

# FINAL ENVIRONMENTAL ASSESSMENT

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## **Bridge 7E Replacement Project Kaumualii Highway Koloa District, Kauai Island, Hawaii**

Project No. HI STP SR50(2)

TMK: [4] 2-7-001: 004 (por.); 2-7-002: 001 (por.)

Kaumualii Highway Right-of-Way

Submitted Pursuant to Hawaii Revised Statutes, Chapter 343



State of Hawaii, Department of Transportation  
Highways Division  
869 Punchbowl Street  
Honolulu, HI 96813

**June 2016**

**BRIDGE 7E REPLACEMENT PROJECT  
KAUMUALII HIGHWAY  
Project No. STP SR50(2)  
Kauai, Hawaii**

**Final Environmental Assessment/  
Finding of No Significant Impact**

Submitted Pursuant to  
Hawaii Revised Statutes, Chapter 343

State of Hawaii, Department of Transportation, Highways Division

6.8.16

Date of Approval

  
For State of Hawaii, Department of Transportation

Ford N. Fuchigami, Director  
Department of Transportation  
State of Hawaii  
869 Punchbowl Street  
Honolulu, HI 96813  
Ph. (808) 587-2150

This Final Environmental Assessment (FEA) documents impact studies of proposed improvements to Bridge 7E on Kaumualii Highway (crossing an unnamed stream at approximately Milepost 7.0) in the Koloa District on the island of Kauai.

This project would replace the existing two-cell box culvert with a single-cell box culvert that is approximately 26 feet long and 44 feet wide. A temporary two-lane bypass route would be provided on the *mauka* (mountainward) side of the highway, throughout the construction period. The project includes scour protection and vegetation control measures, supporting walls and slopes, utility relocations, and temporary staging areas. This project would improve mobility for highway users, address existing structural deficiencies, and meet current design standards for roadway width, load capacity, barrier railing and transitions, and approach roadways.

Short-term construction related impacts (noise, dust and erosion) would occur, but the implementation of best management practices would minimize the effects to the environment. Four Federally and State listed wildlife species (Hawaiian petrel, Newell's shearwater, Hawaiian hoary bat, and band-rumped storm petrel) have the potential to occur within the project limits, but restrictions on the timing of construction and minimization of the project footprint would preclude any long-term effects to the species. Critical habitat and listed plant species do not exist within the project limits. Effects on historic architectural resources and archaeological resources would not be expected. Therefore, a Finding of No Significant Impact (FONSI) has been issued under HRS, Chapter 343.

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Submitted Pursuant to Hawaii Revised Statutes, Chapter 343

Prepared for:  
State of Hawaii, Department of Transportation  
Highways Division  
869 Punchbowl Street  
Honolulu, HI 96813

Prepared by:  
CH2M HILL  
1132 Bishop Street, Suite 1100  
Honolulu, HI 96813

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# Acronyms and Abbreviations

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°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ACM	asbestos-containing material
amsl	above mean sea level
APE	Area of Potential Effects
BMP	best management practice
CAA	Clean Air Act
CE	Categorical Exclusions
CEQ	Council of Environmental Quality
CER	computerized environmental report
CFR	<i>Code of Federal Regulations</i>
CFLHD	Central Federal Land Highways Division
cfs	cubic feet per second
CO	carbon monoxide
CSH	Cultural Surveys Hawaii
CWA	Clean Water Act
CZM	Coastal Zone Management
dba	decibels
DCAB	Disability and Communication Access Board
DLNR	Department of Land and Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FWCA	Fish and Wildlife Coordination Act
FWPCA	Federal Water Pollution Control Act
HAR	Hawaii Administrative Rules
HDOH	State of Hawaii Department of Transportation
HDOT	Hawaii Department of Transportation
HRS	Hawaii Revised Statutes
KIUC	Kauai Island Utility Cooperative
LBP	lead-based paint
<i>makai</i>	oceanward

MAP-21	Moving Ahead for Progress in the 21st Century Act
<i>mauka</i>	mountainward
MBTA	Migratory Bird Treaty Act
MP	Milepost
mph	miles per hour
MSAT	mobile source air toxics
N/A	not applicable
NBIS	National Bridge Inventory Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWS	National Weather Service
OEQC	Office of Environmental Quality Control
OHWM	Ordinary Highway Water Mark
OP	Office of Planning
PM <sub>2.5</sub>	particulate matter less than 2.5 microns
ppb	parts per billion
ppm	parts per million
SHPO	State Historic Preservation Officer
SIC	Sandwich Isles Communications
SIHP	State Inventory of Historic Properties
SMA	Special Management Area
SO <sub>2</sub>	sulfur dioxide
STIP	Statewide Transportation Improvement Program
SWCA	SWCA Environmental Consultants
TMDL	Total Maximum Daily Load
TMK	Tax Map Key
UBC	Uniform Building Code
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	water quality certification

# Project Summary

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Table PS-1 contains a description of the project and applicable land-use designations.

TABLE PS-1

**Project Summary**

Project Name	Bridge 7E Replacement, Kaumualii Highway, Route 50, Island of Kauai
Proposing/Determination Agency	State of Hawaii Department of Transportation (HDOT)
Determination	Finding of No Significant Impact (FONSI) under Hawaii Revised Statutes Chapter 343
Tax Map Key(s)	[4] 2-7-001: 004 (por.); 2-7-002: 001 (por.); Kaumualii Highway Right-of-Way
Existing Uses of the Project Corridor	Roadway through vegetated, undeveloped land
State Land Use	Agricultural District
Special Management Area	No
Kauai General Plan	Agriculture Designation
Zoning	Agriculture (A) and Open (O) Districts
Proposed Project	Replacement of the existing box culvert, which conveys flows of an unnamed intermittent stream. The existing two-cell box culvert structure would be replaced with a single-cell box culvert structure that is longer and wider than the existing structure, with no change in the highway alignment. The new structure would continue to carry two travel lanes (one lane in each direction), with a 44-foot-wide typical section consisting of two 12-foot-wide lanes, two 8-foot-wide shoulders, and two 2-foot-wide crash-tested railings. A temporary two-lane bypass road and stream crossing would be provided on the <i>mauka</i> (mountainward) side of the highway throughout the construction period. The project would also include scour protection measures, supporting walls and slopes, utility relocations, and temporary staging areas.
Anticipated Impacts	Short-term construction related impacts (noise, dust and erosion) would occur, but the implementation of best management practices would minimize the effects to the environment. Four Federally and State listed wildlife species (Hawaiian petrel, Newell's shearwater, Hawaiian hoary bat, and band-rumped storm petrel) have the potential to occur within the project limits, but restrictions on the timing of construction and minimization of the project footprint would preclude any long term effects to the species. Critical habitat and listed plant species do not exist within the project limits. Effects on historic architectural resources and archaeological resources would not be expected based on an absence of resources meeting eligibility criteria.

# Preface

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The proposed project involves replacing Bridge 7E along Kaumualii Highway (State Route 50) approximately 800 feet west of Maluhia Road at approximately Milepost 7.0, which is located in the Koloa District on the island of Kauai. As the proposed project would involve the use of State funds and State lands (comprising the Kaumualii Highway right-of-way, under the jurisdiction of the State of Hawaii Department of Transportation), compliance with Hawaii Revised Statutes (HRS) Chapter 343 is required. This Environmental Assessment (EA) has been prepared pursuant to HRS Chapter 343 (as amended), and Hawaii Administrative Rules Title 11, Chapter 200.

The project would also use Federal funding provided by the U.S. Department of Transportation Federal Highway Administration (FHWA). Use of Federal funds subjects the project to environmental documentation requirements set forth under the National Environmental Policy Act (NEPA) of 1969, (42 U.S. Code Section 4321), the Council of Environmental Quality Regulations, 40 *Code of Federal Regulations* (CFR) Parts 1500-1508, and 23 CFR Parts 625, 640, 712, 771, and 790, Environmental Impact and Related Procedures. To comply with NEPA, the FHWA is preparing environmental documentation for its records, which will be consistent with the findings of this EA.



# Introduction

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## 1.1 Proposing Agency and Action

The State of Hawaii Department of Transportation (HDOT), in partnership with the Federal Highway Administration, Central Federal Lands Highway Division (FHWA-CFLHD), proposes improvements to Bridge 7E on the island of Kauai. This Environmental Assessment (EA) has been prepared in compliance with Chapter 343 of the Hawaii Revised Statutes (HRS). This project would replace the existing two-cell box culvert with a single-cell box culvert. The new structure would be wider than the existing structure, accommodating two 12-foot-wide travel lanes, two 8-foot-wide shoulders, and two 2-foot-wide concrete barrier railings that meet crash test requirements. This project would improve mobility for highway users and address existing structural deficiencies by doing the following: strengthening the foundation; designing the approaches, deck, and railings to meet current standards; and improving vegetation control and long-term maintainability.

## 1.2 Existing Conditions

The project is located along Kaumualii Highway (Route 50) at approximately Milepost (MP) 7.0 (see Figure 1-1). The structure and highway are under the jurisdiction of HDOT. Bridge 7E crosses an unnamed, intermittent stream that appears to flow into Mauka Reservoir, located approximately 0.33 mile downstream. Figures 1-2 and 1-3 show affected tax map keys.

Bridge 7E, built in 1933, is a reinforced-concrete two-cell box culvert with wing wall abutments. The existing culvert is approximately 22 feet long and approximately 32 feet wide. The structure's driving surface is asphaltic concrete pavement. Figure 1-4 shows photos of the existing bridge.

Kaumualii Highway is classified as a Rural Minor Arterial with a posted speed of 50 miles per hour (mph) at the project location. It is a two-lane undivided highway with 12-foot-wide travel lanes and up to 3-foot-wide shoulders on either side. In 2012, HDOT reported an annual average daily traffic (AADT) of 13,900 vehicles on Kaumualii Highway within the project vicinity. Traffic volumes are projected to be 14,280 vehicles in the 2016 construction year and 16,170 vehicles in 2036 (the project's design year). Although it is not on the National Highway System, the project is eligible for federal funding.

## 1.3 Project Purpose and Need

The purpose of the project is to improve Bridge 7E and its approaches to maintain the Kaumualii Highway as a safe and functional component of the regional transportation system for highway users and to alleviate maintenance issues in the channel caused by the deteriorated culvert.

The project is needed because the existing structure does not meet the current (2014) American Association of State Highway Transportation Officials (AASHTO) and HDOT structural and design standards for load capacity, railings and transitions, and approach roadways. In addition, the deteriorated structure requires frequent maintenance resulting in increased costs for HDOT.

As an integral component of the highway, Bridge 7E is essential for resident, visitor, freight, and military traffic mobility. Kaumualii Highway provides the only regional access for Kauai's south shore and west side communities between Lihue and both Koloa and Waimea Districts, a route that is vital for economic development, emergency response and safety, and general welfare. The highway is essential for connecting other modes of transportation, including Lihue Airport and the harbors located at Nawiliwili and Port Allen.

The U.S. Department of Transportation requires that bridges are inspected every 2 years. The National Bridge Inventory Standards (NBIS) inspection produces a "sufficiency rating," which is a single number that can vary from a high score of 100 to a low score of 0, with scores higher than 50 indicating that a bridge

meets current engineering design standards. Ratings do not imply that the bridge is unsafe to operate, only indicate whether improvements are needed. Based on the 2012 bridge inspection report, Bridge 7E has a sufficiency rating of 56.3 and is considered both structurally deficient and functionally obsolete.

Specifically, the existing structure has the following deficiencies:

- The inventory load rating (daily carrying capacity) is 16.3 tons, which is below the minimum standard of 36 tons.
- The top slab does not meet current live load requirements.
- The approach roadway width is 30 feet, consisting of two 12-foot-wide lanes and two up to 3-foot-wide shoulders, not matching the current design standards of 8-foot-wide shoulders.
- The guardrail is deteriorating and does not meet standards for barrier crashworthiness of a TL-3 rail; that is, able to withstand the impact of a car or light truck traveling 62 mph (AASHTO, 2009).

Poor flow conditions and the resulting sedimentation under the structure have also led to increased maintenance costs. A 2014 field survey found that the culvert bottom slopes in the upstream direction, contributing to standing water and the accumulation of sediment and debris in the culvert. Poor flow conditions have promoted undesirable plant growth within the culvert and increased maintenance requirements for HDOT. In addition, on the downstream side of the culvert, a sloping concrete apron hangs above the lower channel bottom, creating conditions for scour.

## 1.4 Purpose of the Environmental Assessment

This Environmental Assessment (EA) discloses the environmental and cultural impacts that may result from the project's implementation, and commits to specific mitigation measures. The EA has been prepared to satisfy the requirements of HRS Chapter 343 and Hawaii Administrative Rules (HAR) Title 11, Chapter 200, Environmental Impact Statement (EIS) Rules, and other environmental compliance requirements.

The proposed project triggered the rules and regulations for environmental review because the project would use State lands and State funds.

## 1.5 Public Comment on the Environmental Assessment

The Hawaii Office of Environmental Quality Control (OEQC) notifies the public when a Draft EA is available for review in its bimonthly bulletin, the OEQC *Environmental Notice*. OEQC officially announced the availability of the Draft EA on January 23, 2016, which initiated a 30-day review and comment period that ended on February 22, 2016. Three comments were received during the review period. These are included in Chapter 7.

## 1.6 Permits, Approvals, and Compliance Required or Potentially Required

The following requirements must be met to implement the proposed project:

### 1.6.1 Federal

- Department of the Army Permit (Section 404 of the Clean Water Act [CWA]), U.S. Army Corps of Engineers (USACE)
- Section 106 Consultation (National Historic Preservation Act [NHPA]), Hawaii Department of Land and Natural Resources (DLNR) State Historic Preservation Officer (SHPO)
- Section 7 Consultation (Endangered Species Act [ESA]), U.S. Fish and Wildlife Service (USFWS); National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS)

## 1.6.2 State

- Clean Water Act Section 401 Water Quality Certification, State of Hawaii Department of Health (HDOH)
- National Pollutant Discharge Elimination System (NPDES) Permit, HDOH
- Stream Channel Alteration Permit, DLNR Commission on Water Resource Management
- Coastal Zone Management Act Federal Consistency Review, Office of Planning, Hawaii Department of Business, Economic Development, and Tourism
- Historic Preservation Review (HRS Chapter 6E), DLNR State Historic Preservation Officer (SHPO)
- Americans with Disabilities Act Review (HRS Section [§] 103-50), HDOH, Disability and Communication Access Board (DCAB)
- Occupancy and Use of State Highway Right-of-Way Permit, HDOT
- Community Noise Permit/Variance, HDOH

## 1.6.3 County

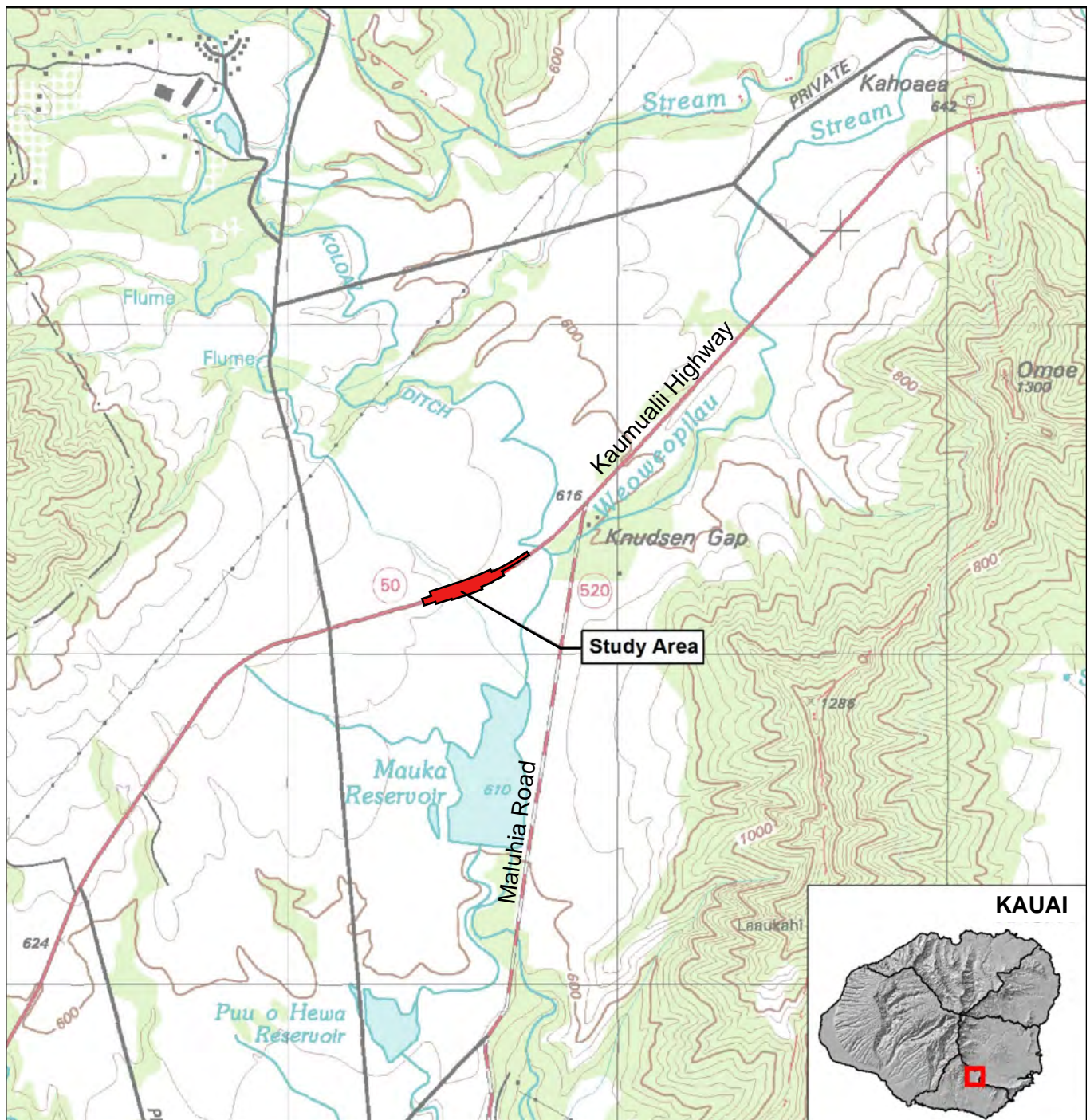
- Historic Preservation Review (NHPA Section 106 and HRS Chapter 6E), Kauai Historic Preservation Review Commission, Kauai Planning Department
- Compliance with floodplain management requirements, Kauai Department of Public Works
- Grading, grubbing, and stockpiling permits, Kauai Department of Public Works

## 1.7 References

American Association of State Highway and Transportation Officials (AASHTO). 2009. *Manual for Assessing Safety Hardware, First Edition*.

American Association of State Highway and Transportation Officials (AASHTO). 2014. *AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 7th Edition, with 2015 Interim Revisions*.

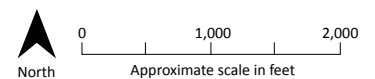
State of Hawaii Department of Transportation (HDOT). 2014. *Design Criteria for Bridges and Structures*. January 7.



Base Map: USGS Topographic Map, Kapaa (1996) Quadrangle  
Data Sources: CSH, 2015

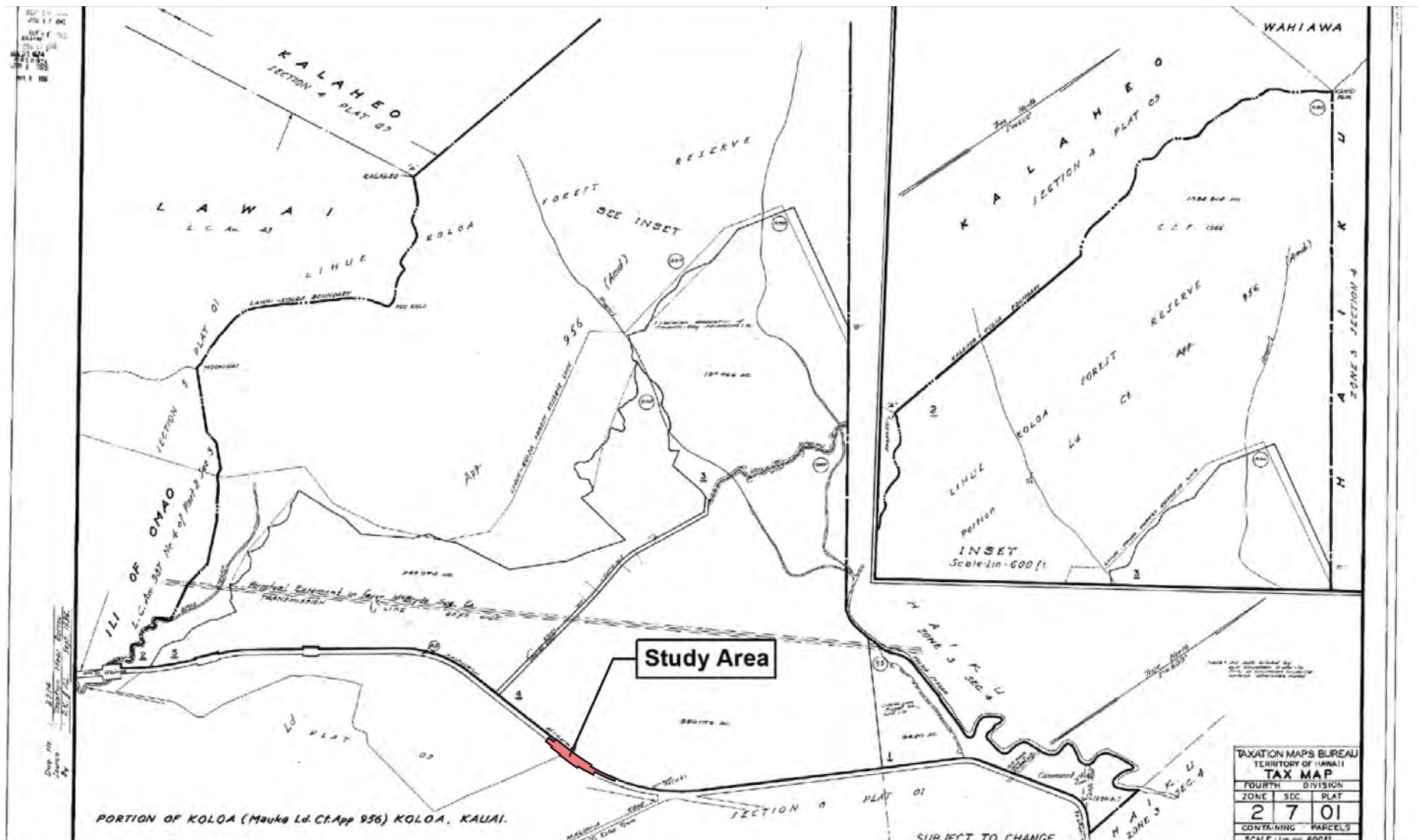
## LEGEND

Study Area



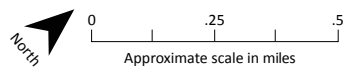
**FIGURE 1-1**  
**Project Location**  
*7E Bridge Project*  
*Hawaii Bridges Program -*  
*Central Federal Lands Highway Division and*  
*Hawaii Department of Transportation*





# LEGEND

Study Area



Note: TMKs: [4] 2-7-001;004 por., [4] 2-7-002;001 por., and [4] 2-7-001 Kaunualii Highway Right-of-Way

## FIGURE 1-2

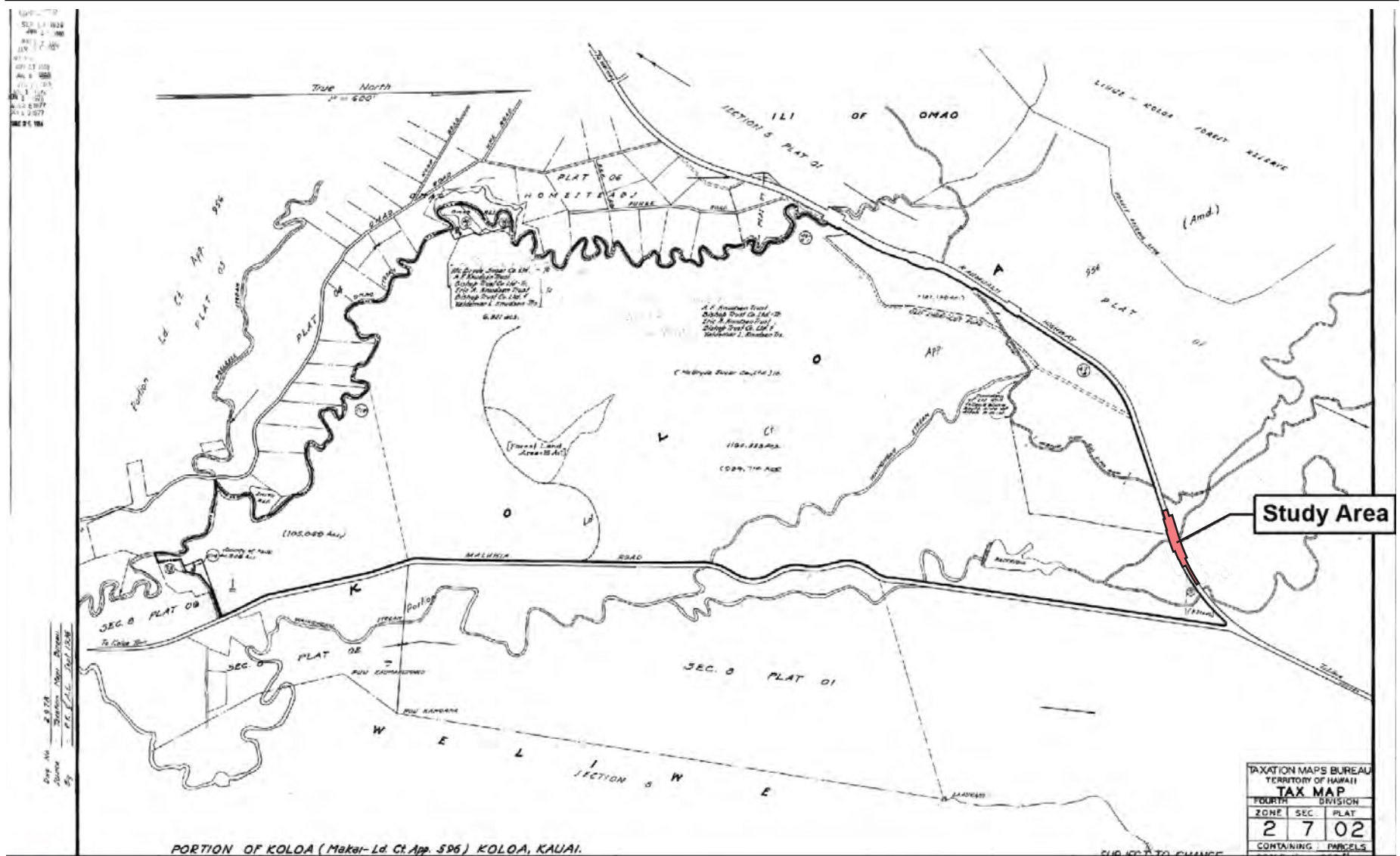
### Tax Map Key 1

7E Bridge Project

Hawaii Bridges Program –

Central Federal Lands Highway Division and  
Hawaii Department of Transportation

TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
TAX MAP		
FOURTH	DIVISION	
ZONE	SEC	PLAT
2	7	01
CONTAINING RAPEL'S		
SCALE 1" = 600'		



**FIGURE 1-3**  
**Tax Map Key 2**  
7E Bridge Project  
Hawaii Bridges Program –  
Central Federal Lands Highway Division and  
Hawaii Department of Transportation





Photo 1. Bridge 7E on Kaumualii Highway (approximately 800 feet west of Maluhia Road), looking west



Photo 2. Mauka side of Bridge 7E, looking west



Photo 3. East cell of two-box concrete culvert with vertical walls and low stream flow, looking makai



Photo 4. Dense vegetation on the mauka side of Bridge 7E, primarily guinea grass (*Urochloa maxima*)

**FIGURE 1-4**  
**Project Area Photos**  
*7E Bridge Project*  
*Hawaii Bridges Program -*  
*Central Federal Lands Highway Division and*  
*Hawaii Department of Transportation*

# Project Description

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## 2.1 Project Location

The project area for Bridge 7E is located on Kaumualii Highway (Route 50), approximately 800 feet west of Maluhia Road at approximately MP 7.0 in Koloa District, on the island of Kauai (see Figure 2-1).

Kaumualii Highway is a rural minor arterial that serves as the primary route between Lihue and both Koloa and Waimea Districts. Bridge 7E is under the jurisdiction of HDOT. Project site photos are provided as Figure 1-4.

The proposed project would require work at Bridge 7E and include a temporary bypass route, approach roadways, a potential staging area, and potential utility relocations. The project limits, or area of permanent and temporary direct impacts, are expected to be approximately 1,500 feet long along Kaumualii Highway and extend approximately 50 feet beyond the width of the existing right-of-way. Where the unnamed stream crosses beneath Bridge 7E, the project limits extend 200 feet along the drainage *mauka* (mountainward) and *makai* (oceanward) of Kaumualii Highway and include a 50-foot wide area outside the drainage.

There would be no improvements or changes to the existing travel lanes or shoulders beyond the project limits.

### 2.1.1 Surrounding Land Uses

The area surrounding the proposed project is largely undeveloped and is covered by dense vegetation, including grasses, shrubs, and trees. An unnamed, intermittent stream flows beneath Bridge 7E and appears to drain into the Mauka Reservoir farther south. In the past, the area surrounding the highway was used for sugar cane cultivation but in recent years some areas have been planted with eucalyptus and albizia trees for renewable energy projects. The County of Kauai designates land use adjacent to the project as Agriculture (County of Kauai, 2000) and large agricultural parcels are located north and south of Bridge 7E.

### 2.1.2 Other Nearby State and County Projects

There are no State or County transportation projects in the vicinity of Bridge 7E.

## 2.2 Existing Conditions along the Project Corridor

### 2.2.1 Right-of-Way and Surrounding Elevations

The highway right-of-way is approximately 60 feet wide (30 feet on either side of the centerline). The structure and roadway are located on relatively flat ground, but the general environs are characterized by rolling terrain. The existing ground profile is relatively flat with a slope of approximately 1.5 percent from west to east. Bridge 7E is at an elevation of 641 feet above mean sea level (amsl).

### 2.2.2 Bridge Structure and Approaches

Bridge 7E was constructed in 1933 as a two-cell box culvert. At road level, the culvert is approximately 22 feet long and 32 feet wide, with a paved asphalt driving surface (see Figure 2-2). The existing two-cell box culvert is composed of reinforced-concrete; each cell measures approximately 10 feet wide by 9 feet high. Each of the cell walls is supported by a row of 16-inch-square concrete piles. Wing walls extend from both ends of the exterior cell walls. There is no riprap or scour protection currently in place.

The channel upstream and downstream of the culvert is vegetated. During the 2014 field investigations, up to 18 inches of sediment deposition was observed within the eastern (Lihue-side) cell of the culvert. A low-flow channel with standing water was observed in the western (Waimea-side) cell. The field survey further found that the culvert bottom slopes in the upstream direction, contributing to standing water and the



accumulation of sediment and debris in the culvert. On the downstream side of the culvert, a sloping concrete apron hangs above the lower channel bottom.

There are fill slopes on both sides of the structure. A W-beam guardrail lines both sides of the roadway shoulder, with posts embedded in the ground. At the structure, short metal guardrail posts are anchored to the top of the concrete headwall. On the *mauka* side of the structure, the guardrail runs approximately 100 feet to the west and 180 feet to the east. On the *makai* side of the structure, the guardrail runs approximately 145 feet to the west and 100 feet to the east.

### 2.2.3 Utilities

Although existing overhead utility lines are located within the project limits on the *makai* side of Kaumualii Highway, only one existing utility pole is located within the project limits. In addition to overhead utility lines, there are underground fiber optic lines on the *mauka* side of the roadway. Providers with utilities in the project limits include the following:

- Kauai Island Utility Cooperative (KIUC) – Electric/Power
  - Overhead 12-kilovolt lines, *makai* side, parallel to roadway
- Sandwich Isles Communications, Inc. (SIC) – Fiber Optic
  - Underground fiber optic ducts, *mauka* side, parallel to roadway
- Hawaiian Telcom – Telephone
  - Overhead collocated with electric lines, *makai* side, parallel to roadway
- Oceanic Time Warner Cable – Cable
  - Location confirmation pending response from agency
  - Assuming overhead collocated with electric lines, *makai* side, parallel to roadway

## 2.3 Proposed Project

The proposed project is to replace Bridge 7E (that is, a two-cell box culvert) with a single-cell box culvert to address structural and functional deficiencies described in Section 1.3, Project Purpose and Need. During construction, traffic would use a two-way bypass route and temporary stream crossing *mauka* of the highway. Upon project completion, there would be no changes in highway operations. Figure 2-3 presents preliminary engineering designs.

HDOT and AASHTO standards and regulations govern the final design criteria and construction methods and procedures for the proposed project. The final design would meet or exceed both HDOT and AASHTO criteria (see Table 2-1). A design exception would be triggered only if AASHTO minimum criteria are not met.

TABLE 2-1  
Project Design Criteria

Design Criteria	Existing Conditions	Standards		Proposed
		AASHTO	State	
Design Speed	Posted speed = 50 mph	Rural 50 mph (minimum)	Urban 45 mph (minimum)	Design speed = 50 mph Posted speed = 50 mph
Travel Way Width (feet)	12	11	11	12
Shoulder Width (feet)	3	8	10	8
Structure Width (feet)	32	N/A	N/A	44 (includes barrier rail)

Note:

N/A = not applicable

HDOT's *Design Criteria for Bridges and Structures* (2014) would be followed for structure design.

The project would use HDOT's *Design Criteria for Highway Drainage*, dated October 1, 2010, to govern the hydraulic evaluation, analysis, and design. The project would consider incorporating low impact development concepts such as directing stormwater drainage into grass swales adjacent to the bridge and highway.

The approach travel lanes and shoulders would be designed to AASHTO and HDOT guidelines (*A Policy on Geometric Design for Highways and Streets* [AASHTO, 2011] and *Hawaii Statewide Uniform Design Manual for Streets and Highways* [HDOT, 1980], and all subsequent amendments).

### 2.3.1 Replacement Structure

Preliminary design anticipates a single-box culvert would replace the existing culvert on the current highway alignment. The new culvert would be designed to current standards for roadway width, load capacity, crash-tested barrier railing and transitions, and approach roadways. The proposed typical section of the new culvert would be 44 feet wide and consist of two 12-foot-wide travel lanes, two 8-foot-wide shoulders on each side, and two 2-foot-wide crash-tested barrier rails. Upon project completion, there would be no changes in highway operations (that is, the posted speed limit of 50 mph would remain).

Minor adjustments to the roadway profile and alignment may be needed to accommodate the transitions and the new wider structure within the existing 60-foot right-of-way. The roadway approaches on each side would need to transition from the 2-foot-wide shoulders along the highway to the full 8-foot-wide shoulders on the new structure. The structure and roadway approaches are on generally flat terrain, but some fill and a widened embankment are anticipated on the approaches.

Preliminary geotechnical analyses indicate that soils at the structure change to relatively soft and moderately compressible conditions at depths below 9 feet; therefore, deep foundations would likely be used to support the replacement structure. These may be either driven piles or drilled shafts. The culvert's depth would be similar to the existing structure so the hydraulic capacity of the stream would remain unchanged. The structure would be reinforced concrete and either precast or cast in place.

The current culvert is sized to accommodate irrigation flows; natural storm events are smaller than those flows. The proposed culvert is sized to match the existing culvert capacity, in accordance with HDOT *Design Criteria for Highway Drainage* (HDOT, 2010). To address the accumulation of sedimentation and debris, the bottom of the new structure would have a concrete lining and be sloped to facilitate downstream flows. Grouted rubble paving aprons are anticipated to be constructed at the inlet and outlet of the drainage area for scour protection and vegetation control.

Utility relocations (temporary or permanent) may be required for this project and would be confirmed during final design. Activities may include relocation of a utility pole and associated overhead electrical lines or fiber optic lines on the *mauka* side of the highway. There is currently no highway lighting within the project limits, and none proposed by this project.

### 2.3.2 Construction Activities

A temporary bypass road is proposed to maintain traffic during construction. The temporary bypass would be adjacent to and *mauka* of the highway to minimize utility impacts. It would provide a 10-foot-wide lane in each direction, 2-foot-wide shoulders, and barriers, as needed. Temporary traffic control measures would be in place as needed throughout construction. Water flowing through the culvert would be routed through a pipe during removal of the existing culvert and construction of the new culvert and the associated wing walls.

The temporary bypass road would also need to cross the stream channel; therefore, a temporary stream crossing structure would be provided *mauka* of the existing structure. This temporary stream crossing would

be sized to accommodate the 5-year flood flow. The pipe would be covered with fill material to create a driving surface.

Personnel and equipment would be staged within the project limits, potentially in a grassy area along the eastern approach to the structure, *mauka* of the highway. This potential staging area is approximately 20 feet wide and 350 feet long. Standard construction equipment would be used, such as track-mounted dozers, loaders, excavators, cranes, compactors, dump trucks, and pickup trucks. Demolition debris would require disposal at an approved landfill offsite.

Night work is generally not anticipated. However, for traffic control reasons, some phases of construction—for example, tying the temporary bypass road into the highway or bringing the new structure on line—may be performed at night when traffic volumes are lower. No night work would be scheduled during periods that would have an adverse effect on biological resources.

2.3.3 Properties Affected by the Project

The proposed project would require permanent easements on private properties located outside the existing 60-foot right-of-way.

Two privately owned parcels are located adjacent to the project limits, one *mauka* and one *makai* (see Table 2-2). Cut/fill slopes would extend beyond the existing right-of-way, requiring a slope easement, and a maintenance easement would be needed for maintenance personnel to be able to access the area. Construction parcels would be needed for the temporary bypass road, construction zone, and staging areas. HDOT would execute a construction parcel agreement to use the adjacent lands during construction. All affected properties are undeveloped; no dwellings or structures would be affected.

TABLE 2-2  
Affected Properties

TMK	Land Use	Estimate of Area Needed (Acres)	Project Requirement
[4] 2-7-001: 004	Undeveloped	0.61	Construction parcel (temporary bypass route and staging)
		0.17	Permanent easement (culvert construction)
[4] 2-7-002: 001	Undeveloped	0.15	Permanent easement (culvert construction)

Note:  
TMK = Tax Map Key

2.4 No Action Alternative

The No Action Alternative retains the existing structure with no changes. The two-cell box culvert would not be repaired to meet current design standards for roadway width and load capacity. Deficiencies in railings on the structure, transitions, and approach roadways would not change.

Under the No Action Alternative, environmental impacts resulting from structure rehabilitation or replacement activities would be averted and structure rehabilitation or replacement costs would not be incurred by HDOT. However, the existing structure would continue to deteriorate, requiring regular inspection and increased maintenance (and maintenance costs) to maximize its useful lifespan. Eventually, the structure may no longer provide a safe support for highway traffic and could face load restrictions or closure.

## 2.5 Structure Alternatives Considered and Dismissed

### 2.5.1 Rehabilitation

The existing structure is classified as functionally obsolete with substandard load-carrying capacity and railings and approach guardrails that do not meet current crash-tested requirements. The top slab does not meet current live load requirements and would need to be strengthened. Rehabilitation by increasing top-slab thickness for additional reinforcement would reduce hydraulic capacity of the existing culvert and may overstress existing piles. In addition, the width (that is, in the stream flow direction) of the existing structure would need to be extended, requiring new pile foundations. Given the extensive changes and cost required to modernize the 1933 structure, the rehabilitation alternative was not considered feasible.

### 2.5.2 Pipe Structures

Replacing the existing culvert with pipe structures that meet the required capacity were also considered. However, metal pipe culverts were excluded because of their corrosion potential. Concrete pipe culverts were also excluded because environmental disturbances and impacts that can occur in transitioning the channel to the quantity of pipes required to meet the conveyance capacity would be greater than the impacts expected from the proposed project.

### 2.5.3 Concrete-arched Structure

This option is for a precast concrete-arched structure with an invert slab added. A new arched culvert would be designed using arches with open areas that match or exceed the conveyance capacity of the existing two-cell box culvert. The proposed concrete-arched culvert could be either two 12-foot spans with an 8-foot rise or a single 20-foot span with a 10-foot rise. Because the concrete arch is not a rectangular section, a section wider than the proposed project design would need to be used to achieve the same flow area. Backfill would be placed above the concrete arch and topped by the pavement section. To provide adequate cover over the concrete arch and keep the roadway at the same elevation, a unit 28 feet wide by 7 feet high would be required to provide the appropriate open area to meet HDOT stormwater conveyance criteria. This alternative was dismissed as a less efficient design, whereby the structure would have a larger footprint than required to meet purpose and need and to address hydraulic conditions.

### 2.5.4 Temporary Bypass Alternatives Considered and Dismissed

#### 2.5.4.1 Single-lane Bypass Road with Signal

This bypass alternative involves a single-lane temporary bypass road and stream crossing, located adjacent to the highway with a traffic signal to allow alternating traffic. Based on a preliminary traffic analysis, a single-lane temporary bypass road with signal could be a viable option for an AADT of approximately 8,000 vehicles per day. However, Bridge 7E is located on a portion of the highway where the AADT is projected to be 14,280 vehicles in 2016, when construction is assumed to begin. Therefore, this option was not considered feasible.

#### 2.5.4.2 Phased Construction

Phased construction with a single-lane temporary bypass road would involve cutting the slab of the structure and continuing to provide one travel lane on the existing structure while a portion is demolished and reconstructed. A second travel lane would be provided by a temporary bypass road. Phased construction was dismissed because it would increase the construction duration and cost of the project.

## 2.6 Statewide Transportation Improvement Program

The Hawaii Statewide Transportation Improvement Program (STIP) provides a multiyear listing of State and County transportation projects and identifies projects slated for Federal funding. It is a multimodal transportation improvement program that is developed using existing transportation plans and policies, as well as current highway, transit, and transportation programming processes. The STIP delineates the funding

categories and the federal and local share required for each project. Listing on the STIP does not necessarily mean projects would be planned, designed, or constructed within the fiscal period because unforeseen occurrences, such as project readiness or project priorities, could delay them.

The current STIP, which covers the period from Federal Fiscal Year (FFY) 2015 to FFY 2018 (and FFY 2019 to FFY 2020 for information purposes only), was published by HDOT on October 27, 2014. The Kaumualii Highway (Route 50) Bridge 7E Replacement Project is listed on the STIP as a System Preservation project.

## 2.7 Preliminary Cost and Schedule

In 2015, the estimated construction cost for the proposed project is \$2.30 million. The estimate includes survey and staking, relocation of utilities, a temporary bypass road with low-water crossing, the new single-cell box culvert, and associated roadway elements.

Construction is anticipated to begin in late 2016 or early 2017 and last for approximately 11 months.

## 2.8 References

American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design for Highways and Streets*.

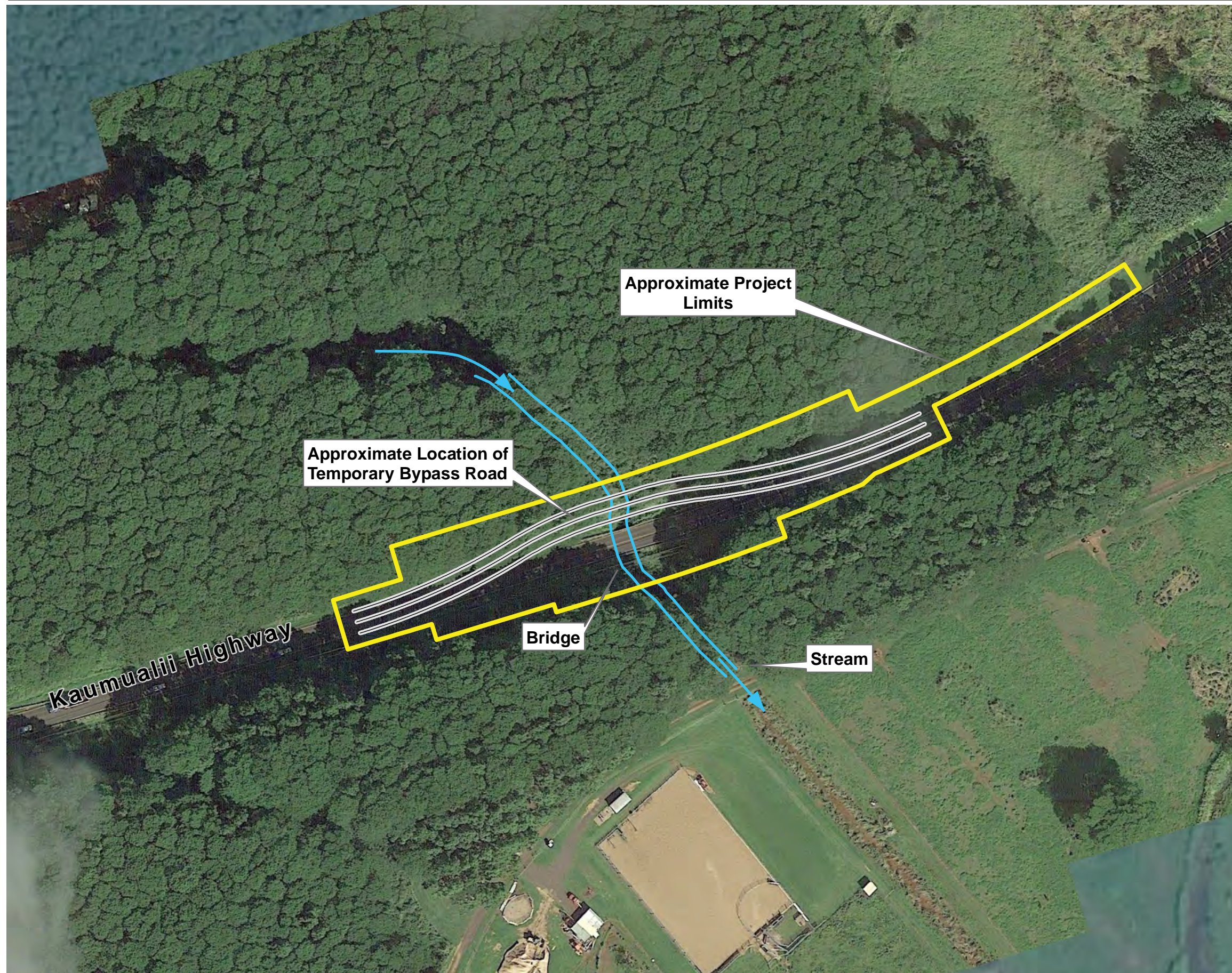
County of Kauai Planning Department. 2000. *The Kaua'i General Plan*. Koloa-Poipu-Kalaheo Planning District Land Use Map. November.

State of Hawaii Department of Transportation (HDOT). 1980. *Hawaii Statewide Uniform Design Manual for Streets and Highways*. Highways Division. October.

State of Hawaii Department of Transportation (HDOT). 2010. *Design Criteria for Highway Drainage*. October 1.

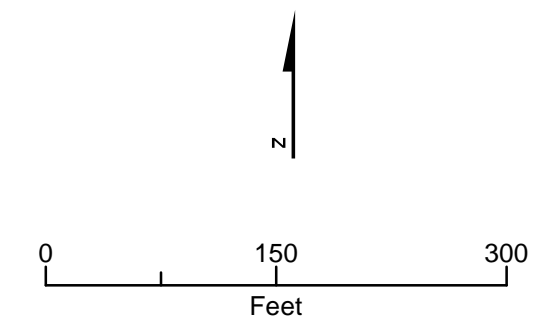
State of Hawaii Department of Transportation (HDOT). 2014. *Design Criteria for Bridges and Structures*. January 7.





- LEGEND
- Approximate Project Limits
  - Approximate Location of Temporary Bypass Road
  - Waters of the U.S. & Flow Directions

- Notes:
1. High-Res Imagery Source: Google Earth 12/16/2013
  2. Low-Res Imagery Source: Digital Globe 08/26/2011
  3. Imagery base map is not orthorectified; therefore project features may not properly align with the imagery.



**FIGURE 2-1**  
**Project Limits and Survey Area**  
 7E Bridge Project  
 Hawaii Bridges Program –  
 Central Federal Lands Highway Division and  
 Hawaii Department of Transportation



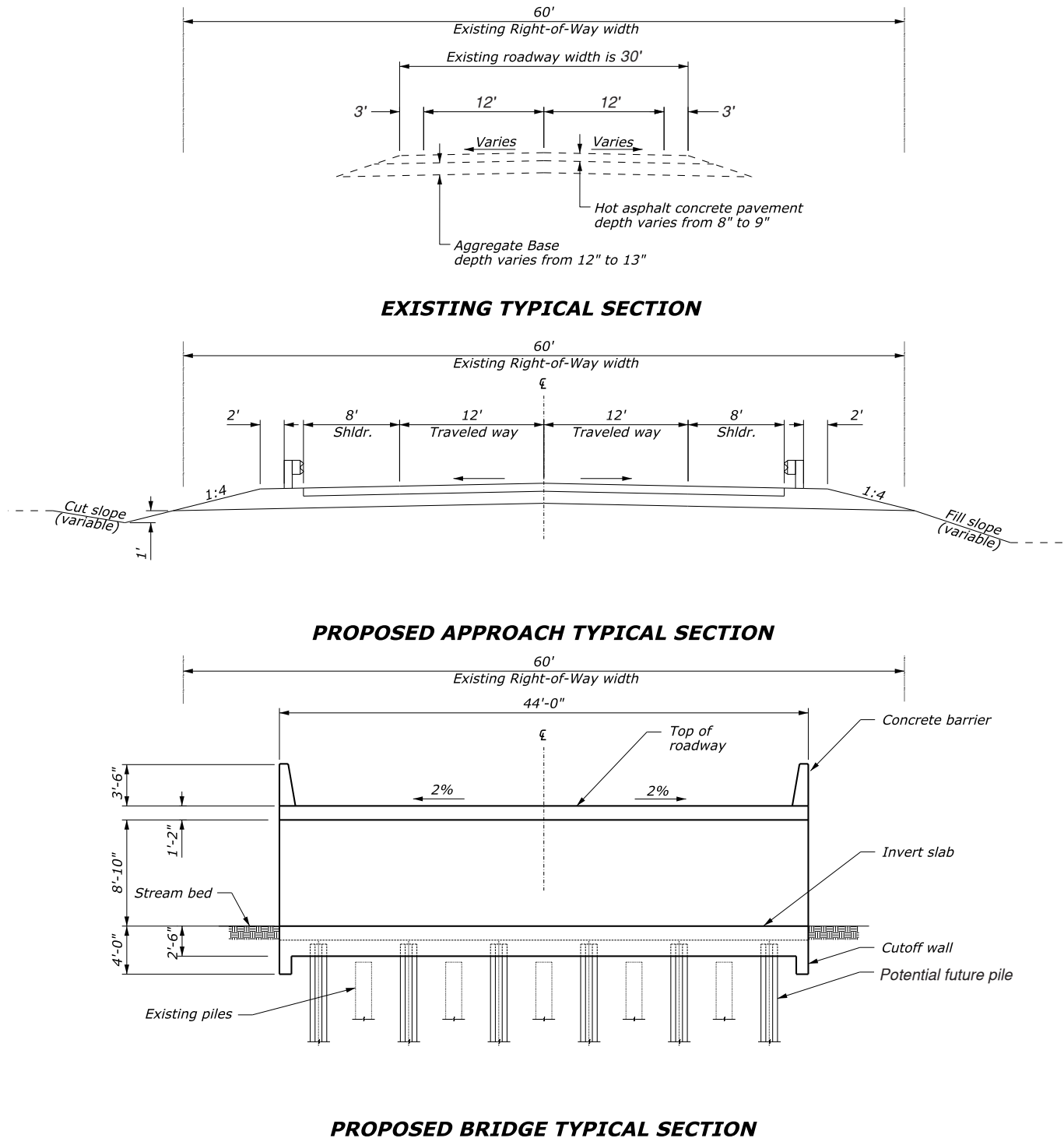


FIGURE 2-2  
**Typical Sections**  
 7E Bridge Project  
 Hawaii Bridges Program –  
 Central Federal Lands Highway Division and  
 Hawaii Department of Transportation

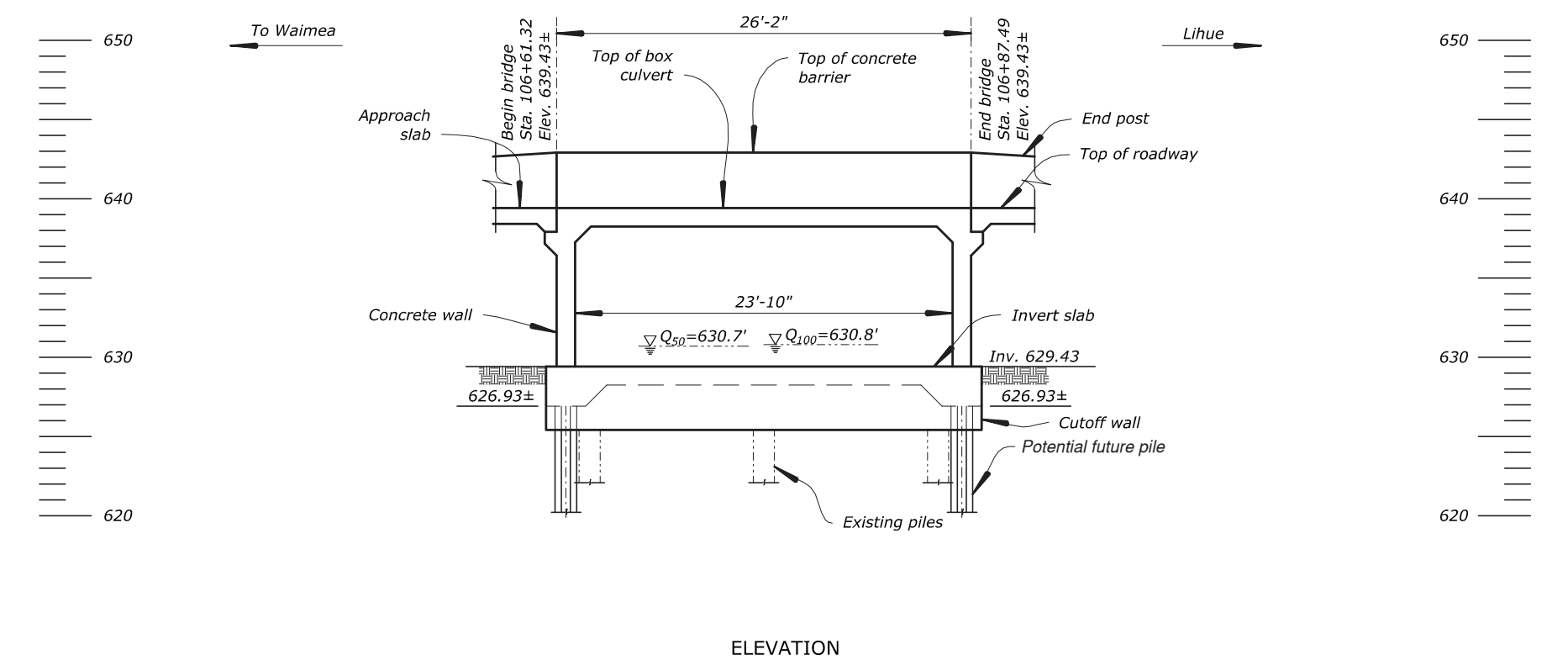
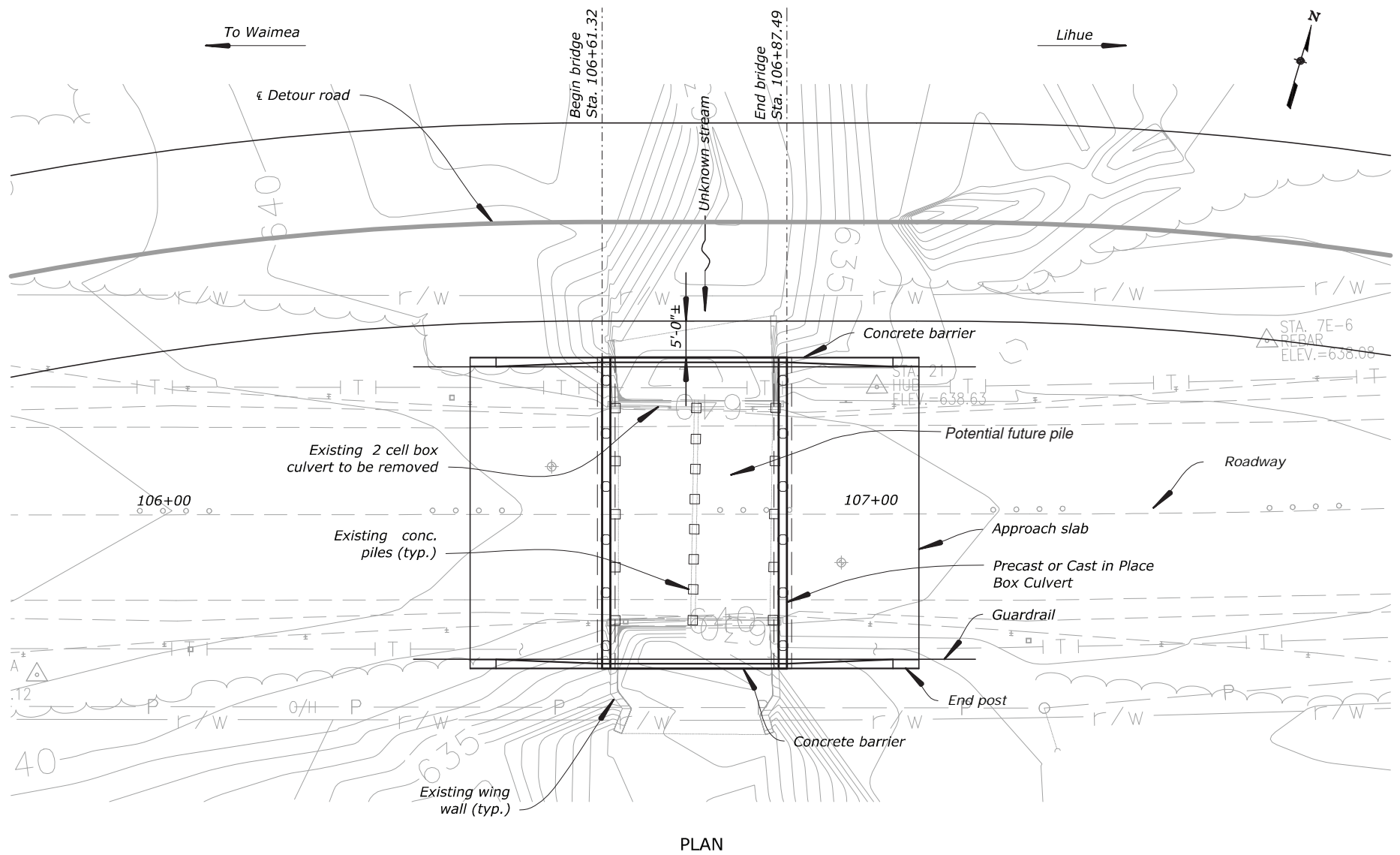


FIGURE 2-3  
**Bridge Design (Preliminary)**  
7E Bridge Project  
Hawaii Bridges Program –  
Central Federal Lands Highway Division and  
Hawaii Department of Transportation



# Affected Environment, Impacts, and Mitigation

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This chapter describes the affected environment, impacts, and mitigation for relevant resource areas. Resources that are not present (or otherwise don't apply) are not discussed. Specifically, there is no discussion relative to parks and recreation as there are no applicable resources in the project area. The proposed project would not generate any demand for water or wastewater disposal, so these resources are not evaluated. Public safety is discussed in Section 3.15, Roads and Traffic.

## 3.1 Topography, Geology, and Soils

### 3.1.1 Existing Conditions

Elevations surrounding the proposed project range from approximately 635 to 645 feet amsl. The slope gradient is from east to west, with marked depressions in topography attributed to stream flow from the intermittent stream. The project site is in the southern foothills of Mount Waialeale.

The island of Kauai is composed of a single basalt shield volcano built by the extrusion of lava of the Waimea Canyon Volcanic Series, more than 2 million years ago. After this main shield-building phase, there was renewed volcanic activity known as the Koloa Volcanic Series, characterized as thick flows of dense basalt extruded from groups of vents aligned in northern-southern trends in various locales. Along streams, drainage ways, and low-lying areas, erosion of the upper Koloa and Waimea Canyon Volcanic Series has deposited alluvial sediments. These sediments are unconsolidated to moderately consolidated, and are non-calcareous soil deposits.

The Natural Resources Conservation Service identifies the following two soil types in the project limits (Foote et al., 1972) (see Figure 3-1):

- Halii gravelly silty clay, 3 to 8 percent slopes (HfB). This series consists of well-drained soils on uplands on the islands of Kauai and Oahu, and developed in material weathered from basic igneous rock. They are gently sloping to extremely steep. Elevations range from 200 to 800 feet. These soils are classified in hydrologic soil group C, which are soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine or fine texture.
- Kapaa silty clay, 3 to 8 percent slopes (KkB). This series consist of well-drained and moderately well-drained soils on uplands on the island of Kauai. Soils developed in material weathered from basic igneous rock, probably mixed with volcanic ash and ejecta. They are gently sloping to steep. Elevations range from 300 to 1,000 feet. These soils are classified in hydrologic soil group B, which are soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well-drained or well-drained soils that have moderately fine texture to moderately coarse texture.

Four geotechnical borings were drilled for the replacement structure and the proposed bypass route. Soils near the surface of the culvert site and extending to depths of 17 to 18 feet consist of brown and mottled brown clayey silt. Underlying the clayey silt is a layer of cemented silt with cobbles and boulders and further below is a stratum with sand and weathered rock fragments. Highly to slightly weathered basalt was encountered at depths ranging from 48 to 67 feet. The basalt was hard and extended down to the maximum depths drilled. The findings of the geotechnical investigations led to a recommendation for deep foundations for the replacement culvert.

### 3.1.2 Potential Impacts and Mitigation Measures

The proposed project is not constrained by geological and topographic site conditions, nor would it affect any unique geological formations. Construction materials include clean gravel and well-graded granular

structural fill as backfill for excavations. To address the presence of soft subgrade soils found in geotechnical investigations and the potential for settlement, deep foundations would be installed. Roadway sections would be designed to standard HDOT specifications that consist of asphalt and base course over sub-base course material.

Construction of the structure and roadway approaches would involve land disturbance that could result in soil erosion. However, the erosion potential is relatively low given the small area of disturbance (approximately 2 acres) and clayey soils with moderate erodability. To minimize the potential for construction-related erosion impacts, best management practices (BMPs) would be developed as part of the project's engineering and design in accordance with the Kauai County Code for grading, grubbing, and stockpiling (Kauai County Code, Chapter 22, Article 7). See Section 3.2, Climate and Air Quality, and Section 3.3, Hydrology and Water Quality, for a list of applicable BMPs.

## 3.2 Climate and Air Quality

### 3.2.1 Existing Conditions

Climate in the area of the proposed project is moderated by elevation and prevailing northwest tradewinds. The average maximum daily temperature is approximately 80 degrees Fahrenheit (°F), with an average minimum of 67°F. Mean annual rainfall at the project location is approximately 84.5 inches. Rainfall is typically highest in November and December and lowest in June (Giambelluca et al., 2013).

Kauai, like the rest of the state, is in attainment of Federal and State air quality standards.<sup>1</sup> HDOH operates a network of air quality monitoring stations at locations around the state. The only monitoring station on Kauai is located approximately 7 miles east-southeast of the project site in the Niumalu subdivision, near Lihue. As reported in the Annual Summary of Air Quality Data for 2013 (HDOH, 2014a), the pollutants monitored at the Niumalu station are particulate matter less than 2.5 microns (PM<sub>2.5</sub>), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>). Carbon monoxide (CO) monitoring was shut down by HDOH as of April 25, 2013. The readings at this location show that criteria pollutant levels were below state and federal ambient air quality standards (see Table 3-1).

TABLE 3-1  
Island of Kauai Air Monitoring Station (Niumalu) Data (2013)

Pollutant	Annual Mean	Federal Air Quality Standard (Primary)	State Air Quality Standard
PM <sub>2.5</sub> (24-hour)	3.9 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>	None
NO <sub>2</sub> (Annual)	0.002 ppm	53 ppb	0.04 ppm
SO <sub>2</sub> (1-hour)	0.001 ppm	75 ppb	None
SO <sub>2</sub> (3-hour)	0.001 ppm	0.50 ppm <sup>a</sup>	0.50 ppm
SO <sub>2</sub> (24-hour)	0.001 ppm	None	0.14 ppm
CO (1-hour)	0.5 ppm <sup>b</sup>	35 ppm	9 ppm

Notes:

<sup>a</sup>. Federal secondary standard.

<sup>b</sup>. Station (CO) shut down April 25, 2013; incomplete year.

Source: HDOH, 2014a

µg/m<sup>3</sup> = micrograms per cubic meter

ppb = parts per billion

ppm = parts per million

<sup>1</sup> Exceedances of SO<sub>2</sub> and PM<sub>2.5</sub> have been reported on Hawaii Island, but these are associated with the volcano, which is considered a natural, uncontrollable event. Therefore, the State is requesting exclusion of these exceedances from attainment/nonattainment determination (HDOH, 2014c).

## 3.2.2 Potential Impacts and Mitigation Measures

### Short-term, Construction-related Emissions

Short-term impacts on air quality may result from project construction. BMPs would be employed to minimize emissions. As further discussed below, impacts could be associated with the following two types of pollutants: (1) fugitive dust from vehicular movement and soil disturbance, and (2) exhaust emissions from onsite construction equipment. Overall air quality impacts are expected to be insignificant because the construction period is of limited duration and impacts would be minimized with the implementation of BMPs for dust control and exhaust emissions.

*Fugitive Dust.* Construction activities would incorporate fugitive dust emission control measures in compliance with provisions of HAR Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33 on Fugitive Dust and Kauai County Code, Chapter 22, Article 7. Measures that are expected to be used to control airborne emissions include the following:

- Use water, disturbance area limitations, and re-vegetation to minimize dust emissions.
- Stabilize all disturbed areas with erosion control measures.
- Cover open-bodied trucks whenever hauling material that can be blown away.
- Revegetate disturbed area as soon as practical after construction.
- Stabilize construction entrances to avoid offsite tracking of sediment.

*Exhaust Emissions.* Emissions from engine exhausts of onsite mobile and stationary construction equipment could also affect air quality. Emission impacts would be minimized by requiring the contractor to use vehicles that are properly maintained. Nitrogen oxide emissions from diesel engines can be relatively high compared to emissions from gasoline-powered equipment; however, the standard for nitrogen oxide is set on an annual basis and is unlikely to be violated by emissions from short-term use of construction equipment. CO emissions from diesel engines are low and are expected to be negligible compared to vehicular emissions generated on the highway.

### Long-term Impacts on Air Quality

This project would not result in any changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that can cause an increase in emissions. As such, this project would generate no changes in air quality impacts for CAA criteria pollutants and would not be linked with any special mobile source air toxics (MSAT) concerns.

## 3.3 Hydrology and Water Quality

### 3.3.1 Surface Water and Groundwater

The U.S. Geological Survey (USGS) and the DLNR Division of Aquatic Resources identify an intermittent stream bisecting the survey area. The National Hydrography Dataset shows the unnamed stream as a small, non-permanent tributary flowing into Mauka Reservoir that connects to a series of stream, ditches, and reservoirs (that is, Puu O Hewa Reservoir, Waita Reservoir, and Pia Mill Reservoir) before flowing into Waikomo Stream. Waikomo Stream, within the Waikomo Watershed, is approximately 21.6 miles long and flows south, terminating in Hanakaape Bay in Poipu (Parham et al., 2008). The State of Hawaii names the feature under Bridge 7E as the Weoweopilau tributary, part of Huleia Stream. Huleia Stream is within the Huleia Watershed and flows east to Nawiliwili Bay in Lihue. However, based on aerial imagery, the stream under Bridge 7E appears to flow south as a minor tributary within the Waikomo Watershed; the analysis therefore proceeds using the National Hydrographic Dataset.

Biologists with SWCA Environmental Consultants (SWCA) conducted a delineation of Waters of the U.S. on September 29, 2014 (see Appendix A). The biologists used methods for determining the presence of wetlands as prescribed by the 1987 Manual (USACE, 1987) and the 2012 Hawaii and Pacific Island Regional Supplement (USACE, 2012). Based on these documents, jurisdictional wetlands were delineated using the following three criteria:

- Hydric soils—soils that are permanently or seasonally saturated by water
- Hydrophytic vegetation—plants adapted to life in water or waterlogged conditions
- Wetland hydrology—areas that are periodically inundated or have soils saturated to the surface at some time during the growing season

Groundwater was encountered in the borings at depths ranging from 9.9 to 14.8 feet. The depth to groundwater can be expected to vary with water level in the stream and seasonal rainfall.

### 3.3.2 Non-wetland Waters

A single non-tidal, non-wetland water was delineated in the survey area (see Figure 3-2). During the survey, a steady trickling flow of water was observed under the culvert, moving south.

The boundaries of potential non-wetland Waters of the U.S. were delineated by recording the location of the ordinary high water mark (OHWM). SWCA documented the OHWM at various points along the stream, primarily using clear impressions along the banks with distinct topographic indicators (such as vertical cut banks as high as 15 feet in some areas).

Downstream of the survey area, the stream appears to flow into Mauka Reservoir (roughly 0.33 mile) from Bridge 7E. SWCA did not conduct a field-based assessment of the connection. However, connectivity of the stream to Mauka Reservoir is shown on information from the National Hydrography Dataset and was also reported by Glenn Higashi, a biologist with the DLNR Division of Aquatic Resources (Higashi, 2015).

### 3.3.3 Clean Water Act, Section 303(d)

The Federal CWA requires states to collect and review surface water quality data and related information, and to prepare and submit to the U.S. Environmental Protection Agency (USEPA) biennial lists of waterbodies that are impaired (that is, not meeting state water quality standards). The current list is included in the 2014 State of Hawaii Water Quality Monitoring and Assessment Report (HDOH, 2014b). The unnamed stream beneath Bridge 7E is part of the Waikomo Stream system, which is impaired because standards for total nitrogen (that is, the sum of the concentrations of nitrate, nitrite, and nitrogen) and turbidity are not met.

For all impaired waters, HDOH is required to develop the Total Maximum Daily Load (TMDL), which is the maximum amount of a pollutant (from point and nonpoint sources) that a waterbody can receive and still meet water quality standards, and to establish an allocation of that amount to the pollutant's sources. Because there is a large demand for TMDL calculations, the HDOH has assigned a priority of low, medium, or high to each of the impaired waters listed based on the severity of pollution and how the water is used. Waikomo Stream has been assigned a low priority and limits have not been established.

### 3.3.4 Potential Impacts and Mitigation Measures

#### Short-term Construction Impacts

The project would involve demolition, excavation, grading, and construction in the stream and on the streambanks. Erosion would be reduced by implementing BMPs in place during construction. Because new disturbances would exceed 1 acre, an NPDES permit (Notice of Intent [NOI] Form C) would be obtained under CWA Section 402. An approved erosion control plan would be held onsite. BMPs to protect water quality include the following (*Kauai County Code*, Chapter 22, Article 7):

- Handle onsite drainage to minimize sedimentation or other pollution discharge to streams.
- Stabilize all disturbed areas with erosion control measures.
- Use check dams to slow runoff water velocities.
- Revegetate disturbed area as soon as practical after construction.
- Stabilize construction entrances to avoid offsite tracking of sediment.

Temporary impacts would occur at the location of the temporary bypass road as it would cross the stream using a vented low-water crossing. Temporary pipes or culverts that would be placed in the bottom of the

stream channel and be sized to accommodate the 5-year flood flow. The pipe would be covered with fill material to create a driving surface. The total duration of the temporary fill is anticipated to last approximately 11 months. Approximately 127.4 cubic yards of material will be placed over an area of 107.5 square feet.

Federal (Sections 401 and 404) and State (Stream Channel Alteration) permits would be needed for discharges or fill in regulated waters. The permits would be needed for routing creek flows to isolate the construction area as needed and constructing the temporary bypass road crossing. Collecting and disposing groundwater would be conducted in accordance with applicable permit requirements.

### **Long-term Impacts on Waters of the U.S. and Water Quality**

One of the project's objectives is to reduce the maintenance burden of clearing vegetation under and adjacent to the structure, where conditions at Bridge 7E are conducive to rapid growth of plant life (see Section 1.3). To address this objective effectively, the bottom of the concrete culvert would be designed to slope downstream, thereby reducing sediment accumulation within the structure. Discharges of fill material in Waters of the U.S. require a CWA Section 404 permit from the USACE and a Section 401 Water Quality Certification by HDOH, Clean Water Branch. Placement of small areas of riprap will be required for protection of the culvert and streambanks. Approximately 53.7 cubic yards of material will be placed over 34.5 square feet of area. These impacts would be included as part of the request for Federal and State authorization for discharge in regulated waters, as discussed above.

Under existing conditions, the roadway is generally crowned and runoff sheet-flows off the pavement and over a grassy buffer to the stream. In some stretches of the highway, runoff sheet-flows off the pavement and into roadside ditches that convey runoff to the stream. The structure replacement project would not change the drainage pattern of stormwater flows. The project would increase the amount of impervious area by approximately 2,241 square feet (0.1 acre), which includes a wider structure surface than the existing structure and connections to the highway. Because the proposed project is surrounded by undeveloped land, the slight increase in impervious surface area would not have a significant adverse effect on stormwater runoff entering the stream.

## **3.4 Natural Hazards**

### **3.4.1 Flooding**

Bridge 7E is not located within a floodplain mapped by the Federal Emergency Management Agency (FEMA). Therefore, the design of the replacement structure is not required to comply with the National Flood Insurance Program's regulations and requirements. Analysis performed for the project found that hydraulics (the capacity to accommodate floodwaters) does not play a key role in sizing the replacement structure. The new structure is sized to match the opening of the existing structure and would maintain the same or greater conveyance capacity as the existing structure.

Because of the project's inland location, analysis of coastal events (such as storm surges, storm waves, tsunamis, or hurricanes) is not required.

### **3.4.2 Potential Impacts and Mitigation Measures**

The existing culvert capacity was selected as the design parameter. The replacement culvert would match the conveyance capacity that currently exists; therefore, the new structure would not adversely affect flood conditions in the stream.

## **3.5 Noise**

### **3.5.1 Existing Conditions**

Given the absence of urban development in the surrounding the project, traffic on Kaumualii Highway is the primary noise generator. A noise analysis was not performed because the project does not meet Federal or

State criteria for when a noise analysis is needed; specifically, the proposed project would not increase highway capacity and there are no nearby noise receptors.

### 3.5.2 Potential Impacts and Mitigation Measures

#### Construction-related Noise

Construction noise impacts are unavoidable, but would be temporary. Noise levels produced during construction would be a function of the methods employed during each stage of construction. Equipment likely to be used include drill rig, crane, excavator, backhoe, front-end loader, grader, forklift, semi-trucks, dump trucks, concrete trucks, compactors, paving equipment, and compressors. *Roadway Construction Noise Model User's Guide* (FHWA, 2006) indicates that the loudest equipment generally emits noise in the range of 80 to 90 decibels (dBA) at a distance of 50 feet, which exceeds permissible levels.

Per HAR §11-46-3, the project area is located in the Class A Zoning District (open space), where maximum permissible sound levels are 55 dBA during the daytime (7 am to 10 pm) and 45 dBA during the nighttime (10 pm to 7 am). Construction noise is expected to exceed the State's "maximum permissible" property line noise levels, and a Community Noise Permit would be obtained from HDOH under HAR Chapter 11-46, Community Noise Control. For HDOH to issue a noise permit, the application would describe construction activities for the project. Specific permit restrictions required for construction projects includes the following:

- No permit shall allow construction activities creating excessive noise before 7 am and after 6 pm of the same day.
- No permit shall allow construction activities that emit noise in excess of 95 dBA except between 9 am and 5:30 pm of the same day.
- No permit shall allow construction activities that exceed the allowable noise levels on Sundays and on certain holidays. Pile driving and other activities exceeding 95 dBA would be prohibited on Saturdays.

The HDOH noise permit generally does not limit the noise level generated at the construction site, but rather the times at which high-volume construction can take place. However, before issuing the permit, HDOH may require noise mitigations to be incorporated into construction plans, for example, maintenance and proper muffling of construction equipment and onsite vehicles that exhaust gas or air. HDOH may also require the contractor to conduct noise monitoring. In addition to the noise permit, a noise variance may be requested from HDOH for specific occasions when work hours need to be extended into the evenings and/or on weekends to implement the overall construction schedule.

#### Long-term Noise Impacts

Replacing Bridge 7E would not change highway capacity, traffic counts or operational conditions (that is, the posted speed limit). Therefore, noise levels after the project is completed are expected to be unchanged.

## 3.6 Hazardous Materials

### 3.6.1 Existing Conditions

A regulatory database computerized environmental report (CER) was acquired in the form of an EDR Radius Map Report with GeoCheck®. The CER is a download from select Federal and State standard source environmental databases that identifies sites within a search radius of up to 1 mile. CER data lists were reviewed to determine whether any sites could present a hazard during construction. The CER (included in Appendix B) did not identify any sites within the 1-mile radius that are suspected to represent a material negative environmental impact.

In addition, the CER identified three orphan sites (sites without adequate location information to identify on a map). Two of the sites are related to a highway resurfacing project, and the third is for a highway

improvement project. All three listings were identified in the Facility Index System database. None of the three orphan site listings identified a release of hazardous or petroleum products.

There is potential for the existing culvert to contain asbestos-containing material (ACM) and lead based paint (LBP). Potential ACM on structures include abutment forms, waterproof membranes between the deck and the paving, geotextiles, asbestos cement pipes and conduits, textured surfaces, and asbestos concrete. LBP may be present in paint chips or waste generated during removal of paint from bulk material, including stripping paint grindings from asphalt pavement.

### 3.6.2 Potential Impacts and Mitigation Measures

Project construction would require the removal, demolition, and rehabilitation of the existing bridge structure. Construction-related activities would also require using hazardous materials, including lubricants of various weights and viscosities, hydraulic fluid for transit and construction equipment, cleaning products, and materials used for corrosion protection such as paint or other coatings on exposed steel.

Based on the results of the CER, no hazardous materials are anticipated to be encountered within the project site.

A hazardous materials spill plan would be developed that describes spill prevention measures regarding the location of refueling and storage facilities and the handling of hazardous materials. The hazardous materials spill plan would describe actions to be taken in case of a spill. The contents and requirements of the hazardous materials spill plan include the following:

- The project manager and heavy equipment operators would perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations would be postponed or halted should a leak be detected, and they would not proceed until the leak is repaired and the equipment is cleaned.
- Absorbent material manufactured for containment and cleanup of small hazardous materials spills would be kept at the project site.
- In the event of a large hazardous materials spill or if unanticipated hazardous materials are encountered within the project site, the HDOH Hazard Evaluation and Emergency Response Office and the HDOT Hazard Evaluation and Environmental Response Office would be contacted immediately.
- Hazardous waste generated as a result of removal, demolition, and rehabilitation activities would be managed to the highest and best end use, and in a manner to ensure the protection of human health (workers, visitors to the site, and the general public) and the environment in accordance with applicable laws, rules, and regulations.
- A hazardous waste determination for all anticipated waste would be prepared to determine whether the waste is classified as hazardous waste, universal waste, excluded waste, wastewater, or solid waste. Before removal, demolition and rehabilitation activities related to ACM or LBP commence, all applicable permits will be obtained from, and notifications be provided to, the Federal, State, and local permitting and regulatory agencies with jurisdiction over this work. These permits and notifications will be documented in the project files.

A survey would be performed to determine whether ACM, LBP, or both are present. If asbestos is present or suspected, an Asbestos Abatement Plan would be prepared to establish the appropriate protocols for abatement. If LBP is identified, work practices (in accordance with applicable State and Federal regulations) would be implemented before LBP removal to contain debris, control airborne dust, and properly dispose of materials with LBP.

## 3.7 Flora<sup>2</sup>

### 3.7.1 Existing Conditions

SWCA biologists conducted field reconnaissance surveys of the project limits on September 17 and 29, 2014. Representative portions of the area were driven or walked, to describe vegetation types and wetlands or streams, as well as known or suspected threatened, endangered, or candidate plant species. No Federally or State-listed threatened, endangered, or candidate plant species were recorded in the survey area. No Native Hawaiian plants were seen during the survey. The vegetation in the survey is composed of five main vegetation types as follows:

- Guinea Grass Grassland: Guinea grass (*Urochloa maxima*) forms dense mats, reaching 7 feet tall in some areas adjacent to the highway. Very few other weedy species occur in this vegetation type. Small koa haole (*Leucaena leucocephala*) trees, albizia (*Falcataria moluccana*) seedlings, and maile pilau (*Paederia foetida*) vine are uncommon.
- Albizia Forest: A large portion of the survey area comprises monotypic albizia stands that maintain a canopy over 50 percent or greater. The understory is largely dominated by Guinea grass.
- Eucalyptus Forest: Portions of the survey area are forested with rainbow eucalyptus trees (*Eucalyptus deglupta*). The understory is largely dominated by Guinea grass.
- Riparian: The riparian vegetation type occurs in the non-perennial streambed. Common species in this area include Job's-tears (*Coix lachrymal-jobi*), Guinea grass, octopus tree (*Schefflera actinophylla*), Koster's curse (*Clidemia hirta*), and ginger (*Alpinia sp.*).
- Ruderal Vegetation: This vegetation type occurs in and along the highway right-of-way. It is dominated by a mix of non-native herbaceous plants including: Guinea grass, swollen fingergrass (*Chloris barbata*), Spanish needle (*Bidens pilosa*), maile hohono (*Ageratum conyzoides*), graceful spurge (*Euphorbia hypericifolia*), pualele (*Emilia fosbergii*), kili'o'opu (*Kyllinga nemoralis*), elephant grass (*Cenchrus purpureus*), and Hilo grass (*Paspalum conjugatum*). These weedy areas are likely mowed occasionally.

### 3.7.2 Potential Impacts and Mitigation Measures

Construction of the proposed project would require trimming and/or removal of vegetation within the temporary and permanent work areas. The following BMPs related to floristic resources would be implemented (*Kauai County Code*, Chapter 22, Article 7):

- Natural vegetation, especially grass, would be retained where possible.
- Construction traffic would be routed to avoid existing or newly planted vegetation.
- Natural vegetation would be protected with fencing, tree armoring, and retaining walls or tree wells, as appropriate.
- Removed vegetation would not be deposited along the banks of any watercourse.
- All removed vegetation would be disposed of away from the site within 3 months of being removed.
- All construction equipment would be washed before construction to prevent introduction of invasive species seeds from earthmoving or hauling.

The vegetation types and species identified during the survey are not unique. No threatened or endangered plants were found. In addition, no designated plant critical habitat occurs nearby. Based on the lack of sensitive botanical resources and implementation of BMPs, the proposed project is not expected to have a significant adverse impact on botanical resources.

<sup>2</sup> The plant names used in this assessment follow Wagner et al. (2012), Wagner and Herbst (2013), and Wagner et al. (1999).



## 3.8 Fauna

SWCA biologists investigated the presence of known or suspected threatened, endangered, or candidate wildlife species during the September 2014 field surveys.

### 3.8.1 Avifauna

The bird species observed in and near the project limits are species typically found in disturbed lowland areas. In all, four bird species were documented: Cattle egret (*Bubulcus ibis*), house finch (*Haemorrhous mexicanus*), Hwamei (*Garrulax canorus*), and Japanese white-eye (*Zosterops japonica*). All four species were introduced to the Hawaiian Islands. The cattle egret and house finch are non-native birds protected under the Migratory Bird Treaty Act (MBTA). The native migrant Pacific golden-plover (*Pluvialis fulva*) could also exist in the survey area.

Seabirds, particularly the endangered Hawaiian petrel (*Pterodroma sandwichensis*), threatened Newell's shearwater (*Puffinus auricularis newelli*), and endangered band-rumped storm-petrel (*Oceanodroma castro*),<sup>3</sup> may fly over the project at night while travelling to and from their upland nesting sites to the ocean. These species nest inland in the mountainous interior of Kauai. No suitable nesting sites for these species are present in the project limits.

Suitable foraging and nesting sites for the four endangered waterbird species—Hawaiian gallinule or 'alae'ula (*Gallinula galeata sandvicensis*), Hawaiian coot or 'alae'ke'oke'o (*Fulica alai*), Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*), and Hawaiian duck or koloa maoli (*Anas wyvilliana*)—are not present in the project limits. Because of the lack of shrub cover and abundance of tall grass, suitable nesting habitat for the endangered Hawaiian goose or nene (*Branta sandvicensis*) is also not present.

### 3.8.2 Mammalian Species

#### Hawaiian Hoary Bat

The endangered Hawaiian hoary bat or 'ope'ape'a (*Casiurus cinereus semotus*) is the only native terrestrial mammal species that is still present within the Hawaiian Islands. A survey specifically for Hawaiian hoary bats was not conducted, but suitable habitat for roosting and foraging was noted during the biological survey. The species typically roosts in dense canopy foliage or in the subcanopy when canopy is sparse, with open access for launching into flight. The bats have been observed roosting in eucalyptus and albizia trees and potentially roost in these tree species within the vicinity of Bridge 7E (see the Biological Assessment provided in Appendix C). In terms of feeding behavior, the bats forage in open, wooded, and habitats with a wide range of vegetation types. The animals are insectivores and are regularly observed foraging over streams, reservoirs, and wetlands, and up to 300 feet offshore. The stream corridor in the project limits is considered suitable bat foraging habitat.

#### Other Terrestrial Mammals

Dogs (*Canis familiaris*) and cats (*Felis catus*) were not observed during the biological survey, but are likely to enter the project limits. Other mammals that can be expected onsite include mice (*Mus musculus*) and rats (*Rattus spp.*).

### 3.8.3 Terrestrial Invertebrates

Four species of terrestrial invertebrates were noted during the biological survey. Two are non-native snails: the giant African snail (*Achatina fulica*) and the miniature awl-snail (*Subulina octona*). Also observed were the large orange sulphur butterfly (*Phoebis agarithe*) and the native indigenous globe skimmer (*Pantala flavescens*).

<sup>3</sup> The band-rumped storm petrel is State listed as endangered, and is a candidate for Federal listing as endangered.

### 3.8.4 Aquatic Resources

Due to low water volume and poor visibility, an in-stream (i.e., mask and snorkel) survey was not possible. Observations for aquatic species were attempted, but none were made. Although not specific to the project site, previous surveys in the mid-reaches of the larger Waikomo watershed report the presence of a single native fish (o'opu nakea [*Awaous guamensis*]) and multiple introduced species, including Asian clam, (*Corbicula fluminea*), Tahitian prawn (*Macrobrachium lar*), sunfish (*Lepomis* sp.), bass (*Micropterus* sp.), guppy (*Poecilia reticulata*), tilapia (*Tilapia* sp.), and swordtail (*Xiphophorus helleri*) (Parham et al., 2008).

### 3.8.5 Potential Impacts and Mitigation Measures

**Hawaiian Hoary Bats.** Bats may roost in eucalyptus and albizia trees present in the project limits, or they may forage throughout the area. Direct impacts to bats would occur only if a juvenile bat too small to fly but too large to be carried by a parent were present in a tree that is trimmed or cut down. The possibility of adversely affecting Hawaiian hoary bats as a result of the proposed project is small; however, the following measures would be taken to avoid impacts:

- Any fences that are erected as part of the project would have barbless top-strand wire to prevent entanglements of the Hawaiian hoary bat on barbed wire. No fences in the survey area were observed with barbed wire; however, if fences are present within the project limits, the top strand of barbed wire would be removed or replaced with barbless wire.
- No trees taller than 15 feet are anticipated to be trimmed or removed as a result of this project between June 1 and September 15, when juvenile bats that are not yet capable of flying and may be roosting in the trees. If a 15 feet or taller tree would be trimmed or cut during this period, a qualified biologist would ensure no bats were present in the tree before disturbance occurs.

**Seabirds.** Threats to the endangered Hawaiian petrel, threatened Newell's shearwater, and endangered band-rumped storm-petrel include the attraction of adults and newly fledged juveniles to bright lights while transiting between their nest sites and the ocean at night. Juvenile birds are particularly vulnerable to light attraction and are sometimes grounded when they become disoriented at night by lights. Grounded birds are vulnerable to mammalian predators or to being struck by vehicles. The following mitigation measures would be implemented to avoid and minimize light attraction of these seabirds to the project site:

- Construction activity would be restricted to daylight hours as much as practicable during the seabird peak fallout period (September 15 to December 15), to avoid the use of nighttime lighting that could attract seabirds.
- All outdoor lights would be shielded to prevent upward radiation.
- Outside lights that are not needed for security and safety would be turned off from dusk through dawn during the peak fallout period (September 15 to December 15).

**Hawaiian Waterbirds and Nene.** If an endangered Hawaiian waterbird or nene is found in the project limits during construction activities, then all contractor activities within 100 feet of the bird would cease and the bird would not be approached. Work may continue after the bird leaves the area of its own accord.

**Aquatic Resources.** The following mitigation measures would be implemented to reduce potential impacts to aquatic resources in the area:

- Disturbed streambanks would be revegetated or stabilized as soon as possible to reduce erosion.
- All project-related materials and equipment placed in the water would be free of pollutants.
- Fueling of land-based vehicles and equipment would take place at least 50 feet from the water, preferably over an impervious surface.
- Appropriate materials to contain and clean potential spills would be stored at the worksite and be readily available.

- Appropriate silt retention devices would be used to minimize streambank sediments from entering the stream.

**Migratory Bird Treaty Act.** SWCA observed two bird species Federally protected under the MBTA during the biological survey, along with an additional species that may exist in the project area: the migratory Pacific golden-plover and sanderling, the endangered Hawaiian gallinule, and the introduced cattle egret. Construction may temporarily displace some of these bird species, but long-term impacts are not expected. These birds (likely limited to a few individuals) are expected to find suitable foraging habitat in nearby areas. The temporary displacement of these individuals at the project site is not expected to affect their survival or the overall species' populations.

## 3.9 Archaeological Resources

### 3.9.1 Existing Conditions

The town of Koloa is the urbanized area closest to the proposed project (approximately 2.5 miles south of the project area). The *makai* portion of Koloa is relatively dry with approximately 30 inches of rain. However, historically, perennially flowing streams have provided a resource for the development of an expansive agriculture system *mauka* of the town, in the general vicinity of the project. Accounts of the early history of Koloa describe *mauka* lands as a seemingly continuous, well-maintained, agricultural complex of taro, yams, sweet potato, and sugar cane irrigated by an extensive auwai system (water channels for irrigation) siphoned off Waikomo and Poeleele streams.

Koloa became the site of the first organized sugar plantation in Hawaii. Most of the infrastructure supporting historic agriculture lies *makai* of the Bridge 7E project, but the upper elevations of Koloa were important collection areas for irrigation.

Cultural Surveys Hawaii (CSH) archaeologists conducted archaeological field work in September 2014 and subsurface testing in June 2015 within the Area of Potential Effect (APE) (Appendix D includes the Draft Archaeological Inventory Survey Report, which presents information about the field surveys). The following two cultural resources were identified:

- SIHP #50-30-10-2285 (CSH 1): Bridge 7E
- SIHP #30-10-2286 (CSH 3): Historic earthen ditch

Bridge 7E (SIHP #50-30-10-2285) is discussed in Section 3.11, Historic Architecture Resources.

The historic earthen ditch (SIHP #30-10-2286) extends north to south, and is perpendicular to Kaumualii Highway through the culverts of Bridge 7E. Water flows within the ditch and into Mauka Reservoir. The width and depth of the ditch are variable. On the southern side of Bridge 7E, the ditch has a width of approximately 9.8 feet with a depth of approximately 7.9 feet. On the northern side of the culvert, the ditch is wider and measures approximately 15.1 feet, with a shallower depth of approximately 5.9 feet. This feature is interpreted as an historic (plantation) earthen ditch for water control.

**Significance Assessment.** SIHP #30-10-2286, a historic earthen ditch, was evaluated for significance under HAR §13-275-6 Criterion "d" (that is, have yielded or is likely to yield information important for research on prehistory or history), and is recommended eligible to both the Hawaii and National Registers under that criterion. The cultural resource possesses integrity of setting, location, design, and materials.

Subsurface investigations were conducted by CSH from June 14 to 15, 2015. The testing program involved six shovel test probes, each measuring approximately 50 centimeters long by 50 centimeters wide. Excavation sites were distributed throughout the project limits along the shoulder of the highway. The sampling strategy was detailed in map and text to the SHPO in advance of the fieldwork.

Traditional Hawaiian cultural material was not observed during subsurface testing. Historic cultural material observed and collected consisted of a single porcelain fragment. No cultural resources were identified

during the subsurface testing program. Additional detail is provided in the Archaeological Inventory Survey (AIS) Report contained in Appendix D.

### 3.9.2 Potential Impacts and Mitigation Measures

The proposed project would have “no adverse effect” in accordance with Federal regulations (36 CFR 800.5) and “no historic properties affected” under HAR §13-13-275-7. The SHPD concurred with these determinations by letter dated May 24, 2016 (included in Appendix D).

No further archaeological fieldwork is proposed for this project as the AIS documented the information content of the earthen ditch (SIHP #30-10-2286) within the APE. However, archaeological monitoring will be voluntary for ground disturbance and excavation activities during construction. If cultural resources or human remains are inadvertently discovered during construction, the contractor would comply with State law and administrative rules for handling them.

## 3.10 Historic Architectural Resources

### 3.10.1 Existing Conditions

Bridge 7E is a concrete, two-cell box culvert that carries two lanes of Kaumualii Highway at MP 7. The structure was part of the circa 1933 National Recovery Highway project (NRH) No. 12-B, which would become Route 50 along an approximately 5-mile section beginning near the junction of Maluhia (Tree Tunnel) Road and extending west to Kalaheo. Before this project, the existing road followed a twisting route with frequent abrupt turns along the contour of the land and was unpaved in places. The 1933 project built a straighter road that was cut and filled through the terrain to provide a gentler grade. Much of the older road was destroyed when NRH 12-B cut through it. Other sections that extended farther from the path of the 1933 project were abandoned.

William R. Bartels, a bridge engineer for the Hawaii Territorial Highway Department, was the designer of the structure. During his tenure (1932 to 1958), he was a prolific designer, responsible for large and sophisticated bridge construction projects in Hawaii, including many tee-beam and rigid-frame concrete bridges. The structure was built by Hawaiian Contracting Co. Ltd and construction was supervised by Robert Belt, the Resident Engineer on Kauai for the Territorial Highway Department.

Significance Assessment. Bridge 7E is included in the November 2013 Hawaii State Historic Bridge Inventory and Evaluation by MKE Associates, LLC, and Fung Associates, Inc. (MKE Associates and Fung Associates, 2013). This inventory describes Bridge 7E as not eligible, with no distinctive features that depart from standard design. The structure is included in the 1989 Kauai Bridge Inventory. The 1989 inventory states that the structure is also known as Hoinakaunalehua Bridge. However, this name is assigned to a 1950 culvert that is located on Kaumualii Highway about 2 miles east of Bridge 7E. It is more likely that the alternate name in the 1989 bridge inventory is in error, confusing the two structures. The 1989 evaluation for Bridge 7E found that it is not eligible for listing on the National or Hawaii registers because of a lack of distinguishing engineering or artistic characteristics.

Bridge 7E was reevaluated by Mason Architects in 2014; a copy of the Historic Inventory Form is contained in Appendix D. The culvert does not appear to contribute to the development of Kaumualii Highway. It was not a particularly distinctive example of a box culvert or considered a significant achievement by its designer. HDOT and FHWA have determined that Bridge 7E is not eligible for listing on either the National or the Hawaii Register of Historic Places.

### 3.10.2 Potential Impact and Proposed Mitigation Measures

The proposed project would dismantle the existing two-cell box culvert and replace it with a new single-cell box culvert with a deck that is wider than the existing culvert. Because the existing structure has been determined to be ineligible for listing on the National or Hawaii Register of Historic Places, the replacement project would not adversely impact a historic structure and no mitigation is required.

## 3.11 Cultural Resources

### 3.11.1 Existing Conditions

Consistent with the requirements of HRS Chapter 343, Cultural Surveys Hawaii conducted a Cultural Impact Assessment (CIA) to evaluate the potential effect of the proposed project on cultural beliefs, practices, and resources. The assessment included archival research of relevant background history, *kaao* (legends), traditional *mooelo* (stories), *wahi pana* (storied places), *olelo noeau* (proverbs), *oli* (chants), *mele* (songs), traditional subsistence and gathering methods, and ritual and ceremonial practices. Ethnographic interviews were also conducted with persons knowledgeable about cultural resources, practices, and beliefs relevant to the study area. Specifically, CSH conducted five interviews for the project: Billy Haohelauii, Rupert Puni Rowe, Reginald Gage, Zacheriah Branch Harmony (also named Kalanikumai Ka Makauliuli Puamoi O Na Alii Hanohano), and Terrie Hayes. The findings of the CIA are summarized here; a copy of the CIA report is provided in Appendix E.

Although much of the seaward portion of Koloa is a relatively dry area with approximately 30 inches of rain per year, the perennially flowing streams provided a resource for the development of a rather expansive agricultural system. Accounts of the early history of Koloa (Farley, 1907; Jarves, 1844; Judd, 1935; Townsend, 1839) describe in the lands *mauka* of Koloa Town as a seemingly continuous, well-maintained, agricultural complex of taro, yams, sweet potato, and sugar cane irrigated by an extensive *auwai* system siphoned off Waikomo and Poeleele streams. This system had a significant influence on later commercial endeavors in Koloa.

Koloa is the site of the first organized sugar plantation in Hawaii. Ladd and Company leased about 1,000 acres for the sole purpose of growing sugar cane (Palama and Stauder, 1973). The commercialization of sugar cane in Koloa had widespread social effects that changed the traditional view of the *aina* as a responsibility of the *alii*.

Koloa Town and Koloa Landing, at the mouth of Waikomo Stream, became prominent commercial centers during the mid- to late 1800s, exporting a variety of products such as sweet potatoes, sugar, and molasses. Whalers also stopped for provisions of squash, salt, salt beef, pigs, and cattle (Palama and Stauder, 1973). This heightened activity dramatically altered the social structure and landscape of Koloa.

While clearly most of the infrastructure supporting historic agriculture lies well *makai* of the present study area, during the later historic period, the upper elevations of Koloa became important collection areas for irrigation water. It is possible that historic ditches, flumes, pipelines, and other features related to the collection of irrigation water exist within or are in the immediate vicinity of the study area.

### 3.11.2 Potential Impacts and Mitigation Measures

Based on information gathered from the cultural and historical background, and the community consultation, the following potential impacts were identified:

- Previous archaeology conducted within the project area indicated the presence of historic-era properties; however, no *iwi kupuna* (ancestral bones) were discovered. A community member also stated that he does not believe burials of *iwi kupuna* are located within the project area.
- Community members expressed concerns regarding the effects on natural resources (plant and food) and individuals who gather or use natural resources in the vicinity of the project area, which may include fishermen and hunters. Community members offered no recommendations for mitigating the effects of construction on fishermen or hunters.
- Another community concern was potential effects of construction on waterways. Concerns were expressed regarding the impact of construction on water quality, stream flow, and potential impediments to stream access. The community recommended that the route of the stream be “traced,”

and an investigation undertaken to determine which individuals or organizations use the water. (See Section 3.3.1 regarding hydrology and Sections 3.9.1 and 3.11.1 regarding historic use for agriculture.)

Based on the findings of the CIA, cultural resources and practices are not expected to be affected by the proposed project. Cultural practices near the proposed project (should any occur) would be temporarily restricted during the construction period for safety reasons. All permitted activities would resume once the improvements have been completed. If cultural resources or human remains were inadvertently discovered during construction, all activities will cease and the SHPD will be notified pursuant to HAR §13-300 and HRS §6E-43..

## 3.12 Population and Demographic Factors

### 3.12.1 Existing Conditions

The proposed project is not located in a residential neighborhood. The closest residences are located approximately 1.5 miles west in Omao.

There are four census tracts in the southern and western areas of Kauai:

- Census Tract 406, Koloa-Poipu
- Census Tract 407, Kalaheo-Eleele
- Census Tract 408, Hanapepe
- Census Tract 409, Waimea-Kekaha

Approximately 35 percent of the island's population resides within the four census tracts (see Table 3-2). For this region, the U.S. Census counted a combined population of 23,418 in 2010. Compared to 2000, the region experienced a net increase of 2,010 persons or 9.4 percent. The three census tracts west of Bridge 7E—407, 408, and 409—experienced the highest growth rates within the region.

TABLE 3-2

**Resident Population, Selected Census Tracts, 2000 and 2010**

Census Tract	Area	2000 Population	2010 Population	Net Change	Percent Change
406	Koloa-Poipu	5,404	5,683	279	5.2%
407	Kalaheo-Eleele	7,441	8,403	962	12.9%
408	Hanapepe	3,438	3,771	333	9.7%
409	Waimea-Kekaha	5,125	5,561	436	8.5%
Region	South/West Kauai	21,408	23,418	2,010	9.4%
County	Kauai	58,303	66,921	8,618	14.8%

Source: U.S. Department of Commerce Census Bureau, 2010

### 3.12.2 Potential Impacts and Mitigation Measures

The proposed project would replace an existing two-cell box culvert with no change in traffic volume using the structure. Therefore, the project is not expected to affect the residential population or demographic characteristics. However, given that approximately 35 percent of the island's residents live to the west of Bridge 7E or immediately south of it, maintaining a reliable transportation infrastructure would meet the mobility needs of a significant proportion of Kauai's population.

**Environmental Justice.** The project involves replacement of an existing structure that is not located in a residential area. Therefore, the project would not have a disproportionately high or adverse impact on minority or low-income populations.

## 3.13 Economic and Fiscal Resources

### 3.13.1 Existing Conditions

The Kauai economy has transformed over time from a plantation economy to a modern economy with a mix of tourism, diversified agriculture, construction, retail, and professional businesses. As reported in the 2013 edition of County Business Patterns, Kauai had a total of 1,986 business establishments with 25,186 paid employees and an annual payroll of more than \$880 million.

The largest industries in terms of jobs are trade (retail and wholesale) and services. In 2013, hotels and food services accounted for 8,372 jobs, retail trade had 3,992, and healthcare and social assistance had 3,038. The Poipu resort area, located south of the proposed project, is a major employment center that draws workers from much of the island.

The national economic recession of the late 2000s had a ripple effect on tourism and the island's primary economic engine. However, economic conditions have since improved and the unemployment rate in August 2015 was 3.8 percent (Ycharts, 2015), compared to a 3.5 percent unemployment rate statewide (State of Hawaii Department of Labor and Industrial Relations, 2015) and 6.1 percent nationwide (U.S. Bureau of Labor Statistics, 2015).

### 3.13.2 Potential Impacts and Mitigation Measures

#### Economic Impacts

The proposed project is anticipated to have several types of economic impacts. One type is construction-related employment and income. With a preliminary estimated cost of \$2.21 million, the project is expected to support a number of construction workers for the duration of the project. Unless the economy expands significantly and existing firms are working at full capacity, this project is more likely to help sustain existing employment and income levels than to create new jobs. However, because project funds are coming from (Federal) sources outside the region, wages paid to workers on this project (direct income), payments to suppliers (indirect income), and their subsequent expenditures (induced income) would have positive cumulative impact as monies circulate through the local economy.

#### Fiscal Impacts

Public funds are needed for long-term operations and maintenance of all bridge structures. In the case of Bridge 7E, the existing structure has exceeded its normal lifespan. Replacing the structure would allow HDOT to extend the timeframe for major bridge repair. Design improvements would reduce ongoing maintenance costs, notably by engineering positive flow through the culvert, installing a bottom slab to inhibit vegetation growth within the culvert, and providing scour protection. These improvements would provide long-term fiscal benefits to HDOT.

## 3.14 Visual and Aesthetic Resources

### 3.14.1 Existing Conditions

The 2000 *Kaua'i General Plan* (General Plan) identifies important scenic resources, such as major land forms, open spaces, viewing points, and scenic drives. The Plan's Koloa-Poipu-Kalaheo Planning District Heritage Resources map was reviewed to identify resources that may be affected by the proposed project. Long stretches of Kaumualii Highway are identified as scenic roadway corridors, including the section from Puhi to Omao which encompasses Bridge 7E.

The setting of Bridge 7E is rural, along a gently curving section of the highway with a sight distance of about 900 feet to the east and about 1,800 feet to the west, with no buildings that are in sight distance of the structure. Thick vegetation is growing in the stream bed and covering the low banks. Tall trees line the highway in both directions. Photo 3-1 shows a view of the highway circa 1998. At that time, land surrounding the highway was used for sugar cane production and the view from the highway offered a

panoramic vista of the Waialeale foothills. Photo 3-2 was taken in almost the same location in 2014 and shows a different view after cessation of agriculture and subsequent forestation.

### 3.14.2 Potential Impacts and Mitigation Measures

As seen Photos 3-1 and 3-2, the highway corridor provides the remaining open view plane of the *mauka* scenery. The existing structure has low, solid concrete parapets (that is, low walls) about 1 foot, 6 inches high above the asphalt roadway surface (see Photo 2, Figure 1-2). Given the inconspicuous railings, motorists may not know they are driving over a culvert. The proposed replacement structure would be designed with single slope concrete railings that are 3 feet, 6 inches high, and would be noticeable to motorists. Even at the new parapet height, motorists' views would not be diminished because of the relatively short structure length (approximately 26 feet) (see Figure 3-3). Therefore, this project is not anticipated to have significant adverse impacts on view planes which are forward looking.



**Photo 3-1.** *Kaumualii Highway near Bridge 7E, looking west, circa 1998*  
(Photo credit: Cultural Surveys Hawaii)





**Photo 3-2.** *Kaumualii Highway near Bridge 7E, looking west, 2014*  
(Photo credit: Cultural Surveys Hawaii)

## 3.15 Roads and Traffic

### 3.15.1 Existing Conditions

Kaumualii Highway (State Route 50) is the main transportation corridor for the western side of the island. In the vicinity of Bridge 7E, at MP 7, the highway had an average daily traffic count of 13,900 in 2012. The highway is classified as a Rural Minor Arterial with a posted speed limit of 50 mph.

### 3.15.2 Potential Impacts and Mitigation Measures

#### Development in the State Highway Right-of-Way

The proposed project would affect approximately 760 feet of Kaumualii Highway. The replacement culvert would be constructed and operated predominantly within the right-of-way of the existing highway facility. Project improvements would occur in areas impacted by construction of the original structure in 1933 and subsequent highway upgrades and repairs. Permanent easements for slopes and maintenance access would be needed as described in Section 2.3.3, Properties Affected by the Project.

#### Traffic Impacts

**Short-term Construction-related Impacts.** Construction is expected to extend over 11 months. A temporary bypass road—including a temporary stream crossing—would be constructed to maintain traffic flow during construction. The bypass route would be located adjacent to, and *mauka* of, the existing structure. It would consist of two travel lanes, thereby accommodating travel in both directions. The bypass route would be designed for a travel speed of 30 mph (compared to the highway speed of 50 mph). While motorists would be required to slow down and may experience slightly longer travel times, traffic flow is not expected to be impeded.

**Traffic Control.** A traffic management plan would be developed by the contractor before construction and submitted to HDOT and FHWA for review and approval. Components of the traffic plan may include public notices and electronic signboards to inform motorists about the work schedule and to help with travel planning. All temporary signs, signals, and pavement markings would conform to standards contained in the FHWA *Manual on Uniform Traffic Control Devices* (revised 2009; adopted 2010).

**Emergency Services.** Kaumualii Highway is a lifeline transportation facility for police, fire, and emergency medical services. The project includes a temporary bypass road adjacent to the existing structure and designed to carry conventional loads, thereby resulting in no adverse impacts to emergency services access. The contractor would be required to make provisions for emergency access and would be required to maintain full access during non-working hours.

**Relationship to Other Transportation Improvement Projects.** No other transportation projects are currently programmed in the vicinity of the proposed project.

## 3.16 Solid Waste Management

### 3.16.1 Existing Conditions

The County of Kauai, Department of Public Works, Solid Waste Division operates the primary refuse collection system. The County is responsible for regulating the disposal of all solid waste with the exception of hazardous materials. Refuse collection crews operate out of three baseyards on Kauai.

The island has a single landfill located in Kekaha. Because it is located on the far-west side of the county, refuse vehicles servicing large portions of the island routinely pass over Bridge 7E to reach the facility. The 34-acre Kekaha Landfill Phase II site opened in 1993 and was allowed by the State to have its height limit increased to 60 feet in 1998. The facility also serves as a drop-off point for segregated recoverable waste (such as cardboard, newspaper, glass, and aluminum cans). The landfill, with the addition of the vertical expansion, is projected to reach capacity in several years. The County has identified a landfill site north of Lihue, *makai* of Maalo Road, and is currently preparing an EIS.

### 3.16.2 Potential Impacts and Mitigation Measures

Solid-waste impacts are expected to be short-term and related to construction activities. Removing the existing structure would generate debris consisting primarily of concrete slabs, asphalt pavement, and metal guardrails, posts, and fastenings. The contractor would be required to dispose of or recycle all materials at approved sites and with proper handling during transport. The contractor would be required to have a waste disposal plan that specifies proper removal and disposal of all debris from the project. Project-related waste material would be a small proportion of the island-wide total, and would not be expected to have a significant impact on the County's solid waste facilities.

## 3.17 Electrical and Telecommunications Systems

### 3.17.1 Electrical System

KIUC is the local electrical utility company, providing electrical power to service customers on the island. Pole-mounted overhead 12.47-kilovolt lines are located on the *makai* side of the highway and run parallel to the proposed project.

### 3.17.2 Telecommunications Systems

Hawaiian Telcom provides land-line telecommunications service to customers on the island. Overhead telecommunication lines are also located on the *makai* side of the highway and parallel to the proposed project. There is an existing riser conduit rising up on the joint poles at each end of the structure, along the roadway.

Oceanic Time Warner Cable provides wired cable television service to customers on the island. The cable television distribution system is assumed to include overhead lines on the *makai* side of the highway and parallel to the proposed project.

SIC has an existing fiber optic ductline system that runs underground and is located on the *mauka* side of the structure. The section under the structure was directionally drilled under the streambed.

### 3.17.3 Highway Lighting and Power

There are no highway lights in the project limits.

### 3.17.4 Potential Impacts and Mitigation Measures

Utilities would remain functional during construction but may experience temporary and short-term interruptions, limited to the extent possible. Further coordination with utility owners would occur before and during construction. Temporary impacts on utilities would be negligible because service would be maintained during construction, and there would be no long-term adverse impacts related to utilities.

## 3.18 Secondary and Cumulative Impacts

Replacement of Bridge 7E is a self-contained project. It would not change the capacity of the existing highway and it is not expected to have secondary impacts such as population change, land development, or effects on public facilities and services. No other transportation or construction project is proposed to occur in the project vicinity, thereby reducing the potential for cumulative adverse impacts to resources such as water quality and wildlife.

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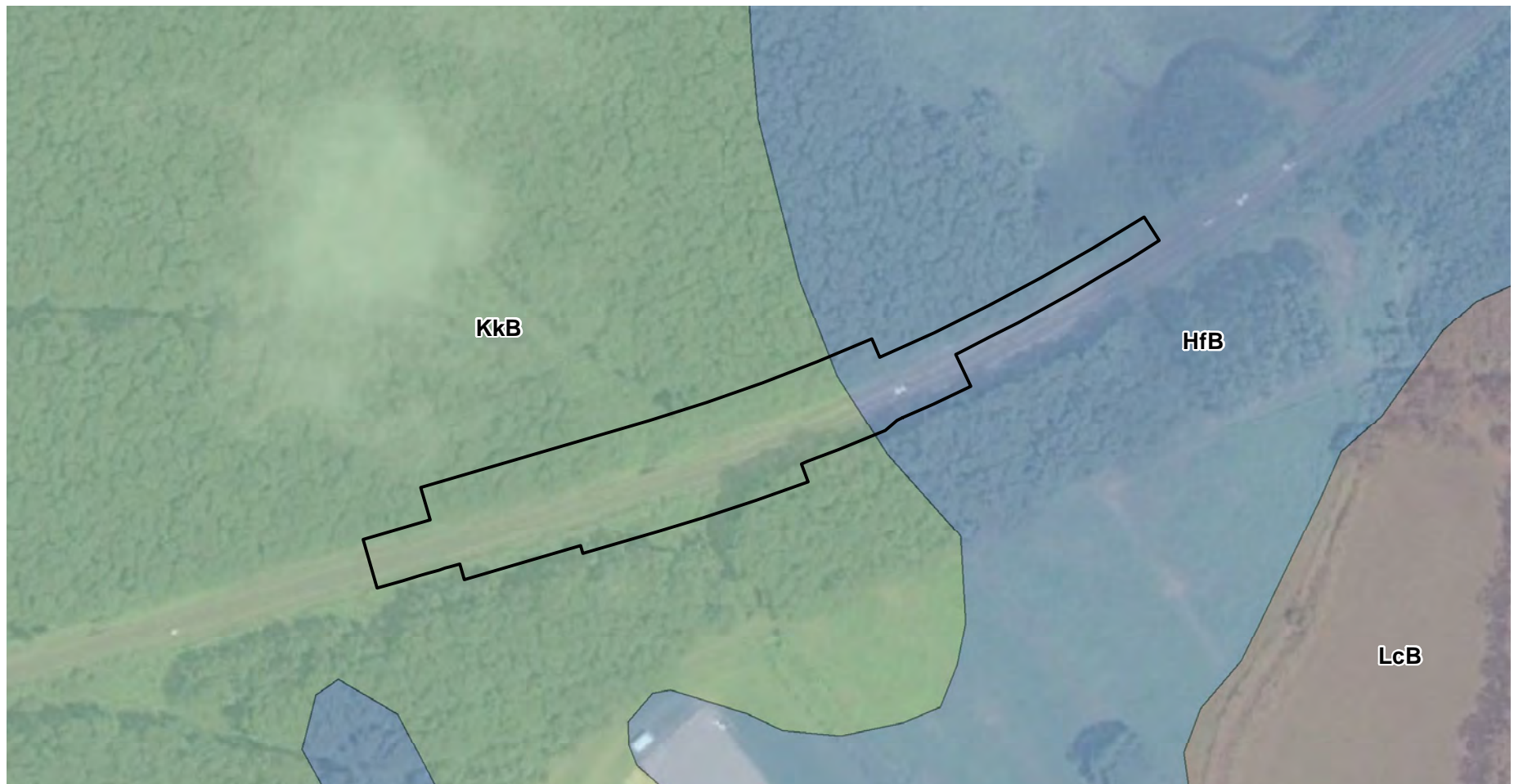
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



# LEGEND

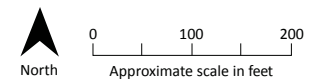
 Survey Area

## Soil Map Unit

 HfB, Halii gravelly silty clay, 3 to 8 percent slopes

 KkB, Kapaa silty clay, 3 to 8 percent slopes

 LcB, Lawai silty clay, 0 to 8 percent slopes

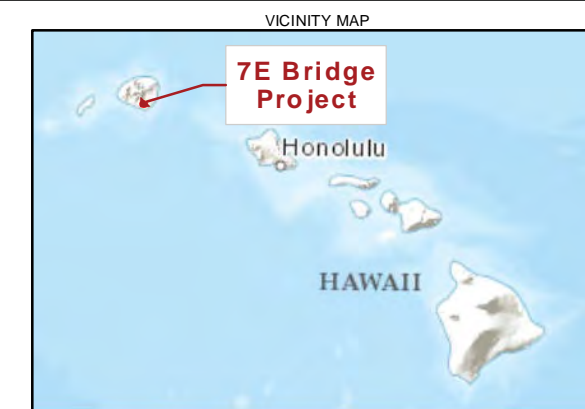
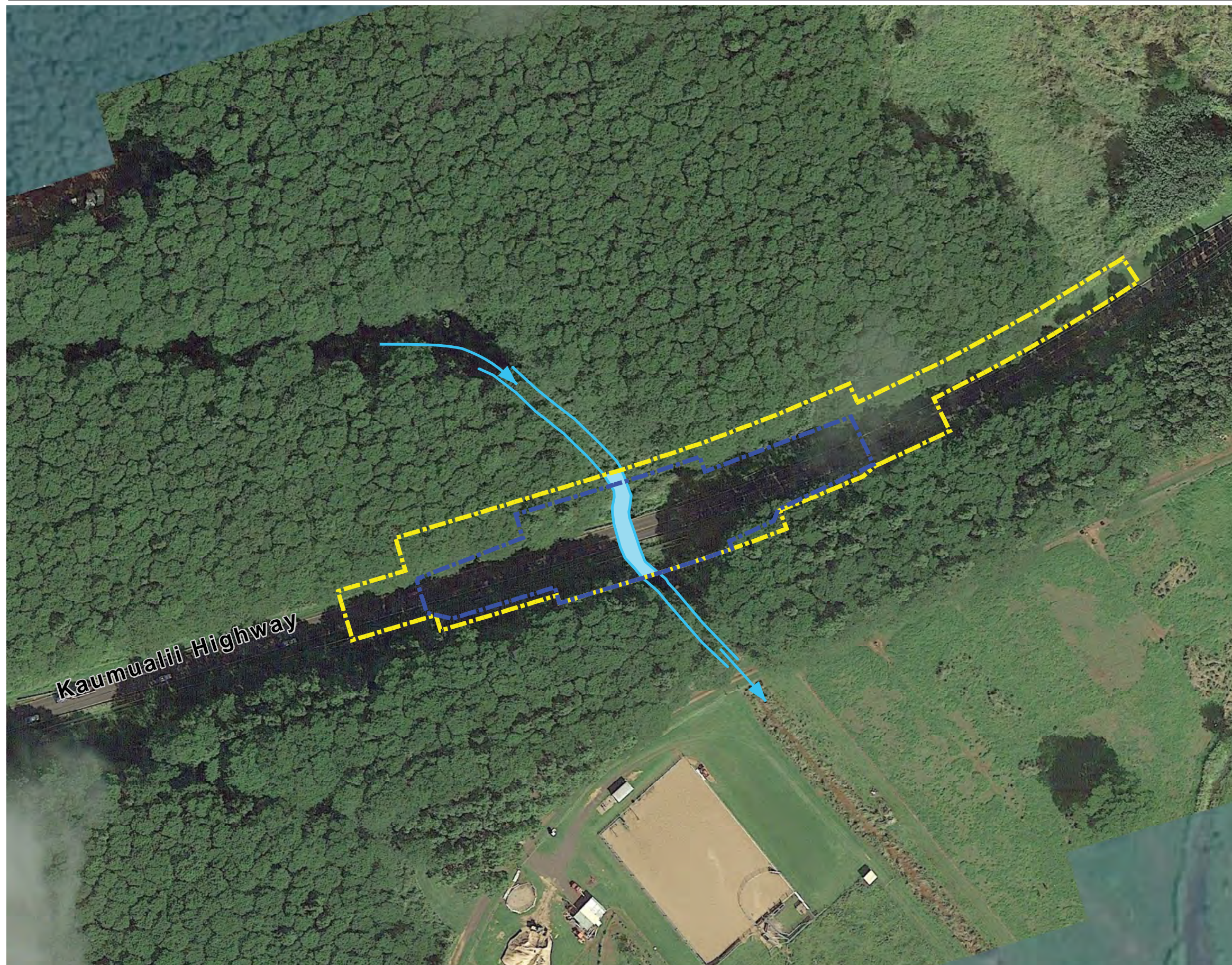


**FIGURE 3-1**  
**Soils**

*7E Bridge Project  
Hawaii Bridges Program -  
Central Federal Lands Highway Division and  
Hawaii Department of Transportation*

**CH2MHILL®**

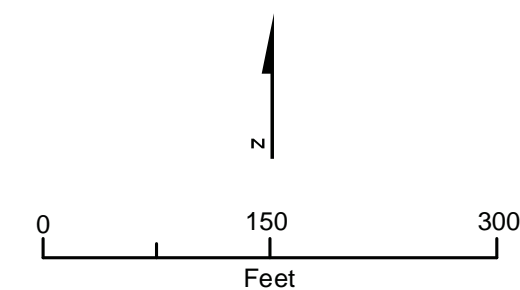




#### LEGEND

- Permanent Impact Area
- Temporary Impact Area
- Waters of the U.S.
- Waters of the U.S. within the Project Area

- Notes:
1. High-Res Imagery Source: Google Earth 12/16/2013
  2. Low-Res Imagery Source: Digital Globe 08/26/2011
  3. Imagery base map is not orthorectified; therefore project features may not properly align with the imagery.



**FIGURE 3-2**  
**Waters of the U.S.**  
 7E Bridge Project  
 Hawaii Bridges Program –  
 Central Federal Lands Highway Division and  
 Hawaii Department of Transportation





Existing Bridge



Visual Simulation

**FIGURE 3-3**  
**Visual Simulation**  
*7E Bridge Project*  
*Hawaii Bridges Program –*  
*Central Federal Lands Highway Division and*  
*Hawaii Department of Transportation*

## Relationships to Public Plans and Policies

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The plans and policies relating to the proposed project range from broad program guidance to land use controls governing the project site. Construction of the proposed improvements is consistent with the various plans, policies, and regulatory controls, as discussed below.

### 4.1 Federal

The proposed project would include the use of Federal funds through FHWA. As a result, the proposed project must be consistent with various Federal statutory and regulatory requirements.

#### 4.1.1 National Environmental Policy Act of 1970

The proposed project would be partially funded by FHWA; this Federal funding subjects the project to the environmental review requirements of NEPA, prescribed under 40 CFR Parts 1500 – 1508 (Council on Environmental Quality [CEQ]). FHWA serves as the lead Federal agency, or Administrator, responsible for the project's compliance with NEPA documentation and processing requirements, as provided in 23 CFR Part 771, Environmental Impact and Related Procedures.

The NEPA determination of impact significance is related to the type of document and process required to comply with NEPA for a proposed project. There are three types of environmental documents under NEPA: (1) Categorical Exclusion (CE), (2) EA, and (3) EIS. A CE is appropriate where there would be no significant impacts on the environment, an EA when the significance of the effects are not clearly established, and an EIS when the action would have a significant impact on the environment.

Significance is defined in the CEQ regulations (40 CFR 1508.27). A “significant impact” is assessed in terms of an impact's context and intensity. Context refers to the environment and the level of relative abundance of resources in the project limits. Intensity refers to the specific impact, or how much of the resource(s) would be used or affected by the project.

FHWA regulations for Environmental Impact and Related Procedures (23 CFR 771.117(a)) specify that CEs are actions that meet the definition contained in 40 CFR 1508.4 and act as follows:

- Do not induce significant impacts to planned growth or land use for the area
- Do not require the relocation of significant numbers of people
- Do not have a significant impact on any natural, cultural, recreational, historic, or other resources
- Do not involve significant air, noise, or water quality impacts
- Do not have significant impacts on travel patterns
- Do not otherwise, either individually or cumulatively, have any significant impacts

Specific actions that meet these criteria are listed in 23 CFR 771.117(c)). This list includes “bridge rehabilitation, construction or replacement or construction of grade separation to replace existing at-grade railroad crossings” (23 CFR 771.117(c)(28)).

Consistent with its regulations for NEPA compliance, and as further justified by the findings of this EA, FHWA anticipates issuing a CE for this project.

#### 4.1.2 Section 106 of the National Historic Preservation Act of 1966

The NHPA of 1966, as amended (PL 89-665, codified as 16 United States Code [U.S.C.] 470), recognizes the nation's historic heritage and establishes a national policy for the preservation of historic properties as well as the National Register of Historic Places. Section 106 of the NHPA of 1966 (16 U.S.C. 470f) requires that Federal agencies consider the effects of their projects on historic properties. Use of Federal funds sets forth the need for Section 106 consultation. The purpose of the Section 106 consultation process is to evaluate

the potential for effects on existing historic sites, if any, resulting from the project. Findings relating to historic properties are discussed in Sections 3.9 and 3.10 of this document.

The Section 106 review process encompasses good faith effort in ascertaining the existence and location of historic properties near and within the project site, establishing an APE for the project, identifying whether a potential for adverse effects on historic properties by the project exists, and developing a reasonable and acceptable resolution in the monitoring and treatment of any historic sites that is agreed upon by the agency, the SHPO, and consulting government agencies, community associations, and Native Hawaiian organizations and families.

Meetings were held with the SHPO on September 9 and December 10, 2014, to provide an overview of the CFLHD Hawaii Bridge Program and to discuss the general parameters for historic preservation review. The Section 106 consultation process was formally initiated by letters to the SHPO and to potential consulting parties dated August 26, 2015. A legal notice requesting public input to the Section 106 process was published in *The Garden Island* on August 28, 2015. Additional documentation, including a description of the APE, determination of eligibility, and determination of effects, was sent to the SHPO on April 26, 2016. In a letter dated May 24, 2016, SHPD concurred with the determinations of no adverse effect on historic properties within the APE (per Section 106) and no historic properties affected (per HRS §6E-8). Copies of the consultation documents are provided in Appendix D.

#### **4.1.3 Section 4(f) of the Department of Transportation Act of 1966**

Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303 and 23 U.S.C. 138) permits the use of publicly-owned park land, recreational area, wildlife and waterfowl refuge, or land of an historic site of National, State, or local significance for a transportation project only if (1) there is no prudent and feasible alternative to using that land and (2) the project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. The purpose of Section 4(f) requirements is to preserve significant parkland recreation areas, refuges, and historic and archaeological sites by limiting the circumstances where such land can be used for transportation projects.

The project will not adversely affect Section 4(f) property.

#### **4.1.4 Uniform Relocation Assistance and Real Property Acquisition Act of 1970**

The Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (42 U.S.C. 4601 et seq. and 49 CFR 24), as amended by the Uniform Relocation Act Amendments of 1987 is commonly referred to as the Uniform Act. The Uniform Act provides important protection and assistance for people affected by Federally funded projects. The law was enacted by Congress to ensure that people whose real property is acquired, or who move as a result of projects receiving Federal funds, would be treated equitably and would receive assistance in moving from the property they occupy.

This project would be constructed within the existing right-of-way and would not require fee acquisition of land, structures, or residences, or displacement of persons or businesses. Permanent easements would be obtained to accommodate slopes and maintenance. All applicable and appropriate measures will be followed in acquiring property interests consistent with the requirements of the Uniform Act.

#### **4.1.5 Endangered Species Act of 1973**

The ESA of 1973 (16 U.S.C. 1531-1544) establishes a process for identifying and listing threatened and endangered species. It requires Federal agencies to carry out programs for the conservation of Federally listed endangered and threatened plants and wildlife and designated critical habitats for such species, and prohibits actions by Federal agencies that would likely jeopardize the continued existence of those species or result in the destruction or adverse modification of designated critical habitat. Section 7 of the ESA requires consultations with Federal wildlife management agencies, such as the USFWS and NMFS.

To begin consultations with agencies that have authority over listed species, FHWA-CFLHD sent a letter requesting a list of threatened and endangered species, candidate species, plants and animals of concern, and critical habitats in the vicinity of the proposed project. USFWS responded by letter dated December 22, 2014, providing location-specific biological information and recommended standard BMPs. Discussions continued through meetings held with the USFWS on January 12, 2015 and with USFWS, USEPA, NMFS, and DLNR Division of Aquatic Resources on March 15, 2015. Additional consultation occurred through meetings with USFWS, NMFS, USEPA, USACE, DLNR Division of Aquatic Resources, and HDOH Clean Water Branch on December 8 and 15, 2015.

A Biological Assessment was prepared for the Bridge 7E project and was submitted as part of the informal Section 7 consultation process on December 8, 2015. In a letter dated February 25, 2016, USFWS concurred with the determination that the project may affect, but is not likely to adversely affect species that are listed and proposed for listing (see Appendix C).

#### 4.1.6 Migratory Bird Treaty Act

The MBTA of 1918, as amended (16 U.S.C. 760), protects migratory wild birds found in the U.S. The MBTA makes it unlawful to pursue, hunt, take, capture, possess, sell, purchase, barter, import, export, or transport any migratory bird or any part, nest, or egg of any such bird, unless authorized under a permit issued by the Secretary of the U.S. Department of the Interior.

Consultation related to the MBTA is occurring as part of ongoing coordination with resource agencies (see Section 4.1.5).

#### 4.1.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667e) calls for conservation of wildlife resources related to projects where the “waters of any stream or other body of water” are impounded, diverted, or modified by any agency under a Federal permit or license. The law requires consultation with USFWS and State fish and wildlife agencies for the purpose of “preventing loss of and damage to wildlife resources.”

Consultation related to the FWCA is occurring as part of ongoing coordination with resource agencies (see Section 4.1.5).

#### 4.1.8 Clean Water Act of 1972

The Federal Water Pollution Control Act (FWPCA) (33 U.S.C. §§1251 et seq.), is the Federal statute regulating the discharge of water pollution. Congress revised the FWPCA into the CWA in 1972. The goals of the CWA include (1) *“the discharge of pollution into the navigable waters be eliminated by 1985,”* (2) *“the discharge of toxic pollutants in toxic amounts be prohibited,”* and (3) *an “interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and... recreation in and on the water... by July 1, 1983”* (CWA §101a, 33 U.S.C. §1251a).

Section 404 of the CWA regulates discharge of dredge and fill material in the Waters of the U.S., including wetlands, and requires a Department of the Army permit from USACE. Section 401 of the CWA directs states to establish water quality certification (WQC) programs. In Hawaii, the Section 401 WQC program is administered by HDOH, Clean Water Branch. The project would result in a discharge to a Waters of the U.S. regulated under Section 404; and as such, the project will require a Section 404 Department of Army Permit and Section 401 WQC.

Section 402 of the CWA requires an NPDES permit for point source discharges, including stormwater discharges associated with construction activities. The permit is required for construction activities that disturb 1 acre or more and discharge stormwater from the project site to Waters of the U.S. NPDES permits are issued by the HDOH Clean Water Branch. The project will require an NPDES permit.

FHWA-CFLHD will coordinate with USACE and HDOH regarding permitting under CWA.

### **4.1.9 Clean Air Act of 1970**

The CAA and amendments (42 U.S.C. §7401 et seq.) is the comprehensive Federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes USEPA to establish National Ambient Air Quality Standards to protect public health and the environment.

The purpose of this project is to replace Bridge 7E. This project has been determined to generate minimal air quality impacts for CAA criteria pollutants (discussed in Section 3.2) and has not been linked with any special MSAT concerns. As such, this project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from the No Action Alternative.

USEPA regulations for vehicle engines and fuels would cause overall MSAT emissions to decline over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's Motor Vehicle Emission Simulator model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050. Vehicle miles of travel are projected to increase by over 100 percent. This would both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

### **4.1.10 Floodplain Management, Executive Orders 11988 and 12148**

Executive Order 11988, Floodplain Management, dated May 24, 1977, requires Federal agencies to take action to reduce the risk of flood loss, restore the natural and beneficial values of floodplains, and minimize the impacts of floods on human safety, health, and welfare. Executive Order 12148, July 20, 1979, amended Executive Order 11988. The main feature of the amendment added that agencies with responsibilities for Federal real estate properties and facilities shall, at a minimum, require the construction of Federal structures and facilities to be in accordance with the criteria of the National Flood Insurance Program.

Bridge 7E is not located in a floodplain regulated by FEMA.

### **4.1.11 Protection of Wetlands, Executive Order 11990**

Executive Order 11990, Protection of Wetlands, dated 1977, requires Federal agencies to avoid, preserve, or mitigate effects of new construction projects on lands that have been designated wetlands.

A delineation of Waters of the U.S. (including wetlands) was conducted and identified a single non-tidal, non-wetland water. No wetlands were found in the area surveyed.

### **4.1.12 Invasive Species, Executive Order 13112**

Executive Order 13112 (64 Federal Register 6183), issued in 1999, requires Federal agencies to implement policies to minimize the spread of invasive species. Federal agencies cannot authorize, fund, or carry out action(s) that are likely to cause or promote the introduction or spread of invasive species, unless it has been determined (1) that the benefits of the action outweigh the potential harm caused by invasive species and (2) that all feasible and prudent measures to minimize risk of harm will be taken. Vegetation disturbed during construction would be replaced as part of the project and the spread of noxious weeds would be managed through the implementation of BMPs as part of the project.

### **4.1.13 Coastal Zone Management Act (16 U.S.C. §1456(C)(1))**

In 1972, the U.S. Congress enacted the Federal Coastal Zone Management Act to ensure that each Federal agency undertaking an activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone will be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. Each Federal agency carrying out an activity subject to the Act will provide a consistency determination to the relevant state agency designated under Section 1455(d)(6) of this title at the earliest practicable time.

The State administers the enforcement of this Act under the Hawaii CZM Program (HRS Chapter 205A), and therefore, the discussion of the project's consistency with CZM objectives is discussed in Section 4.2.4.



#### 4.1.14 Environmental Justice, Executive Order 12898

Executive Order 12898, Environmental Justice, was signed on February 11, 1994. The intent of Executive Order 12898 (full title: Federal Actions to Address Environmental Justice to Minority and Low-income Populations) is to avoid disproportionately high adverse human health or environmental effects of projects on minority and low-income populations. Executive Order 12898 also requires Federal agencies to ensure that minority and low-income communities have adequate access to public information related to health and the environment.

Guidance from CEQ indicate minority populations should be identified where either (1) the minority population of the affected area exceeds 50 percent, or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage of the general population. Minorities are defined as members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. U.S. Census Bureau poverty status data are used to identify low-income populations. Poverty status is assigned to individuals and families whose income is below the poverty threshold appropriate for that person's family size and composition, as reported in the U.S. Census Bureau, 2010 Census of Population and Housing.

Bridge 7E is located on an undeveloped stretch of Kaumualii Highway, approximately 5.3 miles west of Puhi, 3.5 miles north of Koloa, and 1.5 miles east of Omao. The construction and operation of the proposed project would not result in adverse effects on minority and low-income populations.

#### 4.1.15 Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d and 49 CFR 21) establishes that no person shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefit of, or subjected to discrimination under any program or activity receiving Federal financial assistance.

The project complies with Title VI through coordination with and outreach to Native Hawaiian communities required under Section 106, HRS Chapter 343, and Act 50 on cultural practices.

## 4.2 State of Hawaii

### 4.2.1 Hawaii State Plan

The Hawaii State Plan, HRS Chapter 226, is the umbrella document in the statewide planning system. It serves as written guide for the long-range development of the State by describing the desired future for the residents of Hawaii and providing a set of goals, objectives, and policies that are intended to shape the general direction of public and private development.

The proposed project supports and is consistent with the following State Plan objectives:

#### *Facility Systems – Transportation*

*(a)(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.*

*(a)(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.*

*(b)(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives.*

*(b)(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.*

*(b)(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.*

*(b)(10) Encourage the design and the development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.*

*Facility systems – in general*

*(a) 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.*

*(b)(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.*

Discussion: As the facility owner, it is HDOT's mission to provide a safe, efficient, and accessible transportation system for the public. HDOT recognizes the need to provide for the replacement of the existing two-cell box culvert. The replacement structure and improvements to appurtenant features would be designed using current AASHTO guidelines that have been adopted by HDOT for planning and engineering for highway projects in Hawaii.

## 4.2.2 State Functional Plans

The Hawaii State Plan directs appropriate State agencies to prepare functional plans for their respective program areas. There are twelve State Functional Plans that serve as the primary implementing vehicle for the goals, objectives, and policies of the State Plan.

### State Transportation Functional Plan

The 1991 State Transportation Functional Plan (HDOT, 1991) identified the four most critical issues of transportation: congestion, economic development, funding, and education. Objectives, policies, and implementing actions were identified for each issue. The following objectives and policies apply to the project:

*Objective I.A. Expansion of the transportation system.*

*Policy I.A.1. Increase transportation capacity and modernize transportation infrastructure in accordance with existing master plans and laws requiring accessibility for people with disabilities.*

*Policy I.A.2. Improve regional mobility in areas of the State experiencing rapid urban growth and road congestion.*

Discussion: As discussed under the Hawaii State Plan, replacement of deficient bridges is integral to HDOT's mission of providing a safe, efficient, and accessible transportation system for the public. The replacement structure would be designed using current design standards that have been adopted by HDOT for planning and engineering highway projects in Hawaii.

## 4.2.3 State Land Use Law

The State Land Use Commission, pursuant to HRS Chapters 205 and 205A and HAR §15-15 is empowered to classify all lands in the State into one of four land use districts: Urban, Rural, Agricultural, and Conservation. The lands surrounding the project limits are classified in the Agricultural District. Roadways are permitted use in the Agricultural District. No change in land use classification would be needed.

## 4.2.4 Coastal Zone Management Program and Federal Consistency Determination

In 1977, Hawaii enacted HRS Chapter 205A, Hawaii Coastal Zone Management Program, to carry out the State's CZM policies and regulations under the Federal Coastal Zone Management Act (see Section 4.1.14). The CZM area encompasses the entire state, including all marine waters seaward, to the extent of the State's police power and management authority, including the 12-mile U.S. territorial sea and all archipelagic waters.



As a result, the project is within the CZM area and subject to consistency with the objectives and policies of the Hawaii CZM Program. The CZM Federal Consistency Certification is reviewed by the State Office of Planning.

The Hawaii Coastal Zone Management Program focuses on ten policy objectives:

- **Recreational Resources.** To provide coastal recreational opportunities accessible to the public and protect coastal resources uniquely suited for recreational activities that cannot be provided elsewhere.

Discussion: The project limits do not contain coastal recreation resources nor would it affect access to coastal recreation opportunities.

- **Historic Resources.** To 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.

Discussion: Studies focusing on archaeology, historic architecture, and cultural perspectives were conducted for this project, but no historic resources were found within the APE that would be adversely affected by the proposed construction.

- **Scenic and Open Space Resources.** To protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Discussion: The project would be developed to be visually compatible with the surrounding environment. The project is not located along the shoreline, but is located on a roadway identified as a scenic corridor in the General Plan. The replacement structure would not negatively impact coastal scenic resources and is not anticipated to obstruct views of the rural landscape.

- **Coastal Ecosystems.** To protect valuable coastal ecosystems, including reefs, from disruption and to minimize adverse impacts on all coastal ecosystems.

Discussion: Because of its inland location and the intermediation of stream flow by the large Mauka Reservoir, the project would not affect coastal ecosystems.

- **Economic Uses.** To provide public or private facilities and improvements important to the State's economy in suitable locations, and ensure that coastal dependent development such as harbors and ports, energy facilities, and visitor facilities are located, designed, and constructed to minimize adverse impacts in the coastal zone area.

Discussion: The project is not a coastal dependent development.

- **Coastal Hazards.** To reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Discussion: The project is not located in a tsunami or floodplain, and is not subject to coastal hazards.

- **Managing Development.** To improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Discussion: A general public announcement was made regarding the FHWA-CFLHD Hawaii Bridge Program, which covers a number of State highway bridges on three islands. There would be opportunity for the public to review and comment on the project through the HRS Chapter 343 EA process.

- **Public Participation.** To stimulate public awareness, education, and participation in coastal management; and maintain a public advisory body to identify coastal management problems and provide policy advice and assistance to the CZM program.

Discussion: The project does not contain a public participation component for programmatic coastal management issues. Project-specific input would be elicited through the HRS Chapter 343 EA process.

- **Beach Protection.** To protect beaches for public use and recreation; and locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements because of erosion.

Discussion: The project is located inland and does not affect Kauai beaches.

- **Marine Resources.** To implement the State’s ocean resources management plan.

Discussion: Although the project is not expected to affect marine resources directly, BMPs would be implemented to prevent degradation of the aquatic environment, including the quality of state waters.

Other key areas of the CZM program include (1) a permit system to control development within a Special Management Area (SMA) managed by each County and the Office of Planning (see Section 4.3.3) and (2) a Shoreline Setback Area that serves as a buffer against coastal hazards and erosion and protects view-planes and marine and coastal resources. Finally, a Federal Consistency provision requires that Federal activities, permits, and financial assistance be consistent with the Hawaii CZM program.

The proposed project is not located within the County of Kauai SMA. The proposed project does not involve the placement, construction, or removal of materials near the coastline, and does not have the potential to significantly affect coastal resources. The proposed project is consistent with the CZM objectives that are relevant to preserving the existing highway infrastructure. FHWA will submit a Federal Consistency determination to the Office of Planning for its concurrence.

## 4.2.5 Act 50, Cultural Practices

Hawaii Act 50 (2000) sought to “promote and protect cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups” and requires the proposing agency/applicant under HRS Chapter 343 to consider cultural practices in a cultural impact assessment. A cultural impact assessment was completed for the project in compliance with this requirement, as discussed in Section 3.11.

# 4.3 County of Kauai

## 4.3.1 Kauai General Plan

The General Plan is a policy document for the long-range comprehensive development of the County of Kauai and also provides the direction for future growth through 2020. The current General Plan was adopted in November 2000.

Chapter 7 of the General Plan relates to Public Facilities and Services. Relevant to this project is the following policy (County of Kauai, 2000):

*7.1.5(a) Use General Plan policies concerning rural character, preservation of historic and scenic resources, and scenic roadway corridors as part of the criteria for long-range highway planning and design. The goal of efficient movement of through traffic should be weighted against community goals and policies relating to community character, livability, and natural beauty.*

Discussion: The existing Bridge 7E would be replaced by a single-cell box culvert with a minimal footprint. The design acknowledges the project’s rural setting and the importance of maintaining a continuous green belt, while also meeting current standards for bridge engineering and functionality.

## 4.3.2 Zoning

County zoning provides the most detailed set of regulations affecting land development before actual construction. Zoning is typically limited to lands classified in the Urban District under the State land use system. Because the area surrounding the proposed project is classified in the Agricultural District, the zoning is not applicable. However, as shown in Figure 4-1, the project site is located primarily in the Open District, which was established to create and maintain an adequate and functional amount of predominantly open land to provide for the recreational and aesthetic needs of the community and to provide for the

effective functioning of land, air, water, plant, and animal systems or communities. In the project vicinity, the Open District encompasses such natural and aesthetic features as stream corridors and Maluhia (Tree Tunnel) Road.

The proposed project would not require any zoning change.

### 4.3.3 Special Management Area

The CZM objectives and policies (HRS §205A-2) were developed to preserve, protect and, where possible, restore the natural resources of Hawaii's coastal zone. Any development within the SMA boundary requires a SMA Use permit that is administered by the County. The permitting process provides a heightened level of public scrutiny to ensure consistency with SMA objectives.

The proposed project is not located within the County's SMA or within 550 feet of the shoreline.

## 4.4 Transportation Plans

### 4.4.1 Statewide Federal-aid Highways 2035 Transportation Plan

The 2035 Transportation Plan was developed as the State's first long-range multimodal transportation for Federal-aid highways. The plan is intended to guide transportation decisions by identifying goals and solutions within a context of limited resources. It addresses future land transportation needs for motorists, freight, transit, bicyclists, and pedestrians based on land use and socioeconomic projections through 2035.

The long-range plan was developed with participation from a wide spectrum of community members and stakeholders. A series of meetings were held to develop and refine the goal statements. Specifically relevant to this project are the goals provided in Table 4-1, which focus on prudent and timely investments in the transportation (highway) system to maintain functionality and longevity.

TABLE 4-1

**Statewide Land Transportation Goals and Objectives**

Goals	Objectives	Federal Planning Factor
3.1 Manage transportation assets and optimize investments	Plan and implement maintenance, resurfacing, rehabilitation, and reconstruction to optimize existing transportation system improvements and spending.	Aligns to MAP-21 Performance Goal: Infrastructure Condition—maintain highway infrastructure assets in state of good repair
3.2 Maintain safe, efficient, complete transportation system for the long term	Plan and implement existing system improvements to effectively sustain the overall transportation system's safe, efficient, and complete operations.	MAP-21, signed into law on July 6, 2012 (P.L. 112-141) is the current Federal authorization for surface transportation, whose full title is Moving Ahead for Progress in the 21 <sup>st</sup> Century Act.

### 4.4.2 Federal-aid Highways 2035 Transportation Plan for the District of Kauai

Each district in the state has a Regional Federal-aid Highways 2035 Transportation Plan or regional long-range land transportation plan. The purpose of this plan is to provide a basis for making multimodal land transportation decisions over a 20-year time frame. As a regional plan, it serves as an interface between overarching state transportation issues and island-specific needs and funding priorities.

The *Federal-Aid Highways 2035 Transportation Plan for the District of Kauai* (HDOT, 2014) includes a list of potential solutions that were evaluated based on ability to address local needs and deficiencies. Kaumualii Highway Improvements—Huleia Bridge (aka Halfway Bridge), west of Kahili Mountain Park Road, is among the recommendations. This stretch of Kaumualii Highway, which extends between Mile Markers 4.80 and 7.22, includes Bridge 7E. While a specific project description is not yet developed, the recommendation points to the importance of ongoing investment in Kaumualii Highway.

### 4.4.3 Bike Plan Hawaii

*Bike Plan Hawaii* (HDOT, 2003) is the statewide bicycle master plan, which serves as a blueprint for accommodating and promoting bicycle use. The latest update was completed in September 2003. The plan contains objectives and implementing actions, an inventory of existing facilities, and proposals to expand the network of bicycle facilities.

The bike plan includes a proposal for a future signed shared route on Kaumualii Highway between Maluhia Road and Hanapepe (Map No. 48). The proposed project is consistent with bicycle planning because the replacement structure includes 8-foot-wide shoulders that would accommodate possible development of a future signed bike route.

### 4.4.4 Statewide Pedestrian Master Plan

The *Statewide Pedestrian Master Plan*, completed in May 2013 (HDOT, 2013), provides a comprehensive strategy for improving pedestrian safety, mobility, and accessibility along state highways. The plan identifies and prioritizes pedestrian infrastructure projects throughout the state.

The pedestrian plan does not address foot traffic in the vicinity of Bridge 7E because the area lacks land uses that would attract pedestrian travel. Nevertheless, the 8-foot shoulders on the replacement structure, that are wider than the existing shoulders, would improve safety for pedestrians who may need to use it.

## 4.5 References

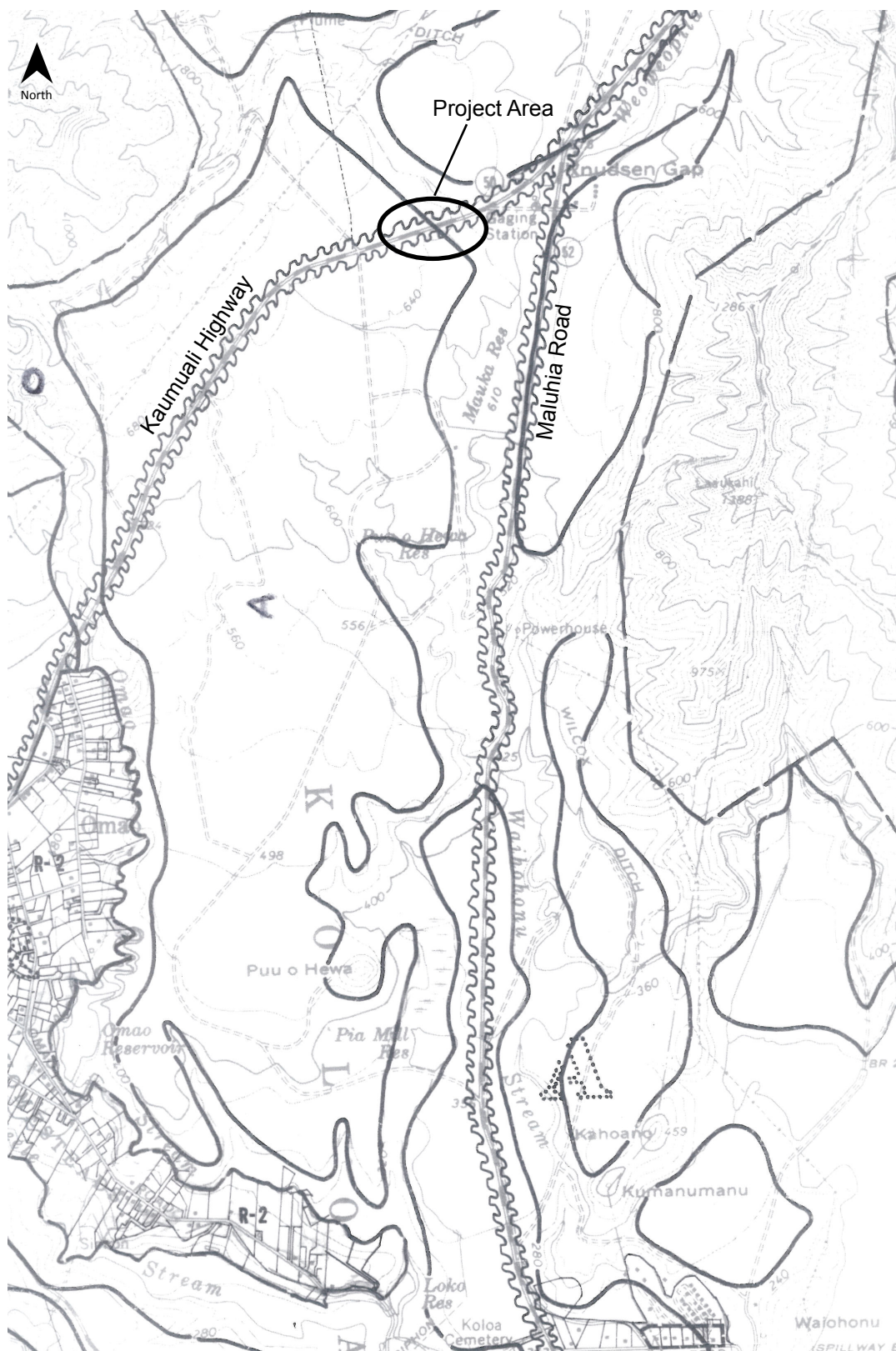
County of Kauai. 2000. *The Kaua'i General Plan*.

State of Hawaii Department of Transportation (HDOT). 1991 *Transportation; State Functional Plan*.

State of Hawaii Department of Transportation (HDOT). 2003. *Bike Plan Hawaii*.

State of Hawaii Department of Transportation (HDOT). 2013. *Statewide Pedestrian Master Plan*.

State of Hawaii Department of Transportation (HDOT). 2014. *Federal-Aid Highways 2035 Transportation Plan for the District of Kauai*. June.



Source: Kauai County, 2015

# Findings and Reasons Supporting the Determination

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This EA has found that the potential for impacts associated with the proposed project would not be significant, or would be mitigated to less than significant levels. Potential environmental impacts are generally temporary, occurring during construction, and would not be expected to adversely impact the long-term environmental quality of the area surrounding the proposed project. This section summarizes the significance criteria used to determine whether the proposed project would have a significant effect on the environment.

## 5.1 Significance Criteria

The potential effects of the proposed project were evaluated based on the Significance Criteria specified in HAR §11-200-12. The following summarize potential short-term and long-term effects of the action relative to the criteria.

**Involves an irrevocable commitment to, loss or destruction of any natural or cultural resources.** The proposed project would replace an existing two-cell box culvert with a one-cell culvert that substantially matches the footprint of the existing culvert. It would not have a significant adverse effect on important natural or cultural resources. Biological surveys of the project limits found no threatened or endangered plant or animal species within the project limits. BMPs and protocols would be implemented to avoid and minimize effects on Federally and state protected species that have the potential to occur in the project limits. The existing structure is more than 50 years old, but determined to be ineligible for listing in the National and Hawaii Registers of Historic Places. No other historic properties were found in the project limits. The contractor would be required to comply with State laws and administrative rules for handling inadvertent discoveries of cultural artifacts and human remains during construction.

**Curtails the range of beneficial uses of the environment.** Replacing the existing structure in place would not curtail the range of beneficial uses of the environment.

**Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in HRS Chapter 344, and any revisions thereof and amendments thereto, court decisions or executive orders.** The proposed project is consistent with the environmental policies, goals, and guidelines defined in HRS Chapter 344. In particular, the project is consistent with transportation guidelines by improving the regional transportation infrastructure.

### Transportation

- A. *Encourage transportation systems in harmony with the lifestyle of the people and environment of the State.*
- B. *Adopt guidelines to alleviate environmental degradation caused by motor vehicles.*
- C. *Encourage public and private vehicles and transportation system to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.*

Kaumualii Highway—including Bridge 7E—carries all modes of land transportation on a daily basis, including passenger vehicles, buses, freight trucks, and bicyclists. The highway connects communities on the south shore and west side. It is used by commuters for work and school, and is essential for commerce and emergency response. The existing structure has exceeded its design life and a replacement structure is needed to maintain system-wide integrity.

**Substantially affects the economic or social welfare of the community or state.** The proposed project would have a positive impact on the economic and social welfare of the community by improving the long-term functionality of the highway system.

**Substantially affects public health.** The project site is in an undeveloped stretch of Kaumualii Highway and would not adversely affect public health. It is part of a highway system that is a critical component of Kauai's emergency response and recovery capabilities. Preserving this transportation system would benefit public health and safety.

**Involves substantial secondary impacts, such as population changes or effects on public facilities.** The proposed project would not change the traffic volume using the structure or the highway; therefore, the new structure itself would not generate secondary impacts, such as population growth or the need to expand public facilities.

**Involves a substantial degradation of environmental quality.** The replacement structure would not substantially degrade environmental quality. By design and function, the proposed structure would provide a safe crossing while minimizing harm to the surrounding environment.

**Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.** The proposed project is a self-contained action and is not part of additional and/or related actions. There are no other HDOT or FHWA projects within a 1-mile radius of Bridge 7E.

**Substantially affects a rare, threatened, or endangered species, or its habitat.** Biological surveys in August 2014 found no rare, threatened, or endangered species in the project limits. Tall, large canopy trees near the project site may provide roosting and foraging habitat for the Hawaiian hoary bat. BMPs for tree trimming and cutting as well as fencing would be implemented to avoid all direct impacts on these protected mammals. Additional BMPs would be established to avoid and minimize light attraction of protected seabirds and to avoid contact with endangered Hawaiian waterbird or nene that may enter the project limits.

**Detrimentially affects air or water quality or ambient noise levels.** There would be minimal short-term impacts on air and water quality and noise levels during the construction period. Mitigation measures would be implemented to minimize construction-related noise, erosion and dust impacts. In the long term, there would be no adverse impacts on air and water quality.

**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.** This project is not located in an environmentally sensitive area; specifically, it is located neither within a FEMA-designated floodplain nor a coastal area. The replacement structure is being designed in accordance with standards appropriate to the geologic, hydrologic, and seismic setting.

**Substantially affects scenic vistas and view planes identified in county or state plans or studies.** The General Plan identifies portions (including in the project area) of the Kaumualii Highway as a scenic road corridor. This project would replace a portion of the existing guardrails with 42-inch-high concrete barrier railings that are slightly higher than the existing guardrails, but would not obstruct view planes from within passing vehicles. Given a relatively short structure length, the new railings on Bridge 7E are not expected to adversely affect the scenic vista for motorists traveling at the posted speed limit of 50 mph.

**Requires substantial energy consumption.** Fuel would be consumed by construction vehicles and equipment but this use would be comparable to other construction projects and no adverse effects are expected.

## 5.2 Conclusion

Through structure design, impact avoidance and minimization actions, and proposed BMPs and mitigation measures, the analysis contained in this EA has determined that the proposed project would have no significant adverse impacts or would have impacts that can be mitigated to less than significant levels.



# Determination

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Based on the information presented and examined in this document, the proposed project is not expected to produce significant adverse social, economic, cultural, or environmental impacts. Consequently, a finding of no significant impact is warranted, pursuant to HRS Chapter 343 and the provisions of HAR Chapter 200, Title 11, Subchapter 6.

# Consultation and Coordination

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## 7.1 Organizations Consulted During Preparation of the Draft Environmental Assessment

The following agencies and organizations were contacted during preparation of the Draft EA. They received preliminary project information and asked to provide comments relative to specific environmental compliance (such as NHPA Section 106 and ESA Section 7) or for general assistance in preparing the Draft EA.

### 7.1.1 Federal

- USACE
- USFWS

### 7.1.2 State of Hawaii

- Department of Accounting and General Services
- Department of Education, Kauai Area Complex
- Department of Hawaiian Home Lands
- HDOH, Clean Water Branch
- HDOH, Environmental Planning Office
- DLNR
- Office of Hawaiian Affairs
- Office of Planning (OP)
- SHPO
- Senator Ronald Kouchi, Senate District 8
- Representative James Tokioka, House District 15

### 7.1.3 County of Kauai

- Civil Defense Agency
- Department of Parks and Recreation
- Department of Public Works
- Department of Water
- Fire Department
- Planning Department
- Police Department
- Transportation Agency
- Kauai Council Chair Mel Rapozo
- Kauai Council Vice Chair Ross Kagawa
- Kauai Councilmember Mason Chock
- Kauai Councilmember Arryl Kaneshiro
- Kauai Councilmember KipuKai Kuali'i
- Kauai Councilmember JoAnn Yukimura

### 7.1.4 Utilities

- Hawaiian Telcom
- KIUC
- Oceanic Time Warner Cable
- SIC

### 7.1.5 Organizations

- Kauai Chamber of Commerce
- Kauai Path
- Kauai Visitors Bureau
- Sierra Club, Kauai Group of Kauai Chapter
- West Kauai Business and Professional Association

## 7.2 Early Consultation Comment Letters Received

A total of six agencies responded to requests for comments during the Draft EA preparation period. Of these, substantive comments from five agencies. These comments are summarized herein and incorporated into relevant sections of the Draft EA. A template of the early consultation letter, and reproductions of the comment and response letters are included in Appendix F.

### 7.2.1 State Agencies

- **HDOH, Clean Water Branch** (letter dated May 18, 2015).
  1. A project that potentially impacts State waters must meet the following: (1) antidegradation policy, (2) designated uses, and (3) water quality criteria.
  2. NPDES permit coverage may be required.
  3. Permit from USACE may be required.
  4. Compliance with State water quality standards is required.
  5. All projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters.
- **HDOH, Environmental Planning Office** (letter dated May 12, 2015)
  1. Use of the online Hawaii Environmental Health Portal is encouraged.
  2. Water Quality Standards Maps have been updated and are posted online.
  3. University of Hawaii studies related to potential sea level rise changes in Hawaii are available online.
- **DLNR, Commission on Water Resource Management** (memo dated January 7, 2015, attached to letter from Russell Tsuji, Administrator, DLNR Land Division, dated January 15, 2015)
 

A Stream Channel Alteration Permit is needed before alteration(s) can be made to the stream bed and/or banks.
- **OP** (letter dated May 1, 2015)
  1. Verify project TMKs.
  2. Draft EA should contain an analysis of project conformance with the Hawaii State Plan.
  3. Draft EA should contain an assessment of project conformance with CZM objectives.
  4. Confirm whether an SMA permit is required.
  5. Federal Consistency Review should be listed as a potential requirement.
  6. Draft EA should include a section on watershed protection and management (see Hawaii Watershed Guidance developed by OP).
  7. Consider OP's Stormwater Impact Assessment when evaluating project-related stormwater impacts
  8. Consider Low Impact Development design concepts and Best Management Practices

## 7.2.2 County Agencies

- **Kauai Department of Public Works** (letter dated May 6, 2015)

There is a discrepancy between construction of Bridge 7E in 1933 and the following statement, “Bridge 7E is a common post-war bridge constructed after 1945.”

## 7.3 Agencies, Organizations, and Individuals Contacted during the Draft EA Review Period

The following agencies, organizations, and individuals were contacted during the Draft EA public review and comment period (January 22 to February 23, 2016).

Substantive written comments on the Draft EA were received from six agencies, as follows:

- The HDOH Environmental Planning Office and Clean Water Branch provided information about planning resources and permit requirements.
- The DLNR Engineering Division provided flood hazard information and regulatory requirements should the project be located within Flood Insurance Rate Map, Zone A; a response to the agency clarified that the project area is located outside Zone A. The DLNR Kauai District Office indicated they had no comments.
- The Office of Planning stated that the Draft EA addressed comments in their pre-consultation letter and there were no further comments.
- The Office of Hawaiian Affairs agreed with conservation measures for the Hawaiian hoary bat in the biological assessment, and supported determinations with respect to historic properties.
- The Kauai Department of Water stated that there is no domestic water system in the project area.
- The Department of Accounting and General Services indicated they had no comments.

Letters and response letters are reproduced at the end of this chapter. Response letters were sent only to agencies providing substantive comments.

### 7.3.1 Federal

- USACE
- USEPA
- USFWS

### 7.3.2 State of Hawaii

- Department of Accounting and General Services
- Department of Education, Kauai Area Complex
- Department of Hawaiian Home Lands
- HDOH Clean Water Branch
- HDOH, Environmental Planning Office
- DLNR
- Office of Hawaiian Affairs
- OP
- SHPO
- Senator Ronald Kouchi, Senate District 8
- Representative James Tokioka, House District 15

### **7.3.3 County of Kauai**

- Civil Defense Agency
- Department of Parks and Recreation
- Department of Public Works
- Department of Water
- Fire Department
- Mayor's Office
- Planning Department
- Police Department
- Transportation Agency
- Kauai Council Chair Mel Rapozo
- Kauai Council Vice Chair Ross Kagawa
- Kauai Councilmember Mason Chock
- Kauai Councilmember Arryl Kaneshiro
- Kauai Councilmember KipuKai Kuali'i
- Kauai Councilmember JoAnn Yukimura

### **7.3.4 Utilities**

- Hawaiian Telcom
- KIUC
- Oceanic Time Warner Cable
- Sandwich Isles Communications

### **7.3.5 Organizations**

- Kauai Chamber of Commerce
- Kauai Path
- Kauai Visitors Bureau
- Sierra Club, Kauai Group of Kauai Chapter
- West Kauai Business and Professional Association

### **7.3.6 Individuals**

- Property Owner/Resident TMK: [4] 2-7-001: 004
- Property Owner/Resident TMK: [4] 2-7-002: 001

### **7.3.7 Media**

- The Garden Island Newspaper

### **7.3.8 Public Library**

- Koloa Public Library (hardcopy will be available for public review)

## **DRAFT EA COMMENT AND RESPONSE LETTERS**

- State of Hawaii Department of Health, Clean Water Branch
- State of Hawaii Department of Health, Environmental Planning Office
- State of Hawaii Department of Land and Natural Resources, Kauai District Office
- State of Hawaii Department of Land and Natural Resources, Engineering Division
- Office of Hawaiian Affairs
- State of Hawaii Office of Planning
- State of Hawaii Department of Accounting and General Services
- County of Kauai Department of Water

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

02042PNN.16

February 24, 2016

Mr. Mike Will  
Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, Colorado 80228-2583

Dear Mr. Will:

**SUBJECT: Comments on the Draft Environmental Assessment for the  
Bridge No. 7E Replacement, Project No. HI STP SR50(2)  
TMK: (4) 2-7-001:004 (por.), 2-7-002:001 (por.)  
Kaumualii Highway, Koloa District, Island of Kauai, Hawaii**

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated January 20, 2016, requesting comments on your project. The DOH-CWB has reviewed the subject 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. You may be responsible for fulfilling additional requirements related to our program. We recommend that you 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. You 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, you 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). Please open the e-Permitting Portal website located at: <https://eha-cloud.doh.hawaii.gov/epermit/>. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you 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, P.E., CHIEF  
Clean Water Branch

NN:ak

- c: Ms. Kathleen Chu, CH2M Hill [via e-mail [KChu@ch2m.com](mailto:KChu@ch2m.com) only]  
DOH-EPO #16-028 [via e-mail [Noella.Narimatsu@doh.hawaii.gov](mailto:Noella.Narimatsu@doh.hawaii.gov) only]



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

May 31, 2016

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

TO: ALEC WONG, P.E.  
CHIEF, CLEAN WATER BRANCH  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HI 96801

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Mr. Wong:

Thank you for sending comments on the Draft EA by letter dated February 24, 2016.

Your comments on permitting requirements, applicable regulations and policies, and online resources are helpful in moving the project forward. We will be submitting a request for Section 401 Water Quality Certification in conjunction with our application for a Department of the Army (Section 404) permit. The NPDES permit for construction will be obtained by the contractor.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL



STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

EPO 16-028

January 29, 2016

Ms. Kathleen Chu  
CH2M HILL  
Lands Highway Division  
1132 Bishop Street, Suite 1100  
Honolulu, Hawaii 96813

Dear Ms. Chu:

**SUBJECT: Draft Environmental Assessment (DEA) for Bridge 7E Replacement, Koloa, Kauai**  
**TMK: (4) 2-7-001:004 (por) and 2-7-001 (por)**

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office via the OEQC link:

[http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Kauai/2010s/2016-01-23-KA-5B-DEA-Bridge-7E-Replacement.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Kauai/2010s/2016-01-23-KA-5B-DEA-Bridge-7E-Replacement.pdf)

EPO strongly recommends that you review the standard comments and available strategies to support sustainable and healthy design provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments. EPO has recently prepared draft Environmental Health Management Maps for each county. They are online at: <http://health.hawaii.gov/epo/egis>

We suggest you review the requirements for the National Pollutant Discharge Elimination System (NPDES) permit. We recommend contacting the Clean Water Branch at (808) 586-4309 or [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov) after relevant information is reviewed at:

1. <http://health.hawaii.gov/cwb>
2. <http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/standard-npdes-permit-conditions>
3. <http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms>

EPO encourages you to examine and utilize the Hawaii Environmental Health Portal. The portal 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. The Portal is continually updated. Please visit it regularly at: <https://eha-cloud.doh.hawaii.gov>

You may also wish to review the draft Office of Environmental Quality Control (OEQC) viewer at: <http://eha-web.doh.hawaii.gov/oeqc-viewer> This viewer geographically shows where previous Hawaii Environmental Policy Act (HEPA) {Hawaii Revised Statutes, Chapter 343} documents have been prepared.

In order 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://www2.epa.gov/ejscreen>

Ms. Kathleen Chu  
Page 2  
January 29, 2016

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP  
Program Manager, Environmental Planning Office

LM:nn

Attachment 1: EPO Draft Environmental Health Management Map

Attachment 2: OEQC Viewer Map of Area

Attachment 3: U.S. EPA EJSCREEN Table

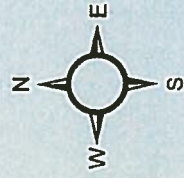
c: Christine Yamasaki, Department of Transportation

DOH: DHO Kauai, CWB {via email only}



# LEGEND

- AIR QUALITY MONITORING SITES
- ACTIVE LANDFILLS
- WATER QUALITY MONITORING SITES
- PERENNIAL STREAMS
- NON-PERENNIAL STREAMS
- 3-MILE NAUTICAL BOUNDARY
- A CLASS WATER QUALITY
- AA CLASS WATER QUALITY
- HOUSE DISTRICTS
- SENATE DISTRICTS
- AGRICULTURAL
- CONSERVATION
- RURAL
- URBAN



KAUAI COUNTY

0 4 8 16 MILES



## ENVIRONMENTAL HEALTH MANAGEMENT ON KAUAI AND NIIHAU

MAP INTENDED FOR ILLUSTRATIVE PURPOSES ONLY SITE LOCATIONS ARE APPROXIMATE



Search: koloa  
15 sites found

Results Filter

Show sites with no location

**Koloa** Poipu Wastewater (FEIS)  
Environmental Impact Statement (Applicant)

**Koloa** Poipu Regional Wastewater  
Reclamation Facility (FEA-EISPN)  
Environmental Impact Statement (Applicant)

Kalahao Water System Improvements  
(FEA-FONSI)  
Environmental Assessment (Agency)

Kalahao Water System Improvements  
(DEA-AFNSI)  
Environmental Assessment (Agency)

OMAO STORAGE TANK (FEA-FONSI)  
Environmental Assessment (Agency)

Land Acq. Kalahao (DEA-AFNSI)  
Environmental Assessment (Agency)

North Leg West Bypass Rd (DEA-  
AFNSI)  
Environmental Assessment (Agency)

Laupaho Road Access (DEA-AFNSI)  
Environmental Assessment (Agency)

Kukuiohono 0.5 MG, 866" Tank (DEA-  
AFNSI)  
Environmental Assessment (Agency)

VILLAGE POIPU (FEIS)  
Environmental Impact Statement (Applicant)

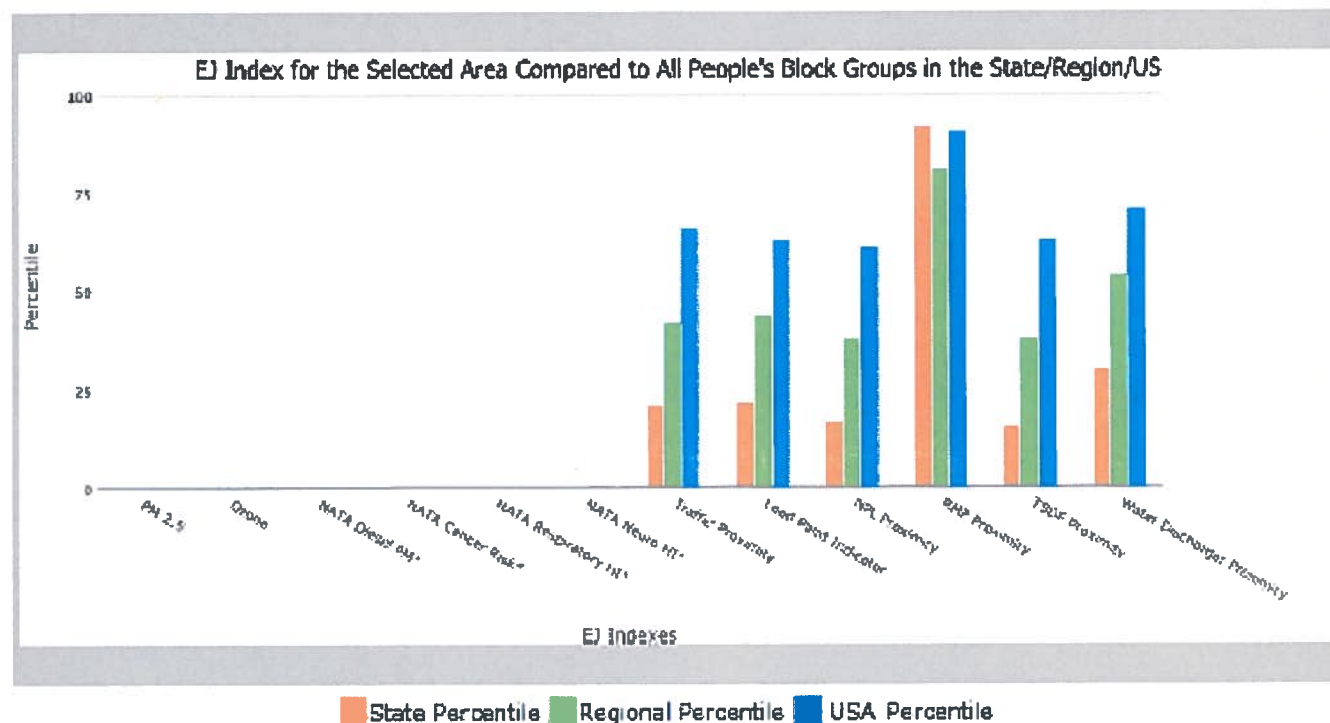




for 1 mile Ring around the Corridor, HAWAII, EPA Region 9

Approximate Population: 7

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>EJ Indexes</b>			
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*	N/A	N/A	N/A
EJ Index for NATA Air Toxics Cancer Risk*	N/A	N/A	N/A
EJ Index for NATA Respiratory Hazard Index*	N/A	N/A	N/A
EJ Index for NATA Neurological Hazard Index*	N/A	N/A	N/A
EJ Index for Traffic Proximity and Volume	21	42	66
EJ Index for Lead Paint Indicator	22	44	63
EJ Index for Proximity to NPL sites	17	38	61
EJ Index for Proximity to RMP sites	92	81	91
EJ Index for Proximity to TSDFs	16	38	63
EJ Index for Proximity to Major Direct Dischargers	30	54	71



This report shows environmental, demographic, and EJ indicator values. 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.



January 28, 2016  
 — Digitized Line



## EJSCREEN Report

for 1 mile Ring around the Corridor, HAWAII, EPA Region 9

Approximate Population: 7



Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Environmental Indicators</b>							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$ )	N/A	N/A	N/A	9.95	N/A	9.78	N/A
Ozone (ppb)	N/A	N/A	N/A	49.7	N/A	46.1	N/A
NATA Diesel PM ( $\mu\text{g}/\text{m}^3$ ) <sup>*</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Cancer Risk (lifetime risk per million) <sup>*</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Respiratory Hazard Index <sup>*</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Neurological Hazard Index <sup>*</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Traffic Proximity and Volume (daily traffic count/distance to road)	58	280	44	180	42	110	62
Lead Paint Indicator (% Pre-1960 Housing)	0.12	0.17	51	0.25	48	0.3	37
NPL Proximity (site count/km distance)	0.008	0.002	24	0.11	6	0.006	2
RMP Proximity (facility count/km distance)	0.57	0.18	93	0.41	81	0.31	85
TSDF Proximity (facility count/km distance)	0.0059	0.002	20	0.12	2	0.054	13
Water Discharger Proximity (facility count/km distance)	0.12	0.33	25	0.19	52	0.25	48
<b>Demographic Indicators</b>							
Demographic Index	38%	51%	12	46%	40	35%	63
Minority Population	56%	77%	14	57%	48	36%	73
Low Income Population	20%	25%	44	35%	31	34%	31
Linguistically Isolated Population	1%	6%	26	9%	20	5%	46
Population With Less Than High School Education	13%	10%	71	18%	47	14%	55
Population Under 5 years of age	4%	6%	29	7%	28	7%	30
Population over 64 years of age	11%	14%	33	12%	55	13%	44

<sup>\*</sup> The National-scale Air Toxics Assessment (NATA) environmental indicators and EJ indexes, which include cancer risk, respiratory hazard, neurodevelopment hazard, and diesel particulate matter will be added into EJSCREEN during the first full public update after the soon-to-be-released 2011 dataset is made available. 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: <http://www.epa.gov/ttn/atw/natamain/index.html>.

For additional information, see: [www.epa.gov/environmentaljustice](http://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.

January 28, 2016

3/3



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

May 31, 2016

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

TO: LAURA LEIALOHA PHILLIPS McINTYRE, AICP  
PROGRAM MANAGER, ENVIRONMENTAL PLANNING OFFICE  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HI 96801

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Ms. McIntyre:

Thank you for sending comments on the Draft EA by letter dated January 29, 2016.

We acknowledge and have reviewed the information provided on the Environmental Health Management Maps, NPDES requirements, the Hawaii Environmental Health Portal, OEQC viewer, and EPA EISCREEN tool. These resources are helpful and we are using them in project planning and permitting.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

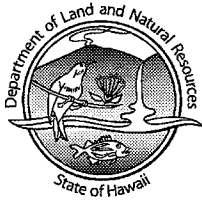
Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL



DAVID Y. IGE  
GOVERNOR OF HAWAII



CARTY S. CHANG  
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 19, 2016

Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Ave., Suite 380A  
Lakewood, CO 80228-2583

via email: [Michael.Will@dot.gov](mailto:Michael.Will@dot.gov)

Dear Mr. Mike Will:

**SUBJECT:** Bridge No. 7E Replacement, Project No. HI STP SR50(2) at Kaumualii Highway (State Route 50), Koloa District, Kauai Island; TMK (4) 2-7-001:004 (por.); 2-7-002:001 (por.); and Kaumualii Hwy. Right-of-Way

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 (i) Engineering Division, and (ii) Kauai District Land Office on the subject matter. Should you have any questions, please feel free to call Kevin Moore at 587-0426. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji  
Land Administrator

Enclosure(s)



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

January 20, 2016

12300 West Dakota Avenue  
Suite 380A  
Lakewood, CO 80228-2583  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

Suzanne Case, Chairperson  
Department of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, HI 96813

Dear Suzanne Case:

A Draft Environmental Assessment for the project listed below is available for download and review at <http://flh.fhwa.dot.gov/bridgeno7e>. This document was prepared in accordance with State of Hawaii EIS law (Hawaii Revised Statutes, Chapter 343) and EIS rules (Administrative Rules, Title 11, Chapter 200). Notice of availability is being published in the January 23, 2016 online edition of the *Environmental Notice* by the State of Hawaii Office of Environmental Quality Control.

**Project:** Bridge No. 7E Replacement, Project No. HI STP SR50(2)  
**Location:** Kaumualii Highway (State Route 50), Koloa District, Kauai Island  
**TMK:** [4] 2-7-001:004 (por.); 2-7-002:001 (por.); and Kaumualii Hwy Right-of-Way

Agency Action:   X  

Applicant Action:           

If you would like to submit comments, they must be **received or postmarked by February 23, 2016** (30-day comment period).

Please send original comments to:

Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, CO 80228-2583

Contact: Mike Will Phone: 720-963-3647  
Email: [Michael.Will@dot.gov](mailto:Michael.Will@dot.gov)

A copy of the comments should be sent to the consultant below:

CH2M HILL  
1132 Bishop Street, Suite 1100  
Honolulu, HI 96813

Contact: Kathleen Chu  
Email: [KChu@ch2m.com](mailto:KChu@ch2m.com) Phone: 808-440-0283

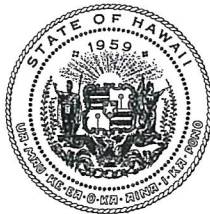
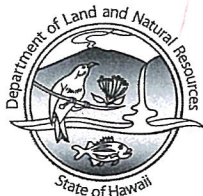
Thank you for participating in the environmental review process.

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

RECEIVED  
LAND DIVISION  
2016 JAN 25 AM 10:28  
DEPT. OF LAND & NATURAL RESOURCES  
STATE OF HAWAII  
2016 JAN 26 AM 10:56  
DEPT. OF LAND & NATURAL RESOURCES  
STATE OF HAWAII

DAVID Y. IGE  
GOVERNOR OF HAWAII



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

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 27, 2016

**MEMORANDUM**

TO:

**DLNR Agencies:**

- ☐ Div. of Aquatic Resources
- ☐ Div. of Boating & Ocean Recreation
- ☒ Engineering Division
- ☐ Div. of Forestry & Wildlife
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management
- ☐ Office of Conservation & Coastal Lands
- ☒ Land Division – Kauai District
- ☒ Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Bridge No. 7E Replacement Project No. HI STP SR 50(2); Kaumualii Highway  
(State Route 50)

LOCATION:

Koloa; Island of Kauai; TMK: (4) 2-7-001:004 (por.); 2-7-002:001 (por.); and  
Kaumualii Hwy Right-of-Way

APPLICANT:

U.S. Department of Transportation; Federal Highway Administration

Transmitted for your review and comment is information on the above-referenced project.  
Please submit any comments by **February 19, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current  
Environmental Notice under Quick Links on the right.)

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 Lydia Morikawa at 587-0410. Thank you.

Attachments

- ☐ We have no objections.
- ☒ We have no comments.
- ☐ Comments are attached.

Signed:

Print Name:

Marvin Mikasa

Date:

2/1/16

cc: Central Files

DLNR KDLO RCVD

RECEIVED  
LAND DIVISION  
2016 FEB -4 AM 11:04  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

PM 3:42:54

JAN 29 '16





\*16 JAN 27 PM 01:42 ENGINEERING

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

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 27, 2016

MEMORANDUM

TO:

FR:

**DLNR Agencies:**

- ☐ Div. of Aquatic Resources
- ☐ Div. of Boating & Ocean Recreation
- ☒ Engineering Division
- ☐ Div. of Forestry & Wildlife
- ☐ Div. of State Parks
- ☒ Commission on Water Resource Management
- ☐ Office of Conservation & Coastal Lands
- ☒ Land Division – Kauai District
- ☒ Historic Preservation

FROM:

SUBJECT:

LOCATION:

APPLICANT:

Russell Y. Tsuji, Land Administrator

Bridge No. 7E Replacement Project No. HI STP SR 50(2); Kaumualii Highway  
(State Route 50)

Koloa; Island of Kauai; TMK: (4) 2-7-001:004 (por.); 2-7-002:001 (por.); and  
Kaumualii Hwy Right-of-Way

U.S. Department of Transportation; Federal Highway Administration

Transmitted for your review and comment is information on the above-referenced project.  
Please submit any comments by **February 19, 2016**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current  
Environmental Notice under Quick Links on the right.)

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 Lydia Morikawa at 587-0410. Thank you.

Attachments

- ☐ We have no objections.
- ☐ We have no comments.
- ☒ Comments are attached.

Signed:

Print Name: Cathy S. Chang, Chief Engineer

Date: 2/5/16

cc: Central Files

RECEIVED  
LAND DIVISION  
2016 FEB -5 PM 3:22  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**LD/ Russell Y. Tsuji**

**REF: Bridge No. 7E Replacement Project No. HI STP SR 50(2); Kaumualii Highway (State Route 50)  
Kauai.002**

**COMMENTS**

- ( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone \_\_\_\_.
- (X) **The project site according to the Flood Insurance Rate Map (FIRM), is located in Zones X with portions in Zone A. The National Flood Insurance Program (NFIP) does not regulate developments within Zone X. Portions of the TMK parcel is located in Zone A and does not appear to affect the proposed work on Kaumualii Highway. Recommend validate that the project is not within Zone A using the attached Flood Hazard Assessment Reports.**
- ( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is \_\_\_\_.
- (X) **If proposed work areas are within Zone A, please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

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

- ( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- ( ) Mr. Carter Romero (Acting) at (808) 961-8943 of the County of Hawaii, Department of Public Works.
- ( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
- (X) **Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.**
  
- ( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
  
- ( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
- ( ) Additional Comments: \_\_\_\_\_  
\_\_\_\_\_
  
- ( ) Other: \_\_\_\_\_  
\_\_\_\_\_

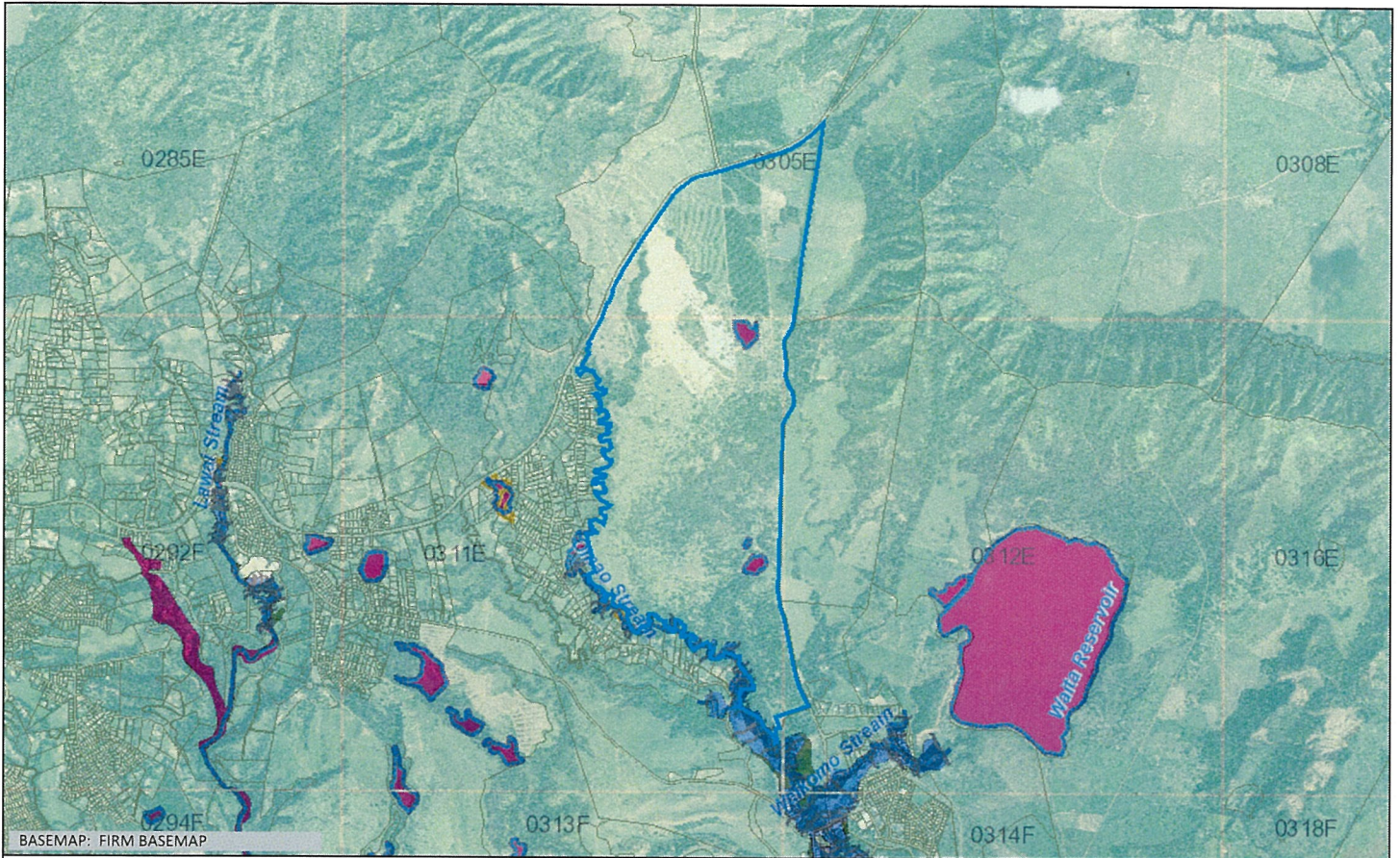
Should you have any questions, please call Mr. Rodney Shiraishi of the Planning Branch at 587-0258.

Signed: \_\_\_\_\_

CARTY S. CHANG, CHIEF ENGINEER

Date: \_\_\_\_\_





## Flood Hazard Assessment Report

www.hawaiiinfip.org

Bridge 7E Kaunaloa b

### Property Information

COUNTY: KAUAI  
 TMK NO: (4) 2-7-002:001  
 WATERSHED: HULEIA; MAHAULEPU; WAIKOMO  
 PARCEL ADDRESS: UNKNOWN ADDRESS  
 KOLOA, HI 96756

### Notes:

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### Flood Hazard Information

FIRM INDEX DATE: NOVEMBER 26, 2010  
 LETTER OF MAP CHANGE(S): NONE  
 FEMA FIRM PANEL - EFFECTIVE DATE: 1500020305E - PANEL NOT PRINTED  
 1500020311E - SEPTEMBER 16, 2005  
 1500020312E - SEPTEMBER 16, 2005

THIS PROPERTY IS WITHIN A TSUNAMI EVACUATION ZONE: NO  
 FOR MORE INFO, VISIT: <http://www.scd.hawaii.gov/>

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (KA-0104; KA-0107; KA-0113; KA-0114; KA-0115;  
 FOR MORE INFO, VISIT: <http://dlnr.hawaii.gov/dam/> KA-0119)



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

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

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

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

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

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

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

### OTHER FLOOD AREAS

	<b>Zone D:</b> Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase applies, but coverage is available in participating communities.
--	---





## Flood Hazard Assessment Report

www.hawaiiinfip.org

Bridge 7E Kaumualii

### Property Information

COUNTY: KAUAI  
 TMK NO: (4) 2-7-001:004  
 WATERSHED: HULEIA; MAHAULEPU  
 PARCEL ADDRESS: UNKNOWN ADDRESS  
 KOLOA, HI 96756

### Notes:

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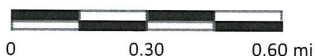
---

### Flood Hazard Information

FIRM INDEX DATE: NOVEMBER 26, 2010  
 LETTER OF MAP CHANGE(S): NONE  
 FEMA FIRM PANEL: 1500020305E  
 PANEL EFFECTIVE DATE: PANEL NOT PRINTED

THIS PROPERTY IS WITHIN A TSUNAMI EVACUATION ZONE: NO  
 FOR MORE INFO, VISIT: <http://www.scd.hawaii.gov/>

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



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

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

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

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

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	<b>Zone AE:</b> BFE determined.
	<b>Zone AH:</b> Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
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	<b>Zone AEF:</b> Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

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

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

### OTHER FLOOD AREAS

	<b>Zone D:</b> Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase applies, but coverage is available in participating communities.
--	---



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

May 31, 2016

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

TO: CARTY S. CHANG  
CHIEF ENGINEER  
ENGINEERING DIVISION  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P.O. BOX 621  
HONOLULU, HI 96809

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Mr. Chang:

Thank you for sending comments on the Draft EA by memorandum dated January 27, 2016.

In particular, thank you for providing Flood Hazard Assessment Reports for the project vicinity. The project area is not located within a FEMA special flood hazard area. According to FIRM Panel 1500020305E, the entire project area is located within Zone X. As discussed in the Draft EA, the replacement culvert is being designed to match the conveyance capacity of the existing culvert. The new structure would not adversely affect flood conditions in the stream.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL





**STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS**  
560 N. NIMITZ HWY., SUITE 200  
HONOLULU, HAWAII 96817

HRD16-7603C

February 11, 2016

Mike Will  
Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, CO 80228-2583

Re: Request for Comments on Draft Environmental Assessment for Bridge No. 7E  
Replacement on Kaumuali'i Highway, Kaua'i Island. File Number HFPM-16  
Kōloa Ahupua'a, Kona Moku, Kaua'i Moku  
Tax Map Key (4) 2-7-001:004 (por.); (4) 2-7-002:001 (por.)

Aloha Mr. Will:

The Office of Hawaiian Affairs (OHA) is in receipt of your January 20, 2016 letter requesting comments on the draft environmental assessment (DEA) for the replacement of bridge 7E on Kaumuali'i Highway, Kaua'i.

We understand that the project entails the replacement of the existing box culvert on the current highway alignment with minor adjustments to accommodate a wider bridge. Additionally, the project will include scour protection measures, supporting walls and slopes, utility relocations, and temporary staging. The bridge replacement is necessary in order to comply with the 2014 requirements of the American Association of State Highway Transportation Officials and Hawai'i Department of Transportation standards for load and capacity. The project is funded with both State of Hawai'i and U.S. federal money requiring compliance with the Hawai'i Revised Statutes Chapter 343, the National Environmental Policy Act, and the National Historic Preservation Act (NHPA). OHA responded to a request for consultation under NHPA Section 106 on September 21, 2015.

OHA is aware that SWCA Environmental Consultants was contracted for a biological assessment (BA), completed in November 2015, and that mitigation efforts will have to be taken to ensure protection of the 'ōpe'ape'a (Hawaiian hoary bat).

The 'ōpe'ape'a is a listed endangered species, believed to be threatened by habitat loss, pesticides, predation, and roost disturbance. Specifically, reduction of tree cover and indirect impacts from use of pesticides may be the primary cause of their population decline. OHA agrees with the suggested mitigation of no tree cutting during their breeding season (from June 1 through September 15).

OHA is aware that Cultural Surveys Hawai'i conducted an archaeological inventory survey in August 2015, identifying two cultural resources within the project area; that is the bridge 7E itself and an earthen ditch perpendicular to Kaumuali'i Highway. The State Historic Bridge Inventory Evaluation was conducted in 2013, determining that the bridge is not a significant cultural resource as it does not have distinctive architectural or engineering features. The earthen ditch was determined significant under Hawai'i Administrative Rules § 13-275-6, Criterion D. OHA supports those determinations.

As with all subsurface ground disturbances, we request assurances that should iwi kūpuna or Native Hawaiian cultural deposits be identified during any ground altering activities, all work in the area will immediately cease and the appropriate agencies, including OHA, will be contacted pursuant to applicable law.

Mahalo for the opportunity to provide comments. Should you have any questions, please contact Jeannin Jeremiah at 594-1790 or by email at [jeanninj@oha.org](mailto:jeanninj@oha.org).

'O wau iho nō me ka 'ōia 'i'o,



Kamana'opono M. Crabbe, Ph.D.  
Ka Pouhana, Chief Executive Officer

KC:jj

C: Kathleen Chu – CH2M HILL (*via email*)

*\*Please address replies and similar, future correspondence to our agency:*

*Dr. Kamana'opono Crabbe  
Attn: OHA Compliance Enforcement  
560 N. Nimitz Hwy, Ste. 200  
Honolulu, HI 96817*





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

May 31, 2016

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

TO: KAMANA‘OPONO M. CRABBE, PH.D.  
KA POUHANA, CHIEF EXECUTIVE OFFICER  
560 N. NIMITZ HWY, SUITE 200  
HONOLULU, HI 96817  
ATTN: OHA COMPLIANCE ENFORCEMENT

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Dr. Crabbe:

Thank you for sending comments on the Draft EA by letter dated February 11, 2016.

Regarding your comments on mitigation of potential impacts on the Hawaiian hoary bat, we note that subsequent to publication of the Draft EA, the U.S. Fish and Wildlife Service (USFWS) concurred with our effect determination and conservation measures to be implemented during the project. The USFWS letter will be included in the Final EA.

We also wish to reiterate our commitment to full implementation of applicable laws for inadvertent discoveries of iwi kupuna or Native Hawaiian cultural deposits.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,



J. Michael Will, P.E.  
Project Manager

Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL



**OFFICE OF PLANNING  
STATE OF HAWAII**

235 South Beretania Street, 6th Floor, Honolulu,  
Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu,  
Hawaii 96804

DAVID Y. IGE  
GOVERNOR

LEO R. ASUNCION  
DIRECTOR  
OFFICE OF PLANNING

Telephone: (808) 587-2846  
Fax: (808) 587-2824  
Web:  
<http://planning.hawaii.gov/>

Ref. No. P-15045

February 17, 2016

Mr. J. Michael Will, P.E.  
Project Manager  
Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, Colorado 80228-2583

Dear Mr. Will:

Subject: Draft Environmental Assessment for Bridge No. 7E Replacement Project  
No. HI STP SR50 (2), Kaumualii Highway Koloa District, Kauai;  
Tax Map Key: (4) 2-7-001:004 (por), 2-7-002:001 (por), and Kaumualii  
Highway Right-of-Way

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Bridge No. 7E replacement project, which was transmitted to our office by letter dated January 20, 2016.

It is our understanding that this project calls for the replacement of an existing box culvert, which conveys flows of an unnamed intermittent stream. The existing two-cell box culvert structure will be replaced with a single cell box culvert structure that is longer and wider than the existing structure, with no change in the highway alignment. The new structure would continue to carry two travel lanes (one lane in each direction), with a 44-foot-wide typical section consisting of two 12-foot-wide lanes, two 8-foot-wide shoulders, and two 2-foot-wide crash-tested railings. A temporary two-lane bypass road and stream crossing will be provided on the mauka side of the highway throughout the construction period. The project will also include scour protection measures, supporting walls and slopes, utility relocations, and temporary staging areas.

The Draft EA addresses our comments made in a previous pre-consultation letter dated May 1, 2015 (reference number P-14732). The Draft EA addresses the project's consistency with the Hawaii State Plan objectives and policies listed in Hawaii Revised Statutes (HRS) Chapter 226; the objectives and policies of the Hawaii Coastal Zone Management Act, listed in HRS 205A-2. Furthermore, the Draft EA states that the applicant will seek concurrence with our office on Federal Consistency review requirements. Finally, the Draft EA has verified the Tax

Mr. J. Michael Will, P.E.

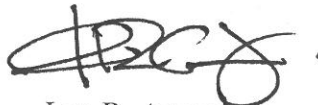
February 17, 2016

Page 2

Map Key location of this project; and has examined coastal erosion, sediment loss issues, and considers stormwater impact on surface water resources.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Josh Hekeia of our office at (808) 587-2845.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Asuncion', with a stylized flourish at the end.

Leo R. Asuncion  
Director

c: Kathleen Chu, CH2M HILL



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

May 31, 2016

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

In Reply Refer To:  
HFPM-16

TO: LEO R. ASUNCION  
DIRECTOR  
OFFICE OF PLANNING  
P.O. BOX 2359  
HONOLULU, HI 96804

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Mr. Asuncion:

Thank you for sending comments on the Draft EA by letter dated February 17, 2016.

We acknowledge that you have no further comments at this time. As the project moves forward, we will coordinate with your office on consistency with the objectives and policies of the Hawaii Coastal Zone Management Act, as listed in Hawaii Revised Statutes §205A-2.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL

DAVID Y. IGE  
GOVERNOR



DOUGLAS MURDOCK  
Comptroller

AUDREY HIDANO  
Deputy Comptroller

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

(P)1019.6

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FEB - 8 2016

Mr. J. Michael Will, P.E.  
Central Federal Lands Highway Division  
U.S. Department of Transportation  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, CO 80228-2583

Dear Mr. Will:

Subject: Draft Environmental Assessment for  
Bridge No. 7E Replacement, Project No. HI STP SR50(2)  
Kaumualii Highway (State Route 50)  
Koloa District, Kauai, Hawaii  
TMK: (4) 2-7-001: 004 (por.); 2-7-002: 001 (por.); and  
Kaumualii Hwy., Right-of-Way

Thank you for the opportunity to comment on the subject project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Douglas Murdock".  
DOUGLAS MURDOCK  
Comptroller

c: Mr. Eric Agena, District Engineer, KDO  
Ms. Kathleen Chu, CH2M HILL



*Water has no substitute.....Conserve it*

April 28, 2016

Mr. Michael Will  
Central Federal Lands Highway Division  
Federal Highway Administration  
12300 West Dakota Avenue, Suite 380A  
Lakewood, CO 80228-2583

Dear Mr. Will:

Subject: Draft Environmental Assessment (DEA) for Bridge No. 7E Replacement,  
Project No. HI STP SR50 (2), TMK: 2-7-01:004, TMK: 2-7-02:001,  
Kaumualii Highway, Koloa, Kauai

This is in regard to your letter dated January 20, 2016. The Department of Water (DOW) does not have a domestic water system serving this area; therefore, we have no comments to the proposed Draft Environmental Assessment. However, the applicant is made aware that prior to the DOW recommending building permit approval, the applicant will be required to sign a "Waiver and Release Agreement" with the DOW agreeing that water service is not available from the DOW, County of Kauai.

If you have any questions, please contact Mr. Joel Bautista at (808) 245-5441.

Sincerely,

A handwritten signature in cursive script that reads "Edward Doi".

Edward Doi  
Chief of Water Resources and Planning Division

c: [Michael.Will@dot.gov](mailto:Michael.Will@dot.gov)

JB:mlm  
Draft EA, 2-7-01-004, 2-7-02-001, T-17902, Will\_Bridge\_Replacement





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Central Federal Lands Highway Division**

12300 West Dakota Avenue  
Suite 380  
Lakewood, CO 80228  
Office: 720-963-3647  
Fax: 720-963-3596  
Michael.Will@dot.gov

May 31, 2016

In Reply Refer To:  
HFPM-16

TO: EDWARD DOI  
CHIEF OF WATER RESOURCES AND PLANNING DIVISION  
COUNTY OF KAUAI  
DEPARTMENT OF WATER  
4398 PUA LOKE STREET  
LIHUE, HI 96766

FROM: J. MICHAEL WILL, P.E.  
PROJECT MANAGER

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
BRIDGE NO. 7E REPLACEMENT, PROJECT NO. STP SR50 (2)  
KAUMUALII HIGHWAY, KOLOA DISTRICT, KAUAI ISLAND  
TMK: [4] 2-7-001:004 (POR.), 2-7-002:001 (POR.) AND KAUMUALII  
HIGHWAY RIGHT-OF-WAY

Dear Mr. Doi:

Thank you for your letter on the Draft EA dated April 28, 2016.

We acknowledge the absence of a domestic water system serving the project area, and that you have no comments on the Draft EA. We further acknowledge your department's requirements for building permit approval.

We appreciate your participation in the environmental review process. If you have any questions, please contact me at (720) 963-3647, or by email at [Michael.will@dot.gov](mailto:Michael.will@dot.gov).

Sincerely yours,

J. Michael Will, P.E.  
Project Manager

Cc:  
Christine Yamasaki, HDOT  
Nicole Winterton, CFLHD  
Kathleen Chu, CH2M HILL