filled with a vertical wood board. The upstream and downstream girders are each about 1'-8" from the outboard edges of the deck. The concrete surfaces of the underside of the bridge deck and girders have a patterned finish from the impressions left by the forming boards. At several places, large (3") lava rock aggregate is exposed where it contacted the forming boards. The tee-beam design of the bridge refers to the pattern of the reinforcing steel within the longitudinal girders (Heritage Center 2006. 78).

The setting of the Honolua Stream Bridge is rural and forested, with no buildings along the highway in the vicinity. Several residences are located mauka and north of the bridge on a private road and are barely visible through the trees and undergrowth. Two dirt parking areas are located just past each end of the bridge on the makai side of the highway. These parking areas are widened areas of dirt at the road shoulder that are used by persons accessing the undeveloped trail to Honolua Bay that extends makai of the bridge to the shoreline.

Assessment of Integrity
(Indicate whether the property has historic integrity in terms of location, setting, design, materials, workmanship, feeling, and association)

Integrity of location of the bridge is retained. It is in its original location.

Integrity of setting of the bridge is retained. It remains rural and forested.

Integrity of design of the bridge is retained. The elements of its original form, plan, and style are apparent in the parapet, abutments and wing walls, concrete deck and girders. Its tee-beam design is intact, due to the lack of any modifications to its girder system. However, integrity of design is somewhat diminished by the addition of W-beam guardrails.

Integrity of materials of the bridge is retained. The concrete and lava rock of the original construction of the bridge are apparent. However, integrity of materials has been somewhat diminished by the addition of W-beam guardrails.

Integrity of workmanship of the bridge is retained. The evidence of the craftsmanship and labor in building the bridge is seen in the impressions of the board forms used in its construction, the lava rock masonry, and the chamfered parapets.

Integrity of feeling of the bridge is retained. It expresses the aesthetic and the historic sense of the time it was built.

Integrity of association of the bridge is retained. The bridge is sufficiently intact to convey its relationship with the early development of the Honoapiilani Highway.

In summary, the Honolua Stream Bridge still retains a full measure of integrity of location, setting, feeling and association. Integrity of design and materials are reduced due to the addition W-beam guardrails. All aspects of integrity are still present in amounts ample for the property to retain the identity for which it is significant and to allow listing in the National Register of Historic Places.

9. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- [x] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [ ] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply)

Property is:

- [ ] A owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from NR instructions)

transportation

Period of Significance

1924 – 1927

Significant Dates

1924

Significant Person
(Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

A. Paul Low, Maui County Engineer (1916-1928)

Period of Significance (justification)

The Honolua Stream Bridge was built in 1924 and was the only improved route for travel between the Honolua and Honokohau areas and the rest of Maui, including the Island center at Wailuku/ Kahului. The bridge continued this major role as the area's only improved roadway until 1927 when three bridges were built along the section of the West Maui Belt Road that would become Kahekili Highway (Route 340). This roadway linked West Maui directly with Wailuku, providing an alternate route eastward without having to travel the long way around through Lahaina.

Statement of Significance Summary Paragraph (provide a summary paragraph that includes level of significance—local, state, or national, and applicable criteria)

The Honolua Stream Bridge is significant at the local level under National Register Criterion A for its association with the development of the Maui Belt Road system in West Maui.

Narrative Statement of Significance

Criterion A:

The Honolua Stream Bridge is significant under National Register Criterion A for its association with the development of the Maui Belt Road system in West Maui. When it was built in 1924 it linked the areas of Honokohau and Kula o Kalalaoloa with the rest of Maui, Lahaina to the south and ultimately, Kahului. It was a part of the only improved roadway serving this portion of the Island until 1927 when bridges to the east provided an alternate route.

Developmental history/additional historic context information (if appropriate)

In 1905, the Territory of Hawaii passed the County Act, which allowed the counties to levy taxes and gave them responsibility (under the county board of supervisors) for road construction that was formerly under the Territorial Department of Public Works. These early efforts at road and bridge construction by the counties was hampered by their chronic shortage of funds and relied heavily on Territorial appropriations. Maui County bridge building struggled to keep up with the island's economic development and transportation requirements. In 1911 the Territory issued bonds for belt road construction that created a spike in bridge building that lasted for several years. The earliest concrete tee-beam bridges on Maui date from this period. Thirteen tee-beam bridges were built between 1910 and 1912.

From the earliest days of county bridge and road building, it was recognized that the creation of improved belt roads with modern bridges around the perimeter of each island was of great importance to linking each island's communities and growing economies.

> "The construction of improved modern vehicular roads, especially the up-to-date replacement of older, weak timber bridges by steel truss and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications and helped stimulate the economic and social growth of the then relatively isolated communities" (Heritage Center 2006, 35).

On Maui, the dialog and editorial opinion about the construction and upgrading of the belt road very often centered on the Hana district and its potential for increased tourist business that an improved road with modern bridges would bring (Duensing 2007 and Hawaii Heritage Center 1990, 5) Although Hana received much of the attention, the belt road around West Maui would have had equal importance given the area's intensive pineapple and sugar cultivation and growing population. Maui's population about doubled from 1900 to 1940, growing from 27,900 to 55,900. During this period belt roads were ranked high in importance for the island infrastructure, along with roads linking seaports with federal installations such as military bases or national parks (Heritage Center 2006, 35,36).

In the area surrounding the bridge, Baldwin Packers had the large Honolua (pineapple) Plantation, a segment of land covering about 12 miles of shoreline from Poelua Bay in the north to about Honokowai in the south and extending up the slope nearly to Puu Kukui (Larsen 2010, 453-54). Baldwin Packers, in the pineapple business since about 1912, was incorporated in 1923, a year before the Honolua Stream Bridge was built. Although Baldwin Packers used the rail line of the Pioneer Sugar Co. to transport its fruit from field to cannery at Lahaina, the belt road and bridge would have been important for any vehicles travelling through the plantation, and for access to much of their 2,500 acres of land in West Maui that was planted in pineapple.

Ca. 1924, the year that the Honolua Stream Bridge was built, the belt road around West Maui heading east ended at Honokohau Stream, about 2 miles east of Honolua Stream Bridge (USGS ca. 1924). From as early as 1900 there was interest in completing the West Maui Belt Road section from Honokohau to Waihee (*Maui News* September 8, 1900, 2).

When it was built, the Honolua Stream Bridge, near the eastern terminus of the belt road, would have been an important component that allowed area residents access to Lahaina and on to Kahului and Wailuku. The bridge would also have provided easier access to irrigation facilities in the north such as the main diversion point and gauging station for the 12 million gallon per day (mgd) Honokohau Ditch at Honokohau Gulch. Also built in 1924 was the bridge crossing

Anakaluahine Stream, east of Honokohau. The construction of this bridge meant that the West Maui Belt Road was extended to at least this point.

In 1927 three bridges were built on the section of the belt road connecting Honokohau with Waihee and Wailuku; Papanahoa Stream, Wailena Gulch, and Makamakaole Stream (Hawaii Heritage Center 1990, 11, 22). This improved the section of the West Maui Belt Road that would become Kahekili Highway (Maui County Route 340) and allowed easier access to the Wailuku area for the population of West Maui. The opening of this road provided an alternate route to Wailuku without having to travel the long way around through Lahaina and gave "the people of the north end of the island an outlet to the Wailuku and Kahului markets" (*Maui News* September 8, 1900, 2).

In 1925, Hawaii received a large sum of federal funds for road and bridge construction. Before this, the Territory had been unable to collect much of its share of federal funding that the states had received since 1917. The Hawaii Territorial Highway Department was created in 1925 to oversee the distribution of this funding. The Honolua Bridge, dating from 1924, was built under the direction of the Maui County Engineer, who was Paul (A.P.) Low. Mr Low served as County Engineer from 1918 to 1928, during which time he was responsible for the construction of at least 23 bridges, 19 of them concrete tee-beam type. In 1924, two concrete tee-beam bridges were built on Maui, Honolua Stream Bridge and Honomaele Stream Bridge in Hana. In 1925 one concrete tee-beam type was built on Maui, and in 1926, with the advent of federal funds, 12 bridges were built (9 of them concrete tee-beam type). Earlier, Mr. Low had built 6 bridges during 1920-22, all of them concrete tee-beam type (Hawaii Heritage Center 1990) The four bridges that were built in 1924 and 1927 (mentioned above) along the Kahekili Highway are not described in the *Historic Bridge Inventory and Evaluation, Islands of Maui and Molokai.* These four bridges were dropped from the 1990 Maui Historic Bridge Inventory and not studied in 1990 due to their reconstruction in 1976 and 1980 which resulted in their being determined ineligible for the NRHP.

For concrete tee-beam bridges on Maui, the approximate 20' span of the Honolua Stream Bridge (23'-6" overall length) is typical among the pre-WWII bridges. There are a number of single span bridges of this type with overall lengths of 23' to 24'. The maximum span for this type of bridge on Maui is 50' to 54'. Some of these bridges have overall lengths of 150' that are formed of 3 spans. One long tee-beam bridge (97') is composed of five spans. The Honolua Stream Bridge is not especially noteworthy from a design or construction standpoint, but is a good, typical example of this common bridge type.

Among the inventoried bridge types on Maui and in Hawaii, Maui has 82 pre-World War II bridges, and 56 of them are tee-beam bridges. The State of Hawaii has 199 bridges, and 169 of them date from pre-World War II. Sixty-four of the 199 are tee-beam bridges, of which 55 of them are pre-war (Hawaii Heritage Center 1990 and Heritage Center 2006).

10. Major Bibliographical References

Bibliography

Department of Transportation Highways Division, State of Hawai. Historic plans for Honolula Stream Bridge. From DOT Highways planfiles. Various dates 1974-2003.

Duensing, Dawn E. "The Hana Belt Road, Paving the Way for Tourism." *The Hawaiian Journal of History*. Vol. 41. 2007.

Hawaii Heritage Center. *Historic Bridge Inventory and Evaluation, Islands of Maui and Molokai*. Honolulu: State of Hawaii, Department of Transportation Highways Division. September 1990.

The Heritage Center. *State of Hawaii, Historic Bridge Inventory and Evaluation*. Honolulu: School of Architecture, University of Hawaii at Manoa. June 2006.

Larsen, Jack L., with Dr. Thomas A. Marks. *1894-2010, Hawaiian Pineapple Entrepreneurs*. Sheridan, OR: Private publisher. 2010.

Maui News
Editorial "West Maui Belt Road," September 8, 1900. P. 2.

"Supervisor Authorizes Improvements, Lahaina District" April 7, 1906. P.1.

US Geological Survey (USGS). Honolua Quadrangle. At Hawaii State Archives. Ca. 1924.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #_____
____recorded by Historic American Engineering Record #_____

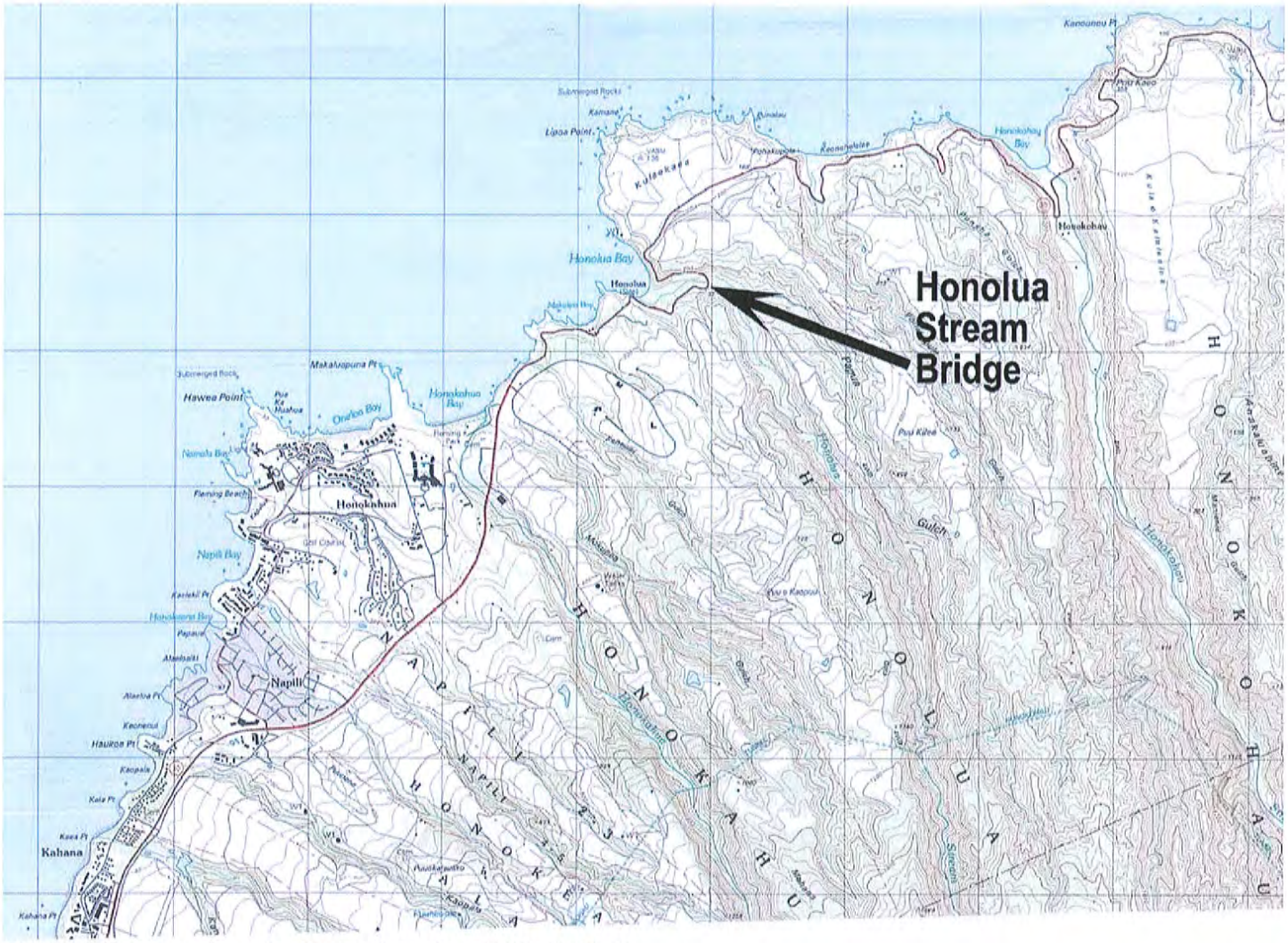
Primary location of additional data:

____State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository:

Historic Resources Survey Number (if assigned _____

11. Sketch Map and Photographs

Sketch map. Not to scale.



USGS 7.5 min series, Napili Quadrangle. 1997. NAD 83.
UTM location of Honolua Stream Bridge 04.745960.2325500
North at top.

Figure 1.
Sketch of Honolua Stream Bridge, showing current conditions.

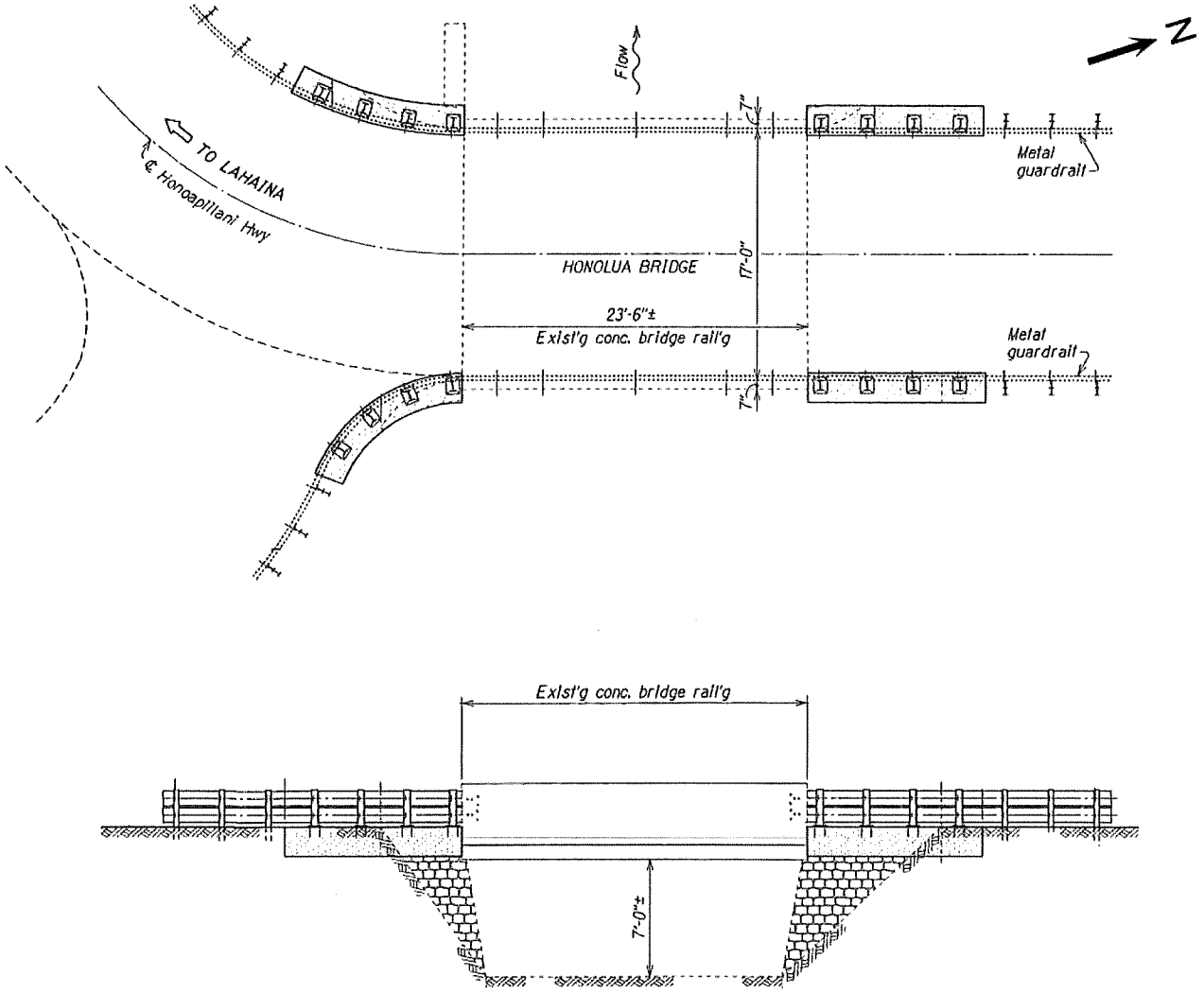
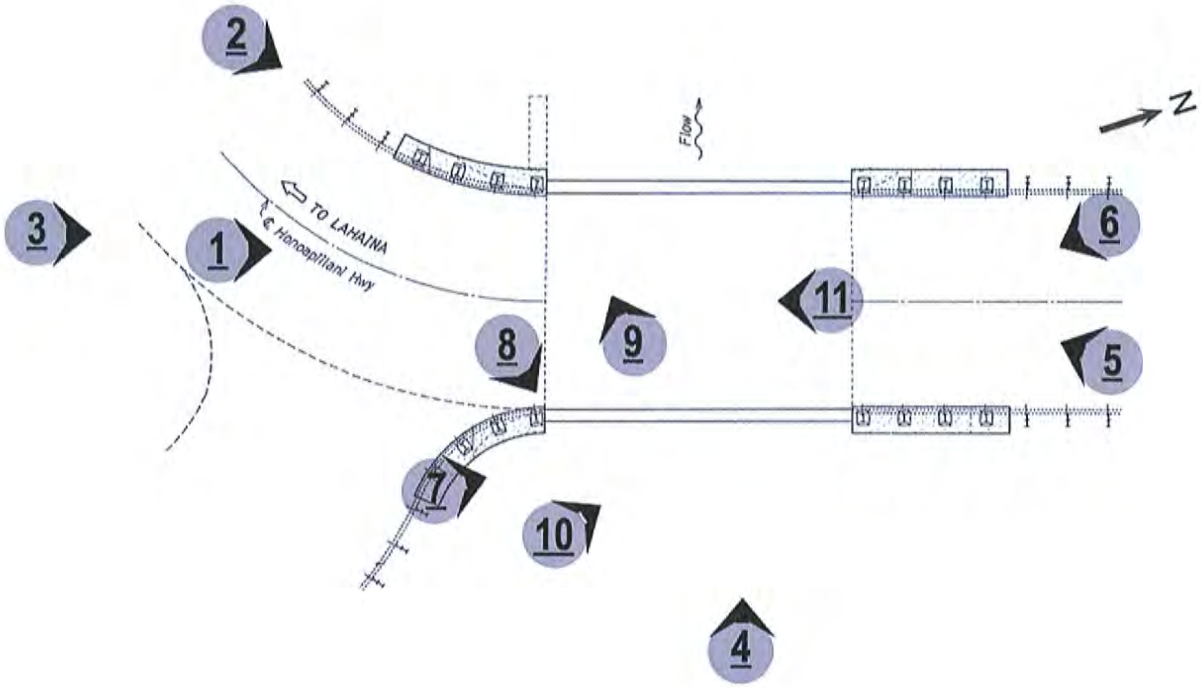


Figure 2.
Portion of ca. 1924 USGS topographic map showing the location of the Honolua Stream Bridge (added arrow) and the route of the road that would become Route 30, Honoapiilani Highway (dotted line added by MAI). Note that the road from Lahaina ends near Honokohau Stream. North at top. *(USGS ca. 1924. Hawaii State Archives, call # G4382.M3:3H59 [192] .U54.G4 half)*

Name of Property: Honolua Stream Bridge
City or Vicinity: Lahaina, Maui
County: Maui **State:** Hawaii
Photographer: Dee Ruzicka, Mason Architects, Inc.
Photographed: Sept. 2011. Original digital files at Mason Architects, Inc. 119 Merchant St. #501 Honolulu, HI 96813

Photo Key for Honolua Stream Bridge photos (11 photos).



Photograph 1.
HI_MauiCounty_HonoluaStreamBridge_0001.
Overview of the bridge. View facing north, upstream to the right.

Photograph 2.
HI_MauiCounty_HonoluaStreamBridge_0002.
Overview of the bridge showing the plain, solid parapets. View facing northeast.

Photograph 3.
HI_MauiCounty_HonoluaStreamBridge_0003.
Wide overview of the bridge showing the rural setting with a parking area in the left background. View facing north.

Photograph 4.
HI_MauiCounty_HonoluaStreamBridge_0004.
View of the bridge from the streambed on the upstream side. View facing west.

Photograph 5.
HI_MauiCounty_HonoluaStreamBridge_0005.
Parapet on the downstream side of the bridge. Note the repaired section at the far end. View facing southwest.

Photograph 6.
HI_MauiCounty_HonoluaStreamBridge_0006.
Parapet on the upstream side of the bridge. View facing southeast.

Photograph 7.
HI_MauiCounty_HonoluaStreamBridge_0007.
Outboard side of the upstream parapet. Note the beveled string course at the lower edge of the parapet. View facing northwest.

Photograph 8.
HI_MauiCounty_HonoluaStreamBridge_0008.
Detail of the south end of the upstream parapet showing the chamfered edges. View facing northeast.

Photograph 9.
HI_MauiCounty_HonoluaStreamBridge_0009.
Detail of the repaired area of the downstream parapet. View facing southwest.

Photograph 10.
HI_MauiCounty_HonoluaStreamBridge_0010.
North abutment of the bridge showing the lava rock and mortar construction and the small curb at its base. On the underside of the bridge deck, note the shotcrete coating of the first (upstream) longitudinal beam. View facing northwest.

Photograph 11.
HI_MauiCounty_HonoluaStreamBridge_0011.
Underside of the bridge showing the south abutment. Wood boards fill the spaces between the beams atop the abutment. Note the board formed concrete of the beams and deck. View facing south.

APPENDIX D

BEST MANAGEMENT PRACTICES PLAN

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

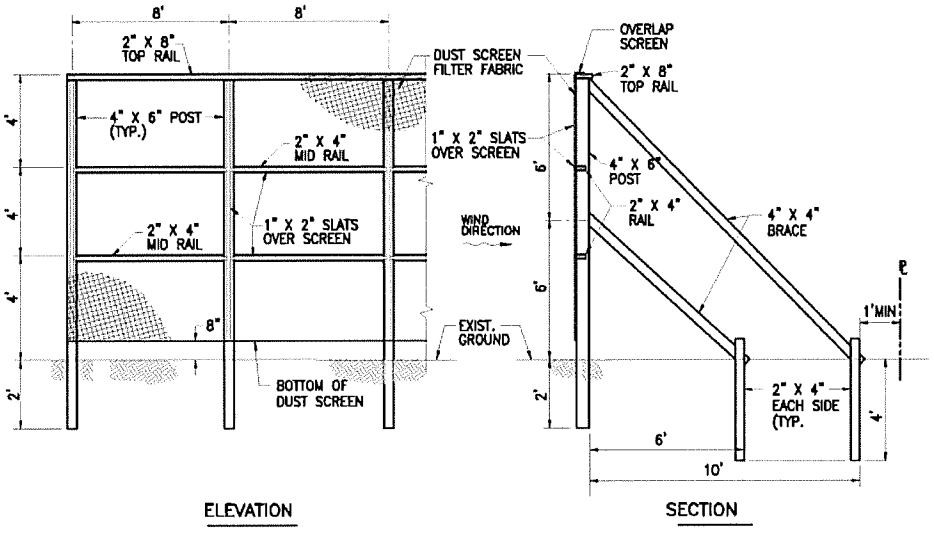
TERRANCE S. ARASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S., LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

Best Management Practices
Honoapiilani Highway Honolua Bridge Rehabilitation

The following Best Management Practices (BMPs) are being considered by the Department of Transportation for implementation as appropriate for the Honoapiilani Highway Honolua Bridge Rehabilitation.

1. Dust Screen:

Barrier composed of filter fabric stretched across and attached to supporting posts. Installed around the perimeter of the work site and prevents airborne soil particles from leaving work site.



DUST SCREEN DETAIL
NOT TO SCALE

REPLY TO:
501 SUMNER STREET, SUITE 521 • HONOLULU, HAWAII 96817-5031
PHONE (808) 533-3646 • FAX (808) 526-1267
EMAIL : atahnl@atahawaii.com

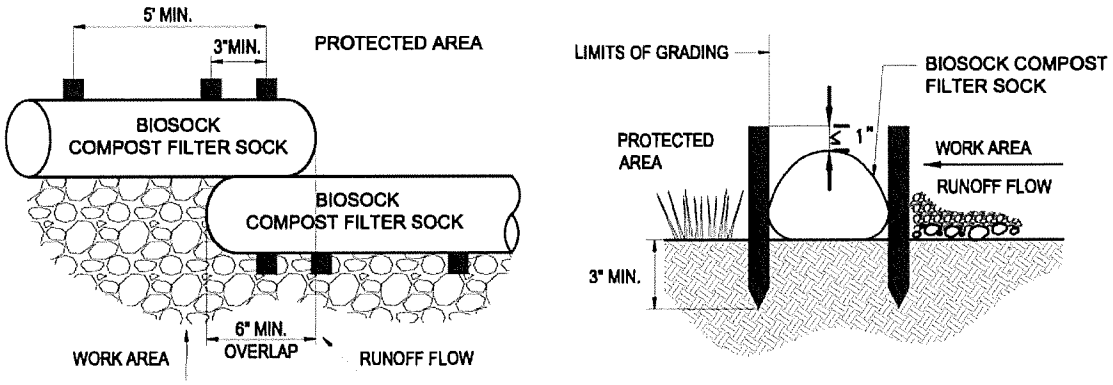
OFFICES IN:
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII
HILO, HAWAII

2. Dust Control with Water:

Periodically water the work site to prevent dust and other particles from becoming airborne.

3. Biosock or Approved Equal:

Cylindrical mesh filled with compost lined along the perimeter floor of work site. Used to prevent sediment from leaving the work site.



BIOSOCK COMPOST FILTER SOCK DETAIL

NOT TO SCALE

4. Drip Pans:

Pans used to catch drips that could be hazardous from equipment that are used onsite.

5. Litter-Control Plan and Hazard Analysis and Critical Control Point Plan:

Project specific plans implemented during construction to prevent attraction and introduction of non-native species and contamination of adjacent habitats.

6. Selective Time for Landscape Work:

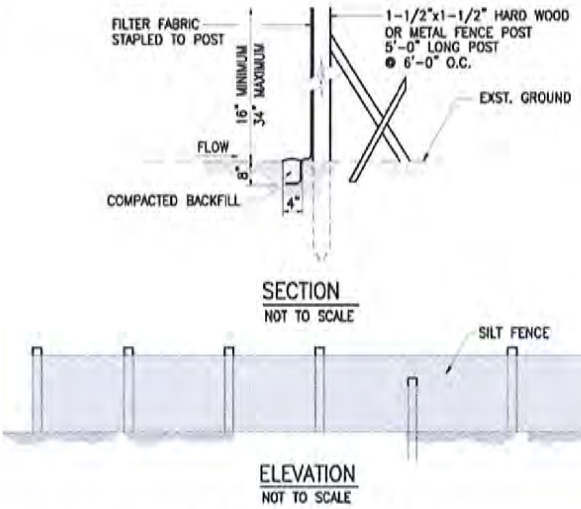
Site clearing and landscape work performed as to avoid disturbance to Hawaiian hoary bats. No disturbance of landscape beyond 15 feet during the Hawaiian hoary bat birthing and pup rearing season (June 1st through September 15th).

7. "Seabird-friendly" Lighting:

Lighting provided during night time construction that are "Seabird-friendly" as to avoid adverse impacts to native seabirds.

8. Silt Fence:

Barrier composed of filter fabric stretched across and attached to supporting posts. Installed around the perimeter of the work site and prevents sediment from leaving the work site.



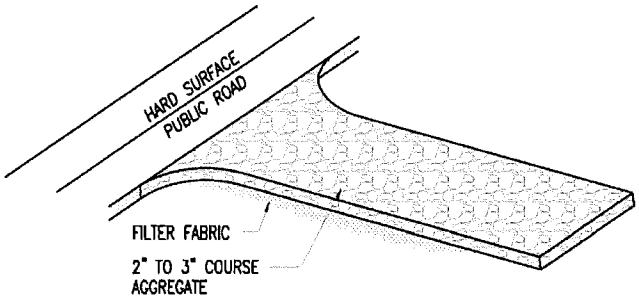
SILT FENCE DETAIL
NOT TO SCALE

9. Erosion Control Blankets with Native Vegetation:

Blankets used to protect sloped areas from wind and water erosion and provide soil stabilization. Post construction, hydroseeding may be implemented in order to provide native or non-invasive vegetation in the area.

10. Gravel Ingress/Egress:

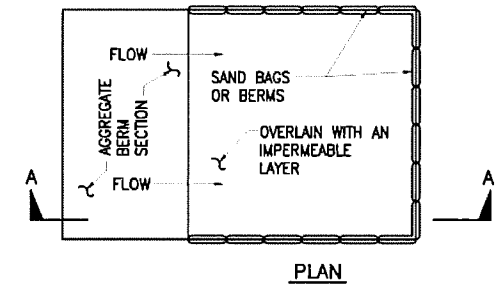
Gravel strip to be placed at the entrance and exit pathway of vehicles. Gravel helps to stabilize the entrance and exist and remove attached sediment from equipment when leaving and entering work site.



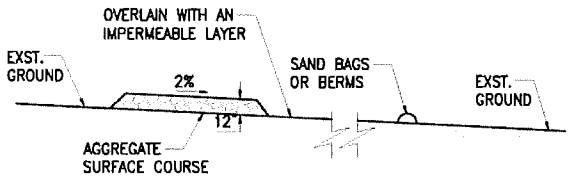
INGRESS/EGRESS DETAIL
NOT TO SCALE

11. Washout Area:

Enclosures used to hold and consolidate liquid and solid material for proper disposals. Prevents runoff liquids associated with concrete, paint, and other potentially hazardous materials.



PLAN



SECTION A–A

CONCRETE WASHOUT AREA DETAIL
NOT TO SCALE

APPENDIX

E

ENVIRONMENTAL SURVEYS

AECOS No. 1192B

Environmental surveys for a bridge rehabilitation in Honolua, Maui

Prepared for:

Austin Tsutsumi & Associates, Inc.
501 Sumner St. Suite 521
Honolulu, Hawai'i 96819

Prepared by

AECOS Inc.
45-939 Kamehameha Hwy, Suite 104
Kāne'ohe, Hawai'i 96744

October 27, 2015
Revised May 10, 2017

Environmental surveys for a bridge rehabilitation in Honolua, Maui

October 27, 2015
Revised May 10, 2107

AECOS No. 1192B

Chad Linebaugh and Susan Burr
AECOS, Inc.
45-939 Kamehameha Hwy, Suite 104
Kāneʻohe, Hawaiʻi 96744
Phone: (808) 234-7770 Fax: (808) 234-7775 Email: aecos@aecos.com

Introduction

The Hawaiʻi Department of Transportation (HDOT) is proposing to either replace or rehabilitate the existing T-beam concrete bridge where Hono-a-piʻilani Highway (State Rte 30) crosses Honolua Stream (herein, the "Project") on West Maui. *AECOS*, Inc. was contracted by Austin Tsutsumi and Associates, Inc. to conduct water quality analyses, biological surveys, and ordinary high water watermark delineation in a segment of Honolua Stream as part of the permit application for the Project. This report details the findings of the surveys conducted on July 27, 2015.

Stream Description

The waters of Honolua Stream originate along the western slopes of Puʻu Kukui in the West Maui Mountains. This 12-mi (19.3-km) long waterway is classified as a perennial stream by the Division of Aquatic Resources (DAR) and given the stream identification code of 6-1-010. Originating at an elevation of approximately 3750 ft (1150 m) above sea level (ASL), Honolua Stream flows north-northwest for 11.6 miles (18.7 km) before its confluence with Pāpua Stream at an elevation of 55 ft (17 m). Pāpua, originating at an elevation of 1600 ft (490 m) ASL is the only tributary that feeds Honolua Stream from within the 4.5 sq mi (11.6 sq km) watershed. Below the confluence, Honolua Stream flows due west for 1970 ft (600 m) before entering the Pacific Ocean at Honolua Bay.

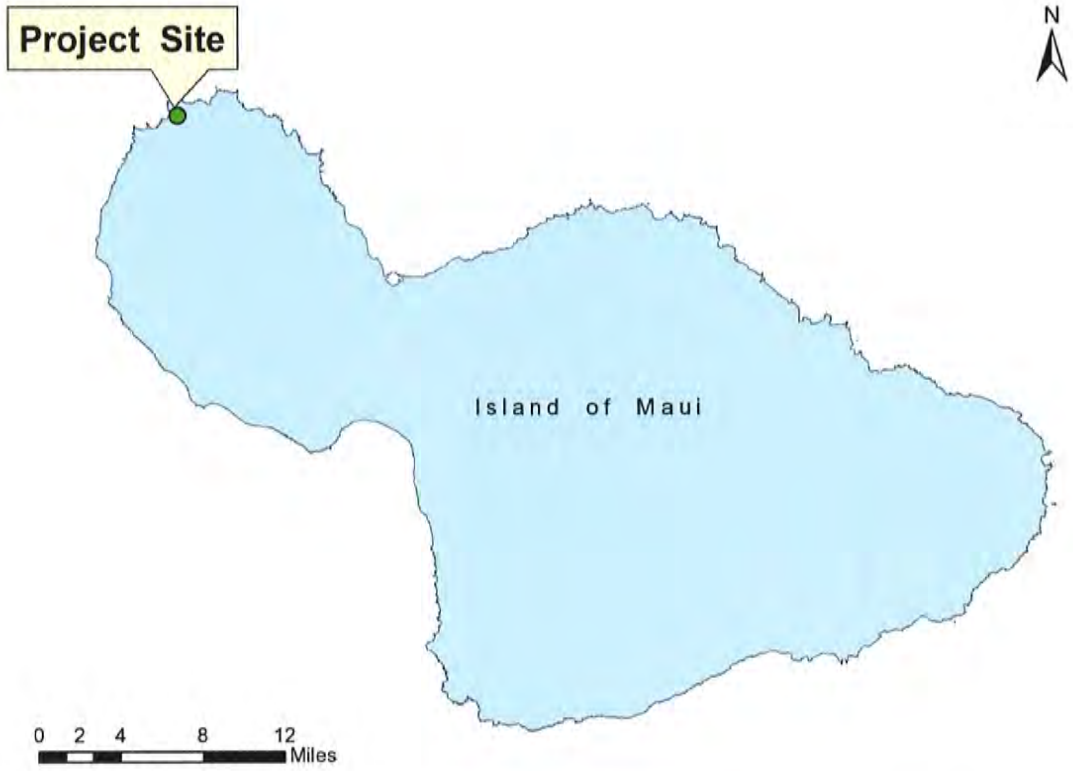


Figure 1. Location of the Project on the island of Maui.

Starting in 1903, an estimated 3 mgd of Honolua Stream was diverted by Maui land and Pineapple, Inc. into Honokōhau Tunnel/Ditch, which originates on Honokōhau Stream east of Honolua Gulch (Ford, 2006). This system supplied agriculture and drinking water to Honolua and Kapalua, and provided water to the Māhinahina Water Treatment Facility which services Nāpili, Wahikuli, Kahana, 'Alaeloa, and parts of Lāhaina. A short water tunnel diverted all of the water flow in Honolua Stream at an elevation of approximately 820 ft (250 m) through a large grate. At the lower end of the tunnel some water was returned to Honolua Stream through an approximately 8-inch pipe and the remainder deposited in the water supply ditch. This diversion of the stream resulted in intermittent stream flow downstream of the diversion structure (USGS, 2003). Late in 2004, Maui Land and Pineapple, Inc. voluntarily closed the intake to the Honokōhau Ditch. Ford (2006) provides the following assessment of stream flows in Honolua Stream since:

> ....In its upper reaches, Honolua is perennial (*sensu* Polhemus et al 1992), although US Geological Survey records (1913-1917) indicated that the lowest natural flows of record approached zero. Given the overall decline in surface water discharge statewide since 1913...., the flow in the upper reaches of Honolua Stream may indeed be zero during drought periods. Hence, we believe the stream can be classified as perennial interrupted (Polhemus et al 1992). The stream below an elevation of 700' flows across Honolua series lavas (Gingerich, personal communication) and loses water to its bed; therefore, streamflow to the sea appears to be intermittent under natural (pre-diversion) conditions even when flow is perennial in the upper reaches.

Thus, at the Hono-a-pi'ilani Highway bridge (Project site), the approximately 20-ft (6-m) wide stream bed is typically dry. The stream bed consists of basalt boulders and cobbles with some smaller particulates present. Stream banks near the bridge are overgrown with Guinea grass (*Urochloa maxima*), elephant grass (*Pennisetum purpureum*), and *koa haole* (*Leucaena leucocephala*) saplings. In both upstream and downstream directions, the dry stream bed is bordered by a forest dominated by Java plum (*Syzygium cumini*).

Jurisdictional Waters

Waters of the U.S., or jurisdictional waters, are surface waters that come under federal jurisdiction as authorized by the Clean Water Act (CWA) and Rivers and Harbors Act (RHA). Included are tidal waters, streams (permanent and ephemeral), lakes, reservoirs, and wetlands. Authority over these waters is granted to various federal agencies, including the United States Environmental Protection Agency (USEPA), with the United States Army Corp of Engineers (USACE) having permit authority for actions that impact jurisdictional waters.

Tributaries that have physical indicators of flow (bed and banks with an ordinary high water mark) are jurisdictional waters. The ordinary high water mark (OHWM) is defined in federal regulations [33 CFR 328.3(e); USACE, 1986] as:

> ... the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Methods

Water Quality

Water quality samples were collected on July 27, 2015. A single station (Sta. 1) was located in the coastal waters of Honolua Bay and two stations (Stas. 2 and 3) were located in the estuarine reach of Honolua Stream (Figure 2). These were the only places in the Project vicinity where water was present to sample at the time of our survey. Temperature, salinity, pH, and dissolved oxygen (DO) were measured *in situ*. Water samples were collected, chilled, and returned to the *AECOS* laboratory for analysis. The following parameters were measured in the laboratory from these samples: salinity, turbidity, total suspended solids (TSS), ammonia nitrogen, nitrate+nitrite, total nitrogen, total phosphorus, and chlorophyll a (Table 1). A single set of field measurements (temperature, pH, and DO) was made at a station upstream of the Project site (near 140 ft or 43 m ASL) in a pool where *hinana* (indeterminate gobiid post-larva) were observed.

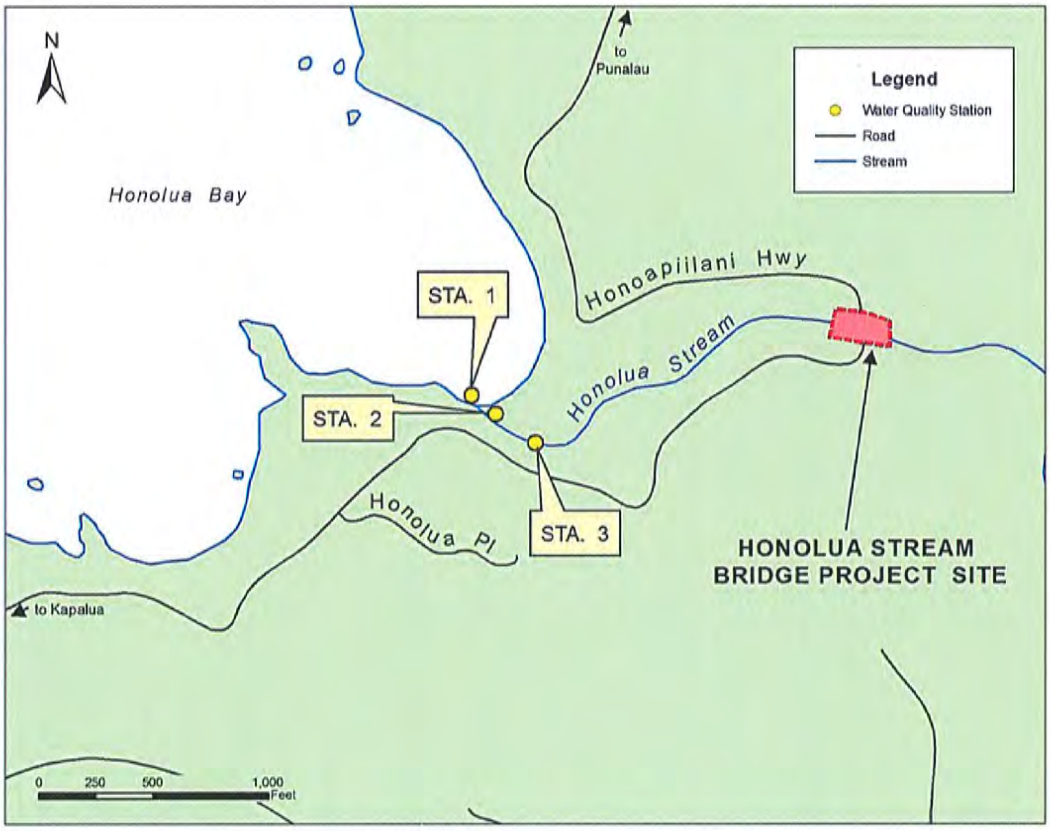


Figure 2. Water quality stations sampled on July 27, 2015.

Table 1. Analytical methods used in water quality analyses (*AECOS* Log No. 31181).

Analysis	Method	Reference	Instrument
Temperature	SM 2550B	SM (1998)	YSI Model 550 DO meter thermistor
Salinity	SM 120.1	SM (1998)	YSI 85 Meter
pH	SM 4500H+	SM (1998)	pHep HANNA meter
Dissolved Oxygen	SM 4500-O G	SM (1998)	YSI Model 550 DO meter
Turbidity	EPA 180.1, Rev. 2.0	USEPA (1993)	HACH 2100Q Turbidimeter
Total Suspended Solids	SM 2540D	SM (1998)	Gravimetric (analytical balance)
Ammonia	o-phtaldialdehyde reaction under segmented flow	Kérouel and Aminot (1997)	Seal AA3 Autoanalyzer, colorimetric
Nitrate + Nitrite	Grasshoff	Grasshoff et al. (1999)	Seal AA3 Autoanalyzer, colorimetric
Total Nitrogen	Grasshoff 9.6.3	Grasshoff et al. (1999)	Seal AA3 Autoanalyzer, UV
Total Phosphorus	Grasshoff 9.1.5	Grasshoff et al. (1999)	Seal AA3 Autoanalyzer, UV
Chlorophyll α	SM10200H(M)	SM (1998)	Turner Fluorometer

Aquatic Biology

Biologists made visual observations of aquatic organisms as they walked along the banks of the estuarine and lower reaches of Honolua Stream from 0 to 200 ft (60 m) elevation on July 27, 2015. As the survey progressed, the biologists made notes on qualitative abundance (e.g., rare, common, abundant) of each species observed.

Jurisdictional Waters

On July 27, biologists assessed potential extent of federal jurisdiction authorized by the CWA based upon the rule defining the scope of waters protected under the CWA (USACE and USEPA, 2015). Our survey included confirmation that

Honolua Stream is tributary to a traditionally navigable water (TNW; the Pacific Ocean) and has physical evidence of flow: bed and banks, and an ordinary high water mark (OHWM). We marked the OHWM (defined above on page 3) in the field in the Project area.

A regulatory guidance letter issued by the U.S. Army Corps of Engineers (USACE, 2005) lists the following physical characteristics to be used to establish the OHWM:

- Natural line impressed on the bank
- Water Staining
- Shelving
- Changes in the character of the soil
- Destruction of terrestrial vegetation
- Presence of litter and debris
- Wracking
- Leaf litter disturbed or washed away
- Scour
- Deposition
- Multiple observed flow events
- Bed and banks

The OHWM in the Project vicinity was marked for a distance of approximately 15 m (50 ft) upstream and 18 m (60 ft) downstream of the existing highway bridge. We painted a line or tied flagging tape at the OHWM on both sides of the stream channel roughly every 8 m (25 ft). A set of 13 photographs (upstream, left and right bank, and downstream) was taken from the center of the stream bed at each set of lines to document the markings and to characterize the environment. Austin, Tsutsumi & Associates surveyed the lines and marked the OHWM line on project plans.

Survey Results

Water Quality

Water quality results are presented in Table 2, with historical data from Honolua Stream throughout its reach. Sta. Downstream, sampled in 2008 by *AECOS* personnel, is in the same location as Sta. 2 of the current study. However, during the 2008 sampling event the Honolua Stream mouth was blocked by littoral sand deposits, and did not have surface water flow directly into the bay, as in the current event.

On the July 27 sampling event, salinity, temperature, pH, DO saturation, and TSS in the estuarine reach increased approaching Honolua Bay, while turbidity and nutrient concentrations decreased. The increased turbidity, TSS, and nutrient concentrations at Sta. Downstream, relative to Sta 2, show the direct result of the blockage of a stream mouth.

Table 2. Water quality results from July 27, 2015 sampling event and historical data for Honolua Stream.

DATE Station	Time	Temp (°C)	Salinity (ppt)	DO sat. (%)	pH	Turbidity (ntu)
07/27/2015						
Sta. 1	1215	27.5	35.10	101	8.01	0.50
Sta. 2	1228	28.4	34.43	97	7.98	0.66
Sta. 3	1237	26.7	22.65	32	7.58	1.54
140 ft ASL	1115	23.4	--	77	6.52	--
10/29/2008†						
Downstream	1145	24.1	23.76	--	7.18	23.0
04/04/2006††						
35 ft ASL	1030	20.6	--	112	7.8	1.48
850 ft ASL	1335	18.5	--	117	7.8	10.0
2048 ft ASL	1020	16.3	--	112	7.8	16.0
	TSS (mg/L)	**NH_3** (µgN/L)	**NO_3+NO_2** (µgN/L)	**Total N** (µgN/L)	**Total P** µgP/L)	**Chl. α** (µg/L)
07/27/2015						
Sta. 1	6.7	5	3	97	15	1.05
Sta. 2	5.2	6	3	113	18	0.80
Sta. 3	4.0	21	17	239	67	1.73
10/29/2008†						
Downstream	21	1400	307	4150	363	--
04/04/2006††						
35 ft ASL	--	nd	28	--	120	--
850ft ASL	12	nd	nd	--	122	--
2048 ft ASL	--	--	--	--	--	--

† - *AECOS* (2010)
†† - Ford (2006)

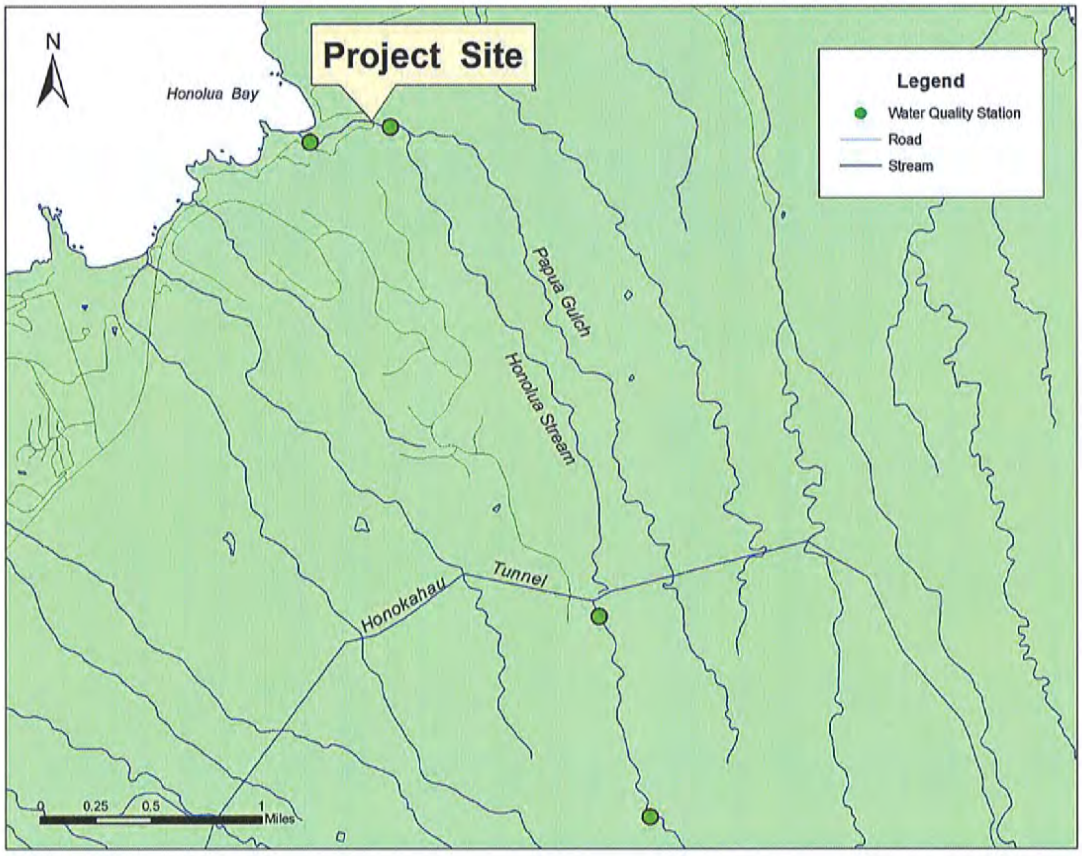


Figure 3. Locations of the historic water quality stations in Honolua Stream relative to Project site.

Aquatic Biology

Aquatic species observed during the July 2015 survey or reported from Honolua Stream (*AECOS*, 2010; Ford 2006; Parham et al., 2008) are listed in Table 3. Fishes include *āholehole* (*Kuhlia xenura*), *kupipi* (*Abudefduf sordidus*), *'ama'ama* or mullet (*Mugil cephalus*), and hybrid mollies (*Poecilia* sp.). The Black-crowned Night Heron or *'auku'u* (*Nycticorax nyticorax hoactli*) stalk prey along the stream banks. The only macro-invertebrate species encountered in the estuarine reach was a non-native prawn (*Macrobrachium lar*). This species was also encountered well upstream of the Project site (near 140 ft or 43 m asl) alongside numerous *hinana* (indeterminate gobiid post-larva).

Table 3. List of aquatic species observed or reported from Honolua Stream. Note: abundance codes are only presented for species observed during the July 2015 aquatic biota survey.

FAMILY ***Genus species***	**Common name**	**Abundance**	**Status**	**Source**
	INVERTEBRATES			
INSECTA, ODONATA				
COENAGRIONIDAE				
Megalagrion blackburni McLachlan	---	---	**End**	3
Megalagrion hawaiiense (McLachlan)	---	---	**End**	3
Megalagrion nigrohamatum (Blackburn)	---	---	**End**	3
Megalagrion pacificum (McLachlan)	Pacific Hawaiian damselfly	---	**End**	3
AESHNIDAE				
Anax junius J.W.Randall	*pinao;* common green darner	---	**Ind**	3
Anax strenuus J.W.Randall	*pinao*; giant Hwn. dragonfly	---	**End**	2,3
CRUSTACEA				
ATYIDAE				
Atyoida bisulcata J.W.Randall	*ʻōpaekalaʻole*	---	**End**	2, 3
PALAEMONIDAE				
Macrobrachium lar (Fabricius)	Pacific prawn	A	Nat	3, 4
	FISHES			
ELEOTRIDAE				
Eleotris sandwicensis Vaillant & Savage	*ʻoʻopu ʻakupa* Hawaiian sleeper	---	**End**	1
GOBIIDAE				
Awaous guamensis (Valenciennes)	*ʻoʻopu nākea*	---	**Ind**	3
Lentipes concolor (Gill)	*ʻoʻopu alamoʻo*	---	**End**	3
Sicyopterus stimpsoni (Gill)	*ʻoʻopu nōpili*	---	**End**	3
KUHLIIDAE				
Kuhlia xenura Jordan and Gilbert	*āholehole* Hwn. flagtail	C	**End**	4

Table 3 (continued).

FAMILY ***Genus species***	**Common name**	**Abundance**	**Status**	**Source**
MUGILIDAE				
Mugil cephalus Linnaeus	*'ama'ama* striped mullet	C	**Ind**	4
POECILIIDAE				
Gambusia affinis (Baird &Girard)	mosquitofish	---	Nat	1
Poecilia sp.	hybrid mollies	A	Nat	4
Poecilia reticulata Peters	guppy	---	Nat	1
Xiphophorus helleri Heckel	swordtail	---	Nat	1
POMACENTRIDAE				
Abudefduf sordidus Forsskal	*kupipi*; blackspot sergeant	C	**Ind**	4
	AMPHIBIANS			
RHINELLIDAE				
Rhinella marina Linnaeus	cane toad	R	Nat-Inj	4
	BIRDS			
RHINELLIDAE				
Nycticorax nycticorax hoactli Gmelin	*'auku'u*; Black-crowned Night Heron	R	**Ind**	4

LEGEND TO TABLE 3

Abundance categories:
- P – Present; abundance not estimated.
- R – Rare – only one or two individuals observed.
- U – Uncommon – several to a dozen individuals observed.
- O – Occasional – seen irregularly in small numbers.
- C – Common -observed everywhere, although generally not in large numbers.
- A – Abundant – observed in large numbers and widely distributed.

Status categories:
- **End** – Endemic – species uniquely native to the Hawaiian Islands.
- **Ind** – Indigenous – species native in Hawai'i and elsewhere.
- Nat – Naturalized – non-native species introduced to Hawai'i intentionally or accidentally.
- Inj – Injurious – species known to be harmful to agriculture, aquaculture, indigenous wildlife or plants, or constitute a nuisance or health hazard (DLNR, 2015)

ID codes:
- 1 – reported in Honolua Stream (*AECOS*, 2010)
- 2 – reported in Honolua Stream (Parham et al, 2008)
- 3 – reported in Honolua Stream (Ford, 2006)
- 4 – observed in Honolua Stream in July 2015

Jurisdictional Waters

Honolua Stream is tributary to Honolua Bay and has physical indicators of flow; therefore it is considered a tributary to a TNW and is a jurisdictional water of the U.S. Though no water was present in the Project area at the time of our survey, physical indicators of flow (stream bed and banks and OHWM) were apparent.

Delineation of the OHWM is depicted in Attachment A. Channel width ranges from approximately 3 ft (1 m) to 19 ft (3 m)—the narrower segment is in the vicinity of the highway bridge where stacked boulders reinforce the steep left[1] bank and direct flow under the bridge. The stream bed is composed of boulders with cobble and gravel. The most frequently encountered indicators of OHWM in the Project area are a destruction of terrestrial vegetation, break in bank slope, leaf litter washed away, and wracking. Photographs taken to document the OHWM delineation process are included in Attachment B.

Discussion and Conclusions

Water Quality

During the survey, no water was present in Honolua Stream at the Project site. The water quality data collected on July 29, 2015 (Table 2, above) can be compared to certain water quality criteria (see Tables 4 and 5; HDOH, 2014) established for coastal waters and estuaries, as appropriate. However, because most state water quality criteria are based on values not to be exceeded a specific number of times (or require comparing means), our single-sample results cannot be used to evaluate compliance with these water quality criteria (nutrients and particulates). A minimum of three separate samples per station and separated in time would be needed to make such comparisons.

Generally, water quality was good in Stas. 1 (in Honolua Bay) and 2 (downstream end of estuary) while poor conditions were found at Sta. 3 (near the upstream und of the estuary). Criterion for DO saturation is based upon a not-to-exceed value; this criterion was not met at estuary Sta. 3 where dissolved oxygen saturation was only 32%. This station also had elevated nutrient concentrations relative to the downstream and bay stations. Total phosphorus at Sta. 3 is higher than is typically found in Hawai'i streams.

[1] By convention, looking in the downstream direction.

Table 4. Water quality criteria applicable to dry* open coastal waters (HDOH, 2014).

Parameter	Geometric Mean value not to exceed this value	Value not to be exceeded more than 10% of the time	Value not to be exceeded more than 2% of the time
Total Nitrogen (µg N/L)	150.00*	250.00*	350.00*
Ammonia (µg N/L)	3.50*	8.50*	15.00*
Nitrate+Nitrite (µg N/L)	5.00*	14.00*	25.00*
Total Phosphorus (µg P/L)	20.00*	40.00*	60.00*
Chlorophyll α (µg/L)	0.30*	0.90*	1.75*
Turbidity (NTU)	0.50*	1.25*	2.00*

* Dry criteria apply when the open coastal waters receive less than 3 mgd of freshwater discharge per shoreline mile.
Other "standards":
- pH units are to be between 7.6 and 8.6, except at coastal locations where and when freshwater from stream, stormdrain, or groundwater discharge may depress the pH to 7.0.
- Dissolved oxygen is not to decrease below 75% of saturation.
- Temperature is not to vary more than 1C° from ambient conditions.
- Salinity is not to vary more than 10% from natural or seasonal changes considering hydrologic input and oceanographic factors.

Aquatic Biology

No federally listed (endangered or threatened) species (USFWS, 2015) were observed in Honolua Stream within the survey area. Larval *'o'opu* were observed well upstream of the Project site during our survey. These native fish are amphidromous: eggs are laid in the stream and the larvae that hatch from these eggs move down stream and out into the ocean where they develop for a time before migrating back into fresh water to grow to maturity (Ford and Kinzie, 1982; Kinzie, 1988). As their migration is through the Project site, construction below the OHWM should be planned such that at no time is the

entire stream bed blocked or altered in a manner that would prevent upstream migration of native amphidromous organisms.

Table 5. Water quality criteria applicable to estuaries (HDOH, 2014).

Parameter	Geometric Mean value not to exceed this value	Value not to be exceeded more than 10% of the time	Value not to be exceeded more than 2% of the time
Total Nitrogen (µg N/L)	200.00	350.00	500.00
Ammonia (µg N/L)	6.00	10.00	20.00
Nitrate+Nitrite (µg N/L)	8.00	25.00	35.00
Total Phosphorus (µg P/L)	25.00	50.00	75.00
Chlorophyll α (µg/L)	2.00	5.00	10.00
Turbidity (NTU)	1.50	3.00	5.0

Other "standards":
- pH units are not to deviate more than 0.5 units from ambient and are to be neither lower than 7.0 nor higher than 8.6.
- Dissolved oxygen is not to decrease below 75% of saturation.
- Temperature is not to vary more than 1C° from ambient conditions.
- Salinity is not to vary more than 10% from ambient.

The Pacific Hawaiian damselfly (*Megalagrion pacificum*) and Blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*), both federally listed as endangered (USFWS, 2015), are reported to be present in the Honolua watershed near the 2000-ft elevation (Ford, 2006). The Pacific Hawaiian damselfly is known to inhabit the upper reaches of 22 streams on the islands of Hawai'i, Maui, and Molokai. The species appears to require pristine habitats devoid on non-native fishes (Polhemus and Asquith, 1999; Englund et al., 2007). The Blackline Hawaiian damselfly occurs in the slow sections or pools along mid-reach and headwater sections of perennial, upland streams and in seep-fed

pools along overflow channels bordering such streams (USFWS, 2012). As the required habitats for both damselflies do not exist in or near the Project site, Project work will have no effect on populations or habitats of either Pacific Hawaiian or Blackline Hawaiian damselflies.

No permanent adverse impacts on the stream are anticipated from the Project. Construction BMPs developed to prevent degradation of water quality are essential to protect migratory aquatic biota from indirect Project impacts.

Jurisdictional Waters and Critical Habitat

Honolua Stream is an interrupted perennial stream that is tributary to the Pacific Ocean (Honolua Bay). The waters of this stream are therefore jurisdictional under federal law up to the OHWM. Any work below the OHWM may require a permit under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers.

There is no federally delineated Critical Habitat for any species present on, adjacent, or in the vicinity of the Project site. Modification of habitats on any part of the site will not result in impacts to federally designated Critical Habitat. There is no equivalent statute under state law.

References

AECOS, Inc. (*AECOS*). 2010. Biological and water quality surveys of Honolua Stream in Honolua, Maui, Hawai'i. Prep. for Austin Tsutsumi and Associates, Inc. *AECOS* No. 1192: 10pp.

Englund, R., Wright, M.G. & D.A. Polhemus. 2007. Aquatic insect taxa as indicators of aquatic species richness, habitat disturbance, and invasive species impacts in Hawaiian streams. In: Evenhuis, N.L. & Fitzsimons, J.M. (eds.), Biology of Hawaiian streams and estuaries. Bishop Museum Bulletin in Cultural and Environmental Studies 3. 25pp.

Ford, J. I. 2006. Supporting biological documentation, petition to amend the interim instream flow in Honolua Stream, West Maui, Hawai'i. Prep. for Kapalua Land Co., Ltd,. SWCA Environmental Consultants, Inc. 21 pp.

Ford, J. I. and R. A. Kinzie III. 1982. Life crawls upstream. *Nat. Hist.*, 91: 61-67.

Grasshoff, K., M. Ehrhardt, and K. Kremling (eds). 1999. Methods of Seawater Analysis (3rd ed). Wiley-VHC. 419 pp.

Hawai'i Department of Health (HDOH). 2014. Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 54, Water Quality Standards. November 15, 2014. 110 pp.

Kèrouel, R. and A. Aminot. 1997. Fluorometric determination of ammonia in sea and estuarine waters by direct segmented flow analysis. *Mar. Chem.* 57(3-4): 265-275.

Kinzie, R. A. III. 1988. Habitat utilization by Hawaiian stream fishes with reference to community structure in oceanic stream islands. Environ. Biol. of Fishes, 22: 179-192.

Parham, J. E., G. R. Higashi, E. K. Lapp, D. G. K. Kuamo'o, R. T. Nishimoto, S. Hau, J. M. Fitzsimmons, D. A. Polhemus and W. S. Devick. 2008. Atlas of Hawaiian Watersheds and their Aquatic Resources. Island of Maui. Bishop Museum and Division of Aquatic Resources. 614 pp.

Polhemus D.A. and A. Asquith. 1996. *Hawaiian Damselflies: A Field Identification Guide.* Bishop Museum Press. Honolulu, HI.

Polhemus, D.A., J.A. Maciolek, and J.I. Ford. 1992. An ecosystem classification of inland waters for the tropical Pacific islands. *Micronesica*, 25: 155-173

Standard Methods (SM). 1998. Standard Methods for the Examination of Water and Wastewater. 20th Edition. 1998. (Greenberg, Clesceri, and Eaton, eds.). APHA, AWWA, & WEF. 1220 pp.

U.S. Army Corps of Engineers (USACE). 1986. Corps of Engineers, Department of the Army, Department of Defense, 33 CFR II, Parts 328 and 329. Definition of Waters of the United States and Definition of Navigable Waters of the United States; Final Rule. *Federal Register*, 51 (219; November 13, 1986): 41250 -41254.

_____. 2005. U.S. Army Corps of Engineers. 2005. Ordinary High Water Mark Identification. Regulatory Guidance Letter 05-05. Washington, DC: U.S. Army Corps of Engineers. Dated December 7, 2005.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency (USACE and USEPA). 2015. Part II. 33 CFR Part 328 and 40 CFR Parts 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401. Clean Water Rule: Definition

of "Waters of the United States; Final Rule. *Federal Register* 80 (124; June 29, 2015): 37054-37127.

U.S. Environmental Protection Agency (USEPA). 1993. Method 180.1 Determination of turbidity by nephelometry. Revision 2.0. Environmental Monitoring Systems Laboratory Research and Development. Environmental Protection Agency. Cincinnati, OH. 10 pp.

U.S. Fish & Wildlife Service (USFWS). 2012. Department of the Interior. Fish and Wildlife Service. 50 CFR 17. Endangered and Threatened Wildlife and Plants; Endangered Status for 23 Species on Oahu and Designation of Critical Habitat for 124 Species. Final Rule. Federal Register, 77 (181; September 8, 2012): 57648–57862.

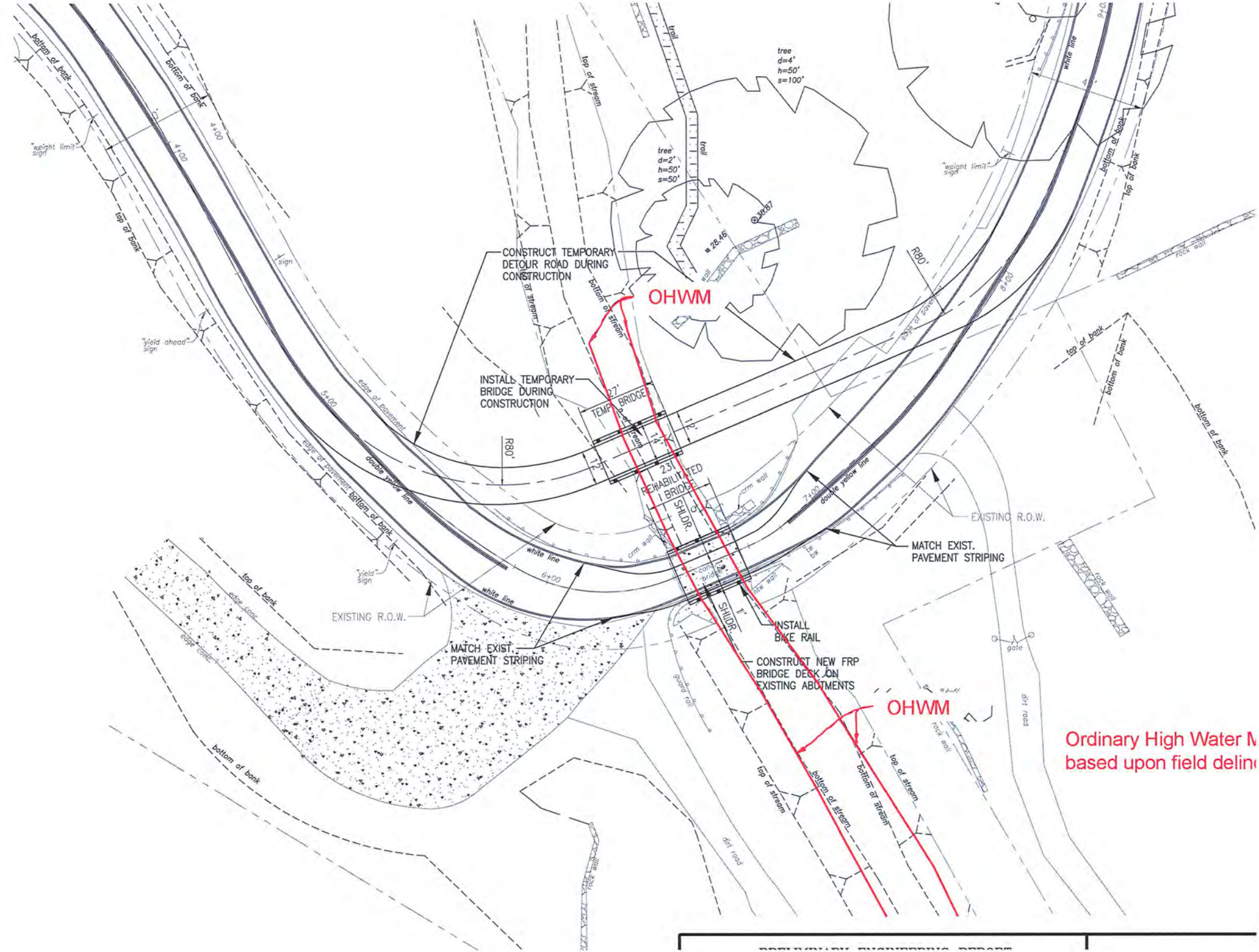
_____ 2015. Environmental Conservation Online System. Available online at: http://www.fws.gov/endangered/; or http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=HI&status=listed; last accessed June 18, 2015.

U.S. Geological Survey (USGS). 2003. Availability and Distribution of Base Flow in Lower Honokōhau Stream, Island of Maui, Hawaii. Water Resources Investigations Report 03-4060. 44 pp.

Attachment A

Honolua Stream

Ordinary High Water Mark


CONSTRUCT TEMPORARY DETOUR ROAD DURING CONSTRUCTION
OHWM
INSTALL TEMPORARY BRIDGE DURING CONSTRUCTION
TEMP. BRIDGE
27'
12'
14'
12'
23' REHABILITATED I BRIDGE
SHLDR.
3'
SHLDR.
1'
R80'
MATCH EXIST. PAVEMENT STRIPING
EXISTING R.O.W.
INSTALL BIKE RAIL
CONSTRUCT NEW FRP BRIDGE DECK ON EXISTING ABUTMENTS
OHWM
Ordinary High Water M
based upon field delin
bottom of bank
top of bank
top of stream
bottom of stream
edge of pavement
double yellow line
white line
"weight limit" sign
"yield ahead" sign
"yield" sign
4+00
5+00
6+00
7+00
8+00
tree d=4' h=50' s=100'
tree d=2' h=50' s=50'
crm wall
rock wall
guard rail
dirt road
gate
edge conc.

Attachment B

Honolua Stream
Ordinary High Water Mark-
In-stream directional
photographs

Flag 1 Upstream

Flag 1 Left bank

Flag 1Right bank

Flag 1 Downstream

Flag 2 Upstream

Flag 2 Left bank

Flag 2Right bank

Flag 2 Downstream

Flag 3 Upstream

Flag 3 Left bank

Flag 3 Right bank

Flag 3 Downstream

Flag 4 Upstream

Flag 4 Left bank

Flag 4 Right bank

Flag 4 Downstream

Flag 5 Upstream

Flag 5 Left bank

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Flag 7 Right bank

Flag 7 Downstream

Flag 8 Upstream

Flag 8 Left bank

Flag 8 Right bank

Flag 8 Downstream

Flag 9 Upstream

Flag 9 Left bank

Flag 9 Right bank

Flag 9 Downstream

Flag 10 Upstream with OHWM drawn in

Flag 10 Left bank with OHWM drawn in

Flag 10 Right bank with OHWM drawn in

Flag 10 Downstream with OHWM drawn in

Flag 11 Upstream with OHWM drawn in

Flag 11 Left bank with OHWM drawn in

Flag 11 Right bank with OHWM drawn in

Flag 11 Downstream with OHWM drawn in

Flag 12 Upstream

Flag 12 Left bank

Flag 12 Right bank

Flag 12 Downstream

Flag 13 Upstream

Flag 13 Left bank

Flag 13 Right bank

Flag 13 Downstream

APPENDIX F

CULTURAL IMPACT ASSESSMENT

Cultural Impact Assessment for the Honolua Stream Bridge Rehabilitation/Replacement Project Honolua Ahupua'a, Lāhainā District, Island of Maui TMK: (2) 4-1-001:05 por, 4-1-001:09 por, and 4-1-001:10 por.

Prepared for

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Mr. Paul Arita, P.E.

Final

Prepared by

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Ms. Anna Cordova, B.A.

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Acknowledgements

Cultural Surveys Hawai'i (CSH) would like to extend our thanks and gratitude to the people who have contributed their time and personal knowledge to this study. Without the assistance of many people, this study would not have been possible.

Many thanks go out to Mr. Stanley Solamillo and the Maui County Cultural Resource Commission for accommodating us on their agenda sharing their knowledge and insight about Honolua. Much gratitude is expressed to the following people for their contribution to this study; Mr. Foster Ampong, Mrs. Roselle Bailey, Mr. Naciso Billanor, Kahu David Kapaku, Mrs. Donna Willard, Mr. John Carty, the Kaina *'Ohana*, Mr. Tim Bailey and all the other community members and organizations who took the time to share their *mana'o*.

Most importantly, CSH would like to extend a very special *mahalo* to *kupuna* who participated in this study. These *kupuna* have our greatest respect and abundant gratitude for sharing their memories and *kōkua* with CSH and the public. *Mahalo nui* Mr. Isao Nakagawa, Mr. Alex Ross, Mr. Gordon Cockett, Ms. Gwendolyn Ewalina Shim, Ms. Hannah Dapitan, Mr. Gerald Shim, Mrs. Orpha Kaina, Mr. Gilbert Chee and Mrs. Henrietta Mahuna.

Management Summary

Reference	Cultural Impact Assessment for the Honolua Stream Bridge Rehabilitation/Replacement Project in the Honolua Ahupua'a, Lāhainā District, Maui Island. TMK: (2) 4-1-001.
Date	April 2017
Project Number (s)	FAP No. BR-030-1(37)
Project Location	Honolua Ahupua'a along State Highway 30 near mile marker 32.
Land Jurisdiction	Hawai'i State Department of Transportation
Agency	Hawai'i State Department of Transportation
Project Description	The purpose of the Honolua Bridge Rehabilitation/Replacement Project is to bring the bridge up to current State and Federal design and seismic standards. Due to a priority rating from the Bridge Preservation Program, the Honolua Stream Bridge has been made a priority for such improvements. This CIA was prepared to document any potential impact that the proposed project may have on cultural and traditional practices of the study area.
Project Acreage	1.62 acres (equivalent of a 150 ft. radius from the center of Honolua Stream Bridge).
Region of Influence (ROI)	Although the project area is defined as the 1.62 acre area surrounding the bridge, the ROI for this cultural impact assessment is defined as the entire *ahupua'a* of Honolua.
Regulatory Context	As a Federal and State funded project, the Honolua Stream Bridge project is subject to Hawaii State environmental legislation (Hawaii Revised Statutes [HRS] Chapter 343) and is required by the Office of Environmental Quality Control to produce an Environmental Impact Assessment. Although suspended, CSH continues to follows the Guidelines for Assessing Cultural Impacts in an effort to maintain consistency in CIA documentation.
Fieldwork Effort	Researchers Ms. Colleen Medeiros, B.S., Ms. Anna Cordova, B.A. and Mrs. Tanya Lee-Greig, M.A. spent a total of three days in the field inspecting the lands surrounding the project area. In addition, Ms. Medeiros and Ms. Cordova conducted formal and informal interviews at personal residences.

Consultation Results	This cultural impact assessment found evidence of traditional religious sites, in the study area namely the Honua'ula Heiau and associated Features located near the Honolua Stream Bridge. In addition, there are several other recorded historic sites of various functions located in the study area. Traditional agricultural practices including *lo'i* agriculture, also took place in the study area. Subsistence practices such as forest plant and stream resource collection were found to have also taken place. The traditional sport of surfing continues at Honolua Bay. Honolua Bay boasts a world class surf break which draws surfers and spectators from Maui around the world.

Recommendation	The following are the recommendations regarding the potential immediate effects of bridge work on surrounding *mauka-makai* access, cultural practices and traditional religious sites located in the study area: • It is recommended that safe access *mauka* and *makai* to Honolua Bay is maintained during all phases of construction. • Precautionary measures to limit the amount of silt or dust resulting from construction activities need to be taken to prevent shoreline and off-shore fishing ground degradation and contamination. Best management practices are required to be at the forefront of any construction activity associated with the proposed project area. • Safe access to Honua'ula Heiau for religious and ceremonial purposes should be maintained during all phases of construction. • It is critical that construction activities avoid encroachment on the Honua'ula Heiau, (SIHP 50-50-01-1471) and all associated features of this site of which includes Feature 12. • It is strongly recommended that archaeological recommendations set forth in Preiznski and Dega (2009) and Pickett and Dega (2007) for historic properties within the ROW and area of direct impact are established. Consultation with neighboring landowners may be required to ensure avoidance of significant historic properties. • Per the outcome of the October 2010 Maui County Cultural Resource Commission meeting, it is strongly recommended that the historical nature of the Honolua Stream Bridge is maintained. It is recommended that the bridge remain single-lane and that alterations to its appearance are minimized. This recommendation would minimize adverse impacts to the surrounding cultural and religious historic properties.

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Section 1 Introduction

1.1 Project Background

Cultural Surveys Hawai'i, Inc. (CSH) has conducted a Cultural Impact Assessment (CIA) for the proposed Honolua Stream Bridge Rehabilitation/Replacement Project located in Honolua Ahupua'a, Lāhainā District (traditionally the Kā'anapali Moku), Maui Island, TMK (2) 4-2-001:05 por., 09 and 10 por. The Honolua Stream Bridge is located on the northwest coast of Maui on Honoapi'ilani Highway (Route 30) at mile marker 32. The purpose of the rehabilitation/replacement project is to bring the Honolua Stream Bridge up to current State and Federal Design and Seismic Standards. The area of potential effect for bridge work is defined as a 150 ft. radius from the center of the bridge, a 1.62 acre project area. This proposed project is federally funded and will be carried out by the Hawaii Department of Transportation (HDOT). The Honolua Stream Bridge was built in 1924 and therefore is older than 50 years and considered a historic structure.

When assessing the presence or absence of direct, indirect, and cumulative effects of the project on the traditional cultural practices of this region, traditional use and access to resources from the mountains to ocean, or *mauka* to *makai*, must be taken into consideration. As such, the region of influence (ROI) for this undertaking, herein after referred to as the "study area", is defined as the geographic area encompassing Honolua Ahupua'a.

1.2 Scope of Work

1. Examination of historical documents, Land Commission Awards, historic maps, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal and other resources or agricultural pursuits as may be indicated in the historic record.
2. A review of the existing archaeological information pertaining to archaeological sites within the study area to reconstruct traditional land use activities and to identify and describe the cultural resources, practices, and beliefs associated with the parcel and identify present uses, if appropriate.
3. Interviews with persons knowledgeable about the past and present cultural practices in the project area and its surrounding area.
4. Preparation of a report on items 1-3 summarizing the information gathered related to traditional practices and land use. The report assesses the impact of the proposed undertaking on the cultural practices and features identified.

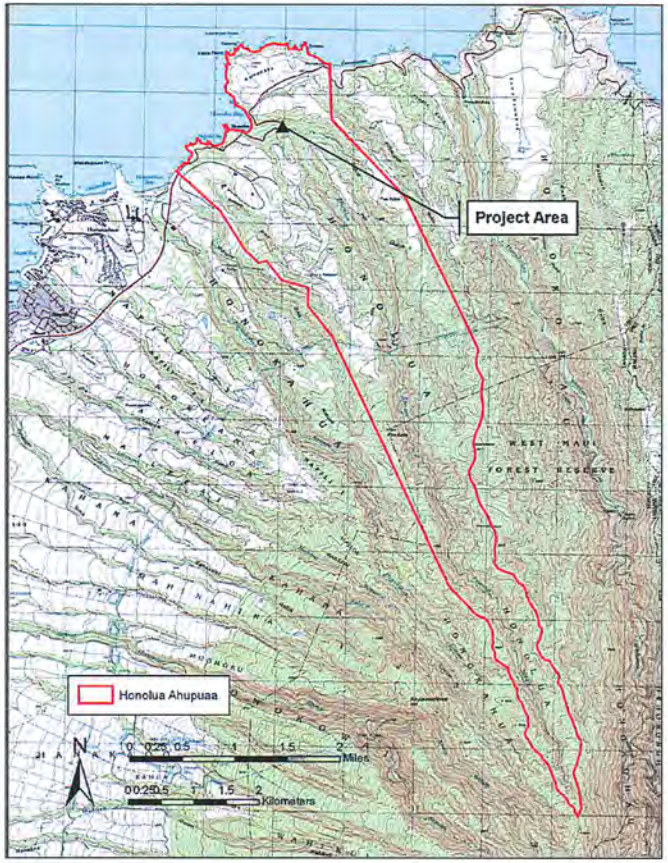


Figure 1. Topographic Map of Honolua Ahupua'a (CIA study area) and the Honolua Stream Bridge project are.

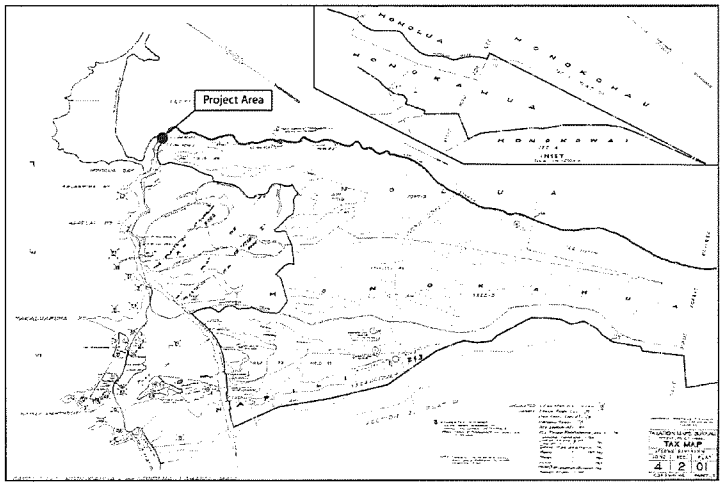


Figure 2. TMK (2) 4-2-01

1.3 Environmental Setting

The most imposing geological features surrounding the project area are the West Maui Mountains. Macdonald, Abbot, and Peterson (1983:50) indicate that there are three volcanic series that comprise the shield volcano making up the West Maui Mountains. The Wailuku Volcanic Series is oldest, dating between ca. 1.27 and 1.30 million years ago (mya). Next in age is the Honolua Volcanic Series dated between ca. 1.15 and 1.17 mya. The youngest rocks are associated with the Lahaina Volcanic Series dated to ca. 1.03 mya. The current geological appearance of the West Maui Mountains is the result of a complex series of erosional periods and volcanic eruptions followed by cessation of volcanic activity and continued erosion and cutting of deep valleys. The summit of West Maui represents the remnant of a highly eroded and scoured caldera. Stream erosion of the West Maui volcano has reached the late youthful to submature stage according to MacDonald and others (1983). Alluvial fans fringe the eastern and southwestern sides of the mountain. Alluvial fans along the eastern side are due in part to "loss of water from the streams to the permeable lavas of Haleakala that have built the [central] Maui isthmus...", while those along the southwestern side "have built out the shoreline with debris transported and deposited by steams in greater volume than is removed by waves and ocean currents..." (MacDonald et al. 1983:387).

Soils within the project area are classified as Stony Alluvial Land (rSM). These soils consist of stones, boulders and soil deposited by streams along the bottom of gulches and on alluvial fans. In most places the slope is 3 to 15 percent (Foote, et al. 1972:120). This land type is suited to pasture in the dry areas and to pasture and woodland in wet areas. Peak rainfall in this portion of Maui is during the winter months, with rainfall amounts for the Honolua area varying between 30 and 50 inches annually (Juvik and Juvic 1998:57). The Honolua Stream is a perennial stream fed by rain high in the West Maui Mountains, where rainfall averages between 25 and 40 inches per month (Stearns and MacDonald 1942). However, most all of the water in Honolua Stream has been diverted for commercial agriculture since the early 1900's (Wilcox 1996:126-127).

Vegetation identified within the project area includes Guinea grass (*Panicum maximum*), *koa haole* (*Leucaena leucocephala*), common ironwood (*Casuarina equisetifolia*), swollen fingergrass (*Chloris barbata*), and coconut (*Cocos nucifera*) (Starr and Starr 2010).

1.3.1 Built Environment

The Honolua Stream Bridge itself and highway are the main build objects in the project area. There are approximately 3 residential homes located *mauka* of the bridge.

Figure 3. Honolua Stream Bridge view E from streambed.

Figure 4. Honolua Stream Bridge view NNE from Highway 30.

Section 2 Methods

Interviews and consultation were conducted by lead researcher, Ms. Colleen Medeiros, B.S. under the overall guidance of Hallett H. Hammatt, Ph.D. Field interviews and consultations were accomplished over a six-month period from July 2010 through January 2011. Three field visits were conducted in July 2010 and September 2010. Community members, cultural practitioners and Hawaiian organizations were mailed a formal contact letter. As a result of the initial scoping effort, individuals and organizations with traditional cultural expertise for the study area were identified. Document research was conducted by the lead researcher along with contributing researchers Tanya L. Lee-Greig, M.A., Robert H. Hill, B.A and Anna Cordova, B.A. This section details the methods used by CSH personnel during the fieldwork and preparation of this cultural impact assessment.

2.1 Document Review and Research

Numerous published and unpublished accounts, surveys, reports, maps and photographs found in public and private collections pertaining to the study area were investigated by Cultural Surveys Hawai'i Inc. English language historical documents, maps, and archaeological studies were researched at the DLNR/SHPD library, the Survey Office of the Department of Accounting and General Services (DAGS), the Lahaina Restoration Foundation Archives at the Hale Pa'i, and the Cultural Surveys Hawai'i (CSH) library; in addition to private collections held by others in the community. Land Commission Award claims were studied using historic maps and cross-referenced with the Waihona 'Aina online database (www.waihona.com).

2.2 Scoping and Community Outreach

In order to identify individuals with knowledge of the traditional cultural practices of the CIA study area for the proposed project, CSH initiated contact with government agencies, advisory councils, and local community organizations (Section 4). Letters and project area maps showing the location of the Honolua Stream Bridge in relation to the overall study area were mailed out with the following accompanying text (Appendix A):

> At the request of Austin, Tsutsumi & Associates, Inc. (ATA), Cultural Surveys Hawai'i, Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the proposed Honolua Stream Bridge Rehabilitation/Replacement Project located in Honolua Ahupua'a, Lāhainā District (traditionally the Kā'anapali Moku), Maui Island, TMK (2) 4-2-001. The Honolua Stream Bridge is located on the northwest coast of Maui on Honoapi'ilani Highway (Route 30) at mile marker 32 (Figures 1-3). This one-lane bridge was built in 1924 and does not meet current safety standards.
>
> The purpose of the rehabilitation/replacement project is to bring the Honolua Stream Bridge up to current State and Federal Design and Seismic Standards. This proposed project is federally funded and will be carried out by the Hawaii Department of Transportation (HDOT). Because it is older than 50 years, the current bridge is considered a historic structure. However, the 1990 "Historic Bridge Inventory and Evaluation" listed this bridge as having little national, state or local significance. Scientific Consultant Services, Inc. has conducted an archaeological inventory survey for

this project. As a part of this survey, the archaeological site State Inventory Historic Property (SIHP) 50-50-01-1471 was re-identified, and the Honolua Stream Bridge was added as a feature of the site. The report for this inventory survey was written in 2009 by David Perzinski and Michael F. Dega, and is entitled *An Archaeological Inventory Survey Report for a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhainā District, Maui Island, Hawaii. [TMK: (2) 4-2-001:05 (por.), :09 (por.) and :10 (por.)]* ***(DRAFT)***. It is only in draft form and has not yet been accepted by the State Historic Preservation Division.

For the CIA portion of this project, the entire Honolua Ahupua'a will be researched. The purpose of the CIA is to evaluate potential impacts to traditional cultural practices as a result of the proposed project.

We are seeking your *kōkua* or help and guidance regarding the following aspects of our study:

General history and present and past land use of the project area.

Knowledge of cultural resources which may be impacted by the Honolua Stream Bridge Rehabilitation/Replacement Project - for example, traditional plant gathering sites, historic sites, archaeological sites, and burials.

Knowledge of traditional gathering practices in the area – both past and ongoing.

Cultural associations of the project area, such as legends and traditional uses.

Referrals of *kūpuna* or elders who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua* lands.

Any other cultural concerns the community might have related to Hawaiian cultural practices within the Honolua Ahupua'a and/or in the vicinity of the proposed Honolua Bridge Rehabilitation/Replacement Project area.

We invite you to contact us, Anna Cordova and/or Colleen Medeiros Dagan, at 1-808-242-9882. You may also contact us by e-mail at acordova@culturalsurveys.com and cdagan@culturalsurveys.com if you have any information you would like to share.

Mahalo,

Anna Cordova, Archaeologist

Colleen Medeiros, Archaeologist

2.2.1 Group Consultation, Informal Interviews, and Formal Interviews

Interviews and community consultations were conducted informally via telephone, or as a part of a formal sit-down interview between the researcher and participating individual. Some individuals were consulted at the project site in Honolua. Handwritten notes of all consultations and interviews were made, and with the permission of the participants, formal interviews were recorded using a Olympus VN-4100PC digital voice recorder.

Transcriptions of recorded interviews were completed by Ms. Katie Sprouse, B.A. using the Sony Digital Voice Editor Software. All consultation and informal interview notes and formal interview transcriptions were reviewed by participant for clarification and accuracy prior to inclusion in this study. Segments of interviews which the interviewee chose to withdraw have been indicated by ellipsis (…). Authorized transcriptions from formal interviews and associated release forms are included in Appendix C .

Section 3 Background Research

The division of Maui's lands into political districts occurred during the rule of Kaka'alaneo, under the direction of his *kahuna*, Kalaiha'ōhi'a (Beckwith 1970). This division resulted in twelve districts or *moku* during traditional times: Honua'ula, Kahikinui, Kaupō, Kīpahulu, Hāna, Ko'olau, Hāmākua Loa, Hāmākua Poko, Kā'anapali, Lahaina, Wailuku and Kula. The current project area is located on the leeward portion of the West Maui Mountains in the *moku* of Kā'anapali and *ahupua'a* of Honolua, at a place along the coastline where the Honolua Stream enters the ocean.

3.1 Traditional and Historical Background

3.1.1 The Traditional Pre-Contact Era

Table 1. Place names in the vicinity of Honolua Ahupua'a. Unless otherwise noted, all literal definitions are according to Pukui and others (1974).

Place Name	Translation
'Ālaelae	The point southwest of Kalaepiha and Honolua Bay meaning a point with several capes and points (Pukui and Elbert 1986:17).
'Eka (Mauna)	Mauna 'Eka: 19th-century name for the West Maui Mountains (Bidwell 1846; Nordhoff 1874).
'Eke (Crater)	Mountain peak, crater in the West Maui Mountains, habitat for greensword plant (*Argyroxiphium grayanum*), Wailuku and Lahaina Quadrangles
Hāwea Point	Large coastal promontory of Honokahua Ahupua'a. According to Pukui (Pukui, et al. 1974), Hāwea was possibly "named for the famous drum brought by La'amaikahiki."
Honoapi'ilani	Highway around southwest Maui. *Lit.*, bays [acquired] by [Chief] Pi'ilani. Six West Maui bays whose names begin with Hono- (bay) and the islands seen from those bays (Kaho'olawe, Lāna'i, Moloka'i) were ruled by Pi'ilani.
Honolua	*Lit.*, two harbors. *Ahupua'a* land division, village, landing, bay, surf area, perennial stream, mountain (2,627 ft amsl). *Auhupua'a* of current CIA study.
Kahauiki (Gulch)	*Lit.*, the small *hau* tree. Location for *hau* [wood], according to Fornander (1917:400).
Kamane	Coastal area immediately northeast of Lipoa Point.
Keahikano	*Lit.*, the hard fire. A mountain located at 2,013 ft amsl in Honolua Quadrangle. Located along eastern *ahupua'a* boundary.
Keka'alā'au	*Lit.*, the twirling war club. Geologic promontory located at 2,358 ft amsl. Located along western *ahupua'a* boundary.

Place Name	Translation
Keonehelele'i	*Lit.*, the scattered sand. Beach at eastern portion of Punalau Point.
Kulaoka'e'a	*Lit.*, plain of dust. Land section in Honolua Ahupua'a.
Līpoa (Point)	A place named for the fragrant kind of sea weed found there. A favorite article of food, according to Fornander (1917:390).
Makuleia (Bay)	Bay adjacent to and west of Honolua Bay.
Oneloa Bay	*Lit.*, long sand
Pāpua (Gulch)	Flower enclosure or baby fish enclosure.
Punalau (Point)	*Lit.*, many springs. Promontory east of Honolua Bay.
Pu'u Ka'eo	Name given to both a coastal hill (358 ft amsl) and an inland hill (1,683 ft amsl) in the Honolua Quadrangle.
Pu'u Kīlea	*Lit.*, small but conspicuous hill. Hill at 732 ft amsl.
Pu'u Kukui	*Lit.*, candlenut hill. The highest point of the West Maui Mountains (5,788 ft amsl). No less than fourteen *ahupua'a* meet at this point.

S.M. Kamakau records the lineage of the chiefs of Maui related to Ka'ahumanu as being from Hāwea:

> And so the council ended. Liholiho gave his fifth wife, Ke-Ka-ulu-ohi, to his friend Ka-na'ina in order that none of his guardians and chiefs might question his action, since when a ruler gives away anything it must please his chiefs, and took Ka-umu-al'i'i's wife Ke-kai-ha'a-kulou as one of his wives to be counted with the others. Ka'ahumanu was not pleased at this, feeling it to be showing disrespect to her nieces, but upon tracing her ancestry Ke-kai-ha'a-kulou was found to be of the lineage of the chiefs of Maui from Hawea, who was related to Ka'ahumanu; her father Kai-awa of the line of the chiefs of Kauai was found to be connected with Kane-i-kahei-lani and with Kawelo son of Mahuna-ali'i, ancestor of Ka'ahumanu (Kamakau 1992:253).

According to Fornander (Fornander 1916:154), La'amaikahiki visits all of the islands of Hawai'i and teaches the art of the drum to and the dancing form of *hula* to the people of Hawai'i. The name Hāwea, according to the following proverb provided by Pukui (Pukui 1983:249), was given by La'amaikahiki as the name of one of his two religious drums.

> Na pahu kapu a La'amaikahiki (translation) The sacred drums of La'amaikahiki
>
> 'Ōpuku lāua o Hāwea (translation) 'Ōpuku and Hāwea.

Much of the existing knowledge relating to the *moku* of Ka'anapali and the *ahupua'a* of Honolua can be found in Samuel M. Kamakau's account of a war between the forces of Alapa'i,

from the island of Hawai'i, and the forces of Pele-io-holani, an O'ahu king who had pledged his support to the armies of Maui chief Kamehamehanui.

> A whole year Alapa'i spent in preparation for the war with Maui. It was in 1738 that he set out for the war in which he swept the country. What was this war like? It employed the unusual method in warfare of drying up the streams of Kaua'ula, Kanaha, and Mahoma [Kahoma] (which is the stream near Lahainaluna). The wet taro patches and the brooks were dried up so that there was no food for the forces of Ka-uhi or for the country people. Alapa'i's men kept close watch over the brooks of Olowalu, Ukumehame, Wailuku, and Honokawai. When Pele-io-holani heard that Alapa'i was at Lahaina he gathered all his forces at Honokahua and at Honolua. At Honokawai an engagement took place between the two armies, and the forces of Alapa'i were slaughtered and fled to Keawawa [just north of Lahaina]. There, Alapa'i heard that Pele-io-holani had landed at Honokahua and had an army stationed at Kewawa and he disposed his forces, some on sea and some on land. Although Pele-io-holani had but 640 men against Alapa'i's 8,440 from the six districts of Hawaii, there were among them some famous warriors such as Hana, a warrior intimate of Pele-io-holani, Malama-kuhi-'ena, Moki-ka-la'i, Kulepe, 'Opu-hali, Kuakea, Lono-nui-akea, Pa-i-kahawai , Kawelo-iki-a-kulu, and Ka-mahu-a-koai'e. Pele-io-holani intended to unite his forces with those of Ka-uhi, but Alapa'i's men held Lahaina from Ukumehame to Mala on the north, and in attempting to aid Ka-uhi, Pele-io-holani became involved in difficulty. The hardest fighting, even compared with that at Nāpili and at Honokahua in Kā'anapali, took place on the day of the attack at Pu'unene [in the region of Nāpili] (Kamakau 1992:74).

According to Fornander (1880), this battle continued to intensify, until it was determined by both kings, Alapa'i-nui and Pele-io-holani, that a truce must be declared to stop the carnage. Both armies withdrew to their respective islands of Hawai'i and O'ahu, and Kamehamehanui remained as *moi* of Maui (Fornander 1880:141-142).

Honolua was not only notable for its internecine associations during the pre-contact period. Handy et al record its agricultural wealth:

> North of Lahaina are five valleys watered by streams draining the western slopes of the West Maui watershed: Honokōwai, Kahana, Honokahua, Honolua, and Honokāhau [sic]. The first four all had extensive lo'i lands in their valley bottoms, where terraces rose tier on tier in symmetrical stone-faced lo'i. On this part of the coast there is no sloping kula land seaward of the valleys as there is back of Lahaina and southeastward. (E. S. C. Handy, et al. 1991b:494).

A third distinction for pre-contact Honolua centered on Honolua Bay, identified as one of the "Hono-a-Pi'ilani," the six bays in the possession of Pi'ilani, the ruling chief of Maui. The others are Honokahua, Honokeana, Honokōhau, Honokōwai, and Hononana. It thus appears that, while Honolua may not have attained the renown of more celebrated *ahupua'a* of pre-contact Maui, events and personages associated with it would have, at least, assured its presence in the consciousness of Hawaiians on the island.

A description given by Moses Manu in Sterling (1998:53) speaks of a journey of Kihapiilani from Honolua Bay to Molokai on a surfboard. It was said that multitudes of canoes set out and spanning from Kā'anapali to Waialua on Moloka'i. Kihapiilani alone set out on a surfboard from Honolua:

> ...he did not board any canoe but rode a long surfboard from Honolua and the wild surging waves of the Pailolo Sea carried him with no difficulty, a deed by which the famous waves of that deep blue sea were turned into a plaything as well as a sport by that chief (Sterling 1998:53)

3.1.2 Early Post-Contact Period

Following contact with Europeans in 1778, some inhabitants of the Hawaiian Islands traveled with American traders back to New England, where the attention of the resident Christian community were drawn to the idea of establishing a missionary outpost in the Pacific. When it was seen that native Hawaiians educated in a Christian manner "had apparently become the subjects of that spiritual change, which alone could fit them to be useful to their countrymen in the highest sense," the American Board of Commissioners for Foreign Missions (ABCFM) booked passage for the first of twelve groups of missionaries to be sent to the "Sandwich Islands" (Bingham 1820:569).

This first company of Protestant missionaries left Boston on Saturday, Oct 23rd 1819 with three native Hawaiians "Thomas Hopoo [Hopu], William Tennooe [Kanui] and John Honoore [Honoli'i]" sailing as assistants for the company (Bingham 1820).

After establishing mission stations on the islands of Hawai'i, Kaua'i and O'ahu, Reverend William Richards and Reverend Charles Stewart and their wives were sent to the coastal town of Lahaina, on Maui. Richards' letter dated August 30 1823, described the region:

> This may be the earliest notice you will have of our establishment at this place. It is proper, therefore, to mention that Mr. Stewart and myself, with our families, took up our residence here on the 31st of May [after leaving O'ahu on May 27]. We are living in houses built by the heathen and presented to us. They are built in the native style, and consist of posts driven into the ground, on which small poles are tied horizontally, and then long grass is fastened to the poles by strings which have to pass round each bundle. We have no floors, and no windows, except holes cut through the thatching, which are closed by shutters without glass. Our houses are comfortable at this season, and we hope to remain so during most of the year, as very little rain falls at this place. During the three months that we have resided here, there has been none at all. Nearly all that grows, not only in Lahinah, but all this part of Mowee, is watered artificially by streams from the mountains (Richards 1824:110).

Although Kā'anapali was established as a mission outstation of Lahaina in 1824, the earliest description of that region appear to have been made by Reverend Richards in 1826:

> June 11, 1826. Sabbath. Last evening, Boki called to inquire, whether it would be proper for him to go to Kaanapali, to spend the Sabbath, and conduct worship

with the people. On being told that it would be proper, he immediately set sail. This place is about six miles from Lahaina, or rather the principal village is that distance, but the district is a large one, being perhaps thirty miles in circumference. The number of inhabitants in the village is about 500. Meetings have been regularly conducted at that village ever since October last, generally by Taua, Robert or Bartimeus (Richards 1828).

Census figures provided by the missionaries beginning in 1831 provide the earliest documentation of the size of the native population after the first few decades of western contact. During the first census of Maui Island in 1831-1832, a total population of 2,982 was recorded in the Lahaina District; the Kā'anapali total comprised only 8.5% of the entire island population of 35,062 (Schmitt 1977:18). By the census of 1836, the Kā'anapali population had dropped to 1,341, comprising 5.5% of the Maui island population of 24,199 (Schmitt 1977:38). These early censuses do not record the specific population numbers for individual *ahupua'a*.

By 1840, the district schools in Kā'anapali, Honokohau and Kahakuloa were sending their school-age students to Lahaina to be part of the general examination conducted by missionary teachers. A letter written by Reverend Dwight Baldwin to Mr. Amos Cooke, a teacher at the Royal School in Honolulu, gives both the number of children sent from each outstation and the number of miles they had to travel to attend the 1840 examination in Lahaina:

> 556 were examined on our part of Maui, all at Lahaina; belonging to seven schools; & as some of these schools came from a considerable distance, not so many wd [sic] be able to attend.
>
> Two hundred & fifteen of these belonged to the three schools of Lahaina. Very few of those enrolled in these schools were absent.
>
> Olualu School, (6 miles S. of Lahaina) 83.
>
> Few or none absent.
>
> Okumehame School, (9 miles S. of Lahaina) 44.
>
> a few absent
>
> Kaanapali, (10 miles N. of Lahaina) 67.
>
> some absent
>
> Honokuhao, 16 or 18 miles N. of Lahaina, 64.
>
> 20 absent
>
> Kahakuloa school, 25 or 30 m. N. 83
>
> 17 children absent from examination who belonged to the school.

> I have no means of telling accurately the number of children in our whole field - but suppose it must be over 1000. As to the average attendance at the schools, I cannot give it with any accuracy; but wd [sic] merely state, in general terms, that, at about one third of the schools, I think, nearly all who are enrolled attend somewhat regularly. At another third, perhaps half attend school; & at the remaining third, very few attend; owing mostly to the utter inefficiency of the teachers.
>
> Of all the schools at this examination there were 450 children who could read. Few children have learned to write on paper, because we have no paper for the schools. There is also destitution of slates. Still a few exhibited writing on slates at examination. In geography only 102 were examined, though more have studied it. Between 80 & 100 in one of our schools at Lahaina have attended to it, more or less, & were not examined, partly for want of time.
>
> In mental arithmetic 283
>
> In written arithmetic 181 (Windley 1972).

In 1847, Reverend Timothy Dwight Hunt wrote about conditions at Honokohau:

> I have occasionally visited the different villages; and within this period I have conversed several times with about three hundred inquirers. During the first ten months of this period, a theological student preached at Honokahau, the last but one of the largest villages in the district. They have re-thatched their meeting-house, and the church members at Honokohau have built and finished a thatched house for my accommodation, when I go among them, and are now getting timbers for the roof of a stone meeting-house, the walls of which have been up for four or five years. Perhaps the whole district of Kaanapali contains twelve hundred people, stretching along a coast eight miles in length and two or three in breadth (T. D. Hunt, Reverend 1848:191).

3.1.3 Mid- 1800s and the Great Māhele

The Organic Acts of 1845 and 1846 initiated the process of the Great Māhele - the division of Hawaiian lands - which introduced private property into Hawaiian society. In 1848 the crown and the *ali'i* (royalty) received their land titles. *Kuleana* awards for individual parcels within the *ahupua'a* were subsequently granted in 1850. These awards were presented to tenants - native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners - who could prove occupancy on the parcels before 1845.

A total of 23 Land Commission Awards (LCAs) were recorded in the *ahupua'a* of Honolua (Waihona 'Aina 2000). Of these, the following are notable for their descriptions of land use at the time of the Māhele, in the vicinity of the Honolua Bridge are shown in Table 2:

Table 2. LCA Near the Honolua Stream Bridge (for complete discriptions see Appendix D).

Royal Patent Number	LCA Number	Claimant(s)	Lands of the Claimant(s)	Lands Awarded and Acreage
3338	03692	Manuwa	This claim includes four *'āpana* which include one house lot, two *kula* pasture, 12 *lo'i kalo*, near the *pali*, in the Honolua Ahupua'a, *'ili* of Kaalapa, Kaohe and Waioio.	Award 3692; R.P. 4174; Kaohe Honolua Kaanapali; 1 ap.; 1.95 Acs; Waioio Honolua Kaanapali; 1 ap.; 1.076 Acs
4198	03802	Loheleha	This claim includes four *'āpana* which include one house lot, one *kula* lot, 17 *lo'i kala*, a sweet potato *mo'o*, with lands along the Honolua Stream and near the shore and *pali*. There is also a government road that runs through it, located in Honolua Ahupua'a, *'ili* of Kaulukanu and Kaakepa.	Award 3802; R.P. 4198; Kalila Honolua Kaanapali; 2 ap.; 4.46 Acs; Kaohe Honolua; 1 ap.; 1.3 Acs
3349	03803	Lalahua	This claim includes three *'āpana* consisting of one house lot, one *kula* pasture, one *lo'i kala* and one sweet potato *mo'o*. This land is near the *pali*, and there is a wall and a government road that run through it. It is located in Honolua Ahupua'a, *'ili* of Moomuku.	Award 3803; R.P. 3349; Moomaka Honolua Kaanapali; ap.;2.44 Acs.
3935	03924	Nakupala	This claim includes four *'āpana* consisting of one house lot, one *kula* pasture, 48 *lo'i kalo*. Lands located along the Honolua Stream and *pali*. There is a road which crosses the land. Lands in Honolua Ahupua'a, *'ili* of Kamani, Kaea and Hikiapu.	Award 3924; R.P. 3935; Hikiapo Honolua Kaanapali; 4 ap.; 3.42 Acs
3330	04065	Kahiki	This claim includes five *'āpana* consisting of four *kula* pasture, 15 *la'i kalo*, four sweet potato *mo'o*, one *hala* tree and one *kou* tree. Lands located *pali*. The land is in Honolua Ahupua'a. *'ili* of Kaohe and Kaea.	Award 4065; R.P. 3330; Honolua Kaanapali; 3 ap.; 2.96 Acs
6246	04243	Keliipoina (other claimants, see Appendix D)	This claim includes four *'āpana* which includes one house lot, two *kula* pasture, five *lo'i kalo*, and four sweet potato *mo'o* named Naioio and Pahahao. Land is located along the *pali*, in the Honolua Ahupua'a.	Award 4243; R.P. 6246; Honolua Kaanapali; 3 ap.; 3.604 Acs
4188	04243D	Makaole	This claim includes five *'āpana* consisting of one house lot, two *kula* pasture and two *lo'i kalo*. The lands are located along the Honolua Stream and *pali*, near the shore in the *ahupua'a* of Honolua.	Award 4243D; R.P. 4188; Honolua Kaanapali; 2 ap.; 4.33 Acs; Malili Honolua Kaanapali; 1 ap.; .28 Ac.; Papahao Honolua Kaanapali; 1 ap.; .6 Ac.; See Award 4243 for Native Register document

Royal Patent Number	LCA Number	Claimant(s)	Lands of the Claimant(s)	Lands Awarded and Acreage
4785	04246	Kaleo	This claim includes five *'āpana* consisting of one house lot, three *kula* pasture and one *lo'i kalo*. Lands situated near the shore and *pali* with a road running through in the *ahupua'a* of Honolua.	Award 4246; R.P. 4785; Honolua Kannapali; 3 ap.; 1.692 Acs
03338	06602	Peleua	This claim includes six *'āpana* consisting of two house lots, two *kula* pasture, two *lo'i kalo* and one sweet potato *ma'a*. A government roadway runs through the land located in Honolua Ahupua'a, *'ili* of Honua'ula and Moomuku.	Award 6602; R.P. 3338; Honuaula Honolua Kaanapali; 2 ap.; 4.153 Acs; Kaohe Honolua Kaanapali; 1 ap.; 2.74 Acs; Kauhipilo Honolua Kaanapali; 1 ap.; .17 Ac.
5637 5639 5699-2 7664	08559B	William C. Lunalilo	This large *ali'i* claim includes multiple *ahupua'a*; Polanui, Kalimaohe, Kuholilea, Aki, Paeohi, Waianae, Honolua, Pepee, Waiehu 2, Kaapahu and the *'ili* of Lunehu and Ahikuli. 13 *'āpana* were claimed including one house lot with a government road running through the lands.	Award 8559B (Appendix D

Government censuses during the second half of the 19th century document the diminishing population of West Maui and, presumably, Honolua, now subsumed in an enlarged Lahaina District. In 1853 4,833 persons were recorded as living in the Lahaina District. Twenty-five years later, in 1878, the total district population had dropped to 2,448; by 1896, it was 2,398 (Schmitt 1977:12-13).

The history of land transactions in the region of Honolua Ahupua'a beginning in the early years of the Māhele are sometimes confused, when the terms "Honolua Ranch" (which includes lands in other *ahupua'a*) and "Honolua" are often interchanged. According to historical research performed by the Maui Land & Pineapple Company, the main portion of the *ahupua'a* of Honolua, consisting of 3,860 acres [R.P. 8129], was given in 1852 by William Charles Lunalilo to the government of the Kingdom of Hawai'i (Waihona 'Aina 2000, see LCA 8559B above).

Subsequently, portions of other *ahupua'a*, as well as the entirety of Honolua Ahupua'a were acquired by Princess Ruth Ke'elikolani (Ashdown 1972). By way of two intermediary land purchases, owners Thomas Campbell and his wife sold the 3,860-acre Honolua Ahupua'a to Henry Perrine Baldwin in 1889 (S. Hunt 2010). With the addition of 6,680 acres of land in Honokokau, 2,650 acres of land in Honokahua, and the acquisition of the *ahupua'a* of Mahinahina, Kahana and Kahananui, H.P. Baldwin had ample land to begin a sugar plantation at Honolua (Dean 1950).

The commercial cultivation of sugar cane in Lahaina was first reported by George W. Wilfong in 1849, when he described the typical workings of mills located on Maui. Wilfong notes construction details of the mills themselves, and the concentrated nature of the juice derived from this process. Wilfong speculated that profits resulting from the sale of the thick sugar syrup to whalers was "presumably for rum making". Wilfong went on to report that "The cane trash was usually insufficient for fuel for the boiling down, indigo [*Indigofera suffruticosa*] being used as a supplemental supply in Lahaina" (Wilfong 1883).

The whaling industry in the Pacific Ocean reached its peak in 1859. Prices for whale oil collapsed five years later. Since the 1840's, the Hawaiian economy had been dependent primarily on supplying whale ships during their long layovers in the islands. With the dwindling number of ships arriving during the 1860's, the population of Lahaina Town and neighboring west Maui *ahupua'a* dependent on the prosperity of Lahaina migrated to other parts of Maui and to other islands.

As the Hawaiian population of West Maui declined during the 19th century, missionaries and entrepreneurs moved into the district, reshaping the landscape for western enterprises and pursuits. Reverend Dwight Baldwin (1798-1886) arrived in the Hawaiian Islands in 1831 and was stationed at Lahaina between 1835 and 1870. During the early 1850's, Baldwin had been granted 2,675 acres of land in northwest Maui, consisting of the *ahupua'a* of Mahinahina and Kahana. These lands would become the nucleus for ranching and agricultural enterprises begun his son, Henry Perrine Baldwin, during subsequent decades of the 19th century.

Henry Perrine Baldwin (1842-1911), in the latter years of the 19th century, began leasing and purchasing tracts of land in West Maui. He had intended to begin a sugar plantation based at Honolua Landing, but instead set up a cattle ranching operation. By the late 1890's, Baldwin established

Honolua Ranch, headquartered at Honolua Bay. The ranch, under its first manager Richard C. Searle, Sr., soon became a focus of activity on West Maui:

> "During Richard C. Searle, Sr.'s tenure as ranch manager, the interisland steamers called once a month at Honolua to deliver supplies and to pick up cattle hides, coffee, and other marketable items the ranch produced. The pier that the lighters tied up to was located close to the present boat ramp. Honokōhau, a nearby valley, supported a large taro-growing community that supplied taro to Honolua and points beyond...*Akule* were netted in the bay and in true Hawaiian tradition everyone who helped was given a *ka'au* of fish (a portion of forty)...In addition to the main ranch house, there were several other homes, a machine shop, a saddle shop, a nursery, a coffee warehouse, and a community store." (Clark 1980:68)

Figure 5. Honolua Landing (Metzer 1910).

Honolua Ranch operations included selling livestock (polled Angus cattle and some horses), wood, coffee, watermelons, onions, corn, alfalfa, potatoes and pineapple as well as running a store (Wilcox 1996:126). Much of a traditional Hawaiian lifestyle persisted focused on *akule* and *'ōpelu* fishing and cultivation of staples (Ashdown 1972). Citing plantation manager David T. Fleming, Handy (1940:106) notes that there was considerable taro raised in olden times in Honolua. Coffee growing was eliminated after it proved unprofitable.

A late-1880's expedition to Honolua was undertaken by a visiting Chinese reverend, who described conditions north of Lahaina:

> Sometimes the way was through the cane field, then would come a long gallop by the sea-beach or a canter across a cattle ranche (sic). On the way we made an ascent of Black Rock, a curious promontory standing well up from the sea surmounted by a number of stone tombs which are said to mark the burial place of the chiefs or the scene of a great battle. When we arrived at Kaanapali, K. and I rode on to Honolua while the rest of the party availed themselves of an opportunity to rest. The road on from Kaanapali was the most beautiful part of the journey, though not easy riding. You would ride for a few minutes over a hill crowded with cattle, then would come a steep winding *pali*, leading down to a picturesque little bay formed by the rough rocks, at the base of which long white arms of glittering sand stretched to receive in their embrace waters of the deepest, clearest blue. The only vegetation beside the sugar consisted of grass, prickly pear, lantana, and a pretty little yellow flower called *nehe* (*lipochaeta connata*) (Gowan 1892:158-159).

3.1.4 Early to Mid-1900s

The land purchases of Henry Perrine Baldwin in West Maui were part of a plan to establish a successful sugar plantation there. Pending such a development, the lands he acquired were consolidated under the name of the Honolua Ranch, managed for cattle and coffee, and made productive by the development of the Honokohau Ditch. With the death of H.P. Baldwin, the trustees of his estate decided to try pineapple production instead of sugar (Dean 1950). A cannery was built and equipped, and the first pack of 5,975 cases was shipped in 1914. Ten years later, the 15,550 acres of the Honolua Ranch and the Honokōhau water system had been transferred to Baldwin Packers, Ltd. Production continued to rise until the mid-1930's, when the Great Depression created a surplus of canned pineapple. Product diversification, including the introduction of canned pineapple juice, resulted in modest price increases in the years leading up to World War II. The postwar years were characterized by the ending of cattle operations, and the cultivation of teak, mangos and aloe. A merger with Maui Pineapple Company, another Alexander & Baldwin concern, was accomplished in 1962. The Maui Land & Pineapple Company holdings of the present day include the 'Alaeloa-Nāpili-Kapalua former ranch acreage, as well as a portion of the acreage of the former Maui Agricultural Company, in East Maui.

Honolua Ranch was very involved in water works projects of various descriptions to support the cane fields of the Pioneer Mill Company. Honolua Ranch began the 12.5 mile Honokahau Ditch in 1902 completing the work in 1904. The parallel Honolua Ditch (called the Honolua Ditch by Maui Land & Pineapple and the Honokohau Ditch by the Pioneer Mill Company) was begun in 1912 and, when completed in 1913, included 34,241 feet of tunnel (Wilcox 1996:127). The 1912/1913 Honolua Ditch/Honokohau Ditch runs *mauka* and east of the present project area. Honolua Ranch was in the water business with water revenues in 1914 of over $65,000.00 accounting for more than half of the ranch's income. The old 1902/1904 Honokohau Ditch was largely dismantled and filled in during renovations in the 1920's. In addition, numerous water development tunnels were dug in an effort to meet the demand of Pioneer Mill. A survey of the

water system of West Maui reported twenty-two high level tunnels, mostly in the larger valleys, none of which were very productive (Stearns 1942).

Following Baldwin's death in 1911, David T. Fleming took over management of Honolua Ranch in 1912. "Henry P. Baldwin [had been] interested in raising pineapples commercially and under Fleming's guidance the cattle ranch was converted to a pineapple plantation" (Wilcox 1996:65). Fleming, who already had experience growing pineapple at Ha'ikū, began with the planting of pineapple on a small portion of the ranch's land at Honolua. Production figures for 1919 showed that the total number of cases packed (83,223) had doubled from only a year earlier (41,702) (T. G. Thrum 1920) By the 1920s, pineapple had been planted across West Maui from Māhinahina Ahupua'a to Kahakuloa Ahupua'a. A cannery was built in Honokahua in 1914. In 1923, Honolua Ranch became Baldwin Packers, Ltd. The Honokahua Cannery ceased operation in 1920 when a new cannery was built in Lahaina. The Baldwin Packers Company installed a Maui-Type well at 'Alaeloa in 1934 (Stearns 1942). It was located at approximately 225 feet amsl, with a capacity of 30,000 gallons per day.

The shift to pineapple in the second decade of the 20th century also involved a move of the Honolua Ranch operations south to Honokahua and Nāpili. The expanding role of pineapple in the life of West Maui is reflected in the increasing population totals recorded in territorial censuses during the first half of the 20th century. The Lahaina District had a total population of 4,787 in 1910, 7,142 in 1920, rising to 8,291 in 1940. During the decades following World War II, however, population totals for Lahaina dropped, reaching 5,524 in 1970 (Schmitt 1977:13-14).

3.1.4.1 Regional Sugar Production

The growing of sugar cane along the west coast of Maui required the development of sources for mountain water. The Pioneer Mill Company was established as a partnership in 1862, between James Campbell, Henry Turton, and Benjamin Pittman. Using gravity flow water from mountain streams, the Pioneer Mill Company produced 500 tons of sugar in 1866. Production reached 1,000 tons annually by 1872, and the viability of the enterprise was assured when H. Hackfield was appointed sugar factor in 1877. By the turn of the 20th century, the Pioneer Mill Company was producing over 10,000 tons of sugar a year (Thrum 1901).

A competing sugar venture was organized by King Kamehameha V (Lot Kamehameha) in 1871. The West Maui Plantation Company was formed in anticipation that the high prices of sugar set during the American Civil War would continue. Once Louisiana's sugar beet industry was restored following the end of hostilities, prices fell. Although the terms of an 1876 Treaty of Reciprocity with the United States gave great stimulus to Hawaiian sugar producers, the West Maui Plantation Company could not overcome the lack of available water sources. The enterprise closed in 1878.

The successful installation of wells at Kā'anapali, Wahikuli, Māla and Waine'e in 1897 (Stearns 1942) effectively doubled the production of sugar of the Pioneer Mill Company (Gilmore 1936). The Pioneer Mill installed a simple galvanized iron flume in the Honokōwai Stream in 1898, but the mechanism by which arid coastal lands could receive mountain waters was to be perfected on Maui's western coastline with the building of the Honokahau Ditch in 1904. The Pioneer Mill Company was able to reach back into the mountain valleys and obtain

water in a system developed by the Honolua Ranch. The 1904 Honokahau Ditch project delivered about 20 million gallons per day to the Pioneer Mill fields. This main canal was augmented over the years with seven additional ditches.

The ditch irrigation system constructed by the Pioneer Mill Company in Lahaina allowed for a new system of field labor to be adopted. Irrigation contracts were given out at 20 acres per man. These men were contracted to "irrigate and hoe level ditches and field edges only". As the cane matured, the irrigation laborers also "pushed back" the edge growth to better control field segregation. The average speed of irrigation was judged at 6 acres per man-day, "although when the cane is fairly large and more water can be used, we irrigate as high as 10 acres in some of the better fields" (Alexander, et al. 1936).

Pre-WWII acreage under cultivation by the Pioneer Mill Company increased from 1,700 in 1900 to a high of 5,794 acres in 1940, with corresponding increases in production: 10,316 tons of sugar in 1900 and a high of 53,488 tons in 1933.

3.1.4.2 Akule Fishing

The various sugar and pineapple plantations, and to a lesser extent, the various fruit orchards of this area are well documented as being the driving industry during this time. *Akule* (Big-eyed scad, *Selar crumenophthalmus*) fishing also provided a substantial food resources to the camps from Honolua and as far south as Honokowai. *Akule* were known to visit the large bays of Hawaii. This fish was eaten several ways including raw, steamed in *ti*-leaf in the *imu*, broiled and dried (Titcomb 1977:62).

D. Kahā'ulelio (2006) describes Honolua Bay as being a place where the *akule* schools migrated. He said that they would come into the bay and would stay in the area for a week at a time. The fish could be identified by the red color they showed through the water. When these schools were reported to be in the bay, fisherman would head out on the water with canoe or boat and with curtain nets or *pākū* and *papa* or bags to surround the schools. The head fisherman or spotter would guide the boats from shore and signal to the crews when to drop the net. After the school was successfully surrounded the net was slowly drawn into the shore. D. Kahā'ulelio describes the technique and custom:

> The curtain nets are lowered and every effort is made to draw them shoreward. If the fish are surrounded in this time that the net is lowered, then the bag net is quickly set in place, for the fish are excited then. At this time, no one is allowed to speak not to make a noise on the canoe until the space in the net begins to decrease. This is the time for the head fisherman to be watchful" (Kahā'ulelio 2006:201-203).

Individuals who lived in northwest Maui during these days recall the *akule* harvest as being an involved and exciting community event. The fishermen working for Mr. D.T. Fleming at the Honolua Ranch would get called out of the field to harvest the *akule* schools. Mr. Fleming kept all the fishing gear - boats, nets and an ice machine - down at Honolua Bay making for the most efficient transition from fieldwork to fishing. For a while Mr. Fleming ran a commercial fishing operation hauling in four to five tons of *akule* in a single harvest (Ashdown, et al. 1987). Mr. Manuel Mathias said that they once hauled in a 14-ton harvest. According to Mr. Thomas

Suzuki, families had *akule* for days, fried one day then dried other days (Ashdown, et al. 1987:18-19). After a while, the catches began to decrease and the commercial operation was not productive. In a manager's report dated 1955, Mr. D. T. Fleming recommended ending the operation and selling the equipment (Ashdown, et al. 1987:19).

3.1.5 Late 1900's

In 1962, the Maui Land & Pineapple Company was formed when Baldwin Packers merged with Maui Pineapple Company. The resulting Maui Land & Pineapple Company, Inc., became the parent company of Kapalua Land Co, Ltd.- developers of the Kapalua Bay Hotel at the shore of Napili Ahupua'a. The hotel opened in 1978, beginning the transformation of the former ranch and pineapple lands of Honokahua into a modern resort complex. Construction at the Honokahua location of the planned Ritz-Carlton Resort Hotel was halted in 1988, when excavation work uncovered the remains of more than 1,100 Hawaiians with burials dating back to AD 700 (Donham 1989).

The hotel site was relocated approximately 1/4th of a mile *mauka* from the shoreline burials, allowing native Hawaiian community activist groups to rebury the remains into the dunes of Honokahua, and to rededicate the site as a culturally protected area, away from the development of the resort (Yalom 2008).

3.1.5.1 Sugar Production

By the 1950's, fully one-third of Pioneer Mill employees were living in private dwellings. Camp housing had been made available for fee-simple purchase in 1948, as was an active program to establish all employees on a voluntary medical plan operated by the plantation (Berg 1954).

In the years immediately following Hawaii's statehood in 1959, the Kā'anapali area north of Lahaina was master-planned as a resort destination. American Factors-owned cane lands located in Kā'anapali were developed into a Robert Trent Jones Sr. golf course, and the Royal Lahaina Resort Hotel. Additional American Factors (Amfac) property, on Kā'anapali Beach, was developed as a Sheraton Hotel, which opened in 1962. The 1960's also saw the Pioneer Mill Company achieve its best harvest: 63,000 tons, prior to additional cane lands being taken out of production to accommodate more resort and housing development. The last sugar harvest for the Pioneer Mill Company occurred in 1999, with the mill itself closing in 2003 (Ruel 2001).

3.2 Archaeological Research

Formal archaeological research began on Maui early in the twentieth century when Thomas Thrum began recording the *heiau* of Maui in the Hawaiian Annual from 1909 through 1918. At the conclusion Thrum had identified 121 *heiau* on Maui (Thomas G. Thrum 1909). The first attempt at a systematic island–wide survey was undertaken by Winslow Metcalf Walker from 1928 to 1929. This survey was commissioned by the Bishop Museum and focused on large pre-contact architecture and *heiau* around the island. The following section provides a brief overview of the research and findings of previous archaeological investigations in Honolua Ahupua'a followed by selected investigations in the general vicinity of this project area (Figure 6 and Table 3).

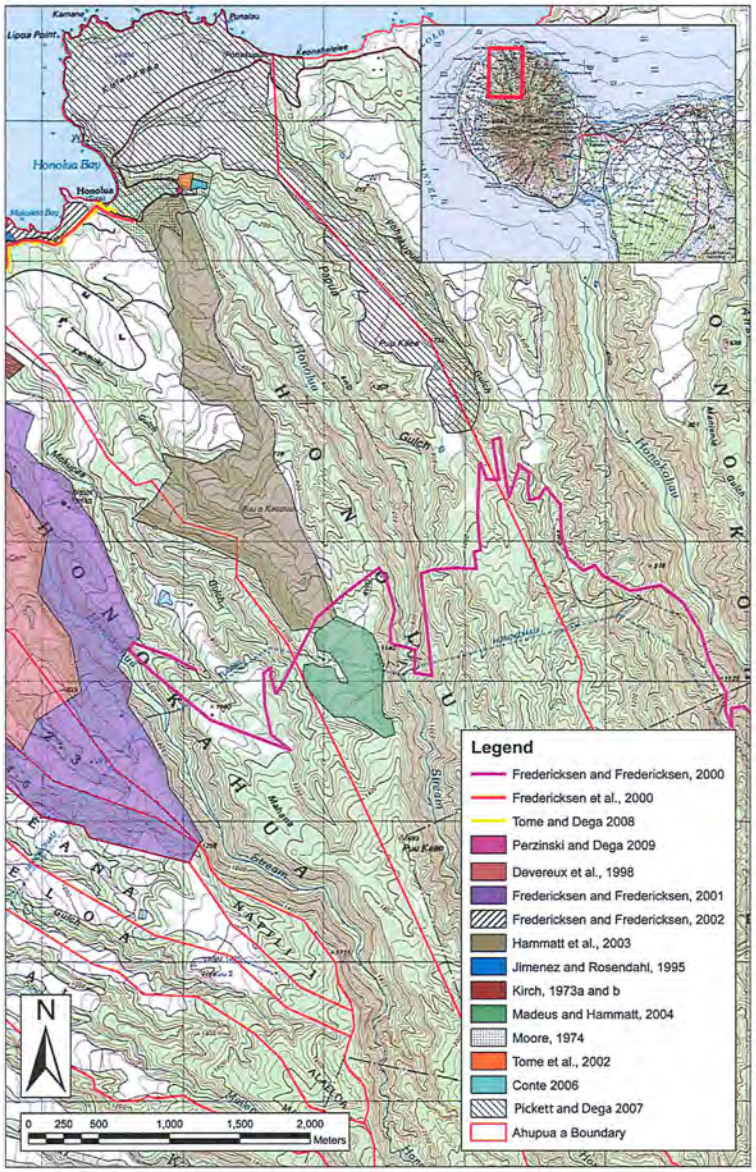


Figure 6. Portion of the USGS topographic map of Napili Quadrangle, showing areas of previous archaeological study

Table 3. Previous archaeological studies in Honolua Ahupua'a

REFERENCE	LOCATION	DESCRIPTION AND RESULTS
(Walker 1931)	Honolua Bay	The archaeological survey recorded three sites including two *heiau* - Site 17 Walker Site, identified as "Puhalakau (Ai Mala), a *heiau* for Ku'ula" and Honua'ula Heiau (Site 18) - and a *holua* slide.
(Moore 1974)	In Honolua Gulch	Thirteen historic properties were identified (SIHP: 50-50-01-0017, -1471, 1751 to 1761) comprising 11 pre-contact sites and 2 historic sites (including historic gravesites).
(Hawaii Heritage Center 1990)	Islands of Maui and Molokai	Reviewed 110 bridges on Maui and Molokai and evaluated 82 that were built prior to 1940. Concluded that eight of the 82 bridges may qualify for inclusion in the National Register of Historic Places based on seven general categories.
(Jimenez and Rosendahl 1995)	Near the coast of Honolua Bay	The archaeological inventory survey identified five sites including SIHP 50-50-01-4141 a fire pit, SIHP-4142 burial terraces, SIHP-4143 a permanent habitation platform, SIHP-4144 a possible habitation complex and SIHP-4145 a boundary wall
(Fredericksen, et al. 2000)	West side of Honolua Bay	The archaeological inventory survey identified a single site, SIHP 50-50-01-4829. The site consisted of two dry masonry rock retaining wall sections supporting Honoapi'ilani Highway near Mokuleia Bay.
(D. L. Fredericksen and E. M. Fredericksen 2000)	Honokohau, Honolua, and Honokahua Ahupua'a, Kā'anapali District, Maui Island, TMK: 4-2-01: por. 1, por. 9.	Archaeological inventory survey that identified two previously unrecorded historic properties (SIHP 50-50-01-4782 and SIHP:-4783). SIHP-4782 is a surface scatter of water worn coral and SIHP -4783 is a plantation era retaining wall.
(Fredericksen and Fredericksen 2002)	Adjacent to the shore at the middle of Honolua Bay	Archaeological inventory survey that identified six new sites, SIHP 50-50-01-5093 a ceremonial enclosure/platform and fish spotting station, SIHP-5094 a pre-contact habitation area, SIHP-5095 a remnant of the old government road, SIHP -5096 a remnant of an old slaughter house, SIHP-5097 two rock overhang shelters, and SIHP -5098 a coastal burial.

REFERENCE	LOCATION	DESCRIPTION AND RESULTS
(Tome, et al. 2002)	TMK: 4-1-01:05 in the Honolua Gulch just *mauka* of Honoapi'ilani Highway	Archaeological inventory survey that identified two previously recorded sites (Moore 1974) SIHP 50-50-01-1471, Honua'ula Heiau and SIHP-1758 historic house site with associated components. This inventory survey also documented four newly-identified architectural features interpreted as components of both sites.
(Dega 2002)	TMK: 4-1-01:05 in the Honolua Gulch just *mauka* of Honoapi'ilani Highway	Preservation Plan focuses on both interim and long-term preservation of Honua'ula Heiau.
(Hammatt, et al. 2003)	South of Honoapi'ilani Highway, and extends up Honolua Ridge, adjacent to the current project area	Archaeological Inventory Survey that identified four new sites (SIHP-50-50-01-5234, 5235, 5425 and 5426) and relocated a previously identified site (SIHP-1760). SIHP-5234 consisted of a water tunnel, SIHP-5235 a single faint petroglyph, SIHP-5425 a historic trail, and SIHP-5426 a permanent pre-contact habitation site respectively. SIHP -1760 is a human burial.
(Haun, et al. 2003)	Honolua Ahupua'a TMK [2] 4-2-4:31	Archaeological data recovery of SIHP 50-50-01-4141 and SIHP-4143. Noted that SIHP -4141 had been destroyed prior to the data recovery and determined that SIHP -4143 may have been constructed atop a late pre-Contact fire feature and subsequently utilized as a trash dump for a nearby historic residence.
(Madeus and Hammatt 2004)	Honolua Ahupua'a, TMK [2] 4-2-001:001	No historic properties were identified within the surveyed area. The small portions of the project APE that could not be surveyed (the steep gulch side walls) may or may not contain historic properties.
(Conte 2006)	Honolua Ahupua'a, TMK [2] 4-2-001:018	Archaeological inventory survey that re-identified 12 features of SIHP 50-50-01-1756 located within the project area.
(Pickett and Dega 2007)	Lipoa Point, Honolua Ahupua'a, Lāhainā (Formerly Kā'anapali) District, Maui Island, Hawai'i, TMK [2] 4-1-001:010; [2] 4-2-004:032; and a portion of [2] 4-1-001:009.	Twenty-three previously unrecorded sites were discovered (SIHP 50-50-01-5913 to -5935). Twelve of the sites were determined to be pre-Contact, five were pre-Contact/Historic, five were Historic, and one was indeterminate.

REFERENCE	LOCATION	DESCRIPTION AND RESULTS
(Tome and Dega 2008)	Areas of Nāpili, Kapalua, Honokahua, and Honolua, Ahupua'a of Nāpili 2&3, Honokahua, and Honolua, Lāhainā District, Island of Maui, Hawaii. [TMK: (2) 4-2-001 Through 005].	No new historic properties were identified
(Perzinski and Dega 2009)	Honolua Ahupua'a [TMK: (2) 4-2-001:05 (por.), :09 (por.) and :10 (por.)]	Archaeological Inventory Survey that re-identified features of two previously recorded sites from Moore (1974), SIHP 50-50-01-1471 Feature 12 and SIHP:-1754 Feature 6. In addition the Honolua Stream Bridge was added as an additional feature (Feature 11) to SIHP -1754.

3.2.1 Archaeological Studies within Honolua Ahupua'a

Winslow Metcalf Walker (1931) recorded three historic properties near the Honolua Stream Bridge project area. Puhalakau (Ai Maia) Heiau (Walker Site 17); Honua'ula Heiau (Walker Site 18); and a *holua* slide that was said to have crossed "a hilly part of what is now the West Maui Glof Links at Honolua" (Walker 1931:329). Puhalakau Heiau was described as "formerly on beach [but] has been washed away" (Walker 1931); however, Moore (1974) explained that remnants of Puhalakau Heiau might by represented by the scattered paving located in the *makai* portion of the Honolua Beach parking lot. Honua'ula Heiau is described by Walker as located in Honolua Gulch just east of the bend and consisting of old stone platforms and walls where a large portion of the pavement had been removed to build pens (Walker 1931:71). The Walker finding for Honua'ula Heiau would be later disputed when, in 1973 during the State sponsored island wide survey, Robert Connolly (1973) re-visted the location of Honua'ula Heiau as indicated by Walker and identified a larger structure in better condition than what was initially reported by Walker. Because of the discrepancy in size, architectural complexity, and overall condition, Connolly noted that the structure recorded by Walker was likely not Honua'ula Heiau, whereas the structure identified during the time of state-wide survey was more consistent with the morphological characteristics of a *heiau.* As a result of the discrepancy in site identification, a new state historic property number (50-50-01-1471) was assigned to Honua'ula Heiau to differentiate between the structure recorded by Walker and the structure believed by Connolly (1973) to be Honua'ula Heiau.

Kenneth Moore (1974) of the B. P. Bishop Museum conducted an archaeological survey of approximately 90 acres in Honolua Valley with a focus on Honolua Bay and the *makai* portion of the mouth of Honolua Stream. Moore identified thirteen historic properties, eleven previously unrecorded (SIHP: 50-50-01-1751 to 1761) and two previously recorded (SIHP 50-50-01-17 and 1471). SIHP: 50-50-01-1751 is a series of 12 basalt boulders utilized as grinding stones. SIHP: 50-50-01-1752 is a historic site consisting of a concrete house foundation and three historic graves. SIHP: 50-50-01-1753 is a possible midden, associated with a potential temporary

fishermen's camp and SIHP: 50-50-01-1754 represents the remnants of the Honolua Ranch Complex consisting of ten features two of which may be pre-Contact, a stacked wall and grinding stone. SIHP: 50-50-01-1755 is a historic house platform/burial complex consisting of ten features. SIHP: 50-50-01-1756 is an agricultural complex consisting of 14 features and SIHP: 50-50-01-1757 is a walled enclosure. SIHP: 50-50-01-1758 is a historic house site with terraces and burial mounds potentially associated with Honua'ula Heiau and SIHP: 50-50-01-1759 is an isolated wall segment. SIHP: 50-50-01-1760 consists of human remains possibly washed down from LCA 3808;1 and SIHP: 50-50-01-1761 is a scattered shell midden. Of the previously recorded historic properties SIHP: 50-50-01-17 is Puhalakau Heiau and SIHP: 50-50-01-1471 is Honua'ula Heiau. At the time of this survey, Puhalakau Heiau was said to have been destroyed with only possible scattered paving remaining. The Honolua Stream Bridge, while in the project area, was not assessed during this investigation.

Jimenez and Rosendahl's (1995) inventory survey of a 2.47 acre coastal parcel to the west identified five previously unrecorded sites. These include SIHP: 50-50-01-4141, a fire pit; SIHP: 50-50-01-4142, burial terraces; SIHP: 50-50-01-4143, a permanent habitation platform; SIHP: 50-50-01-4144, a possible habitation complex and SIHP: 50-50-01-4145, a boundary wall. Subsequently Haun & Associates conducted an archaeological data recovery on SIHP: 50-50-01-4141 and SIHP: 50-50-01-4143 (Haun, et al. 2003). It was noted that SIHP: 50-50-01-4141 had been destroyed sometime prior to the investigation. SIHP: 50-50-01-4143 may have been built atop a late pre-Contact fire feature "evidence of a standing structure over the platform is conjectural" (Haun, et al. 2003:i). SIHP: 50-50-01-4143 was potentially used as a trash disposal site by the nearby historic residence.

At the request of the County of Maui Department of Water Supply Xamanek Researches conducted an archaeological inventory survey for the Proposed Honokohau Water System Improvement Project (E. M. Fredericksen and D. L. Fredericksen 2000). The corridor located in portions of Honokohau, Honolua, and Honokahua Ahupua'a contained two previously unrecorded historic properties. SIHP: 50-50-01-4782 is a surface scatter of water worn coral and SIHP 50-50-01-4783 is a plantation-era retaining wall.

Fredericksen and others (2000) completed an inventory survey of a 1.7 km Honoapi'ilani Highway Corridor from Alaelae Point to Honolua Bay and identified one site. SIHP: 50-50-01-4829 consisted of two dry masonry rock retaining wall sections supporting Honoapi'ilani Highway near Mokuleia Bay.

Xamanek Researches (Fredericksen and Fredericksen 2002) completed an inventory survey of a 23 acre coastal parcel that included the previous study area of the Jimenez and Rosendahl (1995). Six previously unidentified sites were located (SIHP: 50-50-01-5093 to SIHP: 50-50-01-5098) and additional information was gathered on the two previously identified sites SIHP: 50-50-01-5006 and SIHP: 50-50-01-5007). The newly identified sites included: SIHP -5093, a ceremonial enclosure/ platform and fish spotting station; -5094, a pre-contact habitation area; -5095, a remnant of the historic government road; -5096, a remnant of a historic slaughter house; -5097, two rock overhang shelters; and -5098, a coastal burial.

Tome and others (2002) conducted an archaeological inventory survey of a 2.62 acre parcel in Honolua Valley that focused on Honolua Bay just *mauka* of Honoapi'ilani Highway. This survey

relocated two previously recorded sites, SIHP: 50-50-01-1471 (Honua'ula Heiau), and SIHP: 50-50-01-1758 (historic house site). This inventory survey also documented four newly identified architectural features interpreted as contributing components of both historic properties.

Cultural Surveys Hawai'i (Hammatt, et al. 2003) conducted an archaeological survey on a 400 acre parcel in Honolua Ahupua'a that identified four new historic properties, SIHP -50-50-01-5234 and -5235 and SIHP 50-50-01-5425 and -5426. SIHP -5234 consisted of a water tunnel; -5235 is a single faint petroglyphs; -5425 is a historic trail; and -5426 is a permanent pre-contact habitation site. Previously identified SIHP 50-50-01-1760, a single human cranium, was noted during the survey but determined to be outside of the project area.

On behalf of Mr. David Stoops, CRM Solutions Hawai'i, Inc conducted an archaeological inventory survey of the Stoops Property TMK (2) 4-1-001:018 (Conte 2006). The investigation re-documented 12 features of the previously recorded historic property SIHP: 50-50-01-1756 (Moore 1974).

In 2005 SCS conducted an archaeological inventory survey of 583 acres at Lipoa Point for the Maui Land and Pineapple Co. (Pickett and Dega 2007). Twenty-three previously unrecorded sites were discovered (SIHP: 50-50-01-5913 to -5935). Twelve of the sites were determined to be pre-contact, five were pre-contact/historic, five were historic, and one was indeterminate. SIHP: 50-50-01-5913, -5915, -5920, -5922, and -5934 are pre-Contact agricultural terraces. SIHP: 50-50-01-5914 is a pre-contact ceremonial terrace, SIHP: 50-50-01-5935 is a pre-contact ceremonial coral concentration and SIHP: 50-50-01-5917 is an enclosure of an indeterminate age. SIHP: 50-50-01-5918, -5921, -5931,-5932 are pre-contact habitation sites and SIHP:-50-50-01-5930 is an indeterminate pre-contact enclosure. SIHP: 50-50-01-5923, -5924, -5933 are pre-contact/historic habitation sites and SIHP: 50-50-01-5927 and -5928 are indeterminate pre-contact/historic terraces. Of the five historic-era sites, SIHP: 50-50-01-5916 is a trash dump, -5919 is an L shaped ranching structure, -5925 is a memorial marker, -5926 is a historic building (Fleming Clubhouse), and -5929 is a terrace associated with a historic road.

3.2.2 Investigations Specific to the Honolua Stream Bridge

The Honolua Stream Bridge was first assessed in 1990 as part of the Historic Bridge Inventory and Evaluation prepared for the State of Hawaii Department of Transportation Highway Division (Hawaii Heritage Center 1990) that reviewed 110 bridges on Maui and Molokai and evaluated 82 that were built prior to 1940 for significance. The study concluded that eight of the 82 bridges may qualify for inclusion in the National Register of Historic Places (NRHP) based on seven general categories. While Honolua Bridge scored relatively low in the evaluation, 14 out of a possible 40 points, the report does not explicitly say whether or not the Honolua Stream Bridge was eligible for the NHRP.

In 2009 Scientific Consultant Services, Inc. conducted an inventory survey of the Honolua Stream Bridge (Perzinski and Dega 2009) area at the request of Austin Tsutsumi & Associates. This investigation re-identified features of two previously recorded sites from Moore (1974), SIHP: 50-50-01-1471 Feature 12 and -1754 Feature 6. The Honolua Stream Bridge was added as an additional feature of SIHP -1754 (Feature 11).

3.3 Settlement Pattern and Traditional Hawaiian Land Use

The postulated settlement pattern for Honolua Ahupua'a is derived from the findings of previous archaeological studies, from ethnographic records and a recent oral history study in the vicinity (Fredericksen 2001). The following three major topographical zones likely drove the land use patterns:

(1) The coastal and near shore lands: The archaeological features were identified in the coastal and near shore areas consisted of permanent habitation, temporary settlements, rock overhang shelters, *heiau*, *ko'a*, a fish spotting station, midden deposits, burials or human remains, and remnants of post-contact constructions. (Jimenez and Rosendahl 1995, Fredericksen and Fredericksen 2002). Both pre-contact and historic features were identified in these areas. We can infer that the coastal lands were settled since the pre-contact and extensively used during the historic period.

(2) The inland Honolua valley land: was the focus of traditional Hawaiian habitation and agriculture as shown in *mahele* records. Handy and Handy (1991b:494) noted that Honolua, like Honokawai, Kahana and Honokahua, "had extensive *lo'i* lands in the valley bottoms, where terraces rose tier on tier in symmetrical stone-faced *lo'i*." The alluvial terraces in all the valley bottoms have been significantly altered during the plantation era. Moore (1974) documents a number of agricultural and residential complexes on the Honolua valley floor. During the investigation of a 475-acre parcel to the south (Fredericksen and Fredericksen 2001) identified a vast majority of sites within the gulches (Napili and Honokahua)

(3) The forested table and ridge-top lands: These lands in Honolua were subjected to cattle grazing, and clearing and plowing for pineapple cultivation. Nevertheless, we can surmise that these lands were used for gathering forest products, and for the planting of various utilitarian Hawaiian plants. Most of what few sites might be found in such table and ridge-top lands would be expected to be associated primarily with plantation and ranch enterprises. Although, there may be sites associated with tributary gulches such as overhang shelters, and traditional agricultural features (Fredericksen and Fredericksen 2001).

Section 4 Community Consultations

Throughout the course of this study, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of, and/or concerns about traditional cultural practices related to both the overall region of influence (ROI) and area of direct effect as defined in Section 1 . This effort was made by letter, e-mail and telephone. Community contacts were mailed a letter of introduction outlining the type of information being sought, as well as maps and photographs of the project area. The individuals consulted, along with affiliated organizations and agencies are presented in Table 4 below.

Table 4. Alphabetical Listing of Individuals Consulted for this CIA

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
Mr. Foster Ampong	*Kama'āina*	Y	Y	See Section 6.1.1
Mr. Perry Artates	Maui County Cultural Resources Commission	A	--	CSH mailed letter of inquiry.
Ms. Roselle Bailey	*Kama'āina*	Y	Y	See Section 6.1.1
Mr. Timothy Bailey	Aha Kiole Advisory Council	Y	--	CSH mailed letter of inquiry. Mr. Bailey e-mailed Aha Kiole list of *kūpuna*.
Mr. Kai and Mrs. Lauren Bartlett	*Kama'āina*, Canoe Paddlers, Surfers	Y	Y	Mr. and Mrs. Bartlett are avid canoe paddlers and surfers. They also fish. They shared some knowledge regarding the Pailolo and Kolohe Channels between Maui and Molokai and Molokai and Lanai stating that indeed the swells can be big. As in traditional times, Mr. and Mrs. Bartlett crossed these channels with regularity. Often times it is for the same purpose, to travel to Moloka'i and Lana'i. Other times they cross during canoe races The Bartlett's participate in an annual canoe, paddleboard,

[1] Key:

Y=Yes
N=No
A=Attempted (at least 3 attempts were made to contact individual, with no response)
S=Some knowledge of project area
DC=Declined to comment
DP=Declined to participate
U=Unable to contact, i.e., no phone or forwarding address, phone number unknown

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
				and stand up paddle race across the Pailolo Channel called the Pailolo Challenge. Mrs. Bartlett explained that during this race, as you enter the Kolohe Channel, the conditions are somewhat unpredictable, sometimes you're paddling down seas, with the ocean swell, but other times, the swells are bucking against you. She thinks that the channel is named "Kolohe" (mischievous), because of this unpredictability. She describes this race as technical, challenging and exciting. The Bartlett's also fish in the waters of these two channels.
Mrs. Shirley Blackburn	*Kama'āina*	Y	N	Mrs. Blackburn is the daughter of Mrs. Annett Kaaihua, the former owner of the property on which the Honua'ula Heiau is located. She had inherited the land from her father who was a Manuwa, but Mrs. Blackburn and Mrs. Kaaihua do not know anything about the property as they did not grow up on Maui.
Mr. Victor "Jimmy" Billianor	*Kama'āina* from Honolua	Y	Y	See Section 6.1.3
Ms. Phyllis "Coochie" Cayan	DLNR-State Historic Preservation Division, History and Culture Branch Chief	Y	S	Ms. Cayan referred CSH to: Na Kupuna o Maui, Lahaina Hawaiian Civic Club, Keahi Family of Honolua, Chun Family of Honolua, Ka'aihue Family of Honolua, Victor Billanor of Honolua Bay, Shim Family of Honolua, Koa/Brown/Kamaka/Pa'ahana Family of Honolua, Naganuma Family of Honolua, and the Kihune Family of Honolua.
Mr. Wayne Carroll	*Kupuna* & Pastor – Kahana Door of Faith	A		
Mr. John Carty	Resident of Honolua Valley	Y	N	

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
Mr. Gilbert Chee	*Kama'āina* from Honolua	Y	S	Mr. Chee's late wife was Annie Haili-Keahi. He now owns land in Honolua Bay and remembers some things that his late wife told him about the property and surrounding area (See Section 6.1.10).
Ms. Elle Cochran	Resident of Honolua Valley	Y	Y	See Section 5.1.1
Mr. Gordon Cockett	*Kama'āina*	Y	S	Mr. Cockett notified CSH that the individuals of the Royal Order of Kamehameha voted to keep the bridge one lane. However, the Royal Order of Kamehameha does not want to comment as an organization, but as individual community members.
Ms. Hana (Rheimann) Dapitan	*Kīpuna*	Y	Y	See Section 6.1.4.
Mr. Keoki Freeland	*Kama'āina*	Y	N	No comments.
Mr. Matthew Ericson	Lahaina Hawaiian Civic Club	A		CSH sent letter of inquiry.
Ms. Kalani Ho	Maui Land & Pineapple	A		CSH mailed a letter of inquiry.
Mrs. Hokulani Holt	Cultural Practitioner – Maui Arts and Cultural Center	A		CSH mailed a letter of inquiry. Referred CSH to Mr. Sam Ka'ai and Mr. and Mrs. Aimoku Pali
Ms. Josephine Jordan	Aha Moku Contact list	A		CSH sent a letter of inquiry.
Mr. Sam Ka'ai	*Kama'āina*	Y		Mr. Ka'ai had no comment for CIA study.
Mrs. Orpha Kaina	*Kupuna*	Y		Mrs. Kaina referred CSH to Mrs. Gladys Kaniho and Mrs. Gertrude Opunui (Haili), the Shim family, Glen Kamaka (also see Section 6.1.6)
Ms. Silla Kaina	*Kama'āina*	Y	S	Referred CSH to Mrs. Gertrude Opunui and Mrs. Gwen Amaral. Ms. Kaina explained that the Honua'ula Heiau is located nearby and that there is *mana* in this area that one needs to be aware of. Ms. Kaina also referred to these lands as being *kapu*, or somewhat prohibited.

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
				She also mentioned Ms. Megan Webster of Kapalua Land Co. as being in charge of a grant to be utilized for the planting of native plant species on a 30 acre parcel in Honolua Ahupua'a.
Ms. Desiree Kaniho		A	--	CSH sent letter of inquiry.
Kahu David Kapaku	*Kama'āina*, Resident of Honokohau Valley	Y	Y	See Section 6.1.7
Ms. Mona Kapaku	Department of Hawaiian Homelands	A	--	CSH sent a letter of inquiry.
Mr. Sam Kadotani	*Kūpuna, Kama'āina*	Y	Y	Mr. Kadotani believes that safety is the most important thing. He says that if the bridge needs work, then it should be taken seriously and not just given a "band-aid" fix. He also noted that he collected *'o'opu* in Honolua Stream when he was a leader in the Boy Scouts.
Mr. Kaulana Kapu	*Kama'āina*	A		CSH sent letter of inquiry.
Mr. & Mrs. Ke'eaumoku Kapu	*Kama'āina*	A		CSH sent letter of inquiry.
Ms. Rachel Kapu	*Kama'āina*	A		CSH sent letter of inquiry.
Mr. Kaipo Kekona	*Kama'āina*	A		CSH was not able to contact him.
Mr. Tommy Kekona	*Kūpuna*	A		CSH sent letter of inquiry.
Mr. Earl Kukahiko	*Kūpuna*	Y	Y	Mr. Kukahiko for a time grew up in the area and remembers yearly fishing in Honolua Bay. He recalls there being housing near the beach, but says the tidal wave took it all out in 1946. He also spoke of the Manuwa property which included housing and burials on the *makai* side of the road near the bridge.
Mr. Charlie Lindsey	*Kūpuna*	Y		Referred CSH to the Palikiko Family.

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
Mr. Keola Lindsey	Lead Compliance Specialist – Office of Hawaiian Affairs	Y		No comment.
Mrs. Puanani Lindsey	Maui Cultural Lands	Y	S	Ms. Lindsey stated that people in Lahaina feel that any bridge widening will lead to more development. She recommended that the bridge be left alone. She also suggested that we speak with Ms. Roselle Bailey, Ms. Rose Marie Dewey, and Mr. Earl Kukahiko.
Jensen M.	*Kama'āina* from Aha Moku Council list	A		CSH sent letter of inquiry.
Mr. Charlie Makekau		Y	S	Mr. Makekau explained that he lived in Honokohau and that he frequently fished in Honolua Bay as a child.
Mr. Darrell Manuwa	Possible Manuwa Ohana	A		
Maui/Lanai Islands Burial Council		A		Meeting was canceled.
Kahu Charlie Maxwell	Cultural Practitioner	A		CSH sent letter of inquiry.
Ms. Nicole McMullen	Bailey House Museum/Maui Historical Society	Y	S	CSH sent letter of inquiry. Ms. McMullen informed us that the Bailey House Museum may have aerial and historic photographs of the area that we could use in our study.
Mr. Kaponoai Molitau	*Kama'āina*	Y	S	Mr. Molitau says he is in favor of bringing the bridge up to current safety standards. He also recommended that we contact Pohaku Kaho'ohanohano.
Mr. Dickie Moon	Lipoa Point Advisory Council	Y	Y	Mr. Moon is of the opinion that the minimum amount of changes possible should be made when bringing the bridge up to current safety standards. If big changes are necessary, he suggests possibly putting in two 1-lane bridges. Mr. Moon also referred us to Mr. Les Potts.
Ms. Theo Morrison	Lahaina Restoration Foundation	Y	S	The LRF committee sent a formal letter recommending that

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
				measures be taken to mitigate any negative impacts to the cultural practices or environment of the area due to changes made to the bridge.
Mr. Isao Nakagawa	*Kama'āina* from Honokahua	Y	Y	Formal Interview, see Section 6.2.1
Mr. Clifford Nae'ole	Ritz-Carlton Resorts Cultural Advisor	Y		CSH sent letter of inquiry.
Ms. Kai Nishiki	*Kama'āina*	A		CSH sent letter of inquiry.
Aunty Patty Nishiyama	*Kūpuna*	Y	S	Ms. Nishiyama said that she feels the bridge should be improved for safety reasons.
Mr. Wes Nohara	*Kama'āina*	A		
Mr. Daniel Palakiko	*Kama'āina*	A		CSH sent a letter of inquiry.
Mr. & Mrs. Aimoku & Lehua Pali		Y	Y	Mr. & Mrs. Pali feel that the bridge is dangerous and should be made safe. They recommended making sure the walls on the side of the bridge are low so that it is easier to see cars approaching. They also felt that it would be a good idea to install a light to notify drivers of other vehicles and a sign that tells people to not stop on the bridge. They are concerned that parking in the area is leading to hazardous conditions. Mr. and Mrs. Pali are not aware of any cultural practices in the area that may be affected, but they suggested that we speak with the Shim Family and the Kalua Family.
Mr. Les Potts	Lipoa Point Advisory Council	Y	Y	Mr. Potts wanted to make sure that we were aware of the Honua'ula Heiau just *mauka* of the road. He also recommended that we speak with Ms. Silla Kaina and Ms. Donna Willard.
Mr. Hinano Rodrigues	DLNR – State Historic Preservation Division, Maui – Cultural	Y	--	Referred us to Ms. Coochie Cayan of SHPD on Oahu for

Name	Affiliation	Contacted[1]	Personal Knowledge (Y/N/S)	Comments
	Historian			comment.
Mr. Alex Ross	*Kama'āina*	Y		See Section 6.1.9
Ms. Lori Sablas	Maui Planning Commission	Y	S	Ms. Sablas remembers participating in *hukilau* fishing in Honolua Bay as a child. She says the bay is a well-known fishing ground. She knows of no significant cultural impacts that would be caused by making changes to the bridge. She is okay with making it a 2-lane bridge if that is what is necessary for safety. However, she feels it should fit in with the surrounding environment. As it is now, Ms. Sablas feels that the view plane is not good and can cause problems with traffic. She suggested that we talk to the residents in the area.
Mr. LeVan Sequiera	*Kama'āina* from Lahaina	Y	S	Mr. Sequiera says he crossed the bridge all his life and does not believe that changes to the bridge would affect any traditional cultural practices. He suggested that we speak with Mrs. Elle Cochran. Mr. Sequiera would like the necessary bridge repairs to be made.
Ms. Ewalani Shim	*Kama'āina* from Honolua	Y	Y	See Section 6.1.10.
Mr. Gerald Shim	*Kama'āina* from Honolua	Y	Y	See Section 6.1.10
Mr. Lawrence and Winona Shim	*Kama'āina* Shim Ohana	Y	N	
Mrs. Thelma Shimoaka and Mr. Keola Lindsey	Office of Hawaiian Affairs, Community Outreach Specialist Maui Island	Y	S	CSH sent a letter of inquiry. OHA has no comments at this time.
Mr. Stanley Solamillo	Maui County Cultural Resources Commission	Y	S	CSH sent a letter of inquiry. See Section 5.1.1

Section 5 Hawaiian and Other Government Organizations

As a part of the consultation process, Cultural Surveys Hawaii, Inc. consults with Native Hawaiian Organizations and other government bodies in an effort to gather information on traditional cultural practices that were once carried out or are currently carried out in the study area. In October 2010 CSH attended the Maui County Cultural Resources Commission meeting. The following section presents the consultation results from that meeting.

5.1.1 Maui County Cultural Resource Commission (MCRC)

CSH staff, Ms. Colleen Medeiros and Ms. Anna Cordova attended the Maui County Cultural Resources Commission meeting October 7, 2010. After a brief introduction of the proposed project the commissioners and the public shared their thoughts. Mrs. Elle Cochran, a Honolua resident of Hawaiian ancestry, testified on behalf of the community of Honolua and stated that the most significant cultural site near the Honolua Stream Bridge, the Honua'ula Heiau, has already been severely impacted by the original road construction. She explained that when Highway 30 was constructed it cut right through the *heiau*. While Mrs. Cochran supports upgrades to the bridge for safety purposes, she does not support widening the bridge. She would like the bridge to remain a single-lane bridge.

Mr. Ramon Madden provided testimony stating that his understanding of the concerns of the west Maui community were that bridge widening would open northwest Maui to development and the west Maui community is fearful of development and large construction projects. He also believes that a two-lane highway and bridge would increase incidences of speeding through the area.

Commission Chair Erik Frederickson, understands that the bridge had been assessed in the 1990 "Historic Bridge Inventory and Evaluation". As a result of this assessment, the bridge was said to have little or no national, state or local significance. Mr. Fredericksen believed that an evaluation performed in 1990, 20 years ago, may not apply today and explained that if the bridge were assessed today the results would likely be different. Mr. Fredericksen believes that the bridge may be unique today.

Commissioner Raymond Hutoff believes that the Honolua Stream Bridge is a historically unique bridge because it was built during the plantation era. He believes there may be no other example of this bridge style. He believes that there are only two other bridges in Kahakuloa. Mr. Hutoff made mention of the millennium highway project where projects that did not meet current federal and state safety standards were allowed to utilize federal monies in an effort to preserve the historical value/design of a bridge. They are able to essentially circumvent their own rules, although he does not recall whether or not the Honolua Stream Bridge might fall under this category. Like Mrs. Cochran, Mr. Hutoff supports improvements for the safety of the bridge yet advocates for keeping it a one-lane bridge and maintaining the historical nature of the bridge. This would maintain the rural nature of the area and keep it much like he remembers it from childhood.

Ms. Rhiannon Chandler stated that this bridge is a reminder of the plantation era and suggests consulting the families who lived in the area and also researching plantation history. Mrs.

Makalapua Kanuha suggested contacting the Ka'aihue family, Orpha Kaina and Lanakila, Donna Blevans, known to be the caretaker of the *heiau*.

The MCRC made an official comment for the project stating that they would like to see the bridge rehabilitated and not replaced and to maintain the historical integrity of the bridge.

Section 6 Summaries of Kama'āina Interviews

6.1 Informal Interviews and Written Responses

Informal Interviews were conducted between June and November 2010. They were conducted over the phone and in person and verbal permission was obtained for utilization in this CIA document. Written responses were accepted via email and/or post mail.

6.1.1 Mr. Foster Ampong

Mr. Foster Ampong explained in a formal letter response (see Appendix B) that he is intimately familiar with the study area and has spent time there surfing, gathering, and conducting traditional spiritual practices. He has visited the area for the above mentioned activities since the 1960's and continues these practices today.

Mr. Ampong also considers the Honolua Stream Bridge an important landmark today explaining that it marks the area that the community has utilized for fishing and surfing, the latter being considered a rite of passage:

> For decades Honolua Stream Bridge has been a unique reference marker and landmark fixture for *po'e kanaka*, their families, *'ōiwi*, *kua'āina*, *kuahiwi*, *he'e nalu*, *lawai'a*, *po'e malihini*, *malihini* surfers, *malihini* fisherman/fisherwoman traversing the coastline from Lahaina to La'au, Honokohau, Nakalele, Kahakuloa and Waihe'e. This landmark has also been a very important symbol for young surfers right-of-passage to adulthood *symbolizing* ones courage and skill required to surf 20'-30' world class waves that come in the winter months.

Mr. Ampong believes that the Honolua Stream Bridge represents a significant landmark and, for him, a *pu'uhonua*, or place of refuge where he would go to seek solitude and safety. In addition, he explains, it was built over Honua'ula Heiau and that great care should be taken as, to him, any disturbance of surrounding archaeological features would be an act of desecration.

6.1.2 Mrs. Roselle Bailey

Mrs. Roselle Bailey is quite familiar with the Honolua Ahupua'a. She recalls people fishing in the bay. She also noted that she used to visit her cousin who had *lo'i* in Honolua Valley up into the 1990s. She also collected *'o'opu* (Goby, *Gobiidae*) and *'ōpae (Palaenom debilis)* in the streams as a child. Mrs. Bailey said that since the water in Honolua Stream has been diverted, the stream is not able to support the resources she remembers collecting. She said that diverting the stream is not healthy for the *ahupua'a*. Mrs. Bailey says she has also collected the *hō'i'o*

(Diplazium sandwichianum) variety of fern shoots from *mauka* regions of this *ahupua'a*. Mrs. Bailey also considers the Honolua area to have one of the last traditional Hawaiian village systems.

Mrs. Bailey stated that Honua'ula Heiau is located here and that the highway has already destroyed a portion of it. She does not want to see any more of this heiau destroyed and further states that the Hawaiian archaeology located here should be protected. Mrs. Bailey feels that western cultural influences have no respect for the *mo'olelo* of Hawaiian. Mrs. Bailey is concerned that any widening of the bridge will encourage further development of northwest Maui. This in turn, she explains, would affect water resources and negatively impact the previously mentioned traditional cultural structures and practices. Mrs. Bailey would like to see the bridge improved with as little change to its structure as possible. Thus, Mrs. Bailey views bridge widening as a threat to traditional cultural practices.

6.1.3 Mr. Narciso (Jimmy) Billianor

Mr. Narcisso Billianor has been occupying the property fronting Honolua Bay for two years. He explained that his grandmother had lived here and owned the land on which he has been living. Her name was Meleana Keahi and her husband was John Kaaiakamanu, their daughter Helen Billianor, is Jimmy's mother. Mrs. Billianor mother lived until she was 102 years old and in 2007 after her passing, her ashes were scattered in Honolua Bay.

Mr. Billianor said that he visited the area often as a child and recalls his mother reminding him not to play on the *heiau* which he referred to as "Honolua Heiau". He explained that this *heiau* was located at the foot of the northern valley wall, *makai* of the highway. He said there was also an old Hawaiian church located closer to the highway, of which the steps remain today. Mr. Billianor said that there was a fish processing plant there near the bay that the *akule* fisherman utilized when bringing in the *akule* harvest. He identified three grave sites where he said his grandmother, grandfather and aunt are buried. They are all marked by white crosses and covered by stone paving. He pointed out the remnants of his aunt's house. He said that many of the structures were destroyed by the 1946 tidal wave.

Mr. Billianor said there are over 60 burial sites in the area on the north side of the foot path used to access the bay. He provided land title paperwork which showed his ancestor Maka'ole Keahi as being the claimant of LCA 4188. Mr. Billianor also possessed information for LCA 3803:1 and 4256:3. He described being in a quiet title dispute with Maui Land and Pineapple Company. There is a push pile of boulders and large cobbles just behind his picnic table. He explained that Maui Land and Pine tried to clear the area once before.

Today, Mr. Billanor farms sweet potato, Hawaiian spinach and dry land taro on this property. He said that he used to fish in Honolua Bay until 1992 when they made it a preserve. Mr. Billianor wants to eventually clear gravesites and clean up bay.

6.1.4 Mr. Gilbert Chee

Mr. Gilbert Chee was married to the late Annie Haile Keahi. Mrs. Chee's family had lived in the area for generations. Mr. Chee inherited a parcel of ocean front property at Honolua Bay from his wife. His property is located at the center of the bay, fronting the boat ramp. He

explained that he has encountered property related issues with Maui Land and Pineapple Company over this particular parcel of land.

Mr. Chee days that most of what he knows about the property is what he recalls his wife telling him many years ago. He remember her saying there was a wash house and canoe *hale* near the beach associated with the other houses located at Honolua Bay. He also said that his wife was back in Honolua Valley when the tidal wave of 1946 occurred. She had escaped injury by heading upland when the ocean receded. Mr. Chee says his wife fished for *opelu* (mackerel scad, *Decapterus macarellus*) in the bay and that they would keep these fish in nets for a few days before taking them to the market.

6.1.5 Ms. Hannah (Reimann) Dapitan

Ms. Hannah Dapitan was interviewed at her home on July 21, 2010. She spent part of her childhood living at Honolua Camp and part in Napili, where the Napili Shores Hotel is today. She recalls Honolua Bay as a place where *akule* fishing took place. They said that when the *akule* schools were in the bay, the whistle would blow and all fishermen would stop their work in the fields and head down to Honolua Bay to harvest *akule*. The children also were let out of school and Ms. Dapitan recalls this being a very exciting time for the children.

Ms. Dapitan's mother, Mele Reimann along with her aunt, Mina (Reimann) Medeiros together with several other women were the divers during the *akule* harvest. All the Reimann sisters were expert divers. These women were responsible for making sure the net was free from being tangled or caught on anything. Mina Medeiros was known as the best female diver on Maui. Ms. Dapitan said the sisters would dive in their bloomers, long sleeves and used goggles made of wood and glass (Ms. Dapitan still owns her mother's goggles). These ladies could hold their breath several minutes underwater. She said Mina's husband, Tommy Medeiros, was a stout Portuguese man who was the spotter for the fishing gang. His role during the harvest was to stand out on the point at Honolua Bay and "spot" the fish schools. The spotter would then direct the fisherman on the water to the fish and tell them when to drop the nets. Tommy Medeiros had a limp and performed this role until he became blind in one eye. Ironically, Tommy Medeiros could not swim and if he fell overboard Mina would have to rescue him which, reportedly, happened.

Ms. Dapitan said that everybody who helped with the *akule* harvest was given fish, even the children got their own fish. The whole community participated Both Mrs. Dapitan and her friend remember when Annette owned all the property along Honolua Bay and also recall the tidal wave that destroyed her house there.

6.1.6 Mrs. Orpha Kaina

Mrs. Orpha Kaina is a *kupuna* who was mentioned by several individuals consulted for this CIA. She is a member of the Aha Kiole Counsel. In the 1970's and '80's Mrs. Kaina used to bring her young children to Honolua Bay for fishing and camping. They fished for *nehu* (Hawaiian anchovies, *Encrasicholina purpurea*) using a regulation size net. They also caught kona crab (*Ranina ranina*) and *'oama* (young goatfish, *weke*, *Mullidae*). *Akule* was brought in by the ton. She explained that the entire community participated in the large *akule* harvests.

Mrs. Kaina explained that there is another *heiau* with the same name located in Waipio Valley on the island of Hawai'i and wondered if there might be some correlation between the two. Mrs. Kaina believes that the Honua'ula Heiau was a place of conservation and was also used for agriculture. She said that she and her daughter have visited the *heiau* to clear the exterior of vegetation and rubbish and would like to see all site clearing be done in a manner which does not damage heiau walls or other features of the heiau. Their motivation to visit the heiau and begin clearing it came from an intuitive feeling both she and her daughter experienced. She believes that at one time the *heiau* included the lands on which John Carty's home now sits and likely extended to the stream. She thinks that remnants of the heiau might be found under and around the Honolua Stream Bridge footings.

6.1.7 Kahu David Kapaku

Kahu David Kapaku is a Christian minister, whose family is from Honokohau Valley and he resides there today. He explained that the Heiau has been impacted by the original construction of Highway 30. Kahu Kapaku referred to the Honua'ula Heiau as a Mapele heiau, or an agricultural or economy-related heiau dedicated to Lono, based on the amount of platform features present there. He explains that the large number of platforms that make up this heiau indicate a possibility that the heiau was constructed during the time of Umi. Kahu Kapaku further indicated that there are other heiau with the same name located throughout the state, such as the one in Waipio Valley, Hawaii island.

Regarding the Honolua Stream, Kahu Kapaku believes that, contrary to some sources, the stream flowed perennially and that there are remnant taro *lo'i* located approximately two miles up the valley. He said that the Honolua Stream once flowed at 25 million gallons per day but that much of the water was diverted to provide for commercial crop agriculture. Kahu Kapaku believes that when the natural vegetation was replaced by commercial agricultural crops this change impacted the rainfall patterns of this area. Kahu Kapaku said that Honolua Ahupua'a has provided for the individuals living there for 900 years.

Kahu Kapaku has noticed an increase in traffic volume over the past years and is concerned about traffic safety. He is concerned about how the proposed Honolua Stream Bridge upgrades may impact adjacent ahupua'a, such as Honokohau. He would like an answer to the question, "What does a healthy Maui look like?"

6.1.8 Mrs. Henrietta Mahuna

Mrs. Henrietta Mahuna was raised in Kipahulu, and moved to Honokahua in 1942. There she and her family lived at Hawaiian Camp. She worked in the pineapple fields for Baldwin Packers and her husband, Mr. Solomon Mahuna, worked as a cowboy for Honolua Ranch. She explained that Mr. Takahashi was in charge of Mr. Fleming's fishing gang based at Honolua Bay. She said the *akule* came in certain times of the year and fishermen would go out with surround nets in canoes to catch them. She recalls helping pull in the *akule* net during times when the *akule* schools were in. Mrs. Mahuna said they would bring in several tons of fish.

In those days, she said that Honolua Bay was not as heavily vegetated at it is today, describing it as a more open space. She said there was an old road used to access the bay and that a Mrs. Kekua lived there. She remembers "old lady Manuwa" who lived at Honolua in the *'ohai*

(*Sesbania tomentosa*) bush. She lived there with her three grandchildren. One of them married Philip (Ah Hip) Chun.

Mrs. Mahuna also spoke of "Kahauiki" located approximately where Mr. John Ka'aihue house is. She said there is a stream that empties into the ocean there. Located between "Slaughter house" and Kahauiki, was Kiki's house.

Mrs. Mahuna, while working at the Honolua Store, began the hot food service that the community continues to enjoy today. She described a time when the store needed to diversify and how she and the manager of the time, Mr. Hue, began hot food service and a car rental business from the store. The hot food all began with a hot dog machine bought by the store one day because the salesman had had it returned by a client. Mrs. Mahuna said that during the first trial day with the hot dog machine they made more money than the store had seen in years. She then began to make hamburgers, stew, *lau lau* and a variety of local favorites. Eventually she hired a kitchen staff of three.

6.1.9 Mr. Alex Ross

Mr. Alex Ross, a *kāma'aina* and resident of Kā'anapali, described Honolua Bay as being an *akule* fishing ground. Although it's a protected marine sanctuary today, there was a time when all the fishing families in Honolua – including the Naleieha family and Medeiros family - helped bring in the *akule* harvest. Mr. D. T. Fleming had his own fishing gang and kept a sampan anchored in the bay. During the *akule* harvest people living in the camps nearby were all involved in pulling net up and all who helped received fish. Mr. D. T. Fleming used a fishing house that was located up from the boat ramp. It was a flat area that consisted of a shack located on the Honokohau side of the bay, for boat storage. Mr. Ross also said that there were a couple of homes located under trees in the area. One could also catch *pāpio* and *ulua* (*pāpio* are the young *ulua*, Jack Trevally, *Carangidae*) at Honolua Bay. In the 1940', as a child, Mr. Ross went to Honolua bay with his Aunt and Uncle Kamaka where he would play in brush.

Mr. Ross also stated that the area is a popular surf spot which brings many people to the area. It was in the late 1950's when people started surfing Honolua. It was very rural then and there was only a dirt road used to access the area, which kept crowds away. Today he feels that with the popularity of the area and the amount of people who utilized the area for recreation, that there would need to be a safe bridge.

Mr. Ross spoke of a coconut grove at the base of Lipoa point. It is located around an outcrop in a little ravine. This coconut grove contains 20 to 30 trees and surfers used this area to access the ocean.

6.1.10 Ms. Gwendolyn Ewalani Shim

Ms. Gwendolyn Ewalani Shim lived at Honolua Bay for the first few years of her life. She is a descendant of Haile Keahi. Her mother was Mary Shim and her grandfather was Joseph Keahi. She said that her family had a home near the beach at Honolua Bay but that it was washed away in the tidal wave on April 1, 1946. Ms. Shim's brother, Gerald Shim, owns a parcel of property on the coast at Honolua. She explained that he is in a dispute with MLP over this parcel.

Ms. Shim went on to explain that her grandfather was an *akule* fisherman who fished at Honolua Bay. She explained that after the tidal wave came, the family moved to O'ahu for many years. Ms. Shim described a family burial plot as being located near Windmills Beach but that she is not familiar with any family buried in Honolua Valley.

Ms. Shim suggested calling her uncle, Mr. Gilbert Chee, who she said owns some property directly in front of the boat ramp at Honolua Bay. She also noted that Elle and Wayne Cochran are leasing four acres of land that some of her family owned.

Ms. Shim recalls there being a gazebo that served as a meeting place for fishermen after *akule* fishing. The gazebo was owned by Baldwin Packers when the park was there. From the perspective of someone facing the ocean, the park was left of the stream and facing the ocean.

Regarding the historic burials believed to be that of the Manuwa family, *makai* of the highway, Ms. Shim explained that Grace Levy married Phillip Chun and that her son, Thomas Levy, lives on O'ahu. Ms. Shim believes the Levy family are possibly related to the Manuwa Family. Regarding the Honolua Stream Bridge, Ms. Shim would like to see it extended to a 2-lane bridge.

6.1.11 Mr. Gerald Shim

Mr. Gerald Shim says his family raised pigs on two lots near the beach in Honolua Valley. Their piggery functioned until the tidal wave of 1946. Mr. Shim said that he continues to own these two lots. He says there were several of homes on the *makai* side of the present day Highway 30. Mr. Shim said his ancestors included Makaoli, who had a son was named Keahi, who then had a son named Haile Keahi. Haile Keahi was given the land his family lived on during the Great Mahele. Haili's son was Gerald's grandfather whose name was Joseph Keahi. Joseph's oldest daughter was Gerald's mother, Mary Shim.

He says there are some family burials on his uncle Gilbert Chee's property on the north side of the stream. The burials include his great, great grandmother and some children. He mentioned someone named Kahilihae who was married to his ancestor, Keahi.

6.1.12 Mrs. Donna Willard

Mrs. Donna Willard is considered a caretaker of Honua'ula Heiau. She explained that she (and family members) owned the lands on which the heiau sits. Mrs. Willard explained that she felt a calling to reopen Honua'ula Heiau. Acting on that feeling, she began physically working out at the heiau site clearing vegetation and debris. Regarding the name of the heiau, she says "Honua'ula" means "Sacred Earth".

It was explained to her that this heiau was a healing and political heiau. It was a location at which Hawaiians finished canoe voyages and where the individuals on these voyages could get treatment for typical ailments associated with canoe voyages (colds, sore throat etc.). Mrs. Willard explained that *uhaloa* (*Waltheria indica*) was grown here along with *ti* (*Cordyline terminialis*), *laiwa'e* (*Phlebodium aureum*), *wapini* (lemon grass), native cane or *kō* (*Saccharum officinarum*), *'ōlena* (turmeric, *Curcuma domestica*), sweet potato (*Ipomoea batatas*) and *maile* (*Alyxia loiviformis*). She said that the main traditional agricultural crop in the area was sweet potato. She believes that taro *lo'i* agriculture in this area became more prevalent around the time

of the Great Mahele and that the majority of taro was grown in the neighboring Honokohau Valley. Honokohau and Honolua ahupua'a settlements were closely tied. Mrs. Willard explained that the communities relied on each other for goods and there was, and still remains, an access point from Honolua Valley to Honokohau Valley. About 3/4 of the way up the valley there is a "hook" that crosses into Honokohau. Mrs. Willard said that lepers were hidden up here so that they were not taken to Kalaupapa.

Mrs. Willard went on to explain that the heiau was utilized as a meeting place for *ali'i* and *kahuna.* Here they would meet to discuss issues regarding their kingdoms. Mrs. Willard explained that there are a series of heiau located all the way up to Mt. Eke. It was said that kahuna would stop at each heiau giving proper respects along the way. This protocol was said to be a requirement as one made his way to Eke.

As a part of reopen the *heiau*, Mrs. Willard would like to reconstruct the different work areas thought to have existed at this heiau. She would like to see designated areas for activities such as *tapa* beating, weaving and for the training in traditional medicine or *lā'au lapa'au.*

6.2 Formal Interview

A formal, digitally recorded, interview was conducted with Mr. Isao Nakagawa was conducted on August 24, 2010 at the home of Ms. Colleen Medeiros. Both Ms. Medeiros and Ms. Anna Cordova conducted the interview. The interview was then transcribed by Ms. Katie Sprouse. An Olympus digital voice recorder was used for recording.

6.2.1 Mr. Isao Nakagawa

Mr. Isao Nakagawa was born in 1932 in Honokahua *ahupua'a* and grew up in northwest Maui. As an experienced fisherman and former employee of Baldwin Packers and Maui Land & Pine, Mr. Nakagawa has intimate knowledge of the study area of Honolua *ahupua'a.* Mr. Nakagawa began working for Baldwin Packers during the summers at the age of 15. When he finished high school he attended Century College of Medical Technology and then Roosevelt University in Chicago. He worked as a medical lab technician with the Chicago Board of Health. He returned to Hawaii and joined the army. There he working as an x-ray technician at night and attended UH Manoa during the day.

Mr. Nakagawa's mother, Masao, was a tailor for Baldwin Packers. She made all the clothing for the field workers. After working as a tailor she then taught other young girls to sew. Masao's father's name was Sunehachi Komorida. His father was Shiroko a first generation Japanese man in Hawai'i.

Figure 7. Mr. Isao Nakagawa.

Mr. Nakagawa returned to Maui and again accepted a job with Baldwin Packers working as a field laborer. His daily tasks included cutting grass and picking pineapples. He then took on the task of laying out and designing the pineapple fields. This proved to be a technical job where, with the use of compass and hand levels, the fields were designed to utilize the land to the greatest extent possible as well as design for proper drainage. Fields or "blocks" as they called them, were 110 feet across with 21 planting rows. Mr. Nakagawa said that he laid out all of the pineapple fields in Honolua in the late 1960's. He continued to describe the various types of mulching paper that was used in the fields, from a certain kind of tar paper to the plastic-looking film still present today.

Mr. Nakagawa described welding some of the more modern field equipment such as the harvesting machines and the mulching tractors. He eventually became a project supervisor for the construction maintenance site and from there he then helped the engineers design equipment. Mr. Nakagawa spent his career working for Baldwin Packers which then became Maui Land & Pineapple Company.

Mr. Nakagawa described hunting for pigs in the forested Honolua uplands. He said that he leased pasture land not far from the forest reserve boundary which at the time was established by a line of eucalyptus trees. Mr. Nakagawa also spoke of a very unusual rock located *mauka*. This rock was large and stood alone, meaning there were no other rocks nearby. This rock was covered in indentations and he thought it might be a tool sharpening stone. It was so peculiar he said it may possibly be a meteorite. He described it as a dark grey, almost black color and said that it did not look like basalt. Mr. Nakagawa said that he collected *pohole* (fern shoots) from *mauka* regions of Honolua Aupua'a.

Mr. Nakagawa also spoke of the rock wall which borders the Honolua Stream on its northern bank. He said that he believed that this wall was somehow related to flood control. He said that he had not seen the wall further up Honolua Valley.

In addition, Mr. Nakagawa said that black *'awa* (*Piper methysticum*) grew in an area on the Kahakuloa side of Honolua Stream. He said that once a year he would collect cuttings of the

black *'awa* and pant them for the purpose of propagating the plant. Mr. Nakagawa describes planting 20 or 30 cuttings a year for about four years. In addition, Mr. Nakagawa described many small *lo'i* located near the black *'awa* patch, on the Lahaina side (south) of the stream He described terracing he recalls seeing in this area as well.

He also found a patch of green *'awa* further *mauka* than the black *'awa* . The green *'awa* was located on an island formed in the middle of Honolua Stream, near the intake:

> And then later on we started going up this Honolua River and around here, someplace, anyway, going up we came across this green *'awa* . And here we were passing that green *'awa* all the time and I didn't know it was green *'awa* and, whoa! The leaf is exactly like the [black *'awa*], but it looked like bamboo, so I was thinking oh, bamboo, no this was a green *'awa* . So we had two kinds of *'awa* in that area.
>
> And that was directly in the center of the [stream], I think the river formed an island and right in the middle of this island.

He said that he once attempted to take Mrs. Shim and a surveyor up Honolua Stream to find her 0.6 acres of property for the purpose of surveying it. Unfortunately, she was not able to make the trek and neither Mr. Nakagawa nor the surveyor attempted to find it based on her description.

Mr. Nakagawa speaks of the Manuwa family and Mr. Sam Manuwa explaining that their home was located *makai* and very near to the Honolua Stream Bridge and highway, under the large trees which stand today. Mr. Nakagawa said that according to the archaeological reports he has read, there are family graves located near where the Manuwa home once stood. He said that a Japanese man had informed the archaeologist of the graves during a survey, (In Moore 1974, Mr. Dyke Furakawa described one of the graves as Sam Manuwa's mother's grave.) Mr. Nakagawa also recalls hearing that Mr. Manuwa was a *kahuna*.

Mr. Nakagawa then began discussing the fishing practices of the area. He explained that growing up he learned to fish from Mr. Jack Nohara. Although many of the individuals he learned from were Japanese, he explained that many of them, like Mr. Nohara, had learned from Hawaiian fisherman and naturally they learned the Hawaiian terms and techniques. Words such as *kui* (needle) and *piko* (center pieces) were Hawaiian fishing terms adopted by the Japanese fisherman. Mr. Nakagawa said that Honolua Bay was known for the large *akule* schools that would migrate there. He continued to name landmarks surrounding the bay such as "Big Puiwa" and "Small Puiwa". These are two rocky points which extended from the cliff on the northern side of the bay. He said that the Hawaiians also referred to a "Puiwa Point". These points along with a coral head called "Pohaku Poe Poe" were landmarks within Honolua Bay used to guide the fisherman to the *akule* schools.

Nets were dropped into the water like a curtain surrounding the *akule* and slowly pulled towards the shore. The whole camp would participate in the harvest and anyone who came to help, children included, received a portion of the fish. Mr. Nakagawa said that *akule* was plentiful when he was growing up here as a child. He described Baldwin Packers fishing operation and said that they would take the fish to markets in Napili. He went on to describe the decline of the *akule* schools, stating that sometime around the 60's the *akule* virtually

disappeared. There was also *opelu* caught in Honolua Bay which also seemed to disappear along with the *ulua* or jack crevalles. He said the *akule* began to come back and when this happened Mr. Nakagawa was a more experienced fisherman. He had made his own nets and established his own fishing gang. He brought in catches ranging from four to six tons.

He described making nets out of *aho* or cotton cord, or #9 cord. Nets were then made with nylon which was light and strong, then nets were made from monofilament purchased from Korea or Japan. Mr. Nakagawa said that there were nine families that lived at Honolua Bay and they were all Japanese families. Some of them were from fishing families back in Japan and he learned much of his fishing knowledge from them. He said that all the Hawaiian families who lived at Honolua previously, moved away after WWII, possibly to O'ahu for better jobs.

Mr. Nakagawa describes place names and locations and the changes to these names over time. He said, for example, the *ahupua'a* in which he grew up was called Hono-ko-hua. Today, the area is often referred to as Hono-ka-hua. Then you have the name "Kapalua" which was given to the area by the resort owner and which people use today.

Mr. Nakagawa said he only knows of Honua'ula Heiau in the vicinity of the Honolua Stream Bridge. He believes the large stone wall located near Maui Land & Pineapple driveway, just south of the bridge, is a pre-contact wall. He went on to say that he thinks it may be associated with the Ala Loa or Kings Trail. Mr. Nakagawa has tried to find and follow the Ala Loa in this area and has been successful in finding sections of it from Honokohua as far north as Nakalele Point. He describes the trail as being paved with stones and says that most of the sections he has seen include a stone boarder. He said that many sections of it have been ruined by cattle, bulldozing and road construction. Several years ago Mr. Nakagawa received permission from Maui Land & Pine to try and relocate the Ala Loa. He said that he had located sections of this trails as recently as two years ago. He said that he typically did not go exploring by himself and described Honolua Bay and the area as a spiritually sensitive area.

Mr. Nakagawa was asked about the rock wall/terrace along the northern boundary of the Honolua Stream (Feat 6 of SIHP: 50-50-01-1754). He does not recall seeing this wall further *mauka* up Honolua Stream in the areas he is familiar with. Mr. Nakagawa also makes mention of concrete pillars that exist on both sides of Honolua Stream further *makai*. He said that these were the foundations and supports for a bridge that Baldwin Packers constructed. He said that, according to Mr. Fleming, they laid large redwood planks across the stream to form a bridge. Honolua Park was located on the southern side of this bridge. In this way they could move people and equipment across the stream from Honolua Park.

Honolua Park was utilized for recreation. There was a gazebo type structure and families used to picnic there. Mr. Nakagawa said that there were three different types of palm trees in the area. One they called Monkey nut, when husked, the nut looked like a monkey face. Mr. Nakagawa said that they ate this. The monkey pod trees were much the same as today.

Mr. Nakagawa said that the Haili family used to live at Honolua Bay but that their house was destroyed by the tidal wave of 1946. He knows the area, including Honua'ula Heiau, had been utilized by the cowboys working for Honolua Ranch.

Mr. Nakagawa went on to describe something he had seen at Punalau back in the 1960's. He said that a tidal wave had hit the area and washed out some of the dirt and rock shoreline at the beach. What he describes seeing was a dark shadow in the newly exposed dirt embankment. The shadowy area looked like a hunched form of a man. In addition, there was a pile of what they believed to be human skeletal remains. They walked up to get a closer look and saw that the skull was very large and had a bony hook fused to the side of the skull near the eye socket. Mr. Nakagawa also described a canoe burial - the only he's ever seen - in a cave located further northeast on the coast. Mr. Nakagawa also spoke of a *kahuna* who lived in northwest Maui who was called "Koa Man". Evidently Koa was his last name. It was said that he had a pet shark down at Kahauiki Point. He had a canoe fashioned with a slit in the bottom where this sharks fin fit. It was said that the shark took Koa Man fishing. Mr. Nakagawa said that a story had been written about Koa Man.

Section 7 Traditional Cultural Practices

7.1 Historic Properties

Historic properties are those buildings, structures, objects, districts, areas, or sites including *heiau* or underwater sites over 50 years old. When located, these historic properties go through a review process to determine their significance to Hawaii's history, architecture, archaeology and culture (Department of Land and Natural Resources 1998). If found to be significant the historic properties are recorded and assigned a State Inventory of Historic Properties (SIHP) number and filed in the states Inventory of Historic Properties. The historic properties discussed below have all been assigned SIHP numbers and are located near to the Honolua Stream Bridge.

7.1.1 Ceremonial and Religious Site-Honua'ula Heiau-SIHP-50-50-01-1471

It is believed that the Honua'ula Heiau has been in use from traditional times into modern times (see also Section 3.2.1 Archaeological Studies within Honolua Ahupua'a). During a 1974 archaeological inventory survey, Kenneth Moore noted that construction of the government roadway had destroyed a portion of wall component of the *heiau*. Honua'ula Heiau, is located approximately 20 meters northeast (*mauka)* of the Honolua Bridge. The *heiau* overlaps Mr. John Carty's property and Maui Land & Pineapple property.

The presence of the *heiau*, traditional dry-land agricultural terracing located behind (north) of the *heiau*; as well as, shell midden surface scatters coupled with the occurrence historic artifacts also scattered on the surface provides evidence of the various stages of use in the immediate vicinity. According to individuals consulted for this study, Honua'ula Heiau was utilized by Honolua Ranch at one time as holding pens for horses, while today it is used for ceremonial proposes. This continued use that has spanned different eras throughout history explains the differing construction styles and features that indicate modifications over time to serve the purposes necessary for those different timeframes.

As stated in Tome and others (2002), the imposing size of the *heiau* coupled with the former presence of a *holua* slide located on the northern hill side of the area known to be used exclusively by the chiefly class, lends to the idea the this coastal portion of Honolua was a place of importance for high ranking *ali'i*. In addition to these significant features, multiple house sites and agricultural features located near the Honolua Stream Bridge and further up the valley, indicate an established traditional settlement where farming and fishing practices were carried out.

In the 2007 archaeological inventory survey (AIS) of adjacent Maui Land & Pineapple Company lands, preservation and archaeological monitoring was recommended for the Honua'ula Heiau. This recommendation also included additional historic properties previously recorded by Moore in "Honolua Bay Proper" (Pickett and Dega 2007:25). Although Perzinski and Dega (2009) recommended "no further work" for Feature 12 of SIHP-1471 in the more recent AIS conducted specifically for the Honolua Stream Bridge project, archaeological monitoring for any ground disturbing activities near the bridge was recommended.

During the consultation process many individuals explained that Honua'ula Heiau (SIHP-50-50-01-1471) was indeed located near the Honolua Stream Bridge. Informants explained that the existing roadway, Highway 30, actually cut through the *heiau* destroying a portion of it (See Sections 6.1.2 Mrs. Roselle Bailey, 6.1.3 Mr. Narciso (Jimmy) Billianor, 6.1.6 Mrs. Orpha Kaina, 6.1.7 Kahu David Kapaku, 6.1.12 Mrs. Donna Willard, 6.2.1 Mr. Isao Nakagawa, 5.1.1 Maui County Cultural Resource Commission (MCRC), and Section 4 Community Consultations). During a field visit of the area, a distinct layer of *'ili'ili* (waterworn pebbles often used in traditional pavements) was observed in the road cut on the northeast side of the bridge and roadway. While the cultural association of the cultural material is currently unknown, this layer was observed adjacent to a length of wall that forms the boundary of Features D and C of SIHP-1471. The presence of this exposed layer and its possible association with Honua'ula Heiau, along with observations recorded by Moore (1974:Figure 2), lends further support to community assertions that a portion of the *heiau* was adversely impacted by original road construction. Mrs. Orpha Kaina believes that at one time Honua'ula Heiau extended to the Honolua Stream Bridge and that portions of it might remain underground there.

Figure 8. *Ili'ili* layer observed in road-cut on northeastern side of Honolua Stream.

Interpretations of Honua'ula Heiau given by individuals shared for this study ranged from this being a *heiau* for conservation and agriculture, to a place of medicine, healing and a political meeting place of *ali'i* and their *kahuna*.

7.1.2 Rock wall-SIHP 50-50-01 1754, Feature 6

Feature 6 of SIHP-1754 is a rock wall which extends along the north side of Honolua Stream described as being constructed to control flooding. This wall is situated approximately 8 meters from the north bank of the stream and extends on both the east and west sides of the Honolua Stream Bridge. On the eastern (*mauka*) side of the bridge the wall extends 21 meters and is approximately 1 meter in height, while on the western (*makai*) side of the bridge, the wall extends out from under the parking lot fill and could be seen worn by pedestrian traffic and virtually flush with the ground. At its closest point this wall is 5 meters from the northeastern corner of the Honolua Stream Bridge. (Perzinski and Dega 2009).

Some individuals consulted said that at one time this wall extended far back into Honolua Valley while others indicated that they had not noticed the continuation of this wall back into the valley. Mr. Isao Nakagawa believes that Feature 6 was constructed for stream flood control. While this wall appears to have been partially destroyed from original road construction, it is unclear if any portion of it remains intact under the roadway or near bridge footings. Archaeological monitoring of ground disturbing activities was recommended by Perzinski and Dega (2009).

7.1.3 Honolua Stream Bridge-SIH50-50-01-1754, Feature 11

The Honolua Stream Bridge was built in 1924 and was assessed in 1990 as part of the Historic Bridge Inventory and Evaluation. The bridge scored relatively low and was not recommended for inclusion on the National Register of Historic Places. Today, twenty-one years later, the Honolua Stream Bridge remains one of the few structures remaining from the plantation era. Individuals and organizations consulted for this study speak of the area with great fondness and now consider the bridge a significant structure associated with plantation era history. Several individuals expressed their wish to maintain the historical nature of the bridge and would like to see the bridge made safe yet remain one-lane. Archaeological monitoring was recommended for all ground disturbing activities during bridge work (Perzinski and Dega 2009:29).

7.1.4 Pre-Contact Burial Sites- SIHP-50-50-01-1760

While SIHP -1760 is outside the defined area of direct impact for the Honolua Stream Bridge project, this historic property is within the ROI (Honolua Auhpua'a) for this CIA and therefore addressed in this section. SIHP-1760 consists of human skeletal remains described as eroding from the road cut on the *mauka* side of the Highway 30 (Moore 1974). At the time, Moore (1974:21) believed that the remains discovered here might have washed down from a houselot *kuleana* awarded to Lalahua (LCA 3803:1). This site was re-identified by SCS archaeologists performing an archaeological inventory survey at Lipoa Point (Pickett and Dega 2007:24). In their AIS, Pickett and Dega recommended preservation for Site -1760 and recommended preservation for 11 other historic properties located in an area designated as "Honolua Bay Proper" (Pickett and Dega 2007:115), as well as the preparation of a burial treatment plan for this site.

7.1.5 Historic Burial Sites

As described in Section 3.2 Archaeological Research, there are historic burials located at Honolua Bay. SIHP-50-50-01-1752, Features 3, 5 and 6 correspond to LCA 4243: D to Makaole (see Appendix D). This site and associated features and are located at an area fronting the Honolua Bay boat ramp. SIHP-50-50-01-1755 Features 1, 5, 7 correspond to LCA 4065 to Kahiki and are set inland and closer to the highway. In Moore's 1974 study, Mr. Dyke Furakawa indicated that SIHP-50-50-01-1755 Feature 1 was "Sam Manu'ua's mother's grave" (1974:12) and thus, it is likely that this was also the location of the Manuwa[2] home as described by Mr. Isao Nakagawa (Section 6.2.1).

Mr. Narciso Billianor claimed that gravesites at SIHP-50-50-01-1752 were those of his grandmother, grandfather and aunt. They are all marked by white, wooden crosses and covered by stones. Mr. Billianor said there are over 60 more burial sites in the area north of the pedestrian path, between his family gravesites and the Manuwa gravesites. Mr. Gerald Shim also mentions that his family burials are located on his Uncle Gilbert Chee's property on the north side of the stream. These are thought to be the same as those pointed out by Mr. Billianor. SIHP -1752 and -1755 were also included in the recommendations for preservations by Picket and Dega (2007:24, 115).

7.2 Traditional Hawaiian Agricultural Practices

In the Hawaiian Islands traditional agricultural field systems for the staple crops of *kalo* (taro, *Colocasia esulenta*) and *'uala* (sweet potato, *Ipomoea batatas*) were elaborately designed. Pond-field plots for wet-land taro or *lo'i*, in particular, required a fresh water source for which water ditches or *'auwai* were often constructed to feed the fields. *Lo'i* needed to be constructed specifically for proper containment, circulation and drainage of water (E. S. C. Handy, et al. 1991a:16). The construction of walled terraces and soil banks were necessary in growing wet-land taro. *'Uala* and dry-land *kalo* crops were often planted in *mo'o*, or long, narrow planting plots. Although not exclusive to dry-land crops, *mo'o* were often given names by those who cultivated them (E. S. C. Handy, et al. 1991a:50).

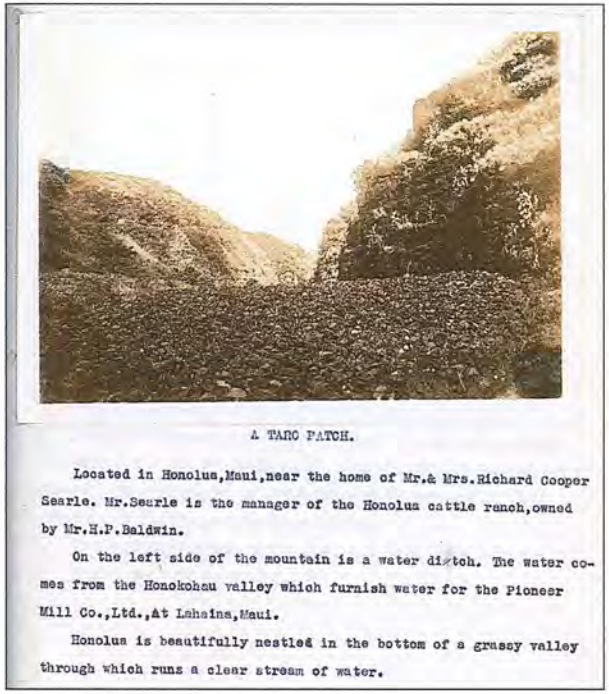
7.2.1 Traditional Agricultural Practices in Honolua Valley

Honolua Valley was one of the five valleys of the Ka'anapali Moku watershed. Within these valleys, which included Honokowai, Kahana, Honokahua, Honolua and Honokohau, it was said there were tier upon tier of *lo'i* terracing (E. S. C. Handy, et al. 1991b:494). According to the LCA descriptions (see Section 3.1.3 Mid- 1800s and the Great Māhele), lands most immediately surrounding the Honolua Stream Bridge consisted of several *lo'i kalo* (Figure 9) and dry-land agricultural plots. Crops recorded here also included sweet potato. One *hala* tree (screwpine, *Pandanus tectorius*) and one *kou* tree (*Cordia subcordata*) were described located in LCA 4065.

[2] There is a variation in spelling of the name "Manuwa". The spelling used in this CIA study appears on the modern TMK map and historic LCA record. It is believed to be the same family and/or person as Sam Manu'ua, as described in Moore's 1974 study. For consistency purposes, the name Manuwa, as indicated in historic documents, will be use from this point forward.

Hala was used in several ways in traditional times. Floor and sleeping mats, baskets and pillows were made by plaiting the leaves or *lauhala* and it was sometimes used for cordage (Abbott 1992:63, 71-74). The fruit of the *hala* tree was eaten in times of famine and it was also used as a paintbrush and stamp for the decoration of *kapa* (cloth made from *wauke* (paper mulberry, *Broussonetia papyrifera*) (Abbott 1992:43, 54-55). *Kou* was introduced by the early Polynesian settlers of the Hawaiian Islands. Its leaves were used to make a light tan colored dye used for *kapa* decoration and its wood was used to for *'umeke lā'au*, or wooden containers. The flowers of the *kou*, a bright orange, were also used in lei making (Abbott 1992:3, 57, 87, 127)

Although it was a common practice to name one's *mo'o* (Lucas 1995:77), many such names have not been recorded through time, this makes LCA 4243 to Keliipoina quite unique in that the names Naioio and Pahahao had been given to two potato *mo'o* and were stated during the petition to the Land Commissioners by Helupoina and recorded in the Native Register. Further *mauka* LCA 3924 to Nakupala included 48 *lo'i*. Most of these LCA also included house lots which further points to traditional Hawaiian settlement and agricultural cultivation within Honolua Ahupua'a and focused within the bay and valley.



A TARO PATCH.

Located in Honolua,Maui,near the home of Mr.& Mrs.Richard Cooper Searle. Mr.Searle is the manager of the Honolua cattle ranch,owned by Mr.H.P.Baldwin.

On the left side of the mountain is a water ditch. The water comes from the Honokohau valley which furnish water for the Pioneer Mill Co.,Ltd.,At Lahaina,Maui.

Honolua is beautifully nestled in the bottom of a grassy valley through which runs a clear stream of water.

Figure 9. *Lo'i* at Honolua Bay circa 1890 (Waal 1897:60A).

In addition to the LCA which illustrate traditional agricultural practices of the study area, individuals consulted for this study described the continuation of traditional Hawaiian agriculture taking place in modern times. Mrs. Roselle Bailey said that she visited a cousin who tended *lo'i* in Honolua Valley into the 1990's and today Mr. Jimmy Billianor farms sweet potato, Hawaiian spinach and dry land taro on the lands of his family which front Honolua Bay. Mr. Isao Nakagawa, with his many years of familiarity with the *mauka* regions of Honolua Ahupua'a described seeing *lo'i* terracing along the upper reaches of the Honolua Stream.

7.3 Traditional Marine Resources

The traditional Hawaiian diet was well supplemented by the rich marine resources of coastal fisheries. As stated in the historical documentation and throughout consultation process, it was found that Honolua Bay was a well known *akule* fishery.

7.3.1 Akule Fishing

The *akule* (big-eyed scad, *Selar crumenophthalmus*) harvest was the single most discussed traditional practice of the area mentioned by individuals consulted for this study. Both the historic literature (see Section 3.1.4.2 Akule Fishing) and those consulted for this study explained that large schools of *akule* would migrate to Honolua Bay seasonally. *Akule* harvests were often 4 and 5 tons and when the schools came into Honolua Bay, bringing in such a large harvest was a community event and *akule* was provided to all who helped. *Akule* fishing was also a commercial business. After fish were distributed to individuals who helped, the remaining fish was sold at markets throughout west Maui.

The commercial aspect involved several "fishing gangs" made up of groups of fishermen led by a captain. The different "fishing gangs" were essentially different companies who fished the waters off Lahaina and Kā'anapali. At Honolua, fishermen working for Mr. D.T. Fleming would get called out of the pineapple fields to help bring in the harvest with the participation of women and children. Mr. D.T. Fleming stored his fishing boats and nets at Honolua Bay always at the ready. Other fishing gangs, such as the "Smith gang" (several of the Naleieha family were part of the Smith Gang), would come to help (see also Sections 6.1.6 Mrs. Orpha Kaina, 6.1.9 Mr. Alex Ross, and 6.1.3 Mr. Narciso (Jimmy) Billianor,).

Mrs. Hannah Dapitan was a small child during these days and recalls when the "*pauhana*" whistle would blow early letting the workers know that the *akule* were in and to head to Honolua Bay (see also Section 6.1.1 Ms. Hannah (Reimann) Dapitan). The children would also get out of school early on these days. She said that her mother, along with all her mother's sisters, participated in the harvest working as divers. Their responsibility was to ensure that the nets did not get tangled or obstructed underwater. Her uncle Mr. Thomas Medeiros was a "spotter". He would visually locate the *akule* schools from the shoreline and guide the fishing boats to the schools.

Mrs. Henryetta Mahuna also recalls the *akule* fishing at Honolua Bay. She said that her husband, Mr. Solomon Mahuna, worked as a cowboy for Honolua Ranch (see also Section 6.1.8 Mrs. Henrietta Mahuna). They lived at Hawaiian Camp in Honokahua. Mrs. Mahuna says she helped in the harvest by pulling in the net. Mrs. Mahuna recalls how large the schools of *akule* were. Mr. Alex Ross also recalls the fishing families such as the Naleieha family and the Medeiros family participating in the *akule* harvests.

Mr. Isao Nakagawa explained that in the years leading up to the 1960's he saw a big drop in the *akule* population, the schools that used to migrate there were not coming around anymore. Then during the 1960's the *akule* population increased and Mr. Nakagawa organized and captianed his own fishing gang (see also Section 6.2.1 Mr. Isao Nakagawa). Mr. Nakagawa also gave detailed descriptions of traditional fishing landmarks within Honolua Bay such as "Big

Puiwa", "Little Puiwa" and "Pohaku Poe Poe". He explained that both Hawaiian fisherman and non-Hawaiian fisherman of his day always used the traditional Hawaiian terms when fishing.

7.3.2 Subsistence Fishing Practices

In addition to the communal *akule* fishing that took place at Honolua Bay, individual families conducted small scale subsistence fishing for other fish species. In the 1970's and '80's Mrs. Orpha Kaina said that she would take her family camping at Honolua Bay. There they enjoyed fishing for *nehu* (Hawaiian anchovies, *Encrasicholina purpurea*), kona crab (*Ranina ranina*) and *'oama* (young goatfish, *weke*, *Mullidae*). Mrs. Kaina said that they used a regulation size net to catch the *nehu* (see Section 6.1.6.).

Mr. Gilbert Chee said that his wife would fish for *opelu* (mackerel scad, *Decapterus macarellus*) at Honolua while Mr. Ross said that he fished for *pāpio*, or the young *ulua*; as well as *ulua* (Jack Trevally, *Carangidae*) at Honolua Bay (see Sections 6.1.4 and 6.1.9).

7.4 Traditional Forest Resources

In traditional times plant and freshwater food resources were collected from the upland forest regions of the *ahupua'a* which supplemented coastal food resources. Pig hunting, a historic practice which has become a culturally supported subsistence practice, takes place today in forested *mauka* regions of the *ahupua'a*. In modern times, the collection of plant and stream resources as well as subsistence hunting practices were said to continue in Honolua Ahupua'a.

7.4.1 Game Hunting

Mr. Isao Nakagawa explained that he leased pasture land not far from the forest reserve boundary, this boundary being defined by a line of eucalyptus trees. While leasing this pasture, Mr. Nakagawa had hunted for pigs in the upland regions of Honolua Ahupua'a (6.2.1 Mr. Isao Nakagawa).

7.4.2 Plant Resources

Mrs. Roselle Bailey describes collecting *hō'i'o* (*Diplazium sandwichianum*), a variety of fern which she found upland regions of Honolua Ahupua'a. Of the fern, its shoots and frond bases were eaten (Abbott 1992:43). Mr. Alex Ross described a coconut grove at the base of Lipoa Point. He is unsure if this grove existed in pre-contact times or if and how it is utilized today, he believes that it must have been utilized at some point in history (6.1.2 Mrs. Roselle Bailey, 6.1.9 Mr. Alex Ross). Additionally, Mr. Isao Nakagawa describes collected *pohole*, (same as *hō'i'o*, variation in name), from the Honolua uplands and he discovered both the black and green variety of *'awa* (*Piper methysticum*) growing in the higher elevations of Honolua Ahupua'a. He explained that he spent four years propagating this *'awa* to ensure their survival. *'Awa* (*Piper methysticum*) or *kava*, was brought to Hawaii by early Polynesian settlers. Believed to have originated in Melanesia, *'awa* became a favorite and highly valued drink in Hawaii in traditional times. Consumption of the drink made from the *'awa* root produced a slightly drowsy feeling and has been reported to be a mild narcotic. Abbott states that it can sometimes be found growing wild in valleys where traditional Hawaiian settlements once occurred (Abbott 1992:3, 42-43)

7.4.3 Stream Resources

Mr. Isao Nakagawa and Mrs. Roselle Bailey described collecting *'o'opu* (Goby, *Gobiidae*) and *'ōpae* (*Palaenom debilis*) from Honolua Stream (6.2.1 Mr. Isao Nakagawa, 6.1.2 Mrs. Roselle Bailey). *'Ōpae* and *'o'opu* were customarily gather from streams by the women. They were caught by turning stones and feeling with hands and sticks, then being chased out and caught by net (Titcomb 1977:4). Traditionally, *'o'opu* were eaten either raw or dried or wrapped in *ti* leaves and cooked over a fire. *'O'opu* were collected from freshwater streams, where they are born and where they return after a 3-6 month timeframe spent in the ocean (www5.pbrc.hawaii.edu/ccrt/taras/site/index.html 2005).

7.5 Traditional Recreation

7.5.1 He'e Nalu: The Traditional Sport of Surfing

Although other Pacific nations practiced *he'e nalu* or wave sliding, pre-contact Hawaiians were said to have excelled at it as a result of Hawaii's prime ocean conditions and the availability of proper timber for boards (Abbott 1992:128-129).

From traditional research it was learned that boards were generally of two types; a short board, *a la ia* and a longboard, *oro*. The short boards were five to seven feet long and made of *koa* or *ulu* wood. They were thinner and flat on both sides. The long boards were reserved for *ali'i* and were upwards of 16 feet long and made of *wiliwili*. These long boards were convex on both sides. Boards were stained, oiled and stored wrapped in cloth (C. E. S. Handy, et al. 1968:149). Abbott (1992:129) explains that the black stain used on boards was derived either from the *ti* root called *mole ki* or *kukui* (*Aleurites moluccana*) bark and called *hili*. Surf boards were then rubbed with *niu* or *kukui* oil. Handy et al described the ritual preformed before a board is used as being an offering of red *kumu* (*Parupeneus porphyreus*) together with a prayer. A description of different types of waves is also given; the most preferable waves were called *ohu* or *opuu*. This type of wave did not break quickly but instead welled up and was smooth. A wave which broke quickly or all at once was called *kakala* (C. E. S. Handy, et al. 1968:149). The following is an *oli*, or chant, that was given to bring the surf up (Fornander 1919:206; C. E. S. Handy, et al. 1968:149):

> Ku mai! Ku mai! Kanalu nui mai Kahiki!
>
> Alo poi pu! Ku mai ka pohuehue,
>
> Hu! Kaikoo loa!
>
> Arise, arise ye great surfs from Kahiki!
>
> The powerful curling waves. Arise with the *pohuehue*[3].
>
> Well up, long raging surf! (Fornander 1919:206)

[3] Pohuehue or beach morning glory (*Ipomoea pes-caprae subsp. Brasiliensis*) was used to slap the surface of the ocean in order to make rough seas for surfing or create dangerous ocean conditions in order to kill their enemies on canoes.

Surfing in pre-contact times and today is considered "...the most popular and delightful of Hawaiian pastimes" (C. E. S. Handy, et al. 1968:148). As described by Emerson in Malo (1951:223) the sport of surfing was enjoyed by all; chiefs and commoners, men, women and children. In his time, Chief Kihapiilani was known as a surfer. He was said to have crossed the Pailolo channel on his long board starting his journey from Honolua and landing, to the amazement of the onlookers, at Wailua on Moloka'i. According to Sterling (1998:53) waves of the Pailolo channel were famous and Kihapiilani made sport of riding them. Today, a popular canoe race called, the Pailolo Challenge, emulates the traditional crossing of this channel. Mr. Kai Bartlett and his wife, Mrs. Lauren Bartlett, participate annually in this race and describe the Pailolo channel crossing as technical, challenging and exciting.

Mr. Foster Ampong, *kāma'aina* of west Maui and an avid surfer in his youth, described the wintertime surf at Honolua Bay as being "world class" and further stated that surfing at this location has become a rite-of-passage for young surfers.

Mr. Alex Ross also described Honolua Bay as a popular surf spot attracting crowds of people. It was in the late 1950's when people started surfing Honolua in modern times. Honolua Bay was considered remote at the time and there was only a dirt road used to access the area. The difficult access in those days kept the crowds away. Mr. Ross also described another access point which surfers used located at the base of Lipoa Point.

Between 1860 and 1900 the art of surfing became scarce until its revival around 1910 (C. E. S. Handy, et al. 1968:148). Today, surfing is popular worldwide and is the only sport of Pacific heritage to have reached such status. Since 2002 the ASP Women's World Tour culminated with the Billibong Pro Maui surf contest at Honolua Bay. This contest is critical to surfers' campaign and is also the last stop of the well-known Vans Triple Crown of surfing. Honolua Bay is known in the surfing world for its big and deceivingly heavy rights, where rideable wave heights can reach 10 feet (faces). Its first-rate surf, coupled with the dramatic natural beauty of the bay make it a favorite among amateur and professional surfers alike (www.Grindtv.com 2009).

Section 8 Summary and Recommendations

It has been suggested that Honolua Valley was a place for *ali'i*. Some of the archaeological sites discovered here are known to have been used exclusively by the *ali'i* class. The existence of a *holua* slide and two large *heiau*; Honua'ula Heiau and the now destroyed Puhalakau Heiau attest to this. The vestiges of old house sites, agricultural terraces and stone architecture can still be seen there today as well as sections of Pi'ilani's *alaloa* (3.2 Archaeological Research). The physical remnants coupled with the traditional accounts provide the physical evidence of a fairly substantial settlement located in Honolua Ahupua'a.

One of the five valleys of the Kā'anapali Moku watershed in traditional times, Honolua was once cultivated in both *lo'i kalo*, dry-land taro and sweet potato *mala* and informants testify that use of the *lo'i* continued into the 1990's (3.1 Traditional and Historical Background). In addition to active agriculture, other valley resources were used, from plant gathering to stream resources including *pohole* fern shoots, *'ōpae* and *o'opu*. These items were collected by individuals consulted for this study (7.4 Traditional Forest Resources).

The coastal resources were said to have been abundant into historic times, Honolua Bay being a well known *akule* fishery (7.3.1 Akule Fishing). The communal nature of the *akule* harvest stands out in the memories of several *Kama'āina* and *kūpuna* and the harvest being the biggest community event in the area during historic times.

In both traditional accounts and modern accounts, the surf of Honolua Bay and that of the Pailolo channel is legendary. Honolua Bay is a world famous surf spot known for its massive winter waves and the Vans Triple Crown of surfing, one of the world's most prestigious surf events, wraps up here with the women's Billabong Pro Maui. And as Kihapi'ilani had surfed from Honolua across the channel, today multitudes of surfers, canoe paddlers, stand-up paddlers and paddle boarders from all around the world continue to cross the Pailolo channel for sport and spirit (3.1.1The Traditional Pre-Contact Era).

The period of time surrounding the Great Māhele, when lands were divided and private ownership of the lands was established; caused shifts in settlement (see Section 3.1.3). With the ability to now own land, the entire *ahupua'a* of Honolua was eventually purchased by Henry Perrine Baldwin who established Honolua Ranch and the Honolua Pineapple plantation. Eventually, many *kuleana* landowners dispersed due to economic changes and changes in water resource allocation. Many of these individuals attained jobs with ranches or on plantations and moved their families to the villages or "camps" established by the ranch or plantation. Some families were able to remain on their *kuleana* lands and work at the nearby plantations. As a result, life in Honolua in the late 1800's and into the first half of the 1900's revolved around Honolua Ranch and pineapple plantation operations. Honolua Ranch operations, which ultimately transferred to Baldwin Packers, created a way of life those who lived and worked there, virtually all other families living in these *ahupua'a* lived in the plantation camps. The ranching and plantation operations also had great impacts on the archaeological sites in the area and many pre-contact structures were modified or disassembled for use by cowboys for their cattle and horses and as a result of pineapple cultivation. Individuals and families who continue to live in Honolua have also impacted elements of the area.

The majority of the individuals interviewed for this study lived at the pineapple plantation camps of the neighboring Honokahua. They are the living generation which fished at Honolua Bay, gathered food from Honolua Stream and some even cultivated taro.

8.1 Recommendations

Based on information gathered during the course of this study and presented in this report, there is evidence that points toward both impacts and improvements resulting from the proposed project. Overall, individuals consulted agree that the Honolua Stream Bridge should be repaired and made safe. The general consensus was to repair the existing bridge altering its size and appearance as little as possible. The community has sentimental ties to the area and the bridge is viewed as one of the last remaining structures from the plantation era. In addition, widening of the bridge is viewed as a threat to a currently undeveloped, rural region of Maui. Those consulted expressed a fear that a wider road would encourage increased traffic and residential development which they do not support.

Because there are multiple recorded archaeological sites located in close proximity to the Honolua Stream Bridge, it is critical that the final project design is reviewed by the State Historic Preservation Division and that the required archaeological studies, preservation plans, burial treatment plans and archaeological monitoring plans are in place before any preliminary or construction staging work begins. This section of Highway 30 is a narrow valley bottom that results in a sharp turn in the roadway. With limited space for heavy equipment, it seems likely that construction crews will need to have a separate staging to store heavy equipment. Staging areas which occur near the Honolua Stream, should be included in overall project areas for any archaeological studies performed before bridge construction commences.

The following are the recommendations regarding the potential immediate effects of bridge work on surrounding *mauka-makai* access, cultural practices and traditional religious sites:

- It is recommended that safe access *mauka* and *makai* to Honolua Bay is maintained during all phases of construction.
- Precautionary measures to limit the amount of silt or dust resulting from construction activities need to be taken to prevent shoreline and off-shore fishing ground degradation and contamination. Best management practices are required to be at the forefront of any construction activity associated with the proposed project area.
- Safe access to Honua'ula Heiau for religious and ceremonial purposes should be maintained during all phases of construction.
- It is strongly recommended that archaeological recommendations set forth in Perzinski and Dega (2009) and Pickett and Dega (2007) for historic properties within the ROW and area of direct impact are established, which include the drafting of an archaeological preservation plan and an archaeological monitoring plan for sites including, but not limited to, SIHP: 50-50-01-1471 (Honua'ula Heiau) and SIHP: 50-50-10-1754 (site complex including Honolua Bridge). Additional consultation with neighboring landowners may be required to ensure avoidance of significant historic properties.

- It is critical that construction activities avoid encroachment on the Honua'ula Heiau, (SIHP 50-50-01-1471) and any associated features of this site that were recommended for preservation (Pickett and Dega 2007). Any bridge or road work in the vicinity should adhere to the related preservation plan and established buffer zones to avoid disturbance of the *heiau*, including potentially unrecorded elements of the *heiau* that may be present in the highway roadcut, located approximately 20 meters northeast of Honolua Bridge.
- Per the outcome of the October 2010 Maui County Cultural Resource Commission meeting, it is strongly recommended that the historical nature of the Honolua Stream Bridge is maintained. It is recommended that the bridge remain single-lane and that alterations to its appearance are minimized. This recommendation would minimize adverse impacts to the surrounding cultural and religious historic properties.

Section 9 References

Abbott, Isabella Aiona
1992 *La'au Hawai'i: Traditional Hawaiian Uses of Plants*. Bishop Museum Press, Honolulu, HI.

Alexander, W. P., J. D. Bond and H. A. Hansen
1936 A Report on Recent Developments on Irrigated Plantations. *Reports of the Association of Hawaiian Sugar Technologists* (Fifteenth Annual Meeting). Nov. 16-19, 1936.

Ashdown, Inez
1972 History of the Honolua Ranch. On file at SHPD, Wailuku, Maui. Manuscript. Maui Land & Pineapple Co Ltd. Wailuku.

Ashdown, Inez, Lesley Bruce, Effie Cameron, D.E. Keane, Shuji Seki and Paul Van Zwalenburg
1987 *Plantation Days Remembering Honolua*. Maui Land & Pineapple Company, Inc., Kahului.

Beckwith, Martha
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu.

Berg, K. H.
1954 Pioneer Mill Company, Ltd. In *The Gilmore Hawaii Sugar Manual 1954*, edited by F. I. Meyers. The Gilmore Publishing Company, Inc., New Orleans, Louisiana.

Bidwell, O. B.
1846 *Missionary Map of the Hawaiian or Sandwich Islands, from the Latest and Best Authorities* [map]. 3rd. W. H. Bidwell 120 Nassau Street. New York.

Bingham, Hiram, Reverend
1820 Recent Intelligence. In *The Panoplist and Missionary Herald for the Year 1820*, edited by ABCFM. vol. 16. Crocker & Brewster, Boston.

Clark, John R.K.
1980 *The Beaches of Maui County, includes Maui, Moloka'i, Lāna'i and Kaho'olawe*. University of Hawaii Press, Honolulu, HI.

Connolly, Robert D. III
1973 *50-50-04-1471 Honuaula Heiau*. Hawaii Register of Historic Places Archaeological Forms. State of Hawai'i Department of Land and Natural Resources State Historic Preservation Division. Kapolei, HI

Conte, Patty L.
2006 *Archaeological Inventory Survey of the Stoops Property, TMK (2) 4-1-001:018, Honolua Ahupua'a, Kā'anapali District, Maui Hawai'i.* Prepared for Mr. David Stoops. CRM Solutions Hawai'i, Inc. Makawao, HI

Dean, Arthur L.
1950 *Alexander & Baldwin, Ltd., and the Predecessor Partnerships.* Advertiser Publishing Company, Honolulu, Hawai'i

Dega, Michael
2002 *Preservation Plan for Honuaula Heiau Honolua Ahupua'a, Lahaina District Island of Maui, Hawai'i (On TMK: 4-1-01: 05).*

Department of Land and Natural Resources, State Historic Preservation Division
1998 Chapter 6E Historic Preservation. In *6E-2 Definitions.* Department of Land and Natural Resources, State Historic Preservation Division, Honolulu, HI.

Donham, Theresa K.
1989 *Interim Report - Kapalua Mitigation Program Data Recovery Excavations at the Honokahua Burial Site, Land of Honokahua, Lahaina District, Island of Maui.* Paul H. Rosendahl, Inc. Hilo, HI

Foote, Donald E., E. L. Hill, S. Nakamura and F. Stephens
1972 *Soil survey of islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* United States Soil Conservation Service, Washington DC.

Fornander, Abraham
1880 Origin and Migrations of the Polynesian Race, Vol. II. In *An Account of the Polynesian Race, Its Origins and Migrations* vol. II. Trubner & Co., Ludgate Hill, London.

1916 How Hooipoikamalani and her sister lived in Waipio and their return to Kauai. In *Fornander Collection of Hawaiian Antiquities and Folk-lore.* vol. IV. Bernice Pauahi Bishop Museum, Honolulu, Hawai`i.

1917 History of Kualii. In *Fornander Collection of Hawaiian Antiquities and Folk-Lore the Hawaiians' Account of the Formation of Their Islands and Origin of Their Race, with the Traditions of Their Migration, Etc., as Gathered from Original Sources*, edited by T. G. Thrum, pp. 364-432. vol. IV. VI vols. Part III. Bishop Museum Press, Honolulu, HI.

1919 Relating to Amusements. In *Fornander Collection of Hawaiian Antiquities and Folk-Lore the Hawaiians' Account of the Formation of Their Islands and Origin of Their Race, with the Traditions of Their Migration, Etc., as Gathered from Original Sources*, edited by T. G. Thrum, pp. 192-217. Memoirs of the Bernice Pauahi Bishop Museum. vol. VI. VI vols. Part III. Bishop Museum Press, Honolulu, H.I.

Fredericksen, Demaris L. and Erik M. Fredericksen
2000 *An Archaeological Inventory Survey of the West Side Resource Center (Ka Hale A Ke Ola) Lands of Ko'oka, Waine'e, Pua'anui, Lahaina District, Maui Island (TMK:4-6-15:por.1).* Prepared for Munekiyo, Arakawa, and Hiraga, Inc. Xamanek Researches. Pukalani, HI

Fredericksen, Erik M. and Demaris L. Fredericksen
2000 *Archaeological Inventory Survey for the Proposed Honokohau Water Improvement Project, Honokohau, Honolua, and Honokahua Ahupua'a, Ka'anapali District, Maui Island, TMK: 4-2-01: por. 1, por. 9.* Prepared for County of Maui Water Supply. Wailuku, HI. Xamanek Researches. Pukalani, HI

2002 *Archaeological Inventory Survey of a 23-Acre Coastal Property in Honolua Ahupua'a, Lahaina District, Maui Island (TMK 4-2-04:32).* . Xamaneck Researches. Pukalanim Maui, HI.

Fredericksen, Erik M., Demaris L. Fredericksen and Walter M Fredericksen
2000 *An Archaeological Inventory Survey of Honoapi'ilani Highway Corridor from Alaelae point to Honolua Bay, Honolua and Honokahua Ahupua'a, Lahaina District, Maui Island (TMK 4-2-05).* Xamanek Researches. Pukalani, Maui, HI

Gilmore, Abner Blanks
1936 *The Hawaii Sugar Manual.* New Orleans, LA

Gowan, Herbert Henry, Reverend
1892 *The Paradise of the Pacific, Sketches of Hawaiian Scenery and Life* Skeffington & Son, 163, Picadilly, W, London.

Hammatt, Hallett H., David W. Shideler and Anthony Bush
2003 *Archaeological Inventory Survey of an Approximately 400-Acre Parcel at Honolua Ahupua'a, Lahaina District of Maui, TMK 4-2-01: por. 01.* Cultural Surveys Hawai'i, Inc. Kailua, HI

Handy, Craighill E. S.
1940 *The Hawaiian Planter.* Bernice P. Bishop Museum bulletin 161. The Bishop Museum, Honolulu, .

Handy, Craighill E. S., Kenneth P. Emory, Edwin H. Bryan, Peter H Buck and John H Wise
1968 *Ancient Hawaiian Civilizations.* A Series of Lectures Delivered at the Kamehameha Schools. Charles E. Tuttle Company, Inc., Tokyo, Japan.

Handy, E. S. Craighill, Elizabeth Green Handy and Mary Kawena Pukui
1991a *Native Planters In Old Hawaii, Their Life, Lore and Environment.* Bernice P. Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu, Hawai`i.

1991b *Native Planters in Old Hawaii: Their Life, Lore, and Environment.* Revised ed. Bernice P. Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu,.

Haun, Alan E., Jack Dave Henry and Dianne M. Berrigan
2003 *Archaeological Data Recovery Sites 4141 and 4143, Land of Honolua, Lahaina District, Island of Maui, (TMK [2] 4-2-4:31).* Prepared for Chris Hart & Partners. 1955 Main Street, Suite 200, Wailuku, Hawaii 96793. Haun & Associates. Keaau, HI

Hawaii Heritage Center
1990 *Historic Bridge Inventory and Evaluation, Islands of Maui and Molokai.* Prepared for State of Hawaii Department of Transportation Highways Division in cooperation with the U.S. Department of Transportation Federal Highway Administration. Honolulu, HI. Hawaii Heritage Center.

Hunt, Sylvia
2010 Company History Chronology, Maui Land & Pineapple Co Ltd. Manuscript. Maui Land & Pineapple Co Ltd. Wailuku.

Hunt, Timothy Dwight, Reverend
1848 A Letter from Mr. Hunt. In *The Missionary Herald*, edited by ABCFM. vol. 46. Boston.

Jimenez, Joseph A and Paul H. Rosendahl
1995 *Archaeological Field Inspection, Kapalua Hotel Development Site, Land of Honokahua, Lahaina, Island of Maui.* Paul H. Rosendahl Inc. . Hilo, HI

Juvik, Sonia P and James O. Juvic (editors)
1998 *Atlas of Hawaii.* Third ed. University of Hawaii Press, Honolulu.

Kahā'ulelio, Daniel
2006 *Ka 'Oihana Lawai'a Hawaiian Fishing Traditions.* Translated by M. K. Pukui. Bishop Museum Press, Honolulu.

Kamakau, Samuel
1992 *Ruling Chiefs of Hawaii.* Revised ed. The Kamehameha Schools Press, Honolulu, HI.

Lucas, Paul F. Nahoa (editor)

1995 *A dictionary of Hawaiian legal land-terms.* Native Hawaiian Legal Corp. : University of Hawai°i Committee for the Preservation and Study of Hawaiian Language, Art, and Culture, Honolulu.

Macdonald, Gordon A., Agatin T. Abbott and Frank L. Peterson
1983 *Volcanoes in the Sea The Geology of Hawaii.* University of Hawaii Press, Honolulu

Madeus, Jonas K. and Hallett H. Hammatt
2004 *Archaeological Assessment for an 80 Acre Parcel in Kapalua, Honolua Ahupua'a, Lahaina District, Maui Island.* Prepared for Kapalua Land Company, Ltd. Cultural Surveys Hawai'i Wailuku, HI

Malo, David
1951 *Hawaiian Antiquities (Moolelo Hawaii).* Second Edition ed. Translated by D. N. B. Emerson. Bernice P. Bishop Museum, Honolulu, Hawaii.

Metzer, Delbert E.
1910 *Private Wharves and Landings in Hawaii.* Territorial Government of Hawaii, Honolulu, Hawaii.

Moore, Kenneth
1974 *Archaeological Survey of Honolua Valley, Maui.*

Nordhoff, Charles
1874 *Northern California, Oregon and the Sandwich Islands.* Harper & Brothers, New York.

Perzinski, David and Michael F. Dega
2009 *An Archaeological Inventory Survey Report fo a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhainā District, Maui Island, Hawaii. [TMK: (2) 4-2-001:05 (por.), :09 (por.) and :10 (por.)]* ***(DRAFT)***. Prepared for Austin Tsutsumi & Associates, Inc. Honolulu, HI. Scientific Consultants Services, Inc.

Pickett, Jenny L. and Michael Dega
2007 *An Archaeological Inventory Survey of 583-Acres at Lipoa Point, Honolua Ahupua'a, Lāhainā (Formerly Kā'anapali) District, Maui Island, Hawai'i, TMK [2] 4-1-001;010; [2] 4-2-004:032; and a portion of [2] 4-1-001:009.* Prepared for Maui Land and Pineapple Company, Inc. Lahaina, Maui, HI. Scientific Consultant Services, Inc. Honolulu, HI

Pukui, Mary Kawena
1983 *'Olelo no'eau : Hawaiian Proverbs & Poetical Sayings.* Bernice P. Bishop Museum special publication no. 71. Bishop Museum Press, Honolulu, Hawaii.

Pukui, Mary Kawena and Samuel H. Elbert
1986 Hawaiian Dictionary Hawaiian-English English-Hawaiian. Revised and Enlarged ed. University of Hawaii Press, Honolulu, HI.

Pukui, Mary Kawena, Samuel H. Elbert and Esther K. Mookini
1974 *Place Names of Hawaii.* Rev. and enl. ed. University Press of Hawaii, Honolulu.

Richards, William
1824 Sandwich Islands Mission. In *The Missionary Herald*, edited by ABCFM. vol. 20. Crocker & Brewster, Boston.

1828 Excerpts from the Journal of Reverend Richards. In *The Missionary Herald*, edited by ABCFM. Crocker & Brewster, Boston.

Schmitt, Robert C.
1977 *Historical Statistics of Hawaii.* The University Press of Hawaii, Honolulu.

Starr, Forest and Kim Starr
2010 Hawaiian Ecosystems at Risk. vol. 2010, Honolulu.

Stearns, Harold and Gordon MacDonald
1942 *Geology and Ground-Water Resources of the Island of Maui, Hawaii.* U.S. Department of the Interior, Geological Survey, Honolulu.

Sterling, Elspeth P.
1998 *Sites of Maui.* Bishop Museum Press, Honolulu.

Thrum, T. G.
1920 Pack of the Hawaiian Canned Pineapple. In *Hawaiian Almanac and Annual for 1921.* Thos. G. Thrum, Honolulu, Hawai'i.

Thrum, Thomas G.
1909 Heiaus and heiau sites throughout the Hawaiian Islands; ommiting Koas, or places of offering to Kuula, the deity of fisher folk. In *Hawaiian almanac and annual for 1907, 1908, 1909, the reference book of information and statistics relating to the Territory of Hawaii, of value to merchants, tourists and others (1906, 1907, 1908)*, pp. 29 p. Thos. G. Thrum, Honolulu, HI.

Titcomb, Margaret
1977 *Native Use of Fish in Hawaii.* Second Edition ed. The University Press of Hawaii, Honolulu, Hawaii.

Tome, Guerine, Irene Calis and Michael Dega

2002 *Archaeological Inventory Survey in Honolua, Honolua Ahupua'a, Lahaina District, Island of Maui, Hawai'i, TMK: 4-1-01: 05.*

Tome, Guerine and Michael Dega
2008 *An Archaeological Inventory Survey for the Proposed Kapalua Coastal Trail Located in the Areas of Nāpili, Kapalua, Honokahua, and Honolua, Ahupua'a of Nāpili 2&3, Honokahua, and Honolua, Lāhainā District, Island of Maui, Hawaii. [TMK: (2) 4-2-001 Through 005].* Prepared for Maui Land & Pineapple Company, Inc. Lahaina, HI. Scientific Consultant Services Inc. Honolulu, HI

Waal, Arthur
1897 Lahaina in 1897. Unpublished Manuscript and Photographs. On file at the Bailey House Museum., Wailuku, HI.

Walker, Winslow M.
1931 Archaeology of Maui. Manuscript. Bernice Pauahi Bishop Museum. Honolulu, HI.

Wilcox, Carol
1996 *Sugar water: Hawaii's plantation ditches.* University of Hawai'i Press, Honolulu, Hawai'i.

Wilfong, George
1883 Twenty Years' Experience in Cane Culture. In *The Planter's Monthly*, edited by S. B. Dole, W. R. Castle and W. O. Smith, pp. 147-152. Hawaiian Gazette, Honolulu, Hawai'i.

Windley, Larry
1972 Letter: Dwight Baldwin to Amos Cooke, Letter, 1840, HMCS Archive, Baldwin to Cooke Folder. The Windley Files. Manuscript. Lahaina Restoration Foundation. Lahaina.

www5.pbrc.hawaii.edu/ccrt/taras/site/index.html
2005 Hawaiian Stream Gobies (O'opu). University of Hawaii, Honolulu.

www.Grindtv.com
2009. (last accessed

Yalom, Marilyn
2008 *The American Resting Place, Four Hundred Years of History through our Cemeteries and Burial Grounds.* Houghton Mifflin Company, New York, New York.

Appendix A Community Scoping Letter

Cultural Surveys Hawai'i Job Code: HONOLUA 1 Appendix A

CULTURAL SURVEYS HAWAI'I

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL DOCUMENTATION SERVICES - SINCE 1982

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Wailuku, Hawai'i 96793
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Branch Offices:
Hilo, Hawai'i
Kona, Hawai'i
Lanai, Kaua'i

CSH Job Code: Honolua 1

Tuesday, July 6, 2010

Subject: Cultural Impact Assessment Community Contact Letter for the Honolua Stream Bridge Rehabilitation/Replacement Project, Honolua Ahupua'a, Lāhainā District, Maui Island, TMK (2) 4-2-001

Dear Recipient:

At the request of Austin, Tsutsumi & Associates, Inc. (ATA), Cultural Surveys Hawai'i, Inc. (CSH) is conducting a Cultural Impact Assessment (CIA) for the proposed Honolua Stream Bridge Rehabilitation/Replacement Project located in Honolua Ahupua'a, Lāhainā District (traditionally the Kā'anapali Moku), Maui Island, TMK (2) 4-2-001. The Honolua Stream Bridge is located on the northwest coast of Maui on Honoapi'ilani Highway (Route 30) at mile marker 32 (Figures 1-3). This one-lane bridge was built in 1924 and does not meet current safety standards.

The purpose of the rehabilitation/replacement project is to bring the Honolua Stream Bridge up to current State and Federal Design and Seismic Standards. This proposed project is federally funded and will be carried out by the Hawaii Department of Transportation (HDOT). Because it is older than 50 years, the current bridge is considered a historic structure. However, the 1990 "Historic Bridge Inventory and Evaluation" listed this bridge as having little national, state or local significance. Scientific Consultant Services, Inc. has conducted an archaeological inventory survey for this project. As a part of this survey, the archaeological site State Inventory Historic Property (SIHP) 50-50-01-1471 was re-identified, and the Honolua Stream Bridge was added as a feature of the site. The report for this inventory survey was written in 2009 by David Perzinski and Michael F. Dega, and is entitled *An Archaeological Inventory Survey Report for a Bridge Replacement in Honolua, Honolua Ahupua'a, Lāhainā District, Maui Island, Hawaii. [TMK: (2) 4-2-001:05 (por.), :09 (por.) and :10 (por.)]* ***(DRAFT)***. It is only in draft form and has not yet been accepted by the State Historic Preservation Division.

For the CIA portion of this project, the entire Honolua Ahupua'a will be researched. The purpose of the CIA is to evaluate potential impacts to traditional cultural practices as a result of the proposed project.

We are seeking your *kōkua* or help and guidance regarding the following aspects of our study:

- **General history and present and past land use of the project area.**
- **Knowledge of cultural resources which may be impacted by the Honolua Stream Bridge Rehabilitation/Replacement Project - for example, traditional plant gathering sites, historic sites, archaeological sites, and burials.**
- **Knowledge of traditional gathering practices in the area – both past and ongoing.**
- **Cultural associations of the project area, such as legends and traditional uses.**
- **Referrals of *kūpuna* or elders who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.**
- **Any other cultural concerns the community might have related to Hawaiian cultural practices within the Honolua Ahupua'a and/or in the vicinity of the proposed Honolua Bridge Rehabilitation/Replacement Project area.**

We invite you to contact us, Anna Cordova and/or Colleen Medeiros Dagan, at 1-808-242-9882. You may also contact us by e-mail at acordova@culturalsurveys.com and cdagan@culturalsurveys.com if you have any information you would like to share.

Mahalo.

Anna Cordova, Archaeologist
Colleen Medeiros Dagan, Archaeologist

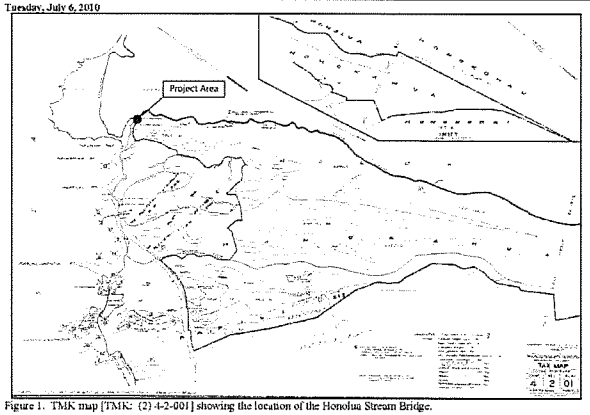

Figure 1. TMK map [TMK: (2) 4-2-001] showing the location of the Honolua Stream Bridge.

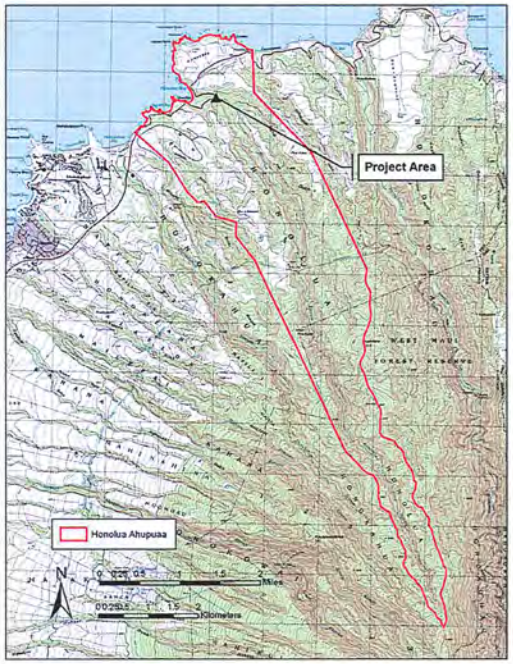

Figure 2. Topographic map with the bridge location indicated and the CIA study area outlined in red.

Cultural Impact Assessment Community Contact Letter for the Honolua Stream Bridge Rehabilitation/Replacement Project, Honolua Ahupua'a, Lāhainā District, Maui Island, TMK (2) 4-2-001

Figure 3. Photograph of the Honolua Stream Bridge. (Photo courtesy of HDOT.)

Cultural Impact Assessment Community Contact Letter for the Honolua Stream Bridge Rehabilitation/Replacement Project, Honolua Ahupua'a, Lahaina District, Maui Island, TMK (2) 4-2-001

Appendix B Formal Letter Responses

Mr. Foster Ampong

November 4, 2010

Anna Cordova, Archaeologist,
Colleen Medeiros Dagan, Archaeologist
Cultural Surveys Hawaii
1993 Main Street
Wailuku, HI 96793
Phone: (808) 242-9882
Fax: (808) 244-1994

Subject: Response to Cultural Impact Assessment Community Contact Letter (dated July 6, 2010) for the Honolua Stream Bridge Rehabilitation/Replacement Project, Ahupua`a o Honolua, Lahaina District aka Ka`anapali moku, Maui island aka Moku o Piilani, Ko Hawaii Pae Aina

Aloha Ms. Cordova a me Ms. Medeiros Dagan:

Thank you for your inquiry and concerns at Honolua ahupua`a, I am familiar with the subject area and surrounding features. In my early youth of the 1960's and well into my adult years I have traveled and spent a good portion of my life at Honolua ahupua`a surfing, gathering and often exercising my native religion and spirituality.

Though Honolua Stream Bridge was evaluated in 1990 by some in our community "as having little national, state or local significance" Honolua Stream Bridge does hold tremendous significance throughout our Island community. I find such a determination insultingly bias and offensive to myself as well as na poe kanaka culture and history throughout Ko Hawaii Pae Aina.

For decades Honolua Stream Bridge has been a unique reference marker and landmark fixture for poe kanaka, their familes, oiwi, kuaina, kuahiwi, He`e nalu, Lawai`a, poe malihini, malihini surfers, malihini fishermen/fisherwoman traversing the coastline from Lahaina to Laau, Honokahau, Nakalele, Kahakuloa and Waihee. This landmark has also been a very important symbol for young surfers' right-of-passage to adulthood *symbolizing* ones courage and skill required to surf 20'-30' world class waves that come in the winter months. Honolua Strean Bridge has been featured in several epic surfing films, such as Five (5) Summer Stories, Pacific Vibrations, etc.

Replacing the bridge would surely bring about unintended negative consequences to the self esteem in many of our young in the community. The thought of *tearing down and replacing* Honolua Stream Bridge is like tearing out a significant part of our life that many of us worked hard to earn. The bridge symbolizes a cornerstone and foundation in our lives today.

I can attest from personal experience that Honolua Stream Bridge is not only a symbol to a rights-of-passage I earned in the early 1970's, it remains today a very important symbol and reference marker of a puuhonua, a place of refuge for me during a period in my life racked by family abuse.

Remedy:

Because Honolua Stream Bridge was built upon Honua`ula Heiau, great care and serious caution must also be taken when considering disturbing present structures, grounds and surrounding features. Failing to do so would be an act of desecration. I strongly believe more poe kanaka must be consulted and insist the following be consulted

Leslie Kulololo (Kahului)
John Kaaihue Honokohua)
Lehua Pali (Kahikinui)
Ophia Kaina (Napili)
Gilbert Shim (Napili-Honolua)
Susan Bailey (Honokahau Valley)
Gabe Bailey (Lahaina)
Clayton Ah You (Los Angeles, CA) – on Facebook
Clinton Ah You (Los Angeles, CA)
Clayton Baybayan (Lahaina, Hawaiian Homestead)
Leroy Chang (Wiamanalo)

I support retrofitting the Honolua Stream Bridge but not replacing it.

Sincerely,

Foster Ampong
58 Ho`ola Hou Street
Wailuku, Hi 96793
(808) 760-8158
Email: kekahunakeawwiwi@yahoo.com
Note: Please keep address, phone and email contact private. Not for public view.

Appendix C Formal Interview Transcription

Mr. Isao Nakagawa

Authorization and Release Form

Cultural Surveys Hawai'i (CSH) is grateful for the generosity of the Kūpuna and Kama'aina who have willingly shared their knowledge and experiences for the preparation of a cultural impact assessment for the Honolua Stream Bridge Rehabilitation/Replacement project that is being considered for Honolua Ahupua'a.

We understand our responsibility in respecting the wishes and concerns of the interviewees participating in our assessment. Here are the procedures we promise to follow:

1. You will have the opportunity to review the written transcription of our interview with you. At that time, you may make any additions, deletions, or corrections you wish.
2. You will be given a copy of the interview transcript you have approved for your records.

For our records and yours, we humbly request your confirmation that:

1. You were given the opportunity to review the transcript of the interview.
2. You consent to the use of the interview with any revisions specified by you for historic documentation and academic purposes.
3. You consent to the interview being made available to the public.

I, Isao Nakagawa, agree to the procedures outlined above and by my
(Please print your name)
signature, given my consent and release for this interview to be used for historic documentation and academic purposes.
Additional Comments and Clarifications:

Isao Nakagawa
(Signature)
12/23/2010
(Date)

File Name(s)	Isao Nakagawa.wav
Job Code	HONOLUA 1
Recording Date	August 24th, 2010
Transcription Date	August 26th, 2010
Participants	Anna Cordova (AC); Colleen Dagan (CD); Isao Nakagawa (IN)

Maui. Mr. Nakagawa is an experienced fisherman and former employee of Baldwin Packers and Maui Land & Pine where he worked as a laborer and was responsible for laying out their pineapple fields.

CD: All right, today is August 24th and Anna and I are here with Isao Nakagawa, and he's going to introduce himself.

IN: My name is Isao Nakagawa. I was born in Honokahua on December 2, 1932.

CD: And I understand you worked with Honolua Plantation, or Maui Land and Pine?

IN: That used to be Baldwin Packers, yeah, Baldwin Packers, at that time. When I started working there it was Baldwin Packers, yeah.

AC: And how old were you when you started working there?

IN: At what age?

AC: Yeah.

IN: I started working when I was - during the summer anyway - at the age of 15, I started working.

CD: And then how long did you work there?

IN: I worked there till I finished high school. All summers - summer job. Then I was gone for about seven years, go to school and in the military, and then came back again and started all over working for Maui- used to be Baldwin Packers, yeah, at the time, so started working for Baldwin Packers. Then, later on it either merged or came to Maui Pineapple Company.

CD: And, so, you went to college?

IN: Yes, I went to college.

CD: What college did you go to?

IN: I went to the Roosevelt University, and first I went to Century College. It's not there now, but it was Century College of Medical Technology. I finished the course and worked as a medical lab technician and, actually, in conjunction with the Chicago Board of Health. And it was screening venereal disease. It was the most important thing at that time, was venereal

disease. And another job that I had was working with the Cancer Prevention Center. Checking pap-smears and feces...

AC: Where was that?

IN: That was in Chicago.

AC: Oh, Chicago.

IN: And at that time I had a lot of time off- not time off but, since I worked, that job was, maybe required only about three hours, you know. In the afternoon I started to go to school at that Roosevelt University. So it was a real good thing, yeah. In the army I was an x-ray technician, and again I was put on a regular night duty so during the day hours I can go to the University. So I was attending Manoa at the time.

CD: Manoa?

IN: Yeah, Manoa. From Schofield I would catch the bus and go to Manoa, but I didn't get any degree. Fell short of a year.

CD: At Manoa, what were you studying?

IN: Biology. I was also trying to go into pre-med, but I would still need the courses so much and they didn't have any medical school over here, you know, so I had to go ahead go into biology, you know. What everybody wanted.

CD: Wow, and then you moved back to Maui?

IN: Then, when I got through with all those things, then I came back to Maui, yeah. Started working for Baldwin Packers, yeah.

CD: What was your position when you came back?

IN: My position was actually a regular laborer, you know, cutting grass, picking pineapple, doing all this - everything that was handed down to us, in other words. Then later on I guess the regular job I had at the company was the field lay out man. So, lay out these field over here. All these fields over here I have laid out. With a compass, and like over here, like this was kind of a difficult field to lay out because of these terraces and things. You look at all these terraces and these are all waterways, actually, in case of a big rain. So these are things that I use to lay out with the compass. And later on, these are with levels, hand levels, we used to put these waterways in. So these are all - I was surprised when I seen these, this field, that they're still intact, you know, the same design that I made, you know, the field.

CD: Oh, so you have to, plot the boundaries. Is that what you do?

IN: Yes, with a compass we get the azimuth, you shoot an azimuth and then you put, what you call it... stakes down, you know, like, bamboo stakes down. We used to really line it up and used to get about a hundred and ten – this is hundred and ten feet apart. Used to put down a hundred and at a hundred feet we put another stake across, then the tractor would come up there. Within that hundred feet they have to put at least something like 21 lines, you know, then they go to the next block. We used to call this blocks. They go to the next block and start another hundred feet. And then 21 lines of a-

CD: Like planting lines.

IN: Yeah, used to be some kind of a tar paper before biodegradable stuff. Then they went into mulching stuff, mulching paper, you know the plastic film that they-

CD: The black... laughter. *Yeah.*

IN: That is what they were using, so I think they have- I don't know how many years, maybe 40 or 50 years, that they have applied this plastic mulch and it has kind of collected like, oh boy, collected in some places are so thick that you know just nothing would grow at that place, I think, oh boy. I don't know. You disturb the place and paper would- the mulch film would fly and might contaminate these areas. I don't know what they're going to do about it. It will not, I think, will not biodegrade. It will take a long, long time before it can disintegrate.

AC: So when was that, that you started setting up those areas?

IN: I think was in the late '60s.

CD: So, which ones did you set up?

IN: I think most all of them.

CD: In Honolua?

IN: At the Honolua Plantation, yeah, but some of 'em were in place already, and I just went over there to check that everything was ok, and we followed the same design. But some of them, in a just a couple places, were we have this big knolls and things like that, we had to go right on the knoll to have the grade slightly- maybe about 2 to 4 percent so that the water would drain out of the road area, so like this kind of place, you know, we had to-

CD: Oh I see

IN: This is like a knoll coming up over here and we had to make a design right along the knoll that the water would go either from here, going this way, or this way to this area, so, yeah.

CD: So, did you turn into an engineer? Laughter.

IN: Hmm? Well, actually, the department took apprentices for construction mechanic and, actually, most of the stuff that we did was we made these new harvesting machines, and new mulching tractors, new spraying machines. All those antiquated stuff- those old, old stuff was just thrown away and we started making this new stuff, like these new harvesters, all this new equipment that we have now.

CD: Designing it?

IN: No, not designing it. I was just a welder then.

CD: Building it?

IN: Building it, we were building it. Then later on I became a project supervisor for the construction maintenance site. Then I started to help in the design, you know, help the engineers design stuff. Actually, at one point the head engineer came to me, asked me if I want to work at the Cannery. In other words he kind of put it to me that you have to work at the Cannery, I said, "No, I will not," so there was a kind of a hassle there. Then later on he came to me said, "What

about working three days at the Cannery?" Then I said, "Two days I will go to the Cannery," because at the time they were making this road up here, you know, and if you were five minutes late you gonna reach the cannery about one hour late. If you were five minutes early, you gonna be waiting because the traffic was so bad when they were making this– repairing this– not repairing, they were making it into a four lane highway. It was so bad so I told him, "No, two days I would go." Then he said, "You can choose any of the engineer positions available now and we'll give you a substantial raise." *Laughter.* "Choose your house." *Laughter.* Five days a week. So I told him, "Ah, no." So he went, anyway, actually, he went to Joe Hartley – he used to be the big boss for the plantation, yeah.

CD: Joe Haka?

IN: Joe Hartley. He said "No, has to be three days, at least. We'll be needing him for three days at least." But they kinda hassled there, "But the guy wanted to come only two days." "Three days," he said. Three days. That was it. But I was really happy working at the shop over here. Later on I was the department head watching over all these automotive mechanics, construction mechanics, and the carpenters, plumbers and, you know, all those people. It was quite interesting work. It was quite different from the medical profession. *Laughter.*

CD: And that mechanic shop, like, up on Office Road? Is that where that was?

IN: That's the old shop, that was in the Office- I mean-

CD: Kind of behind the art studio?

IN: That's the old shop.

CD: Yeah.

IN: When I was working at that shop I was not the supervisor there. When we moved to this new shop over here-

CD: Where was the new one?

IN: It's right across the road from the Napili Plaza.

CD: Oh, where the school is now?

IN: No, no, below the school.

CD: Below the school, ok.

IN: You know where there is the recycling center? There is a recycling center, right below there. In that area we had a big, big shop over there, so.

CD: Wow, so you pretty much walked this whole area?

IN: Well-

CD: Of Honolua?

IN: This whole area, actually, this Honolua area, well, I walked, well, we used to like to hunt a lot in here.

CD: Hunting here. What did you hunt for?

IN: Pigs.

CD: Pigs, wow.

IN: I used to have a pasture up here. This was about here, this was about here, Ok. My pasture used to be.

CD: Want to try pull that up on a table a little more? Want me to – wanna pull this up on the table a little more? Make a little more room there.

IN: My pasture used to be from, from here to this area used to be I think something like 50 something acres, and raised cattle in this area. And the rock that I was telling you guys about was actually, oh yeah, actually this used to be an old pineapple field. So, the pasture went up to here, actually.

CD: So where are we here? This is... This is Honolua Stream.

IN: Right, that's the Honolua Stream.

CD: So is this, This is not- this is the stream?

IN: This the stream, right here.

CD: What are these blue?

IN: That's the stream.

CD: That's the stream, ok.

IN: It comes up here and it kind of Ts off from here. Right here there's another- there's a Y off and it comes to here. And the rock that I seen was, in relation to this, it was someplace over here.

CD: Can I see our little map, so I can, Oh, this doesn't have it. This is only the lower part of- this is Honolua Stream. So I don't think it shows that far up.

IN: Yeah.

CD: This one doesn't really either. Here's the forest reserve. Do you know about where the forest reserve starts on your map?

IN: The forest reserve is pretty far up.

CD: So, roughly along this map.

IN: This is the forest reserve. Actually, I don't know where the forest reserve is in the conservation district, or... Is it in the conservation district?

[State forest reserve is managed by DLNR and not necessarily all in conservation]

IN: Because there used to be a whole lot of– all around this area there used to be a whole lot of the eucalyptus trees, they used to plant. And this is about, that is the conservation area - forest reserve. We used to have a eucalyptus tree, but you know eucalyptus trees the seeds fall and they go all over the place, so, you know. We used to have a eucalyptus line someplace along here, anyway. But the other first forest reserve is from the, I know from one part of the Honokohau Valley, I think, to Mount Pueo or something. Way, way up in the mountain, anyway. Above that is that conservation area.

CD: This is Honokohau. Doesn't go up to the mountain top. Is it on that? Here's Pu'u Kaeo.

IN: This is the conservation line. This is pretty far up here. Honokohua.

CD: Honokohua. Honolua.

IN: No, this is not the mount-

CD: That's not the one?

IN: This is Honokohua.

CD: Honolua's right here.

IN: This is Honolua Stream. Yeah, this is the one I think. Mount Pu'u Kaeo, over here. Pu'u Kaeo?

CD: Kaeo.

IN: Something with P, or something like that, you know.

CD: Maybe that's not the one. Maybe it's a little further up, the one you're thinking of. We don't-

IN: I think this, I think this is the-

CD: Yeah, that is the forest reserve line.

IN: Yeah, yeah. And, well, if you can find the Honolu- Honokohua Ditch tunnel. This is the, Honokohau,

CD: Here's the tunnel. Here it is, yeah.

IN: Ok. Ok, well.

CD: So there's where it meets the Honolua Stream.

IN: I thought that this thing was up off the- Ok, this is the place over here. And, this is the Hono. We used to- I used to be in charge of this swinging bridge there.

CD: A swinging bridge?

IN: Yeah, there was two swinging bridge, you know the cable bridge with the wooden walkway on 'em. We made sure that that thing is safe and really maintained, so I had to go up there every once in a while to look at that thing. And every- once a year during the winter months I would go. This is the intake so we'd go into this stream over here and I would say it was the north side of the stream, this side, we used to plant those – we used to get those *'awa* plants, *'awa*, you know, *'awa* stems.

CD: Root?

IN: Not the root. I never used to harvest the thing, but I wanted to prorogate the thing, because I wanted to find this one plant. It was way- they used to be way, right above this- right around this area maybe. And this place is- this area's full of *lo'i*, small, small type, small *lo'i*, but I don't think you can go up there because they don't want anybody in that area again. But I planted a lot

of- every year I go up and I planted about maybe 20 or 30 sticks, and stick 'em in the wet ground. And, earlier in the year used to see them all flourish, they used to just grow, and then-

CD: Taro or the 'awa ?

IN: *'awa* .

CD: 'awa .

IN: 'awa , the black *'awa* , the good *'awa* .

Laughter

CD: So, right about... Where does...

IN: This is the Hono- Hono...

CD: Here's the stream.

IN: This is the stream here.

CD: So right about...

IN: It's on the north side of the west, east side of the east, no, east I guess. This side of the stream.

CD: Like, Lahaina side of the stream?

IN: No, no, it's the Kahakuloa side of the stream.

CD: I can't see where the stream goes from here.

IN: It goes here. From here it goes pretty straight up, you know, in here.

CD: Ok, so I'll just maybe kind of... right here?

IN: Yeah, someplace around this area.

CD: And, black 'awa ?

IN: Yeah, black *'awa* . We used to plant that not only along that area but we used to- the next year we go and we gather some more planting material and take 'em, dig 'em up and find another flat place, and we used to, I think we did that for about four years. But, in the end we used to see that this area was drying up. As of now it's getting worse and worse, but at that time already it was starting to kind a dry up so, you know, I stopped the planting and I got those cuttings and I brought it down to, oh, my- the place where I used to, my cattle ranch, and I planted some over there until Maui Pineapple Company cut the water off. They gave me no water so, you know, I had to give up that area.

CD: Do you remember about what year that was, that you noticed it start getting drier?

IN: Maybe about 25, 30 years, maybe, 25 years, maybe. 20, 20, maybe about 20, 25 years ago. And that thing, that root if nobody bothered it, I think it be worth about $300 each, I think.

CD: Wow.

IN: And then later on we started going up this Honolua River and around here, someplace, anyway, going up we came across this green *'awa* . And here we were passing that green 'awa all the time and I didn't know it was green *'awa* and, whoa! The leaf is exactly like the kine, but it looked like bamboo, so I was thinking oh, bamboo, no this was a green *'awa* . So we had two kinds of *'awa* in that area.

CD: Oh. And that was a little lower down?

IN: No, further on up, yeah, further on up. It was maybe- it was quite a walk going up, Maybe around this area.

CD: But it was mauka *of the black 'awa ?*

IN: Yeah.

CD: I mean, makai*?*

IN: No, *mauka*. Way-

CD: Ok, this is, 'cause the ocean's here.

IN: Ooh, ooh.

CD: The ocean's here and this is the mountain.

IN: I'm sorry, ok, ok.

CD: So is this up here, then?

IN: Yeah, I was thinking what the heck?

Laughter

CD: So this black 'awa is- should this be up higher?

IN: Yeah, ok, this supposed to be up around here.

CD: So there's the stream.

IN: Right, I'm sorry

CD: Ok. No, that's ok. Kinda by this Pu'u? Kaeo?

IN: No, it wasn't too far from this in- in- what do you call this, the intake, you know.

AC: Oh, ok, yeah.

CD: Ok, so, and still on the north side?

IN: Yeah, on the north side, here.

CD: Ok, so, right here. So, and then so the green 'awa was further down, and then the lo- Oh, the green 'awa ,

IN: And that was directly in the center of the, I think the river formed an island and right in the middle of this island.

CD: Oh, wow.

AC: So the lo'i, *were they further up still?*

IN: The *lo'i* were- when we climbing up from here going up, it's on the- the *lo'i* are all on the Lahaina side.

CD: Ok, so let's cross this out. So, above the 'awa , the black 'awa , or below it?

IN: Above the black *'awa* , yeah.

CD: So maybe, around here?

IN: It's quite a lot of *lo'i*. The one on the Lahaina side, that's on the Lahaina side of the yeah, that's uh-

CD: So we'll just kind of go like that.

IN: The Lahaina side of the-

CD: Stream.

IN: Is that the Lahaina side of the-?

CD: Yeah, yeah. So this is Lahaina and this is Kahakuloa.

IN: And then this area seems to be flatter, but I think, I didn't see any *lo'i* in here but it seems to be flatter. Maybe the *lo'i* must have been ruined but, this area is nothing but, going up steps [terraces] and after that flatten out and beautiful round rocks placed all around there.

AC: So you know the families that owned and took care of these?

IN: I don't know, but I know that in this area going up, in Honolua. I know for one someplace on here going up the Honolua Bay Stream, I think, you know that Mrs. Shim?

AC: Yes.

IN: Haili family? Either the daughter or the niece, what was her name? Anyway, she asked me if I could take the mother to an area above the road going up, and pretty far up, anyway, she said there's an area that she called Point Six because it's .6 acres that they owned. So I tell her, "Yeah I'll take her up," but when I seen her I said, "Oh, boy, she's not in condition to go up there," you know. Anyway, I tell her "Ok you wanna go?" So I say "we'll go slowly," but we didn't even reach the gulch, you know and she said "Oh, I gotta sit down." "Ah, ok, Mrs. Shim" She even brought a surveyor, said, "I gotta sit down." I say "You know Mrs. Shim, I want you to exercise, get your health in good condition again, I'll take you up there." She said "Yeah, yeah, yeah. You know that place is, you cannot miss the place." *Laughter.* She said, "You cannot miss the place, there's two mango trees right in front of the house!" I tell her "Mrs. Shim, look at this! Look at this!" There was mango trees, the seed came down and all mango trees all over the place! She said, "No! You can't miss it!" "No, there's mango trees all in that gulch." That's, I would classify that as an invasive species, but you know, I'm not kidding, that thing just grows and grows and grows and wherever they can find root they'll grow. So I tell her "Mrs. Shim, I can't believe- I don't think that you gonna identify your place by the two big mango trees." Forget it. *Laughter.* She passed away, I think.

CD: Did the surveyor ever get up there?

IN: No, because she knew the place. The surveyor didn't know the place.

CD: So I have- here's a list here. It was .6 acres?

IN: Yeah.

CD: Up Honolua Stream?

IN: Honolua Stream. I think the daughter or the niece was named Ewalani.

CD: She did? There's a Shim here, but this isn't the area. Mary Shim. This is further north up the road. Matter of fact, that's Honokohau.

IN: This is the Punalau area. This is the Honolua main road.

CD: Punalau?

IN: Yeah, this is Mary Shim's area here. Who's that, um... This Haili girl, she married a Shim, so she get Shim's name. This ok, this is Phillip Chun. Ah-hip, we used to call him- Ah-hip, Phillip Ah-hip Chun, this right here.

CD: This is Honolua Stream, now here's some old land claim awards, And then you read these names and that's who owned them back then, but I don't see a Shim.

IN: It was, let me see. This is pretty far up.

CD: Not too far. Here's the tunnel, here's the ditch, and here's the forest reserve line, so it's below- more below the tunnel.

IN: But in relationship, because this is where we started, I think.

CD: The bridge.

IN: Yeah, no. Yeah, this is where we started to walk. Well, she walked 'till about here and she kind of gave up, and I told her "You know if you can go, we have something like a hunters trail going up, and if you can, you know, be strong enough one of these days I'll take you up there." But I didn't know that there were this many houses over there.

CD: Well, we're not really sure what these are, but what we do know is that during the Great Mahele, somebody who lived here claimed this property as theirs. So that's what these are, these are Land Commission Award numbers from around 1848.

IN: Wow. *Laughter*

CD: And, so, well the neat thing is that, see these- these are the people who are on title as owners, you know, back- this is not completely accurate 'cause it's, uh, you know, it could have change hands by the time this TMK map was made; it could have been bought or sold or something. But, these were the people who were attached to it at some point in time.

IN: Annette Kaiahua, she lived right here, right?

CD: Yeah.

IN: Yeah, yeah.

CD: Yeah.

IN: So when she called me and told me that next to Kalua's house- because Annette's-

CD: Yeah.

IN: Husband used to be- we used to call him Kalua.

CD: Yeah.

IN: He was Kalua Kaiahua so, you know, was thinking how Kalua over here? This used to be Mary Kalua's place. That's the old Kalua's residence. Actually, Bruce Kalua, the oldest one, just passed away, I think. They have the funeral pretty soon, I think.

CD: It was yesterday.

IN: Oh, yesterday.

CD: Yeah. I just found out. They were all over here yesterday. I said, "Oh, no, I better go up there."

IN: But this is Annette's place, yeah, because-

CD: Yeah.

IN: I knew this- Annette used to be, oh... Primrose, Ledward? This used to be Anne Ledward's family, I think. Annette. Ledward or, the people that live over here, what their name now? Manuwa, Manuwa girl. I think she used to be a Manuwa girl, I think. And then we used to have another girl in my class growing up in grammer school- her name was Primrose [Isao said that he is unclear about the names and relations mentioned here].

CD: Keahi? Was it the Keahis?

IN: Primrose Ledward.

CD: Primrose Ledward.

IN: Yeah, Ledward. She used to stay with her grandma, but the grandma that was a-that's- we used to call it the Manuwa house but the grandmother's- you know, she was a Manuwa. But I think one of the daughters married a Ledward, and he had a Hawaiian name, oh, I don't know. He was a kind of albino looking kind of person, cannot stay in the sunlight. Got no pigment, and so, you know, he was a fair- real fair looking boy.

AC: Those are the grandchildren of Sam Manuwa?

IN: I don't know who is Sam Manuwa. Sam Manuwa must be according to David Flemming, one of the Manuwas was taking care of the shipping stuff for the Mala Warf. So.

CD: Here's a Stanley Manuwa. Stanley,. Paul, again, Stanley and Paul, here.

AC: And- but the Manuwa House is the one that's closer, makai, *of the bridge.*

IN: Yeah, this the road over here, so it's just about here.

AC: Yeah, right.

IN: Yeah, we used to be, you know, when we were kids this is a big, big cliff over here, you know. And we used to come down from the cliff, and we come- no, come down from the

mountain, and we used to come over there and used to be lots of round rocks over there. So we used to get poles and we used to dislodge these rocks, and she would come outside from the house, you know, and she's really yelling "You kids, I'm gonna call the police!" Then, hey, boy, by the time the police come over here we'll be home already! Oh, but now when I think of that I feel so sorry for her, anyways. 'Cause she was scared, because you know. Actually, the boulders cannot go to her place but, actually, she was thinking of the boulders going up to her road.

IN: But, we were kids, and then when the boulders of rock rolling down, and the trees, you know, cannot even hold them back, and go "boom boom boom," and here we go "Ha ha ha!"

Laughing

CD: You would roll 'em down?

IN: Yeah, actually, they-

CD: From which side?

IN: From Manuwa's House. Yes, she can see it so I think it was someplace on this side. Right above this road. Right above this road, someplace. It's a pretty high place going up.

Laughter

CD: So, the Manuwas that you knew, what was their first name?

IN: I think it was Sam Manuwa- Sam Manuwa, I think. We used to call him Sam Manuwa. I knew that he was living here at the time I was living here, but I didn't meet that man.

CD: Do you know any of his grandkids, or are any of them still around?

IN: No, I don't know their decedents.

CD: Where they are?

IN: Yeah.

CD: But, you remember the house, and did you say that they had a family cemetery there?

IN: According to what I read- according to what, what you call it, somebody told me, but according to this archaeological survey stuff that I've been reading, there are some graves over there. And, actually, those graves, actually, was identified, actually, by a Japanese, again, Japanese man. He said this grave is the Manuwa's grandmother's grave. Actually, he said the reason why these things like this are happening is because in this Honolua area, ok, during World War II, I think, right after WWII, the Hawaiian people that has been coming from, I think, to stay in the Honolua Camp came, and then I don't know where else they came, maybe some from this Honolua area. Ok, all left. They all left for better jobs in Oahu, like truck driving jobs, and mostly truck driving jobs in Oahu. And very, very few remained. And the ones that remained the only one I can think of, the Ka'aihui boy, up in the mountain he doesn't care about the-

CD: Ka'aihui? That lives there still? Right here?

IN: Yeah, there's a Ka'aihui. There's two Ka'aihui families.

CD: Well, I think there's a Ka'aihui and then-

IN: Kaiahua.

CD: Ka'aihua.

IN: Kaiahua.

CD: Yeah.

IN: That was their name. Ka'aihui. That's the- in fact Ka'aihui came just in the, oh, 1900s, early 19- just before the then. And, also left but I think the Ka'aihui, some of the Ka'aihuis, stayed back and that Earl Kukahiko, Reverend Earl Kukahiko is still around, but ever since he went to high school he didn't remain in Honolua. But we remained in Honolua and things were passed down to us, so we kinda know. But they know this- actually, I don't know what they think, maybe some people don't trust our word or something, I don't know. I have this feeling anyway, but I don't want to say too much, you know, but we know a heck of a lot. In fact, fishing alone, we don't use not one Japanese language when we go net fishing, or when we made net. The needles we call *kui*, you know, and *piko* were the center pieces that we used. *mana*, and all you know, everything is, what you call it, Hawaiian, see? If we talked to another Japanese person or the Hawaiians and they would talk to us when we go fishing and there was not one Japanese that talked, not one English, it's all Hawaiian. And, you know, I hate to tell all kind people this kind of stuff because they kinda don't- I have a feeling they don't trust us, so, well, I'll just leave it at that. Pretty hard for us to converse with the Hawaiians nowadays. Only those kind of intelligent people, you know. It's pretty hard. I'm not kidding. *Laughing.*

CD: Did you fish down at Honolua too, then? Is-

IN: Beg pardon?

CD: Did you fish down at Honolua?

IN: Oh boy. *Laughing.* Oh, yeah. One of my favorite areas was the, um, in fact, is- in fact it's not even on the map. You call it the- we used to have a big water tank over there, and there used to be had one small protrusion right into the ocean. We used to call it the Big Puiwa. But it's not even on the map because the local Hawaiians used to call it Puiwa Point, and the point going out to the place is not Puiwa Point. That's a big, big point. I don't know what you call that point but, anyway,

AC: Lipoa? Lipoa Point?

CD: Puiwa Point? Was it... So here's Honolua Bay, right here.

IN: Ok, this is Honolua Bay.

CD: This is the big, big, big point. So this is- this is...

IN: Ok, this is Lipoa Point. Ok, this- I think it must be this protrusion or this protrusion. We call it the Big Puiwa and the Small Puiwa. And from here we used to, just to mark the *akule* schools and for the Hawaiians to say what direction you should go to your netting inside, there used to be a coral head right in here. We used to call it Pohaku Poe Poe. Don't know this- nobody know what the heck what it was called Pohaku Poe Poe for: "what the heck you talking about?" you know. Used to be a big coral head, so. I don't know what is the meaning of Pohaku Poe Poe, but

we used to call it, It came down from the old Hawaiians, you know, until our time. But now it's gonna- well, nobody knows about it, so. Just leave it at that.

CD: Do you know if that coral head is still there?

IN: You know, with the amount of the coral that has been dying, I don't know if it's there. And I don't like to stop over there because too many tourists, too many *pakalolo*, what you call it, salesmen. I don't like I think the last time I seen it, I seen it from the,

CD: You mean drug dealers?

IN: Yeah, that's what it is, is the drug dealers. Yeah, we used to watch from this area over here. Right here.

CD: Like, spot?

IN: Huh?

CD: Like watch the akule *schools?*

IN: Yeah, we used to watch this *akule* schools in here, this comes, a little before it used to be plentiful. You know *akule,* there used to be a heck of a lot coming in here, so they used to, designate one they used to give a name to just one rock, you know. And everybody would know where Pohaku Poe Poe is. You go this way *mauka* of da kine, *makai* of da kine, or outside of da kine, this is could tell that. Because, "Oh, this Pohaku Poe Poe, so we gotta' go outside of that. Go, go, go." Because the ocean is so, in fact, you look from over here its small but, you know, you go in the ocean it's a big place.

CD: Yeah. And these, can you tell me again how did you use these two protrusions.

IN: Big Puiwa, Pu-iwa. Puiwa. Used to call it Puiwa. Iwa, actually was a type of rock.

CD: Iwa?

IN: Yeah. Iwa is the kine, a Japanese name for a flat rock.

CD: Oh, really? Laughing. *That's a coincidence.*

IN: Yeah, but we used to call it Puiwa and, ah, Small Puiwa.

CD: And did you say somebody stood here? Or you guys used it as...

IN: I don't know what it was, anyway. I don't know why they named it Puiwa, but anyway, these small- here in these small prominence, they used to have a name.

AC: And you used the coral head to see the direction of the fish?

IN: Yeah.

CD: As a landmark in the Bay, yeah.

IN: That is what I think it was for, you know, but I don't see any reason why they should name a coral head, you know, Pohaku Poe Poe. Used to come right around that area all the time. It's pretty deep so the practice is that you would put the net around the school and later on they would lead the nets all inside, you know, something like a tennis net, all the way through the Bay. Then people come over there and pull the net. It's not that (inaudible) but it's just a net.

Used to pull the net and later on, when the fish comes pretty far inside, then they put a bag and they bring up the fish from there.

CD: So, what role did you play in akule *fishing? What did you usually do?*

IN: *Akule* fishing, actually, at the time I was a small kids so actually, all we did was pull net. Or make mischief, in other words- actually, we go there and steal fish. *Laughter*. We would dislodge this rock and make a small little opening, a small little, and water, or what you call it, pool, you know, then the *akule* they just go into it. One would come inside and we would grab it and pull it in. That's what we used to do. But going down there and just pulling the net alone we'd come home with maybe about five *akule*. They'd give us our share of fish so we had enough fish for dinner, for next lunch, and everything. We had a lot of *akule* at that time.

AC: So how many people would participate in something like that?

IN: The whole camp, actually. Whoever came down to the beach, they'd help with the pulling of the nets and getting the boats up and taking care of all those carrying the net onto the racks and things like that. We had a whole camp. Nobody would refuse, anyway, everybody wanted to come to help would take something.

CD: Was there ever, a fish processing plant in the are- right down by the Bay? By the Manuwas? Across the foot path from the Manuwas?

IN: Not that I know of. Because, I don't think that at that time we had, the old Hawaiians had used enough nets or things to get enough fish to process. When time for *akule*, yes, there was a market that would take all the fish that was caught in this Honolua to Napili area, caught by Baldwin Packers. They would take all the *akule*. And the Baldwin Packers had an ice maker, so they used to make their own ice and give it to or sell it to give it to us, to all these employees. So when - I repeated this many times - but we used to have a box we used to put ice inside and we used to put the perishables in there, so we used to call it a ice box. That's how the term ice box came to be. *Laughter*. So, anyway, this *akule* in I think something, like, 1960s, I think, the *akule* for some reason just disappeared. We didn't have any *akule*. Not even one. And the *'ōpelu*, that's another mackerel, they kinda went away, and the Jack Crevalles went away. And, much later on, the *akule* starting coming back. When the *akule* started coming back I had enough net to get the first school of *akule* in Honolua Bay, and that's how we started. We started another gang that started bringing in *akule*. Then, at first we making our own nets, then we got some nets from either Japan or Korea, the cheap nets. All you had to do was put floaters and lead on 'em, and they were real durable. They were one of the best nets, anyway, really nicely made. And we started our own gang. We used to catch maybe 5 tons, 6 tons. That is, after we get through working, now. We go down there, put the nets around there, and put 'em in a bag. Sometimes all we get is headlights, you know, from cars shining into the water to finish our work.

CD: When you made nets, what did you make the net out of? When you made them yourself?

IN: At first we used to make it out of *aho* cord, it's a cord. A regular cotton cord. But the Hawaiians called it *aho*, so you know.

CD: Aho*?*

IN: *Aho. Aho.* Just a cord, yeah. So # 9 cord. We used to- a pretty thin cord. Then they upgraded to nylon. Nylon was good because it was light, and a smaller material, and strong. Then, later on, they went to monofilaments. We didn't make any of monofilaments but we bought those nets from either Korea or Japan. And those nylon nets, again, for fencing and bags we bought it from Japan.

CD: So, all your fishing, you were saying, you used all the Hawaiian fishing terminology? That's what you learned. Was it during this second round of akule *fishing that you did? Or when you were a kid you learned that?*

IN: The way I learned how to make the net was from my neighbor, my neighbor who came from a fishing village in Japan. And I think they were, if I'm not mistaken, I'm pretty sure that they were the first ones to put the nets in at night to catch lobsters. When we were in Honolua, I think they were one of the guys that used to, one of the families that used to stay in Honolua Bay. There were nine families in Honolua Bay, and they were real good fishermen. Fisher families.

CD: Nine families?

IN: I think nine. Nine, oh say, nine homes over there. So, they had a small canoe and they even brought those, not brought, but even fabricated their own fish traps. Nobody knew about fish traps at the time.

CD: And this was Japanese and Hawaiian families?

IN: No, this was just a Japanese family. They came from Japan so, the husband and wife came from Japan. Two boys. They kind of- and that's the first time I heard of, what you call it, nets and traps and things like that. And that was, actually, almost before my time that they were setting those traps and nets. And when I was, I think, a freshman in high school the lady taught me how to sew nets, but she couldn't say "needle" because she was Japanese and I didn't know what she was saying. She was speaking Japanese. So she led me around, "You cut this," you know. She teach me how to place those cord into the needle, then tie it. She teach me how all those knots, you know, how to make it, and all those spaces, and all those things. Later on, she'd teach me how to make those throw nets, but the way they made the throw nets was pretty hard for me to understand. And later on, when the Filipino people came, I really learned from them how to make those throw nets. When I was in high school I made enough nets to cover an entire bay, you know. And I was pretty popular because everyone wanted to use a net and they say "Hey, let's go fishing! Let's go fishing!" Yeah, so, "Ok, let's go." Take the nets down and then, after that, she taught me how to repair those nets. So when the first school of *akule* came in we used all the nets. That was right in Honolua Bay. The coral were just plentiful. And the nets were just almost totally ruined because the water was dirty and we just seen the black stuff in the water, so later on we started to make some more nets and then we started that *akule* gang.

CD: So who did you learn all the Hawaiian fishing terms from?

IN: That was another Japanese, little bit much, much older than me. And he used to fish with the Hawaiian people. And, actually, his family from Japan didn't know anything about fishing. So they had no ways of communicating or asking about this, except to learn from the Hawaiians, because he fished with the Hawaiians, *akule* fishing with the Hawaiians. You know, *manini*, and all this stuff there. He used to try pull in the nets so that is how he learned this Hawaiian

language. We started to go with them as youngsters. He would tell us, as a small kid maybe 14 or 15 year old, you learn fast. They tell you, oh, "Nahe, nahe, nahe!" "Don't have nahe!" But you see them guys pull it, "Oh, nahe!" so lift up and pull, ok. They lift up and pull.

CD: Oh, so as a teenager fishing with that man. Do you remember his name?

IN: Huh?

CD: Do you remember his name?

IN: Yes, he passed away but his name was Nohara. The heck his first name was, oh, I forget it. *Laughter.* I forgot his first name.

CD: That's ok. Nohara's good.

IN: Nohara. Jack Nohara. Jack Nohara.

CD: Jack.

IN: Jack Nohara, yeah. His son is the- used to be the last Maui Pineapple Plantation manager.

CD: Is that Wes?

IN: Wes, yeah.

CD: That's his son?

IN: That's his son, yeah.

AC: How did your parents come to that area?

IN: My parents came when, my grandfather, actually, went to Pukoli'i first, worked as a laborer in the sugar cane field. But at Pukoli'i I think the dust didn't agree with him and he had asthma all the time and couldn't go to work, so he came to this place over here to- it wasn't even Baldwin Packers yet, it was Honolua Ranch at the time, I would say. He kind of was a contractor farmer, at the time. Contract a whole- many, many acres of the pineapple field. They would- people there- I think the company would plant it for them but they would maintain the fields, harvest the pineapple, you know. The fields would be maintained by them at all times until the next cycle, when they would plow it down and somebody plant it for them. So that is what he was doing in the beginning, then later on my grandfather was the supervisor and they had some disease that was hard to eradicate and my grandfather was a kind of a good in that, you know helping, some kind of crown rot or something like that, where the pineapple got rotten. Get into the fruit and the fruit rots. So you kind of notice that and you cut the top off then they have good fruit. So his job was to identify those things and cut those tops off. And another one was- we used to call it collar. When the pineapple fruit was growing out they had a lot of side shoots coming out, some of them would come out from the fruit and those eyes would come out from the shoots would come out you know, lots of them. So what you would do is actually cut the top off again so that when the harvest crowns for the next time for planting, you don't have that infected, not infected plant, but bad tops, you know. Bad tops. And I can remember when I was, oh boy, real youngster, the boss used to come to my grandfather's house and knock at the door. That was Christmas time - almost Christmas. And he said "Komoridasan, here," you know. "Oh, ok," he said, very nice, "Thank you!" And when he opened the envelope, at the time, he show us,

"Look at this!" Show us $500. "This is $500." And he never used to like my father. They never used to get along. He said, "This is more than what your father makes in one year!" *Laughter.* And believe it or not, at that time those lots up there Alaeloa points, they were selling for $250.00 a lot. But my grandfather didn't want to buy, all he wanted to do was go back to Japan and buy those fancy places up there. That didn't work out, actually. War started and things like that. But my father came from Japan too. Then he worked in the sugar plantation over there a while then he came over here and he married my mother. That was my grandfather's daughter. And my mother was a tailor.

CD: A seamstress?

IN: Yeah, she went to school and she learned tailoring and she made all the clothes for these pineapple workers, for Baldwin Packers. All of them. She made those, we used to call them chaps, she made all those chaps, long sleeve shirts and pants, and things like that. Then, actually, she got kind of sick and she had to give up that practice and she also had to a sewing school and she used to teach those girls to sew. So that's my father, and my grandfather, and my mother.

CD: What was your mother's name?

IN: Masao.

CD: And what about your dad?

IN: My dad was Shiroku.

CD: And what was your grandfather's name?

IN: Komorida. Tsunehachi Komorida, yeah.

CD: Wow.

AC: What year did he come to Maui?

IN: Oh boy, I think my grandfather came, oh boy, just about the, should be about the 1900s, I think, yeah. One of the first people in the sugar plantation, I would say. Then he moved to pineapples.

CD: And so he never did buy any property over here?

IN: Oh, boy. *Laughter.* You should see, because my, you know that Cockett, that old man? That man used to come to my thing- because Cockett used to be one of the, some kind of supervisor, I don't know what kind of relationship he had with Baldwin Packers or Honolua Ranch at the time, but he used to come often to our place and they used to argue- not argue, 'cause he wanted to sell a portion of his land above the road, and Cockett has the place below the road, and that was a big area good for farming, and Cockett used to come and say, "Komoridasan, I sell you the place over there, three cents a square feet." Three cents a square foot! Knowing my grandfather, I knew he wouldn't. So he would just toy with Mr. Cockett, "Ok, well, Cockett, you can go to two and a half cents I buy." And the next time he come again, "Komoridasan, how about three cents a square foot?" "No, two and a half cents!" That thing has been going for I don't know how long until I don't know maybe he found a buyer for three cents a square foot. *Laughter.* And now, you cannot buy that place.

CD: No. So that was further down in Kahana? Did your grandfather have a garden there?

IN: No, my grandfather had a- my dad had a garden right here.

CD: Right here?

IN: You know, the Mauian?

CD: Yes.

IN: Mauian. Ok, my father, actually, during the war he was taken down as a, what you call that, a POW, a concentration camp, yeah. So he was taken to that, what you call that, Haiku first. Was it Haiku? Yeah, then later on to Oahu. Then he was supposed to be shipped to Santa Fe, New Mexico, but I don't know for what reason. But they supposed to go on to the plane, they diverted him out to another plane, and brought him back to Maui. Because they couldn't find anything wrong with, these accusations say that he's a spy, and all this stuff. But in the meantime my mother hired a lawyer and the lawyer cost money, you know, oh boy. That is how we lost much of our savings.

CD: Wow.

IN: So, when he came back he leased the land, but I think he made an agreement with Mr. Joe Amaral who used to own the land up here, and he said that- because Joe Amaral, at the time was living there on Oahu at the time and nobody was taking care of the land. So my father cleared up the land over here and that was during the war. Right after- during the war- WWII anyway. I came down with him to help him out and he planted a lot of cucumbers, and corn, and peanuts, all up this gulch. Next to, the south side of- used to be the military R & R Center. So these officers used to come across the trail- we used to have a trail in the bushes that used to come to our place and used to- tell order some of the vegetables and serve them some of the vegetables because they didn't have any fresh vegetables, so my father said, "Sure, sure, sure!" So, he gave whatever he didn't want and just gave it to them and they took 'em home by the boxes, and when they came back they came with these unused portions of those, you know those big Bolognese, and we can't get that, no ways could we get those Bolognese or any kind of meat product at our store at that time. Oh boy, we were the only ones that had all these fancy of food, you know. *Laughter.* We kind of traded with them plus they gave some money too.

CD: Oh, wow. So that was right next door to the Mauian, was a officers'?

IN: Right in the Mauian.

CD: The garden? Or where the officers had their,

IN: The officers' was off to the other- It's the Mauian then, going up the cliff, here, right over there.

CD: That's Honokeana Cove, that little hotel?

IN: Not Honokeana Cove. It's right-

CD: Where the General Store is?

IN: Huh?

CD: Where the General St- Napili General Store?

IN: Yeah, yeah, yeah. Right by Napili General Store. That's basically the, what you call it, the military where they were staying at. In other words, Mr. Flemming was so strict that we had these Kapalua Bay that was for us to, for the workers over there. That was only for the workers, not for military personnel.

CD: The beach?

IN: The beach. The whole, and the water also. If he see any people with white skin in there, he come down with actually throw rocks in the parking lot. He start throwing. He throwing, throwing, throwing, "Get out of there!" He wouldn't swear because he was a God fearing man so he would say, "Get outta there" in a high voice. "Get outta there, get outta there," throwing rocks. Not to hit them but just to scare them, throw here and there. And there comes, "You folks have a nice beach over there, why don't you folks stay on you guys own beach, you know? Don't come over here!" Oh boy. *Laughter.* That was the last, latter part of WWII, at the end. So again, another thing is that Kapalua Beach used to be named Flemming Beach. Folks knew it then as Flemming Beach. Or we used to call it what the heck Public, Public Beach.

CD: Oh.

IN: We used to call it Public, and Mr. Joe Amaral told me that, you know he said his grandfather told him that, you know, I don't see how entities like Baldwin Packers or Maui Pine would get hold of this bay over there. That place used to be a camping place, or resting place for the people that used to walk around the islands. It used to be a resting place there.

CD: Kapalua Bay? Like, what's now Kapalua Bay, that kind of small one? And the Ritz Carlton's right there now? The Residences? The Ritz Carlton-

IN: Kapalua Bay is this bay right here. Napili Bay, then the next bay is Kapalua.

CD: Yeah.

IN: Yeah, that's the one. That's the one.

CD: So that was Public.

IN: Yeah, we used to call it Public. So, Mr. Joe Amaral was much, much older than me. He used to tell me that his grandfather told him that used to be a resting place for these Hawaiian people that used to come there. He said, "You know, it used to be for everybody, but not for any one." Not for one person to own, you know, in other words. But that place used to be for everyone. He don't know how come this one entity like the Baldwin Packers owns this place, you know. Then I was thinking, why did they call it Public? You know, maybe they made an agreement, you know, that we're gonna use this place, I don't know with who, but we're gonna use this place for the public now. But at our time, when they ask us, "Where you going?" "Oh, we're going Public." That was just a common, common thing to say, "Go to Public." That was Flemming Beach, and that was Public. Then after that they turned the Flemming Beach to D. T. Flemming Park, and this place over here to Kapalua. So, I kinda in the process of writing the name changes in this area was so sudden, so much, in other words. I wanted to find out what is so magical about Kapalua? The airport, or the Kapalua airport, is Mahinahina now. Ritz Carlton over there, Kapalua Ritz Carlton, hey, that's Honokohua now. When I was going to school, ok, used to be Honokohua School. That's right were Ritz Carlton was. And the place where we used to stay

used to be Honolua. Honolua Camp? My post office used to be Honokohau Post Office, it's right in the same area. Honokohau Post Office, Honolua, Honokohua. How do you like that, huh? *Laughter.*

CD: All in the same.

IN: All in the same place, all in the same place. But now look at this- Kapalua has taken over all these places. And, I was telling my brother that, you know. "Hey, this place has changed so much, you know." Then he told me, "What school did you go to?" Then, "I went to Honokohua School." Then, "Look on a map if you can find Honokohua." Sure enough, when they look at this place over here, there's no Honokohua, there's Hono-ka-hua, you know.

CD: Hono. so you called it "ko" with an "o"?

IN: Yeah, Hono-ko-hua. And then, when I look at my birth certificate, it says "Born in 1932- December 2, 1932 at Honokohua, Maui." Our school banners, they said Honokohua School. So my brother asked me, "When did they turn it to Hono-ka-hua?" Laughing. You know those changes that are going on, I don't know for what reason.

CD: Yeah, that happens.

IN: I don't know who does this here, but maybe I'd like to do research and ask how did these changes come about?

AC: Yeah, when we were looking for Honolua Camp, we were looking on the old maps in Honolua Bay area, and then went "Oh, it's the one over in Kapalua." Well, what's now Kapalua.

IN: You seen that Norfolk Pine trees coming up? It's going to be kind of confusing what I'm going to say, but, it's the Office, we called it the Office Road coming up? When you coming up the Office Road, on both sides of the Pine Trees to the Honolua Store, both sides used to be the Hawaiian Camp. And the Hawaiians used to live there. And when you go further on up, right by the art place over there, across to the Kahakuloa side, that used to be the Japanese Camp. And when you go down to the Honokohua Bay area, used to be another camp over there. That used to be the Filipino Camp. And later on Kahuiki they had this Hawaiian Filipino mixture, you know, Spanish people that used to stay there.

CD: Kahauiki's mauka*? Further mauka?*

IN: Kahauiki? Yeah. You know this Kahauiki below here had this the road we had this Kiki House. The house is not there anymore. And we had this Ka'aihui house, John Ka'aihui house.

CD: On the way to Honolua?

IN: Yeah, on the way to Honolua. Then above the road we had these, we used to have these two or three families that used to stay there. I know distinctly because my mother used to sew their clothes and take them to their place, so, many people didn't know but there used to be some Hawaiian families, a couple of Hawaiian families, and I think three families lived in that area.

AC: We have a map, I didn't bring it though. We have a map of all the camps.

IN: Oh, yeah?

AC: Yeah.

IN: Oh, yeah?

AC: Yeah, we do.

IN: You mean that Honolua Camp? You know, we just got through working on that.

AC: Oh, yeah?

IN: Yeah, because it's for the Pioneer Mill museum. They want to include the Honolua Camp into it, so. Oh, maybe about three months ago they came around and asking these old people - old people! *Laughter.* Who were living in these homes at this time. And, you know, we kinda paced up all these roads and the houses in between and who occupied those houses at the time. Got quite a lot of input, but there's still some kind of things are not right yet, you know. Because, especially our first elementary school principal was Mr. Noda, but they put over there Mr. Osakoda, Osakoda came much, much later. Mr. Noda was first, so these are things that we have to correct, you know, before they can really put it out, you know. Because it'd be kind of embarrassing when this- you know, some kind of young people come over there, "Hey, I know we used to live here but we don't even see our name!"

CD: Yeah.

IN: It'd be kind of bad, so. Can you get me a copy of that map?

AC: Yeah.

CD: Which one is it?

AC: It's the, Robert found it. It's just the map I found.

CD: Is it that little book?

AC: No. We have it. I'd have to print it out, 'Cause we were looking for the churches. We were looking for the church, and then we saw there were, like, four churches in that area, so, yeah, it's the map of the camp, though.

IN: That was the Methodist Church, the Catholic Church, and the Mormon Church, and, , Kukahiko's Church. That's Presbyterian? Kukahiko is, it's not Presbyterian.

AC: Episcopal?

CD: Episcopal? No?

IN: No, no.

CD: Presbyterian?

IN: No, I think-

CD: I just read it yesterday.

IN: They have another branch. In Kihei they have another church, Kukahiko Ch- something like that.

AC: Yeah, Ke'eho. Or...

797 *CD: Keawala'i? (*Keolahou Congregational Hawaiian Church?)

798 *AC: Right across from the canoe club.*

799 IN: Yeah, because-

800 *CD: Oh.*

801 IN: As soon as you enter Kihei, in fact, it's on the mountain side there. Yeah, because I walked
802 into that church once and went, "Wow! That's Reverend Kukahiko!" Then I found out at that
803 time the one in Lahaina, too, that big church in Lahaina. That Hawaiian Church?...

804 *CD: Or Waiola?*

805 IN: Yeah. Waiola. That's Reverend Kukahiko's.

806 *CD: Yeah.*

807 IN: Maria Lanakila Catholic. We had one Catholic church, um, Sacred Hearts Catholic Church
808 right next to the Honokohua School. Then later on it up to Honolua, right near where the
809 Honolua Store is.

810 *CD: We have some questions, specific questions about, kind of what we were talking about*
811 *earlier. There's these walls. This wall here, ok, so this is the one that is right at the base of the*
812 *cliff?*

813 IN: Yeah, right at the base of the cliff.

814 *CD: And, we stood here and Jimmy said not to go in here cause there's tons of burials.*

815 *AC: He said there's some burials in there.*

816 *CD: So, we- both of us went down there at different times. But, you know that man who's living*
817 *there? Jimmy, Jimmy Billianore? He didn't want to walk in here. He pointed this out. He called*
818 *it a* heiau.

819 *AC: He called it* heiau.

820 *CD: He called it a* heiau. *Or part of one.*

821 IN: No, the *heiau*'s up here. Honua'ula Heiau.

822 *AC: Right. On the* mauka *side.*

823 IN: Yeah, *mauka* side of,

824 *CD: Puhahakau?*

825 IN: No. There's another, I think a little bit bigger *heiau* right above, I think Honua'ula Heiau is,
826 let me see. Where's the road? Where's the-

827 *AC: This is the highway.*

828 *CD: This is the bridge. That's the bridge.*

829 IN: Oh, ok. It's about here. Right-

830 *CD: Honua'ula, yeah.*

831 IN: That's the only *heiau* that I know- these two *heiau* that I know of. That I read about.

832 *CD: Do you remember a time when that* heiau *came across the highway, or was carried over the*
833 *highway?*

834 IN: I wouldn't know because it's kind of close to this place over here and there are foundations
835 right next to the road. There are some rock piles right next to the road.

836 *AC: Yeah.*

837 IN: I asked the- the last time I took the archaeologist out, I asked him what these rock piles were.
838 He said probably a house foundation. Foundation for houses, you know. There are some. And the
839 bad part of it is, there's a home right here.

840 *CD: Yeah.*

841 IN: I think that is part of the Honua'ula Heiau, I would say. I don't know. I just don't know.

842 *CD: Yeah, we met with those people too.*

843 IN: Oh, John?

844 *CD: Yeah, so he showed us the* heiau. *It's on his property.*

845 IN: It's on his property?

846 *AC and CD: Yeah.*

847 *AC: Well, most of it.*

848 IN: I thought it would have to be because just in that area-

849 *CD: This rock wall that follows the stream,*

850 IN: Yes, the stream is over here-

851 *CD: Yeah, the stream comes up and you know there's a wall on this side? There's another wall*
852 *on this side.*

853 IN: On the top side.

854 *CD: So what is the one on the top side?*

855 *AC: But it's on Maui Land and Pine, their driveway.*

856 *CD: But who built that?*

857 IN: Oh, I wish I knew. I think it was built in the 1700s, 1800s, I think. Beautiful, beautiful.

858 *AC: Nice.*

859 *CD: Do you think that's a Hawaiian [built]wall?*

860 IN: Oh, definitely.

861 *CD: Definitely?*

862 IN: I would say that this wall here actually was part of the trail, maybe, that was coming down
863 from this property, part of the King's Trail I would say. I don't know because when you come

down to this- when you come to the Honolua Bay, that trail gets really confusing because of bulldozing and things like that, so, let me go a little bit further back.

CD: Ok.

IN: I asked the pineapple people that I wanted to trace the trail from Kapalua, the golf course over there, in fact that Kapalua Bay area to Kahakuloa. So they gave me the ok. They said, "Ok. Sure, go ahead." So at that time, this was quite some time ago, what I did was camera, binoculars, and a gun. All the time. I used to go in, because, you know, I had permission permit for my gun so I used to go in there. Whenever I had free time I would go in there and look at the trails. There is how I found out about the trails over there. And I seen those trails over there, I think, oh boy.

CD: And these are paved rock- this- the Ala Loa? That Pi'ilani built?

IN: I haven't seen that *Ala Loa*, no.

CD: The trails you're talking about, are they paved with stone, or just dirt footpaths?

IN: They have- they are paved in stone and most of them have boarders. And, that was maybe before I retired or after I retired, anyway, I talked to this Randy Bartlett, I think. He was, in charge of looking at the trails over there. Then, I talked to him about the old Hawaiian trail and I think, you know, really ruined by the cattle. So I think he kind of told the company do not issue any more leases to that area.

CD: So you actually walked this trail from Kapalua?

IN: I have not walked it. In portions anyway. And most of them, some of the trails Really, it's a funny thing, because I was thinking, "How the heck this trail goes from here to there," you know. But some of them spirits I found out, I would be fishing during the night, I would hear these people walking, "*tock, tock, tock.*" You could hear these sounds, you know. Your hair would stand up and, actually, you don't see any walls or rocks or things like that, but they were walking the berm, you know those high sand berms? And that makes sense, that's the easiest way to walk. You don't even have to make trails. Wherever this berm goes, you know. So I was just sleeping in the second bay on a berm, I heard these people walking, walking, walking. Then I was thinking, if this is the trail it's gonna go through one of this ravine over there. The trail has to go right to that place and go up the hill over this way or that way. Sure enough, one day I saw a big wave came over there, cleaned up all those brushes over there. Sure enough there's this trail going straight up, you know. And then the Honolua Bay, actually, this lady, one of the ladies that used to stay there before she became our neighbor, she said that during the night she used to be able to see all those spirits and things like that. She said sometimes she'd be in her house by herself and she'd see a spirit coming right through the wall, you know. Go to the porch over there, put hands on their hips, you know, and look at the big ocean. Then after that, she said during some nights she, drizzly nights, she said from the mountain she'd see something like a lamp coming down. So all I could picture is, if she's looking at the ocean this way, and I know where way the houses were, the trail must be going up that cliff over there, where they kind of bulldozed it and knocked down all those rocks over there. That could have been one of them. I know from Honolua Bay, they can go around that shoreline and come up to the Lipoa Point. Two ways you can go through there, and some you can go, it's another easy trail, that's a long trail

you can go right through the valley and go up to the pineapple field and down the, there are quite a lot of ways over there. And some of the trails, actually, when they made the road, the first time they made the road, they covered part of the trails. And the last time, I think the first time I took the archaeologist, I looked at some of the remaining rocks from the trail. Didn't take long but they repaved the road and covered the whole trail. I was watching that trail, then after that I walked it to the place over there, sure enough there was two small valleys. I walked up to one of them, sure enough there was the trail and it went up to the, almost to the Honokohau, you know when you go down to the Honokohau Valley, goes over there. Stop there and I was thinking how can they go down this cliff over here, you know, they cannot go down this cliff but it's the only way they can go up the mountain. So, sure enough, when I when up the mountain, cleared off some of the brushes, oh boy, beautiful boarders.

CD: And that's the ridge, Honokohau. That's the ridge on the north side of Honokohau?

IN: No, this is between Honolua and-

CD: Honokohau, the ridge right there?

IN: Yeah. It's Honolua. So, Punalau- I don't know where is the, oh, this the road you were talking about.

CD: So the ridge between, here's Honolua and here's Honokohau. And the ridge would ,

IN: Ok, this the, Honolua Bay is kind of a confusing area over here. I know that from here to here there are some, I seen some pathways over here that, from here, I think, this used to be, this is Punalau Point. This is the road that went down this way, coming down this way. I think from here it went down to this place over here and it went down to the, if this the road, I think somewhere around here, anyway, it went down and hit this road over here. And right around this place over here there used to be a nice old Hawaiian road around this area, partially covered. Then, from here on up it went into one of the valleys. Then later on it went up into the mountains and the first valley going into Honokohau Valley, it went down through that and then went across the stream and came up to the Sam Ka'ai's house, before it used to be. You know, back of them. So the cliff area, they went back up to that area and right across the flat into that Nakalele area. And into the Nakalele area, again, this according to this Reverend Kukahiko said that, well, I used to go see him a lot because I used to *kolohe* all kind of itching and everything like that, so he would tell me whether it was spirituals and things like that. But he said, "No, no it's not." But one man went over there, he said he got itchy, went to the doctor and the doctor gave him some kind of medication and the thing started to puss so he went to the Reverend. The Reverend talked to him there, "Oh, you make *kolohe* again. What did you do this time?" He opened a bible and he read some passages from it and said, the man told him he was fishing one night and he got to kind of a level place so he started to shift gear and the jeep died so, actually, he tried to start, tried to start, tried to start, cannot start. So, ok, he went down to another place he seen the people still fishing yet, not ready to give up, so he came back again and the thing would go "goo, goo, goo" but wouldn't start. But this time "goo goo goo", started taken him back he said. Then after that he started to get the itch, then the Reverend said, "You know, that place over there, is it a flat area?" I don't know how the Reverend knew but, you know, he said, "Is it a flat area over there? That night, these people are having a meeting, and you tried to hasten them to stop the meeting, you wanted to try go across, that is what you get- that is why you getting this." He prayed, and

said "Ok, ok, ok, you gonna be fine." So he prayed and sure enough, two days later, was all clean. So you can tell that the trail goes in that kind of an area too. Most of them I can see, but now it's really covered with the soil and the erosion and some of them are completely washed out.

CD: When was the last time you were up there?

IN: Oh, maybe about two years ago, I think. But not walking through that area. I just- because I have a bad leg, so I just took some people around to show them the rock, the trail, yeah.

AC: So you think that rock wall that's kind of along the driveway, for Maui Land and Pine, that's part of that,

IN: Yeah, ok, this, the rock wall is right on the side and the Maui Pine Road is right on the bottom here. And you look on the cliff is pretty, as soon as you enter here it's pretty high on the cliff, then it tapers down to the water level. That was pretty well preserved, that thing. In fact the bottom of the base structures are really preserved, but the other boulders, in other words, these, what the heck, these boulders, the top side, they've been toppled.

AC: How far mauka *does it go?*

IN: How far in? Not too far in. But I don't know maybe that thing has been somehow getting ruined or what, but I don't know. And when you see that kind of stuff you feel kind of, you feel kind of uneasy. But you get uneasy walking around. By myself I wouldn't go, but you know I go with some other people living in Honolua Bay. It's kind of a something like a spiritually highly, spiritually sensitive area. Part of these people.

CD: Now there's this wall on the other side, continues on this side too.

IN: But this wall is, I think, something like a barrier for this river right,

CD: That's what some of these say.

IN: Yeah, this is totally different. It's not a barrier.

AC: Right, but this same wall continues on that same side of the stream and it follows the stream.

IN: Ok, but this wall is different. Have you guys seen this wall?

CD and AC: Yeah, yeah.

AC: We've only seen the beginning of it, the gate, but yeah.

CD: Yeah, we didn't go past the gate.

IN: *Laughter.* That is the, I think, a different, It was for a different purpose, I would say.

CD: What do you know about this wall construction? Do you know who built that?

IN: No, that was a long, long time-

CD: So you think this is a pre-contact wall also? From what you know?

IN: Yeah, yeah. That's a prehistoric time,

AC: Do you know how far mauka *that one goes?*

IN: No, this place over here really is go up to this place it's kind of, as soon as the dirt road ends, well, I haven't gone down and peeked, but you know, I would say it goes straight down into the river, so. They might have some structures over there, I don't know.

CD: Well I think portions of it have been recorded along the stream, not too far up. So we're just kind of wondering if you noticed it further up, this wall along the stream further up.

IN: No, I have not seen any structures like that.

CD: And then, so if the Manuwas, Manuwa? You say it Ma-nu-wa?

IN: Manuwa'a. Manuwa, Manu, Manuwa yeah.

AC: Yeah, two "u"s in there, I think. I've seen it spelled differently though.

CD: Yeah, that's another one that's spelled differently. Their house was here, and this wall would be behind their house? And, do you know what these are, these walls?

IN: No, I think these walls are, they're really, I don't know if they're still there, but you know, I think they're kind of broken down, yeah? I don't know,

AC: This is the same thing, so, here's the house and here's the, there's that one. And so this is the path that comes down, so the road's over here. And these, some of these are burials.

IN: Yeah, yeah. There's quite a lot of burials over there. And the only structure that I know that was made by Baldwin Packers was the concrete, some kind of pillars they made on both sides of the river. It's almost down to the road going into Honolua Bay. Both sides of the river there is concrete structures. And that concrete structures, they used to put these big redwood board over it and the people would park their car across the mountain side of the stream and they would carry the supplies or they would walk over the beams, you know, these redwood beams? And the redwood beams were from the old flume from the mountains, you know those water flumes that they were transporting water? And I think that they had a lot of excess because for some reason I think they made some kind of error and didn't have to use that. And so, I think according to Mr. Flemming, he told me that there used to be a redwood plank, used to be quite a lot of redwood planks they used to walk over. That's the only thing around that area above the road that I know is, that is modern people made.

CD: Ok, as far as you know this wall here is more historic construction,

IN: These are real old, I know. But this place over here is,

CD: So this is Manuwa.

IN: Oh, this is Manuwa.

CD: This is cliff, or the hillside.

IN: I would say the beginning part over here is, I would say the bottom is old construction but the topside is somebody new constructed that. It's a different type of rock, anyway. I don't know where they got the rocks from but it's quarry rock, it's not the old type of round rock and things like that.

CD: And then, in here we were told there're over 60 burials. What do you know about, like, in here? It's kind of brush.

IN: I don't know, but this used to be- where's the road going down to Honolua Bay?

CD: The road? You mean the foot, the, where all the tourists walk?

IN: This a cattle path here, so this must be the road going down to Honolua Bay.

AC: The old road?

IN: Yeah. This is the old road, I'd say, going down to Honolua Bay. Isn't it?

CD: I think so. It's not there anymore.

IN: This is the river, actually, yeah, ok. This is a cattle pen. Yeah, ok, this is the cattle pen, later on somebody raised cattle, but before that it used to be a pig pen or something, ok. But I don't know if all this thing way up, used to have this park over here that during the Baldwin Packers time, and they used to have picnics over there. And we used to have a house over here, you know. A covering, and if you want to rest you can rest in there, a gazebo.

CD: Like a pavilion?

IN: And there was almost 1, 2, 3 different type of palm trees over there. Yeah, one we used to call Monkey Nut. That was, you could crush it and it was edible. We used to eat that.

CD: What'd you call it?

IN: Monkey nut.

CD: Monkey nut?

IN: Yeah, it was something like a coconut but when you peeled the husk off it really, you know, looked like a monkey face. Like a coconut, but more pronounced.

AC: So this was Honolua Park?

IN: There used to be a Honolua Park over here, so if this is the cattle pen over here I think this whole area used to be, I'm sorry. No, no, no, the park used to be here. I'm sorry.

CD: On the other side of the stream? So this is the Lahaina side.

IN: No, this the stream, so this the *mauka* side. This is the Lahaina side, yeah.

AC: Well here's part of the highway, and this is the bridge right here.

IN: Yeah, this is the,

AC: This is the stream.

IN: Right. This is the bridge. So this is the river right?

AC: Yeah, that's the bridge, right here.

IN: Yeah, ok, if this is the river, the park used to be above the mountain side of the river. So the park used to be here, and the homes used to be someplace over here, I think.

CD: Was it a pretty small park?

IN: Was pretty big park, because,

CD: Because there's not a whole lot of space on this side. Is there? I mean, now. Nowadays it seems like there's not a whole lot of space here.

IN: It was a big, big area.

CD: Must have been different.

IN: Yeah, you seen those Monkey Pods, you know? You seen how big the thing spread over?

CD: There was Monkey Pods down there?

IN: Oh, huge Monkey Pods! Yeah, above these there's a lot of- I don't know how many Monkey Pod trees there would be, but in fact maybe from the main Highway when you look down you can see this Monkey Pod and they have this certain kind of vine with a yellow flower that grows over that tree. So, I don't know, Monkey Pods are by the rock in here, yeah.

AC: So here's the stream coming in here. And this is the Highway, right? So the stream comes over here and there's not a whole lot of space between them, so did it come around?

IN: The red is the highway?

AC: Yeah, I think, yeah.

IN: The red is the highway.

AC: So here's the bridge and the stream coming down.

IN: The bridge. No, this area is big. This to the river is big.

CD: So right in there somewhere?

IN: Yes.

CD: Must have been back a little more.

IN: This, what you call it, from the road to this river is a long, long ways.

CD: Could you see, was the park right on the beach? Or a little set back?

IN: The park was right here. The park was right over here.

AC: Oh, ok.

IN: Someplace over here anyway. I think, if I'm not mistaken, I have one magazine, but, it was about the old plantation days. I think it showed the park too.

CD: And it's not- you're not talking about the big park by Flemming Beach Park, right?

IN: Oh, no. That used to be a ball park.

CD: Ok, just making sure.

AC: So it was a cement foundation building there?

IN: It's still there, I think.

AC: Yeah?

IN: Yeah. By the way, the man that knows about that too, I talked to him about it, Mr. Flemming, I think he's about 96 or 97 years old and he's the only person that I know of that used to live there that's still alive.

CD: Does he live on Oahu or in Oregon?

IN: He's in Oahu, he's in Honolulu, Oregon.

AC: What's his name

IN: David Flemming.

CD: David?

IN: The father used to be David T. Flemming.

CD: I think I've talked to him.

IN: Oh, yeah?

CD: He told me- is he the one who watered all the Cook Island pines?

IN: Yeah.

CD: He would roll the barrel down the hill and water each one.

IN: That was I think.

CD: Is that David?

IN: That was Dr. Flemming, I think.

CD: Jim.

IN: Dr. Flemming, I think, Jim Flemming, yeah. Jim Flemming again, I think, No, it was- the grandson was, None of the grandsons stayed here with D.T. Flemming.

CD: None of them?

IN: Oh, oh, I'm sorry, that, ok. D. T. Flemming, he had grandsons used to stay there. And their family used to stay down at, uh, right above the- where the Ritz Carlton is at? Used to stay right around that area, but when four of the kids was in about grammar school, I think, they left here, so. There was not one them that was watering the plants, because at that time already those Norfolk Pine trees were huge, you know. They didn't need any water. They take care for themselves. I think that that was Dr. Jim Flemming, I think. He was a real industrial, real hard worker, so.

CD: Maybe it was him then?

AC: Yeah, maybe.

CD: Whoever I spoke with told me that right after those were planted he had to water them by a barrel. Laughter.

IN: I read the whole thing about David Flemming, I mean David, D.T. Flemming's family and his brothers and sisters and where they came from and whatever, all this history about them. They have a big book about them, the Flemming family. In there, I think it states that, I don't

know which one of them was watering the Norfolk trees, it's a real interesting book. It digs in, what you call it, their, history. Where they came from, and the kids. Right down to the kids.

AC: Do you know of any houses that were in this area?

IN: No. Houses?

AC: Yeah.

IN: No.

AC: No?

IN: No. I only know about the old homes over there because I was,

CD: Over here?

IN: Yeah, around this area. And I knew that across the road, it comes down, if this is the ocean, the Haili house. Used to get the Haili house. Hailis' used to stay there. Mr. Haili.

CD: H-A-I-L-I?

IN: Yeah. That is where Billinore was staying at.

CD: Yeah.

IN: And, you know, the tidal wave came in and knocked the thing down and only the cement foundation, the steps was left.

CD: Ok.

IN: There was this right over here, someplace ok, that road goes here I think right next to the Haili's place, I think this property over here, there's another there used to be a beautiful rock wall, right outside used to be a lot of coconut trees, I would say just about three feet away from the rock wall. And the pineapple company or somebody bulldozed that thing down. That's a shame. It was beautiful, all intact. And I don't know why they went there and knocked that thing down. So one day Jimmy Billionore call me and he told me, "You seen this rock wall over here?" I tell him, "No, no, this rock wall, this is not the same rock wall that I seen." It was all in rubbles, maybe about three or four feet away, just piled up over there. I don't know what reason they knocked it down. It's a shame, in fact. This rock wall was three feet away from this line of coconut trees, and Billionore told me, "that's what I thought" but somebody came to knock it down. I think there was some kind of court case about that, I guess, yeah. Some time, they never asked me certain stuff, but I think he knows more about that area than I do because, actually, he's one of the descendents and he kind of studied about that area now, so. But as far as a mental picture, we have it and they don't.

CD: Yeah. Do you remember when Honolua Ranch was still here? Do you know if this area was used for cattle, for ranching, this, over here, and above? Like, around Honua'ula Heiau?

IN: Uh, yeah, when we used to, when I was young I used to be afraid of going into that area with the cattle. They used to have cattle over there. And I remember that way up in the mountain it's in the Honolua Ahupua'a, anyway, there are some old galvanized wire, anyway, they had some fence line stapled up to the trees here. And the trees had, actually, grown over that what you call that, fence line and the fence and you see only this line sticking out. I know that was that used to

be a fence, a galvanized fence. And at the time it was surprising that they used to use galvanized, you know. It's way, way up in the mountain.

CD: And then you mentioned a big stone? I guess that's what you wanted to show us out there. Remember we were trying to get permission to go look around?

IN: Oh, yeah. They didn't call back,

CD: They haven't called us back either.

IN: ...but, getting back to this Punalau area, I want to share a thing that we seen, there's another person that seen it with me and he's alive yet. I think it was the, some kind of, I think it was in about 1960s or something like that there was a tidal wave that came in and hit the rock wall, dirt wall, and the dirt wall just gave way. And here we seen that on the wall we seen this dark shadow, you know. That's so dark that it's already, real dark. Something like a man, some kind of person hunched like this. And on the side we seen another bunch of bones and, you know, a small little pile of bones. Then we know then to take a look. Wow! We seen this skull, this huge skull And the real thing about it, it had a hook over here [off side of eye].

CD: Made of what?

IN: Bone.

CD: A bone?

IN: Bony hook. Just, I don't know, I don't know what side it was anyway.

CD: A fishhook?

IN: No, just a bone popped out his skull. A bone sticking out. A hook. I know it was a, I couldn't even go near the place. I just was watching go, "Wow!" Then the other person said, "Wow!" And until today this other person says, "You still remember the skull over there with that thing?" I think must kind of worked on his brains and, "Did you see the skull over there with that hook?" But, after that I went over there to look I couldn't find it. But that place must be just loaded with burials- burial places.

CD: And that's Punalau, right here? Is that where there's the trail that goes kind of down, and then it's a real rocky beach? Is that Punalau?

IN: No, not, ok, Punalau, is Punalau ok, come over here you turn up in here there's a road that used to go down here, that's where they had this about three months ago they had this shooting the police shot this yeah, ok.

CD: Oh, that wasn't up here?

IN: No, it was down in this area over here. So now they have this rocky, what you call it,

CD: Barrier.

IN: Barrier over there, so they cannot go in there. But in this, as soon as you get down to this place over here, you walk there, you walk this way, and at just about the end of the sandy area you can see a big rock, huge rock on the, right next to the wall. And then there's a cave, the water had washed the back side away so it's just a rock alone. But right in the back of that rock

there was this huge formation, a huge, dark, you know, dark colors. So, the bone must have been from that thing over there.

CD: Oh, wow.

IN: That was real unusual. So I don't think anybody, so I think maybe there's some kind of legend that says that that there used to be a person with a hook on his eye.

CD: Wow.

IN: And again, going further on, there's a lot of stone structures just past that lighthouse.

CD: Further, towards Kahakuloa? Is that the Nakalele Lighthouse?

IN: Nakalele Lighthouse, ok oh boy. We passed the Nakalele Lighthouse.

CD: Yeah, I don't think we can really see it.

IN: From the top you can see the big, I think two or three, rock structures.

CD: The Three Sisters?

IN: No, not in the ocean. It's on the land. This big it's a could have been a, I believe the complex could be called a *heiau*,

CD: Oh.

IN: It was right next to the ocean coming up. From the top you can see it real plain. But on the side it used to have a cave, you know that was in there, on the Kahakuloa side, in fact. So, in that cave they used to have this canoe and a man decomposed already pretty long, and the hairs was still around, and the blank- I think some kind of a cloth or right around there. Right in the cave, right next to the ocean, close to the ocean, in fact. Then that was when I was kind of young I seen that. After that, I don't know what happened, when I was in National Guard we camped over there, but we didn't see anything like that.

CD: You went back to see if it was there?

IN: Yeah, went around that area and everything was clean. Nothing in there. But before, during the younger time we seen this kind of a old, it's not even mummified it was just a skeleton, and with some kind of covering over it. And there was a really old canoe. The canoe was not big. It was kind of a small canoe.

AC and CD: Wow.

IN: And you folks heard about the, what's his name? The Koa Man? He used to be a *kahuna*?

CD: The Koa Man? No.

IN: Yeah, at our time, when we was growing up, Lahaina was really civilized. No, I'm not kidding. We were living only about ten miles away, but we were really in the sticks, you know. Travel just the distance alone made us, you know, really in the sticks, actually. And we had *kahunas* then. And somebody told me that Mr. Manuwa used to be a *kahuna*, but I couldn't confirm that with David Flemming. But this Koa man was a kind of a nasty *kahuna*, you know. So one day Reverend Kukahiko, went to see him, he told him, I think what the Koa not Koa Li'i, Li'i's the small Koa we used to have another, the brother used to work with the company, but the

Reverend Kukahiko told him, "You know, Koa, you do this kinda stuff, and this thing backfire on you. Gonna be worse than what you wishing on these other people. Let's stop this, Koa Man." And this Koa man, I don't know how many children he had, but one of the girls married this Japanese boy. But before that, when this Japanese boy was going over there, after Koa Man died they found this *'aumakua*. This wooden stuff on the path so what they did was just throw it in the bush. Then, they're walking again, wow, this thing came. So that was a few days later, so they made a fire and they were still kind of scared so they made a fire to burn it. Everything went down, there was this *'aumakua*. So what they did was grabbed the stick and throw it in the ocean, then that thing didn't bother them. But this man, again, I think there was a story written about him and not too many people know about that. He had a pet shark, and he had a canoe. I seen that canoe. And my brother's mother-in-law, she could have been almost a hundred years old by now, but she told me that there used to be a mean looking man down at Kahauiki Point. And he used to have a canoe with a hole in the center. That shark would come into put the fin into that canoe and take him fishing, and I think I read a story about that too. Somebody knows about it and wrote a story about it, this Koa Man.

CD: And published it in the newspaper? Where would the story be?

IN: I don't know where it was, you know. I should have That was quite some time ago.

CD: But everybody called him Koa Man?

IN: No, his name was Koa, actually. His name was,

CD: First name or last name?

IN: The last name was Koa. Koa something Koa. Li'i. No, not, the brother's name was Li'i, because Li'i is the younger one, the smaller, so. Koa something that they used to call him. And then this Koa Li'i had, all the kids that we knew were Albert Koa, David Koa, and all that. They were the Koa family. So, I don't know where this Koa family was living, but I think Baldwin Packers hired this Koa Man to, what you call it, as a truck driver. So he used to be a truck driver for us.

CD: Wow.

IN: Yeah, but that was- I don't think, this things we knew because we were so far in the sticks, you know. But although we were in the sticks we had all those churches already. But Reverend Kukahiko used to really straighten people out.

CD: And this is Earl or Earl's dad?

IN: Earl's dad.

CD: John.

AC: John.

IN: John, John Kukahiko. And then there's another story that when Kiki used to own a lot of land up in, not too far from here he used to own a lot of land and I think he did something, like, exchange it for a house right next to the ocean. And the deed, what was written on the deed, that is what Reverend Kukahiko didn't like. He said that the deed read that in the event that Kiki should pass away the land would go back to Baldwin Packers. So, the Reverend look at the thing

and said, "I'm gonna see Mr. Flemming." Showed Mr. Flemming and said, "Hey, you know no shame do this kinda stuff. He give you all that land for this place over here and you only got this?" "Yeah," Mr. Flemming said, "give me the paper." He changed it. But now I'm thinking, "oh boy", you know, I found out that Mr. Kiki has the descendents in other words but he never had any children. The relatives, the kids, anything, maybe about two or three hundred now. You going to divide that small portion into, *Laughter.* Three hundred, that going to cause some problems, I don't know.

CD: Wasn't there some sort of stone, big stone, we were trying to go take a look at with you?

IN: Couldn't get permission.

CD: It's up in the mountains?

IN: Yeah.

AC: It's big, right?

IN: No, it's not that big.

AC: No?

IN: It's smaller than this table. The funny thing about it is that there's no other rock there. No other rock. The rock is not like the, like the rock that we have over there. Real hard stuff. Maybe it's a meteor or what, I don't know. But it has a lot of indentations, a lot of them. Looks like some kind of a sharpening tool.

CD: There's one in these reports.

AC: That's little though.

CD: Hmm?

AC: It's small, though. I don't know where the-

CD: I thought there was a big one. Like a grid stone.

AC: They have a grinding stone. This is up by where you said your pasture land was, right? Is it that far up?

IN: Let me see, now. There's the Honokohua Stream, this is Honokohau.

CD: How big is that?

AC: Small.

IN: How big is this?

AC: Let me look in here.

IN: Yeah, I've seen this picture before.

AC: Yeah, I think you helped him with this. 15 by 10 centimeters. So it's, you know, not that big. Yeah, yours sounds way bigger.

IN: This is a pretty big rock.

CD: I thought one was, a big one was found and moved.

AC: A grinding stone in '74, found one really close to the beach. And part of this wall, it was incorporated in with this wall that he thinks is part of an old heiau.

CD: Where was that moved to?

AC: He recommends that they move it. I don't know that they actually did.

CD: Ok, so this is different.

IN: That grinding rock they found was, I thought was around this Honolua Bay area, right here I think. Yeah.

CD: Ok, but that's different than what you're talking about?

IN: This is way up in the mountain.

CD: And it's still there? No one's moved it?

IN: No, I think they moved it once. And I think it kind of cracked on one end of the small portion that kind of chipped off. And it's kind of tilted in this position, and when I seen it tilted in position I said, "Whoa, the opposite side is like that too!" So it might- maybe it's a meteor, or I don't know what it is.

AC: Do the indentations look man made, or are they kind of irregular?

IN: But really circular, so I don't know what it is.

AC: What color is it?

IN: It's a dark grayish, almost black color.

AC: And it doesn't look like basalt.

IN: No, no.

AC: Not basalt?

IN: No it's not basalt, because I think that *ulu maika*, where I found that *ulu maika* further on up. That thing's made of basalt, right? It's kind of basalt material. And I think that they can grind that thing. One of the old timers told me that thing ground, said they would chip it down first and, I don't know how they used to make those things, but all different type of- all different size of *pukas*.

AC: What kind of shape? Is it, like, square or round?

IN: No, no, it's like, oh, I don't know. It's not square, it's not round. It has a hole in one end and then after that it comes up to like a- then after that it kind of rounds out.

CD: And if you follow the stream could you get there?

IN: No, you have to go through the pineapple field. That is what I asked these Maui Pine people, but I don't think, good luck with me! Laughter.

Appendix D Land Commission Awards

03692 To Manuwa

Claim Number:	03692	**Awarded:**	1
Claimant:	Manuwa	**FR:**	
Island:	Maui	**NR:**	115v6
District:	Kaanapali	**FT:**	274v7
Ahupuaa:	Honolua	**NT:**	126v5
Ili:	Kaalapa, Kaohe, Waioio	**RP:**	4174
Apana:	4	**House lot:**	1
Loi:	12	**Number of Royal Patents:**	1
Kula:	2	**Pali:**	Yes

No. 3692, Manuwa, January 18, 1848
N.R. 115v6

Greetings to the Land Commissioners: I hereby petition to your Honorable Commission for my claim for land. There are 10 lo'i, and a kula. /At/ Kaakepa, a sweet potato kula. Also, I have a house lot in Honolua.
MANUWA

F.T. 274v7
Cl. 3692, Manuwa

Kenao, sworn, I know the lands of Manuwa. They are in the Ahupuaa of Honolua. They are as follows:

No. 1 is a kula and house lot in Kaalapa.
No. 2 is a kula and 12 lois of kalo in Kaalapa.
No. 3 is a kula only.

The claimant received these lands from his parents in the days of Kamehameha I and his title has never been disputed.

No. 1 is bounded:
Mauka by the konohiki's land
Lahaina by the pali of Honolua pali
Makai and Kahakuloa by the poalima of the konohiki.

No. 2 is bounded:
Mauka by Kaleo's land
Lahaina by the pali of Honolua
Makai by my land
Kahakuloa by the pali of Honolua.

No. 3 is bounded:
Mauka by Kaleo's land
Lahaina by the pali of Honolua
Makai by my land

Kahakuloa by pali of Honolua.

N.T. 140v5
No. 3692, Manuwa

Kenao, sworn, He has seen his land in the ili of Kaakepa of Honolua ahupuaa, consisting of 3 sections. Land from Manuwa's parents at the time of Kamehameha I, no one objected and the boundaries are:

Section 1 - Pasture and house.
Mauka by C. Kanaina's land
Lahaina by Honolua pali
Makai and Kahakuloa by Charles Kanaina's land.

Section 2 - 12 Taro patches.
Mauka by Kaleo
Lahaina by pali
Makai by Kenao
Kahakuloa by Honolua pali.

Section 3 - Kaupueo pasture.
Mauka by Kaleo
Lahaina by Pali
Makai by Kenao
Kahakuloa by Honolua pali.

[Award 3692; R.P. 4174; Kaohe Honolua Kaanapali; 1 ap.; 1.95 Acs; Waioio Honolua Kaanapali; 1 ap.; 1.076 Acs]

03802 To Lohelohe

Claim Number:	03802	**Awarded:**	1
Claimant:	Lohelohe	**NR:**	124v6
Island:	Maui	**FT:**	271v7
District:	Kaanapali	**NT:**	137v5
Ahupuaa:	Honolua	**RP:**	4198
Ili:	Kaulukanu, Kaakepa	**Number of Royal Patents:**	1
Apana:	4	**Sea/Shore/Dunes:**	Yes
Loi:	17	**Road/Path:**	Yes
Kula:	1	**Stream/Muliwai/River:**	Yes
House lot:	1	**Pali:**	Yes
Sweet Potatoes:	1		

No. 3802, Lohelohe, Kaa, January 18, 1848
N.R. 124v6

Greetings to the Land Commissioners: I hereby petition for my 17 lo`i, also a potato kula. it is under Nakula, and is at Hikiapo.
LOHELOHE

F.T. 271v7
Cl. 3802, Lohelohe

Mahuka, sworn, I know the lands of Lohelohe. They are in Honolua.

No. 1 is a house lot in Kaulukanu.
No. 2 is a kula land in Kaulukanu.
No. 3 is a potatoe land in Kaukukanu.
No. 4 is 6 lois in the ili of Kaakepa.

The claimant received these lands from his parents in the days of Kamehameha I. and his title has never been disputed.

No. 1 is bounded:
Mauka by the Government road
Lahaina by Keliipoina's land
Makai by the sea shore
Kahakuloa by the pali of Honolua.

No. 2 is bounded:
Mauka by Manuwai's land
Lahaina by the creek of Honolua
Makai by Kaaiakaia's land

Kahakuloa by the pali of Honolua.

No. 3 is bounded:
Mauka by Kenao's land
Lahaina by the creek of Honolua
Makai by Kukalehua's land
Kahakuloa by the pali of Honolua.

No. 4 is bounded:
Mauka by Kenao's land
Lahaina by the creek of Honolua
Makai by the konohiki's land
Kahakuloa by the pali of Honolua.

N.T. 137v5
No. 3802, Lohelohe (302)

Makuka, sworn, He has seen 4 sections in these ilis of Honolua. Land from Lohelohe's parents at the time of Kamehameha I, no objections and the boundaries are:

Section 1 - House lot in Kalukanu ili.
Mauka by Government road
Lahaina by Keliipoina
Makai by sea
Kahakuloa by Honolua pali.

Section 2 - Pasture at Kauhikanui ili.
Mauka by Kamanowai
Lahaina by Honolua stream
Makai by Kaaiakaia's land
Kahakuloa by Honolua pali.

Section 3 - Pasture at Kaulukanui ili.
Mauka by Kenao
Lahaina by Honolua stream
Makai by Kukalehua
Kahakuloa by Honolua pali.

Section 4 - 6 Taro patches at Kaakepa ili.
Mauka by Kenao
Lahaina by Honolua stream
Makai by Konohiki
Kahakuloa by Honolua pali.

[Award 3802; R.P. 4198; Kalila Honolua Kaanapali; 2 ap.; 4.46 Acs; Kaohe Honolua; 1 ap.; 1.3 Acs]

03803 To Lalahua

Claim Number:	03803	**Awarded:**	1
Claimant:	Lalahua	**NR:**	124v6
Island:	Maui	**FT:**	270v7
District:	Kaanapali	**NT:**	137v5
Ahupuaa:	Honolua	**RP:**	3349
Ili:	Moomuku	**Number of Royal Patents:**	1
Apana:	3	**Pali:**	Yes
Loi:	1	**House lot:**	
Kula:	1	**Sweet Potatoes:**	
Miscellaneous:	Government Road		

No. 3803, Lalahua, Honolua, January 18, 1848
N.R. 124v6

Greetings to the Land Commissioners: I hereby petition for my land claim ,a potato kula, and a land boundary wall.
Lalahua

F.T. 270v7
Cl. 3803, Lalahua

Nalima, sworn, I know the lands of Lalahua. It is in Honolua. It is as follows"

No. 1 is a house lot and kula in the ili of Moomuku.
No. 2 is a kula land in the ili of Moomuku..
No. 3 (This witness was too ignotant to be examined further).

Kaaiakaia, sworn, The claimant's land is in Honolua.

Nos. 1 & 2 are as the last witness gave them and No. 3 is a kalo land in iuka loa. The claimant received these lands from Kaina long before 1830 in the days of Kamehameha I and his title has never been disputed.

No. 1 is bounded:
Mauka by the konohiki's land.
Lahaina by the pali of Honolua.
Makai by the Alanui Aupuni.
Kahakuloa by the konohiki's land.

No. 2 is bounded:
Mauka by Kaihaikanui's land.
Lahaina and Makai sides by the sea.
Kahakuloa by the pali of Honolua.

No. 3 is bounded:

Mauka by Kuehiwa's land.
Lahaina by the same
On the other two sides by the pali of Honolua.

N.T. 137v5
No. 3803, Lalahua

Kaaiakaia, sworn, He has seen 3 sections in the ili of Moomuku in Honolua. Land from Kaina at the time of Kamehameha I, no objections and boundaries are:

Section 1 – House lot and pasture

Mauka by Kaina
Lahaina by Honolua pali
Makai by government road
Kahakuloa by Kaina

Section 2 – Pasture in the center
Mauka, Lahaina, Makai by Kaikaikenui
Kahakuloa by Honolua pali

Section 3 –Pasture and Lauhala
Mauka and Lahaina by Nuuhiwa's land
Makai and Kahakuloa by Honolua pali

[Award 3803; R.P. 3349: Moomaka Honolua Kaanapali; 2 ap.; 2.44 Acs.]

03924 To Nakupala

Claim Number:	03924	**Awarded:**	1
Claimant:	Nakupala	**FR:**	
Island:	Maui	**NR:**	137v6
District:	Kaanapali	**FT:**	257v7
Ahupuaa:	Honolua	**NT:**	125v5
Ili:	Kamani, Kaea, Hikiapu	**RP:**	3935
Apana:	4	**Number of Royal Patents:**	1
Loi:	48	**Road/Path:**	Yes
Kula:	1	**Stream/Muliwai/River:**	Yes
House lot:	1	**Pali:**	Yes
Miscellaneous:	government road		

No. 3924, Nakupala, Honolua, January 18, 1848
N.R. 137v6

Greetings to the Land Commissioners: I hereby petition your Honors for my 48 lo`i, also some potato mo`os.
NAKUPALA

F.T. 257-260v7
Cl. 3924, Nakupala

Mahuka, sworn, I know the lands of the claimant. They are as follows:

No. 1 is a house lot in the ili of Kamani, Honolua.
no. 2 is a section of kalo in the ili of Kaea, Honolua.
No. 3 is a section of kalo in the ili of Hikiapu, Honolua.
No. 4 is a section of kula in the ili of Hikiapu, Honolua.

The claimant received all these lands except No. 1 from Kahikona in 1846, but the konohiki has 3 lois in the piece No. 2 and his title is disputed to the Nos. 3 & 4. These last two pieces were taken away from him by Kale Kailae, a woman living in Lakanio last fall, but I don't know why. The house lot belongs to the Government. He has the use of it as a school teacher.

No. 2 is bounded:
Mauka by Makaole's land
Lahaina by the pali of Honolua
Makai by my land

Kahakuloa by the pali.

No. 3 is bounded:
Mauka by my land
Lahaina by the pali
Makai by Kahue's land
Kahakuloa by the pali.

No. 4 is bounded:
Mauka by Uaua's land
Lahaina by the creek of Honolua
Makai by my land
Kahakuloa by the pali.

N.T. 126-127v5
No. 3924, Nakupala

Mahiko, sworn, He has seen 4 sections in the ili lands of Honolua. 3 patches at Kaea from Kahikona. Hikiapo from Kailaa. Kailaa stirred in October, 1848, now he has been separated. No objections and here are the boundaries.

Section 1 - House lot at Kamani.
Mauka by Mahuka
Lahaina by stream
Makai by Government road
Kahakuloa by pali.

Section 2 - Patches at Kaea.
Mauka by Makaole
Lahaina by pali
Makai by Mahuka
Kahakuloa by pali.

Section 3 - Taro at Hihiapoo.
Mauka by Mahuka
Lahaina by pali
Makai by Kahue
Kahakuloa by pali.

Section 4 - Pasture at Hikiapo.
Mauka by Uaua
Lahaina by stream
Makai by Mahuka
Kahakuloa by pali.

[Award 3924; R.P. 3935; Hikiapo Honolua Kaanapali; 4 ap.; 3.42 Acs]

04065 To Kahiki

Claim Number:	04065	**Awarded:**	1
Claimant:	Kahiki	**NR:**	145v6
Island:	Maui	**FT:**	267v6
District:	Kaanapali	**NT:**	136v5
Ahupuaa:	Honolua	**RP:**	3330
Ili:	Kaohe,Kaea	**Number of Royal Patents:**	1
Apana:	5	**Sweet Potatoes:**	4
Loi:	15	**Koa/Kou Trees:**	1
Kula:	4	**Pali:**	Yes
Hala:	1		

No. 4065, Kahiki, Honolua, January 19, 1848
N.R. 145v6

Greetings to the Land Commissioners: I hereby petition for my claim for a kou tree, a hala tree, and four potato mo`o in Honolua.
KAHIKI

F.T. 269-270v7
Cl. 4065, Kahiki

Kaaiakaia, sworn, I know the lands of the claimant. They are in the Ahupuaa of Honokowai. They are as follows:

No. 1 is a kula land makai in the ili of Kaohe.
No. 2 is a kula land makai in the ili of Kaohe.
No. 3 is a kula land makai in the ili of Kaohe.
No. 4 is a kula land iuka loa in the ili of Kaohe.
No. 5 is 15 lois in the ili of Kaea.

The claimant received these lands from Hoapili Wahine. He has had them ever since the days of Kamehameha I and his title is without dispute.

No. 1 is bounded:
Mauka by my land
Lahaina by Lalahua's land
Makai by my land
Kahakuloa by Nahinu's land.

No. 2 is bounded:
Mauka by Nahinu's land
On other three sides by the pali of Honolua.

No. 3 is bounded:

Mauka by Manuwa's land
Lahaina by the konohiki's land
On the other two sides by the pali of Honolua.

No. 4 is bounded:
Mauka by the pali of Honolua
Lahaina by the same
Makai by my land
Kahakuloa by the pali of Honolua.

No. 5 is bounded:
Mauka by my land
Lahaina by the pali of Honolua
Makai by the same
Kahakuloa by my land.

N.T. 136v5
No. 4065, Kahiki

Kaaiakaia, sworn, He has seen 5 sections in these ili lands of Honolua. Land from Kahiki's parents at the time of Kamehameha I, no objections and the boundaries are:

Section 1 - Pasture makai in Kaohe ili.
Mauka by Kaaiakaia's land
Lahaina by Lalahua
Makai by Kaaiakaia's land
Kahakuloa by Nahinu.

Section 2 - Pasture makai in ili of Kaohe.
Mauka by Nahinu
Lahaina by Honolua pali
Makai and Kahakuloa by Honolua pali.

Section 3 - Pasture makai in Kaohe ili.
Mauka by Manuwa
Lahaina by C.K. Konohiki
Makai and Kahakuloa by Honolua pali.

Section 4 - Pasture Mauka in Kaohe ili.
Mauka and Lahaina by Honolua pali
Makai by Kaaiakaia's land
Kahakuloa by Honolua pali.

Section 5 - 15 Taro patches in Kaea ili.
Mauka by Kaaiakaia's land
Lahaina and Makai by Honolua pali
Kahakuloa by Kaaiakaia's land.

[Award 4065; R.P. 3330; Honolua Kaanapali; 3 ap.; 2.96 Acs]

04243 To Keliipoina

Claim Number:	04243	**Awarded:**	1
Claimant:	Keliipoina	**NR:**	155v6
Other claimant:	Kukaelehua,Makole,Kauwewahine	**FT:**	257v7
Other name:	Makaole, Helupoina	**NT:**	127v5
Island:	Maui	**RP:**	6246
District:	Kaanapali	**Number of Royal Patents:**	1
Ahupuaa:	Honolua	**Apana:**	4
Loi:	5	**Sea/Shore/Dunes:**	Yes
Kula:	2	**Pali:**	Yes
House lot:	1	**Miscellaneous:**	government road
Sweet Potatoes:	4		

No. 4243, Helupoina & Kukalehua, 4243B, Kaanapali, January 18, 1848, 4343D - Makole & Kauwewahine, 4243C
N.R. 155v6

Greetings to the Land Commissioners: I hereby petition you for my six lo`i, two potato kihapai. The names of the potato mo`os are Naioio and Pahahao.

Four potato mo`o are at Kaohe, an `Ili of Honolua, also the house lot.

The land of my wahine, named Kaluaokaliiwahine, has 26 lo`i. The mo`o waihae* 17 + 10 = 27, and also a small potato kihapai are at Pakihi.
HELUPOINA ma

F.T. 257-258v7
Cl. 4243, Keliipoina

Makaole, sworn, I know the lands of the claimant. They are in Honolua and are as follows:

No. 1 is a section of kula land in "Waioio."
No. 2 is a section of kula land in Punola.
No. 3 is a section of kalo land in Kukaiole.
No. 4 is a house lot in the ili of Kamani.

The claimant received these lands from his wife in the days of Kamehameha I and his title has never been disputed.

No. 1 is bounded:

Mauka by my land
Lahaina by the pali
Makai by Kaaiakaua's land
Kahakuloa by the pali.

No. 2 is bounded:
Mauka by Mahuka's land
Lahaina by the pali of Honolua
Makai by Hawea's land
Kahakuloa by the pali.

No. 3 is bounded:
Mauka by Manuwai's land
Lahaina by the pali
Makai by Lohelohe's land
Kahakuloa by the pali.

No. 3 is bounded:
Mauka by the Alanui Aupuni dividing it from Kahupala's land
Lahaina by the Konohiki's land
Makai by the sea shore
Kahakuloa by Lohelohe's land.

N.T. 127v5
No. 4243, Keliipoina

Makaole, sworn, He has seen 4 sections in Honolua ahupuaa which were from Keliipoina's wife at the time of Kamehameha I, no objections.

Section 1 - Pasture at Waioio.
Mauka by Makaole
Lahaina by pali
Makai by Kaaiakaua
Kahakuloa by pali.

Section 2 - Pasture at Puuaola.
Mauka by Mahuka
Lahaina by pali
Makai by Hawei's (native) land
Kahakuloa by pali.

Section 3 - 5 patches at Kukaeiole.
Mauka by Manua
Lahaina by pali
Makai by Lohelohe
Kahakuloa by Honolua pali.

Section 4 - House lot at Kamani.
Mauka by Government road
Lahaina by konohiki
Makai by Ocean
Kahakuloa by Lohelohe.

[Award 4243; R.P. 6246; Honolua Kaanapali; 3 ap.; 3.604 Acs]

04243D To Makaole

Claim Number:	04243D	**Awarded:**	1
Claimant:	Makaole	**NR:**	155v6
Other name:	Makaole	**FT:**	370v7
Island:	Maui	**NT:**	228v5
District:	Kaanapali	**RP:**	4188
Ahupuaa:	Honolua	**Number of Royal Patents:**	1
Apana:	5	**Kula:**	2
Loi:	2	**House lot:**	1
Sea/Shore/Dunes:	Yes	**Pali:**	Yes
Stream/Muliwai/River:	Yes		

No. [4243D], 4243, Helupoina & Kukalehua, 4243B, Kaanapali, January 18, 1848, 4343D - Makole & Kauwewahine, 4243C
N.R. 155v6

Greetings to the Land Commissioners: I hereby petition you for my six lo`i, two potato kihapai. The names of the potato mo`os are Naioio and Pahahao.

Four potato mo`o are at Kaohe, an `Ili of Honolua, also the house lot.

The land of my wahine, named Kaluaokaliiwahine, has 26 lo`i. The mo`o waihae* 17 + 10 = 27, and also a small potato kihapai are at Pakihi.
HELUPOINA ma

F.T. 370-371v7
No. 4243D, Makaole, 3767C,

This is in the same paper with No. 4243 but is without a number.

Kaleo, sworn, The claimant's lands are 5 pieces in Honolua.

No. 1 is a house lot in Kamanai 2
No. 2 is a kula uala in Kaluaokalaiwahine.
No. 3 is a kula uala in Keauhou.
No. 4 is a kalo land in Papahao.
No. 5 is a kalo land in Malili.

The claimant received these lands from his parents. He is a son of the land and his title extends back to Kamehameha I. His title has never been disputed. There is one poalima loi in No. 1.

No. 1 is bounded:
Mauka by the creek

Lahaina by the creek & pali
Makai by the sea shore
Kahakuloa by my land.

No. 2 is bounded:
Mauka by Kukalehua's land
Lahaina by the creek
Makai by Manuwa's land
Kahakuloa by the pali.

No. 3 is bounded:
Mauka by my land
Lahaina by the pali
On other two sides by the creek.

No. 4 is bounded:
Mauka by Kenao's land
Lahaina by the creek & pali
Makai by Kahaku's and poalima
Kahakuloa by the pali.

No. 5 is bounded:
Mauka by Kukalehua's land
Lahaina by the creek
Makai by my land
Kahakuloa by the pali.

N.T. 228-229v5
No. 4243D, Makaole, June 29, 1849

This claim has been tied in with no. 4243 Keliipoina on June 21, 1849.

Kaleo, sworn, He has seen 5 sections of land belonging to Makaole in these ilis of Honolua. Land from parents at the time of Kamehameha I, no objections. 3 Poalima's in section 4, Papahao.

Section 1 - House lot in Kamani 2 ili.
Mauka by stream
Lahaina by pali/stream
Makai by Beach
Kahakuloa by Kaleo.

Section 2 - Potato pasture in Kaluaokalaiwahine ili.
Mauka by Kukalehua
Lahaina by stream
Makai by Manua
Kahakuloa by Punalau pali.

Section 3 - Potato pasture in Keahou ili.
Mauka by Kaleo
Lahaina by pali
Makai and Kahakuloa by stream.

Section 4 - Taro land in Papahao ili.
Mauka by Kenao
Lahaina by stream/Pali
Makai by Poalima/Kahaku
Kahakuloa by pali.

Section 5 - Taro land in Malili ili.
Mauka by Kukalehua
Lahaina by stream
Makai by Keokeo
Kahakuloa by pali.

[Award 4243D; R.P. 4188; Honolua Kaanapali; 2 ap.; 4.33 Acs; Malili Honolua Kaanapali; 1 ap.; .28 Ac.; Papahao Honolua Kaanapali; 1 ap.; .6 Ac.; See Award 4243 for Native Register document]

04246 To Kaleo

Claim Number:	04246	**Awarded:**	1
Claimant:	Kaleo	**FR:**	
Island:	Maui	**NR:**	156v6
District:	Kaanapali	**FT:**	368v7
Ahupuaa:	Honolua	**NT:**	226v5
Apana:	5	**RP:**	4785
Loi:	1	**Number of Royal Patents:**	1
Kula:	3	**Sea/Shore/Dunes:**	Yes
House lot:	1	**Road/Path:**	Yes
Pali:	Yes		

No. 4246, Kaleo, Honolua, January 18, 1848
N.R. 156v6

Greetings to the Land Commissioners: I hereby petition for my land claim, and 'Ili in Honolua, the Ahupua'a. The name of this 'Ili is Keauhou. The house lot of Kamani is at Honolua.
KALEO

F.T. 368-369v7
Cl. 4246, Kaleo

Makaole, sworn, I know the lands of the claimant. They are 5 pieces in Honolua.

No. 1 is a house lot in Kamani 1.
No. 2 is a kula land in Keauhou.
No. 3 is a kula land in Waioio.
No. 4 is a kalo land in Malili.
No. 5 is a kula land in Keauhou.

The claimant received these lands from Nakaikuaana, the konohiki before 1839, and has possessed them in peace ever since. There is one poalima loi in piece No. 4.

No. 1 is bounded:
Mauka by the creek
Lahaina by the creek & pali
Makai by the sea shore
Kahakuloa by the poalima of the konohiki.

No. 2 is bounded:

Mauka by the creek
Lahaina by the pali
Makai by my land
Kahakuloa by the creek.

No. 3 is bounded:
Mauka by Kekahaku's land
Lahaina by Keawe's land
Makai by my land
Kahakuloa by the pali.

No. 4 is bounded:
Mauka by my land
Lahaina by the creek
Makai by the same
Kahakuloa by the pali.

No. 5 is bounded:
Mauka by Manua's land
Lahaina by Lohelohe's land
Makai by the Government road
Kahakuloa by the pali.

N.T. 226v5
No. 4246, Kaleo, June 29, 1949 [sic]

Makaole, sworn, He has seen 5 sections in the ilis of the ahupuaa in Honolua.

Section 1 - House lot at the ili of Kamani 1.
Mauka by stream
Lahaina by stream/Pali
Makai by Beach
Kahakuloa by konohiki.

Section 2 - Pasture land in the ili of Keahou.
Mauka by stream
Lahaina by pali
Makai by Makaole's land
Kahakuloa by stream.

Section 3 - Pasture land in the ili of Waioio.
Mauka by Kekahaku
Lahaina by Keawe
Makai by Makaole's land
Kahakuloa by pali.

Section 4 - Taro land in the ili of Maili.
Mauka by Makaole's land
Lahaina and makai by stream
Kahakuloa by pali.

Section 5 - Pasture land in the ili of Keauhou.
Mauka by Manua
Lahaina by Lohelohe
Makai by Government road
Kahakuloa by Punalau pali.

Land from Nakaikuaana before the time of the Law. 1 Poalima in section 4, no objection.

[Award 4246; R.P. 4785; Honolua Kaanapali; 3 ap.; 1.692 Acs]

06602 To Peleua

Claim Number:	06602	**Awarded:**	1
Claimant:	Peleua	**NR:**	404v6
Island:	Maui	**FT:**	273v7
District:	Kaanapali	**NT:**	139v5
Ahupuaa:	Honolua	**RP:**	3338
Ili:	Honuaula, Moomuku	**Apana:**	6
Loi:	2	**House lot:**	2
Kula:	2	**Sweet Potatoes:**	1
Miscellaneous:	government road		

No. 6602, Peleua, Honolulu, 30 January, 1848
N.R. 404v6

Greetings to the Land Commissioners: I hereby petition you for my house lot in the ku of Moomuku in Honolua.

I received that house lot in 1842, from Keawemakanui. When that man gave it to me I fenced that land and made it into a house lot.
PELEUA

F.T. 273-274v7
Cl. 6602, Peleua

Mahuka, sworn, I know the lands of Peleua. They are in the ili of Honuaula and Moomuku, Honolua. They are as follows:

No. 1 is a house lot.
No. 2 is a kula uala.
No. 3 is a kula iuka loa.
No. 4 is a house lot in Moomuku.
No. 5 is a kula and kalo land in Honolua.
No. 6 is a kalo land iuka loa.

The claimant received these lands from Halenui in the days of Kamehameha I. and his title has never been disputed.

No. 1 is bounded:
Mauka by Manuwa's land
Lahaina by the creek of Honolua
Makai by Lohelohe's land
Kahakuloa by the pali of Honolua.

No. 2 is bounded:
Mauka by the konohiki's land
Lahaina by the pali of Honolua

Makai by Kukalehua's land
Kahakuloa by the pali of Honolua.

No. 3 is bounded: On all sides by the konohiki's land.1

No. 4 is bounded:
Mauka by Kapaole's land
Lahaina by the pali of Honolua
Makai by the creek of Honolua
Kahakuloa by the Alanui Aupuni.

No. 5 is bounded:
Mauka by Makaole's land
Lahaina by the pali
Makai by Keliipoina's land
Kahakuloa by the pali.

No. 6 is bounded:
Mauka by Manuwa's land
Lahaina by the pali
Makai by Manuwua's [sic] land
Kahakuloa by the pali.

N.T. 139-140v5
No. 6602, Pelena

Mahuka, sworn, He has seen Pelena's lands in Honuaula and Moomuku ilis of Honolua ahupuaa of 6 sections. Land from Parents at the time of Kamehameha I, no objections and the boundaries are:

Section 1 - House lot and pasture at Honuaula.
Mauka by Manuwa
Lahaina by Honolua stream
Makai by Lohelohe
Kahakuloa by Honolua pali.

Section 2 - Pasture at Honuaula.
Mauka by Konohiki
Lahaina by Honolua pali
Makai by Kukalehua
Kahakuloa by Honolua pali.

Section 3 - Pasture in the extreme end of the mountain.
Bounded on all sides by konohiki boundaries.

Section 4 - House lot in Moomuku.
Mauka by Kapaole
Lahaina by Pali
Makai by Stream
Kahakuloa by Government road.

Section 5 - Taro land and pasture in Honolua.
Mauka by Makaole

Lahaina by Honolua pali
Makai by Keliipoina
Kahakuloa by Honolua pali.

Section 6 - Taro land in extreme end of mauka.
Mauka by Manuwa
Lahaina by Honolua pali
Makai by Manuwa
Kahakuloa by Honolua pali.

[Award 6602; R.P. 3338; Honuaula Honolua Kaanapali; 2 ap.; 4.153 Acs; Kaohe Honolua Kaanapali; 1 ap.; 2.74 Acs; Kauhipilo Honolua Kaanapali; 1 ap.; .17 Ac.]

08559B To William C. Lunalilo

Claim Number:	08559B*M	**Awarded:**	1
Claimant:	Lunalilo, William C.	**FT:**	82v16
Other claimant:	Kanaina, Charles for King	**RP:**	5637, 5639, 5699-2, 7664,
Island:	Maui	**Number of Royal Patents:**	13
District:	Lahaina, Kaanapali, Wailuk	**Apana:**	13
Ahupuaa:	Polanui, Kalimaohe, Kuholilea, Aki, Paeohi, Waianae, Honolua, Pepee, Waiehu 2, Kaapahu	**House lot:**	1
Ili:	Luaehu, Ahikuli	**Road/Path:**	Yes
Miscellaneous:	government road		

No. 8559B*M, (W.C. Lunalilo) C. Kanaina
F.T. 551-552v3

W.H. Uana, sworn, says he knows the house lot of Lunalilo, in Kaluaaha, Molokai. It is bounded:

Mauka by the public road
On the Halawa side by a fish pond of the government called "Neaupala"
Makai by the sea beach
On Kaluaakoi side by a government fish pond called "Kaluaaha."

This lot formerly was ordered to be enclosed by Hoapili wahine and Kekauluohe when Eseta Kipa was Governess of Molokai. The people of Kekauluohi's lands erected a stone house on this lot in the year 1835. It is now in possession of Lunalilo as heir of Kekauluohi.

E. Kipa, sworn says, she knows the lot. I was Governess of Molokai under Hoapili wahine & Kekauluohi in former times, and by their orders enclosed this lot and built a stone house on it with the labor of the people of their own lands. When the government sold the land of "Kaluaaha" to the Missionaries, I heard Kalolou come and ask permission from Kanaina to live in the stone house, which permission she got.

(A. Paki sets up a claim for this lot as heir of Kalaolou.)

L. Haalelea, sworn says, he knows the house lot claimed by Lunalilo in Kailua, Hawaii. It is bounded:

On Kiholo side by the church lots
Makai by the public road
On Keauhou side by a road leading mauka
Mauka by some house lots.

It is enclosed by a wall. This lot I have heard belonged formerly to Keaho, the father of Mahuka. I have heard that when Keaho died he left this lot to Kekauluohi, and I have recently seen a letter from Mahuka to W.C. Lunalilo requesting him to allow Mahuka to retain charge of this lot under Lunalilo. In 1843 I was at Kailua & Kekauluohi

was there. I then saw the later Governor Adams give her some money which he said was rent received for this same lot. Part of this lot is claimed by the heir of W.P. Leleiohoku. There is a fence remaining though and dividing the lot into two parts.

F.T. 82-84v16 and N.T. 82-84v16
No. 8559B, William C. Lunalilo

Polea, sworn says, he knows the lots claimed by William C. Lunalilo, at Lahaina, Maui.

The first called Luaehu, is bounded as follows:
Mauka by Kaiheekai and Hiram's land
Olowalu by King's land
Makai by Sea beach
Kaanapali by Polea and M.J. Nouliau [Nowlien].

The second in Pakala is bounded as follows:
Mauka by Public street
Olowalu by Kaiheekai's land
Makai by H.S. Swinton's and others' land
Kaanapali by Public road.

The third lot called Hawaikaekea is also bounded as follows:
Mauka by Kalaleikio's land
Olowalu by Public road
Makai by Alaloa Kahiko street
Kaanapali by Daniela Ii's land.

This lot is disputed by Maunahina the wife of George Shaw, whose claim in right of her father. She has already got an award for a part of this lot.

The fourth lot in Paunau is bounded as follows:
Mauka by Keaweiheuhu's and Kahula's land
Olowalu by Keaweluaole's land
Makai by Old road
Kaanapali by Street leading to Lahainaluna.

The fifth lot called Loinui is bounded as follows:
Mauka by Keaweluaole; Kauhi and Kalolou's land
Olowalu by Mr. Baldwins
Makai by Old road
Kaanapali by Kamakinui's land.

The sixth lot in Aki is bounded as follows:
Mauka by Kaweka's land
Olowalu by Wahie's land
Makai by Main road
Kaanapali by M.I. Nowlein's land.

The seventh lot in Puunoa is bounded as follows:
Mauka by Main road
Olowalu by Iosua Kaeo
Makai by Iosua Kaeo
Kaanapali by King's land.

The eighth lot in Kelawea is bounded as follows:
Mauka by Lahainaluna
Olowalu by Road from the beach
Makai by Keleikini and Kahookano's lands
Kaanapali by A stream.

All these lots have descended to William C. Lunalilo from his mother, Kekauluohi, and are now in the hands of his lunas. The lot in "Pakala" is disputed by Paki and others.

N.T. 185-187v10
No. 8559B, William Charles Kanaina, [for Lunalilo], Honolulu, 24 April 1850

COPY
Greetings to you Highness, John Young, the Minister of Interior.
My desire is to have the government claim separated from my lands; therefore I hereby give some of my land for the government to have forever and the same shall apply to mine. Here are the names of my lands:

Kawela ahupuaa, Hamakua, Hawaii.
Waikaekoe ahupuaa, Hamakua, Hawaii.
Makapala ahupuaa, Kohala, Hawaii.
Kehena ahupuaa, Kohala, Hawaii.
Puhau ili of Iole, Kohala, Hawaii.
Puakoa ili of Waimea, Kohala, Hawaii.
Honuainonui ahupuaa, Kona, Hawaii.
Puapuanui ahupuaa, Kona, Hawaii.
Lehuulanui ahupuaa, Kona, Hawaii.
Kawainui ahupuaa, Kona, Hawaii.
Lanihaunui ahupuaa, Kona, Hawaii.
Pakiniili ahupuaa, Kau, Hawaii.
Hanuapo ahupuaa, Kau, Hawaii.
Kahanalea ahupuaa, Puna, Hawaii.
Keahialaka ahupuaa, Puna, Hawaii.
Keaau ahupuaa, Puna, Hawaii.
Makahanaloa ahupuaa, Hilo, Hawaii.
Pepekeo ahupuaa, Hilo, Hawaii.

Kaapuhu ahupuaa, Kipahulu, Maui.
2 Waiehu, Puali, West Maui.
Ahipuli [Ahikuli] ili for Waiehu, West Maui.

Pepee ili for Wailuku, West Maui.
Honolua ahupuaa, Kaanapali, Maui.
Kalimaohe ahupuaa, Lahaina, Maui.
Polanui ahupuaa, Lahaina, Maui.
Kuholilea ahupuaa, Lahaina, Maui.

Waialua ahupuaa, Kona, Molokai.
Kawela ahupuaa, Kona, Molokai.

Pau ili for Waikiki in Manoa, Kona, Oahu.
Kamoku ili for Waikiki in Manoa, Kona, Oahu.
Kaluaokau ili for Waikiki in Manoa, Kona, Oahu.
Kapahulu ili for Waikiki in Manoa, Kona, Oahu.
Kaalaea ahupuaa, Koolaupoko, Oahu.
Kapaka ahupuaa, Koolauloa, Oahu.
Laiewai ahupuaa, Koolauloa, Oahu.
Laiemaloo ahupuaa, koolauloa, Oahu.
Pahipahialua, Koolauloa, Oahu.

Kahili, Koolauloa [sic], Koolau, Kauai.
Kalihiwai, Koolauloa [sic], Koolau, Kauai.
Pilauwai, Koolauloa [sic], Koolau, Kauai.
Manuahi ili, Kona, Kauai.
Waipouli ahupuaa, Puna, Kauai.

These lands listed above shall be for me fee simple forever, it would not be right for the government to claim my land.

The following lands, I shall give to the government fee simple forever.
Kapulena ahupuaa, Hamakua, Hawaii.
Kukuihaele ahupuaa, Hamakua, Hawaii.
Auau ahupuaa, Kohala, Hawaii.
Keopuhuikahi ahupuaa, Kona, Hawaii.
Papaakoko ili of Honokohau, Kona, Hawaii.
Ninole ahupuaa, Kau Hawaii.
Laepaoo ahupuaa, Puna, Hawaii.
Koae 1 ahupuaa, Puna, Hawaii.
Koae 2 ahupuaa, Puna, Hawaii.
Laeapuki ahupuaa, Puna, Hawaii.
Kaiuiiki ahupuaa, Hilo, Hawaii.
Kahuku ahupuaa, Hilo, Hawaii.

Waiakoa ahupuaa, Kula, Maui.
Kou ili of Waiehu Puali, Komohana Maui.
Kapoino ili of Waiehu Puali, Komohana, Maui.
Halelena ili of Waiehu Puali, Komohana, Maui.
Keokamu ili of Waiehu Puali, Komohana, Maui.

Wainee ahupuaa, Lahaina, Maui.

Mahana ahupuaa, Lanai.

Kamalomalo ahupuaa, Puna, Kauai.
Kumukumu ahupuaa, Koolau, Kauai.

I've given the lands listed above to the government forever, all of them are for the government.
Please consider my request with compassion for me.
With appreciation, I am,
William Charles Lunalilo, Charles Kanaina (child guardian)
Department of Interior, 6 April 1852.

This is a try copy of Lunalilo's division with the government,
A.G. Thruston, Secretary

N.T. 450v10
No. 8559B, William C. Lunalilo. Protested by Kaai

Mahuna, sworn, it is true my own place was written in the bill of sale to C. Kanaina, the place is just mauka of the land in Kailua of Kona, Hawaii, over which there is a dispute by Kaai. That is the lot I have transmitted to him, Kanaina, but I have not seen the property Kaai has at this present time; however, I had seen my parents living on this land at the time [of] Kaahumanu I. I had gone on a tour. Houses had been built, but I have not lived there since that time to the present, nor have I seen this lot over which there is a dispute with Kaai.

C. Kanaina, relates - the witnesses for this land on which Kaai and I are working are dead; although, I had thought they (two) would be my witnesses, but today they have denied by claim to this place. It is true this place had been for their father, Keoho, where he lived until he had died and they (two) are his own children, but I am demanding according to the old bequest of Keaho to M. Kekauluohi as well as by many other statements.

Naea, sworn, I have seen Kaai's place in Keopu of Kona, Hawaii, which is a house lot.

Mauka by Mahuka's lot
South Kona by a road
Makai by Government road
Kohala by vacant lot.

Land from Keoho (his father) upon his (Keoho) death in 1833. Keoho had obtained it long ago as idle land.

Kaai has always lived there peacefully to the present time.

Now C. Kanaina has offered a protest, I do not know the reason for it.

Kioloa, sworn, all of the statements above are true. I have known in the same way. I have not known the place was for C. Kanaina. It had been for Keoho, Kaai's father and now Kaai is the true claimant of this place.

[Award 8559B; (Maui) Land Patent 8395; Polanui Lahaina; 1 ap.; 440 Acs (apana 25); Land Patent 8129; Honolua Kaanapali; 1 ap.; 3860 Acs (ahupua`a, apana 23); R.P. 7664; Pepee Wailuku (apana 22); 4 ap.; 255.70 Acres; Land Patent 8396; 1 ap.; 255.7 Acs; Kalimaohe Lahaina; 2 ap.; 4.93 Acs; (apana 24); Land Patent 8397; Kuholilea Lahaina; 2 ap.; 184. 5 Acs; (apana 26); R.P. 5637; Paunau Lahaina; 1 ap.; 2 roods 24 perkas (apana 4); R.P. 5639; Aki Lahaina; 1 ap.; 16 perkas (apana 6); no R.P.; Paeohi Lahaina; 1 ap.; 1 Ac. 52 rods; R.P. 5699; Loiniu (Luaehu Waianae) Lahaina; 2 ap.; 2.75 Acs 37 rods; Land Patent S-8597; Kaapahu Kipahulu; 1 ap.; (ahupuaa, apana 19);1480 Acres; no R.P. Ahikuli Waiehu (apana 21); Land Patents 8537; Waiehu Wailuku; Por. apana 20; .205 Ac; Land Patent 8546; Waiehu Wailuku, Portion Apana 20, .41 Ac.; Land Patent S-8654; 2 Waiehu Wailuku, Por. apana 20; 27,797 square feet;(Hawaii) R.P. 478; Pakiniiki Kau; 1 ap.; 2357 Acs; Makanaloa Hilo; 2 ap.; 7600 Acs; R.P. 7049; Honuapo Kau; 1 ap.; ahupuaa 2200 Acs; Honuaino nui; 1 ap.; 262 Acs; R.P. 7454; Kawainui iki Kona; 1 ap.; 380 Acs; R.P. 7455; Lehuula nui; 1 ap.; 290 Acs; Lehuula nui; 1 ap.; 2840 Acs; Puapuaanui Kona; 1 ap.; 370 Acs; R.P. 7680; Kahena 2 N. Kohala; 1 ap.; (ap.4); ahupuaa; Puako S. Kohala; 1 ap.; Iliaina (Ap.6); Kahaualea Puna; 1 ap.; 26,000; Keahialaka Puna; 1 ap.; 5562 Acs; Pepeekeo Hilo; Keaau Puna; 1 ap.; 64.275 Acs; Kawela Hamakua; R.P. 7434 Honuainonui N. Kona; R.P. 7456; Lanihau Nui Kona; Land Patent 8452; Waikoekoe Hamakua; no R.P.; Makapala Kohala; R.P. 7192 Makanaloa Hilo; 2 ap.; 7600 Acs; (Molokai) R.P. 7655; Waialua; R.P. 7656 Kawela; (Oahu); R.P.; 7635; Kamoku Waikiki; Land Patents 8193, 8311 & 8416; Pau Waikiki; Land Patent 8124 & 8165 (see Kapahulu award); Land Patent 8124; Kapahulu Kona; 1 ap.; 31.50 Acs; Land Patent 8165; Kapahulu Kona; 2 ap.; 2,184.44 Acs; R.P. 7652; Kalauakou Waikiki; R.P. 7531; Kaalaea Koolaupoko; R.P. 7494; Laie-wai Koolauloa; Laie-maloo Koolauloa; R.P. 5688; Pahipahialua Koolauloa; no R.P.; Kapaka Koolauloa; (Kauai) Land Patent 8173; Kalihiwai Halelea; no R.P. Manuahi Hanapepe; Land Patent 8323; Kahili Koolau; R.P. 7060; Pilaa Koolau; R.P. 7373; Waipouli Puna; See 8559 to C. Kanaina who is awarded a property at Ukumehame under 8559B; see also Award 277]

APPENDIX G

TRAFFIC IMPACT ASSESSMENT LETTER DATED MAY 19, 2015

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. ARASHIRO, P.E.
STANLEY T. WATANABE
IVAN K. NAKATSUKA, P.E.
ADRIENNE W. L. H. WONG, P.E., LEED AP
DEANNA HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S, LEED AP

#08-077

May 19, 2015

Mr. Kevin Ito
State of Hawaii
Department of Transportation, Highways Division
Design Branch, Technical Design Services Office
601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707

Dear Mr. Ito:

Subject: Honolua Bridge Traffic Analysis
Lahaina, Maui, Hawaii

Austin, Tsutsumi & Associates, Inc. (ATA) has conducted a traffic analysis for the Honolua Bridge located in Lahaina, on the island of Maui.

Project Description

The State of Hawaii Department of Transportation is proposing to rehabilitate/replace the Honolua Bridge located along Honoapiilani Highway (HWY 30) in the district of Lahaina on the Island of Maui, Hawaii. More specifically, the project is located between milepost 32.40 to 32.51.

Existing Conditions

Honoapiilani Highway is a two-lane, two-way State Highway. Honoapiilani Highway spans between Wailuku-Waikapu-Maalaea areas to the westernmost side of Maui (district of Lahaina) to the northerncoast of Maui. From Honokohau Bay (on the northern coast), Honoapiilani Highway becomes Kahekili Highway; east of the project site. Honolua Bridge is considered a one lane bridge serving eastbound and westbound traffic. The existing Honolua Bridge spans approximately 24 feet long and 18 feet wide. In the vicinity of the project, Honoapiilani Highway has a posted speed limit of 25 miles per hour (mph). As you approach the bridge, the posted speed limit reduces to 10 mph.

The State of Hawaii Department of Transportation Highways Division (DOT) provided 2015 Average Daily Traffic (ADT) volume. The 2015 ADT is 2,300 with a K factor of 10%; therefore, the two-directional volume total is estimated at 230 Daily Hourly Volume (DHV). Year 2035 projections were also made and show an ADT of 3,000 and a DHV of 300. See memorandum attached.

REPLY TO:
501 SUMNER STREET, SUITE 521 • HONOLULU, HAWAII 96817-5031
PHONE (808) 533-3646 • FAX (808) 526-1267
EMAIL : atahnl@atahawaii.com

OFFICES IN:
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII
HILO, HAWAII

Mr. Kevin Ito
State of Hawaii
Department of Transportation, Highways Division
Design Branch, Technical Design Services Office

May 19, 2015

Analysis

Based on the projected 2015 peak hour volumes and a factor of safety of 20%, traffic is expected to approach the bridge every 12.8 seconds; (3,600 seconds/hour) * (1 hour/461 vehicles). Using the projected year 2,035 DHV of 300 with a factor of safety of 20-percent yielded an arrival time of 10 seconds. To determine the amount of time it takes for a car to clear the bridge, the following is calculated:

(driver perception reaction time) + [(length of bridge + 1 car length to clear bridge) * 10 mph]

(2.5 sec) + [(24 feet + 25 feet) * 10 mph] = 5.8 sec

The driver perception reaction time of 2.5 seconds was obtained from the AASHTO Greenbook. Therefore, based on the estimated 2015 and 2035 peak hour volumes, the existing one lane bridge has enough capacity to remain as a one lane bridge with existing traffic volumes.

Recommendations

It is recommended that necessary warning signs in accordance with the most current Manual on Uniform Traffic Control Devices by the Federal Highway Administration be installed to warn motorists of the one lane bridge.

We appreciate the opportunity to have prepared this Traffic Assessment Study for the Project. Should you require clarification, please call me at (808) 533-3646.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

By Karen Chongue

KAREN CHONGUE, P.E.
Traffic Engineer

PA:KC

Attachment: Memorandum

Z:\2008\08-077\Honolua Bridge\Traff Assmt\HDOT -Honolua Bridge TA 051915.docx

April 24, 2015
Date

MEMORANDUM

TO: HWY-DS

ATTN: Kevin Ito

FROM: HWY-PH

The following data are submitted for your information:

NAME OF PROJECT: HONOAPIILANI HIGHWAY

Rehabilitation of Honolua Bridge

PROJECT NO.: BR-030-1(37)

SECTION:	**HONOAPIILANI HIGHWAY - ROUTE 30** AT HONOLUA BRIDGE Route 30 (32.40 to 32.51 mp)
TRAFFIC DATA:	
2015 ADT	2,300
2035 ADT	3,000
2035 DHV	300
Design K	10.0
Design D	55/45
Design T	5.0
T24	5.0
	24-HOUR TRUCK COMPOSITION
CLASSIFICATION	PERCENT
BUS	3.97
2D	56.04
3X	30.06
4X	0.94
2S1, 3S1, 2S2	1.93
3S2, 3-2, 2-3	5.19
6/6+X S-TLR	0.37
5X M-TLR	0.00
6X M-TLR	0.00
7X M-TLR	1.50
	100.00

REF. NO. TA 15-04