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NOV - 3 2020

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
200 SOUTH HIGH STREET, ROOM NO. 410
WAILUKU, MAUI, HAWAII 96793

October 22, 2020

Keith Kawaoka, Acting Director
Office of Environmental Quality Control
Department of Health, State of Hawaii
235 S. Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Mr. Kawaoka:

SUBJECT: PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR TMK: (2) 4-5-002: 999 AND 002 (POR.), (2) 4-6-009: 999, LAHAINA, MAUI

The County of Maui, Department of Public Works hereby transmits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the proposed Front Street Sidewalk, Railing, and Seawall Repair project for publication in the next available edition of the Environmental Notice.

Enclosed is a PDF file of the DEA-AFONSI and a zip file that contains the shapefile of the project's location map. Please contact Kristi Ono at (808) 270-7745 if there are any questions.

Sincerely,

ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA/KO (ED20-1262)

Enclosure

cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates, Inc.
Kauanoe Batangan, Munekiyo Hiraga, Inc.

S:\ENG\PROJECTS\02 CIP\2019\19-28 FRONT STREET RAILING SIDEWALK AND SEAWALL REPAIR\01 DESIGN\H PERMITS\EA & EARLY CONSULTATION\2020-10-22 FRONT STREET DEA-AFONSI SUBMITTAL LETTER.DOC

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Wednesday, October 28, 2020 1:49:49 PM

Action Name

Front Street Sidewalk, Railing, and Seawall Repair Project

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds
- (2) Propose any use within any land classified as a conservation district
- (3) Propose any use within a shoreline area
- (4) Propose any use within any historic site as designated in the National Register or Hawai'i Register

Judicial district

Lahaina, Maui

Tax Map Key(s) (TMK(s))

(2)4-5-002:999; (2)4-5-002:002 (por.); (2)4-6-009:999

Action type

Agency

Other required permits and approvals

Permits/approval required include but not limited to Special Management Area Use Permit, Shoreline Setback Variance, Historic District Approval, Conservation District Use Permit and construction permits.

Proposing/determining agency

County of Maui, Department of Public Works

Agency contact name

Rowena Dagdag-Andaya

Agency contact email (for info about the action)

public.works@mauicounty.gov

Email address or URL for receiving comments

planning@munekiyohiraga.com

Agency contact phone

(808) 270-7845

Agency address

200 South High Street
Kalana O Maui Building, 4th Floor
Wailuku, HI 96793
United States

Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Munekiyo Hiraga

Consultant contact name

Kauanoe Batangan

Consultant contact email

kauanoe@munekiyohiraga.com

Consultant contact phone

(808) 244-2015

Consultant address

305 High Street
Suite 104
Wailuku, HI 96793
United States
Map It

Action summary

Work is proposed in two (2) locations along Front Street in Lahaina, Maui.
Area 1 is between Dickenson Street and Lahainaluna Road. Improvements include: reconstruct deteriorated portion of the concrete wave deflector; replace wooden railing with composite fiber and stainless steel railing; reconstruct upper portion of the deteriorated sidewalk surface; remove raised rubble masonry planters and replace with at-grade planters; replace overgrown trees; remove wooden bollards and patch with concrete; replace existing light fixtures; replace existing concrete stairs that provide public beach access; replace street amenities such as trash receptacles and bicycle racks.
Project Area 2 is between Papalaua Street and Baker Street. It encompasses a concrete rubble masonry wall and stacked boulder wall along the shoreline. Boulders have been displaced and further loss of the wall may impact Front Street. Project involves
replenishing boulders in the frontal wall that have been dislodged.

Reasons supporting determination

See Section VI, Significance Criteria Assessment, of Draft Environmental Assessment.

Attached documents (signed agency letter & EA/EIS)

- 0Final-Draft-EA.Entire.August-2020.pdf
- DEA-AFONSI-Letter-from-DPW.pdf

Action location map

- Front-Street-TMKs.shp.zip

Authorized individual

K. Kauanoe Batangan

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Draft Environmental Assessment

PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR PROJECT, MAUI, HAWAI‘I

(TMK NOs. (2)4-5-002:999 and 002 (por.) and (2)4-6-009:999)

Prepared for:

County of Maui,

Department of Public Works

August 2020

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Planning. Project Management. Sustainable Solutions.

Draft Environmental Assessment

PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR PROJECT, MAUI, HAWAI‘I

(TMK NOs. (2)4-5-002:999 and 002 (por.) and (2)4-6-009:999)

Prepared for:

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Department of Public Works

August 2020

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CONTENTS

Page

Executive Summary v
List of Acronyms viii

I. PROJECT OVERVIEW 1

A. PROJECT LOCATION, EXISTING USE, AND LAND OWNERSHIP 1

B. PROJECT NEED 1

C. PROPOSED ACTION 3

D. PROJECT DEVELOPMENT REGULATORY CONSIDERATIONS 6

E. PROJECT DEVELOPMENT SCHEDULE AND COST 10

II. DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS, AND MITIGATION MEASURES 11

A. PHYSICAL ENVIRONMENT 11

1. Surrounding Land Uses 11
2. Climate 13
3. Topography and Soil Characteristics 13
4. Agriculture 16
5. Nearshore Water Quality 17
6. Streams and Wetlands 18
7. Flood and Tsunami Hazards 20
8. Sea Level Rise 23
9. Flora and Fauna 25
10. Marine Environment 27
11. Air Quality 29
12. Greenhouse Gas Emissions 29
13. Noise 30
14. Scenic and Open Space Resources 31
15. Archaeological Resources 31
16. Cultural Resources 32

B. SOCIO-ECONOMIC ENVIRONMENT 33

1. Regional Setting 33
2. Population and Demography 34
3. Economy and Labor Force 34

C. PUBLIC SERVICES 35

1. Police and Fire Protection and Civil Defense 35
2. Medical Facilities 35
3. Educational Facilities 36
4. Recreational Facilities 37
5. Solid Waste Disposal 37

D. INFRASTRUCTURE 39
1. Roadways 39
2. Water System 39
3. Wastewater System 40
4. Drainage System 40
5. Electrical, Telephone, and Cable Television Services 41
E. CUMULATIVE AND SECONDARY IMPACTS 42
III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS 44
A. STATE LAND USE DISTRICTS 44
B. HAWAI‘I STATE PLAN 44
C. STATE FUNCTIONAL PLANS 71
D. STATE ENVIRONMENTAL POLICY 75
1. Environmental Policy 75
2. Environmental Guidelines 76
E. GENERAL PLAN OF THE COUNTY OF MAUI 77
F. COUNTYWIDE POLICY PLAN 77
G. MAUI ISLAND PLAN 101
H. WEST MAUI COMMUNITY PLAN 143
I. MAUI COUNTY ZONING 148
J. COASTAL ZONE MANAGEMENT AREA 148
1. Recreational Resources 148
2. Historic Resources 149
3. Scenic and Open Space Resources 150
4. Coastal Ecosystems 151
5. Economic Uses 151
6. Coastal Hazards 152
7. Managing Development 153
8. Public Participation 153
9. Beach Protection 154
10. Marine Resources 155
K. SPECIAL MANAGEMENT AREA RULES OF THE MAUI PLANNING COMMISSION 155
L. SHORELINE ZONE CONSIDERATIONS 159
1. Shoreline Setback Determination 159
2. Shoreline Processes 161
3. Proposed Improvements 161
4. Criteria for Approval of Variance 163
5. Variance Justification 163

IV. SUMMARY OF ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES 166
V. ALTERNATIVES ANALYSIS 167
A. PREFERRED ALTERNATIVE 167
B. NO ACTION ALTERNATIVE 167
C. DELAYED ACTION ALTERNATIVE 167
D. REDUCED SCOPE ALTERNATIVE 167
E. DESIGN ALTERNATIVE 167
VI. SIGNIFICANCE CRITERIA ASSESSMENT 169
VII. LIST OF PERMITS AND APPROVALS 174
VIII. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS 175
IX. REFERENCES i

K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\Draft EA\(Draft) Draft EA.docx

List of Figures

Page
Figure 1. Property Location Map 2
Figure 2. Area 1 Photos 4
Figure 3. Area 2 Photos 5
Figure 4. Site Plan for Area 1 7
Figure 5. Area 2 Repair Options 8
Figure 6. Special Management Area Boundary Map 9
Figure 7. Lahaina Historic Districts Map 12
Figure 8. Soil Association Map 14
Figure 9. Soil Classification Map 15
Figure 10. Wetlands Map 19
Figure 11. Flood Insurance Rate Map 21
Figure 12. Tsunami Evacuation Map 22
Figure 13. Sea Level Rise - 3.2 Feet Map 24
Figure 14. State Land Use District Boundary Map 45
Figure 15. Community Plan Map 144
Figure 16. Annual Erosion Hazard Rate Map 160

List of Tables

Page

Table 1. Actual Enrollments at Department of Education Schools 36
Table 2. Analysis of State Functional Plans 73

Appendices

Appendix A. Preliminary Project Plans
Appendix B. Archaeological Field Inspection and Literature Review
Appendix C. Environmental Surveys
Appendix D. Best Management Practices Plan
Appendix E. HRS 6-E Submittal Form
Appendix F. Cultural Impact Assessment
Appendix G. Drainage Report
Appendix H. Meeting Summary from February 2020 Community Meeting
Appendix I. Meeting Summary form March 2020 Meeting with Lahaina Restoration Foundation and Front Street Businesses

Executive Summary

Project Name:	Proposed Front Street Sidewalk, Railing, and Seawall Repair Project
Type of Document:	Draft Environmental Assessment
Legal Authority:	Chapter 343, Hawai‘i Revised Statutes Section 11-200.1-8, Hawai‘i Administrative Rules
Determination:	Anticipated Finding of No Significant Impact (AFONSI)
Applicable Environmental Assessment review "Trigger":	Use of State and County lands and County funds Use of Conservation District Lands and Work in the Shoreline Area
Location:	Front Street Lāhainā, Hawai‘i 96761 TMK Nos. (2)4-5-002:999 and 002(por.) and (2)4-6-009:999
Applicant:	County of Maui Department of Public Works 200 South High Street, 4th Floor Wailuku, Hawai‘i 96793 Contact: Rowena Dagdag-Andaya, Director Phone: (808) 270-7845
Proposing and Approving Agency:	County of Maui Department of Public Works 200 South High Street, 4th Floor Wailuku, Hawai‘i 96793 Contact: Rowena Dagdag-Andaya, Director Phone: (808) 270-7845
Consultant:	Munekiyo Hiraga 305 High Street, Suite 104 Wailuku, Hawai‘i 96793 Contact: Kauanoe Batangan, Senior Associate Phone: (808) 244-2015
Project Summary:	The County of Maui, Department of Public Works (DPW) is proposing improvements to the west side of Front Street in Lāhainā, Maui. The project involves the County-owned Front Street roadway, State-owned land seaward of the certified shoreline, and a portion of private property located at the north end of the Project Areas. The proposed project will protect the Front

Street thoroughfare, address extensive deterioration sustained by the seawall, sidewalk, railing, planters, benches and bollards from exposure to the salt environment and wave impacts, and ensure the long-term safety and structural integrity of these streetscape elements.

Work is proposed in two (2) locations, identified as Area 1 and Area 2.

Area 1: Repair of Pedestrian Elements

Project Area 1 is approximately 715 feet long and extends from Dickenson Street to Lahainaluna Road on the makai (seaward, west) side of Front Street. Existing streetscape elements and the overhanging lip of the concrete wave deflector have deteriorated due to salt penetration, exposure to moisture, and chloride intrusion. Based on design parameters, consideration of the character of the area, public input, and the regulatory requirements for the Project Area, conceptual plans were prepared for the project repairs. The following improvements are under consideration:

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new composite fiber and stainless steel railing system
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish
- Removal of the raised rubble masonry planters and replace with at-grade planters
- Replace overgrown trees
- Removal of wooden bollards and patching with concrete
- Replace existing light fixtures in Area 1
- Repair of existing concrete stairs that provides public access to the beach area
- Replacement of other street amenities such as trash receptacles and bicycle racks

Area 2: Seawall Repair

Project Area 2 is approximately 730 feet long, also on the makai side of Front Street, between Pāpalaua Street and Baker Street, and encompasses a concrete rubble masonry wall and stacked, ungrouted boulder wall along the shoreline. Boulders have been displaced due to wave action and further loss of the wall may

impact Front Street. The following improvements are under consideration:

- Replenish boulders in the frontal wall that have been dislodged.

The Project Areas are located in the center of Lāhainā Town. Retail, commercial and restaurant uses surround the Project Areas to the north and east. The Lāhainā Harbor and Lāhainā Banyan Court are located to the south of Project Area 1 and Project Area 2, and the Pacific Ocean is adjacent to the project areas to the west. The Project Areas are within the Lahaina National Historic Landmark District. The Front Street roadway area is within the areas designated as “Urban” and the area west of the road is designated as “Conservation” by the State Land Use Commission (SLUC). The County of Maui Zoning Designation is Historic District 2 (Lāhainā), and the West Maui Community Plan designations for the Project Areas include Business/Commercial and Open Space.

List of Acronyms

AEHR	Annual Erosion Hazard Rate
AFONSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawaiʻi
AMSL	Above Mean Sea Level
BMP	Best Management Practices
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CIA	Cultural Impact Assessment
CO2 EQ	Carbon Dioxide equivalent
CRM	Concrete Rubble Masonry
CZM	Coastal Zone Management
DA	Department of Army
DEM	Department of Environmental Management
DO	Dissolved Oxygen
DOE	Department of Education
DOH	Department of Health
DPW	Department of Public Works
DWS	Department of Water Supply
EaA	Ewa silty clay loam
EA	Environmental Assessment
EFH	Essential Fish Habitat
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Findings of No Significant Impact
ft	feet
GHG	Greenhouse gases
HAR	Hawaiʻi Administrative Rules
HCZMP	Hawaiʻi Coastal Zone Management Program
HECO	Hawaiian Electric Company
HRS	Hawaiʻi Revised Statutes
LCC	Lahaina Civic Center
LID	Low Impact Development
LSB	Land Study Bureau
m	meter
MIP	Maui Island Plan
mph	miles per hour
MUS	Management Unit Species
NHLD	National Historic Landmark District
NPDES	National Pollutant Discharge Elimination System

NTU	Nephelometric Turbidity Units
pH	potential Hydrogen
PpA	Pulehu silt loam
PSU	Practical Salinity Unit
SHPD	State Historic Preservation Division
SLUC	State Land Use Commission
SMA	Special Management Area
SSV	Shoreline Setback Variance
TMK	Tax Map Key
UGB	Urban Growth Boundary
UHMC	University of Hawaiʻi Maui College
UH SOEST	University of Hawaiʻi, School of Ocean and Earth Science Technology
USFWS	U.S. Fish and Wildlife Service
WMCP	West Maui Community Plan
WWRF	Wastewater Reclamation Facility

PROJECT OVERVIEW

I

I. PROJECT OVERVIEW

A. PROJECT LOCATION, EXISTING USE, AND LAND OWNERSHIP

The County of Maui, Department of Public Works (Applicant or DPW) is proposing improvements to the makai (seaward) side of Front Street in Lāhainā. The project involves the County-owned Front Street roadway, State-owned land makai of the certified shoreline, and a portion of privately owned property, identified as Tax Map Key (TMK) (2)4-5-002:002(por.). The proposed project involves work in two (2) locations identified as Area 1, TMK No. (2)4-6-009:999, and Area 2, TMK No. (2)4-5-002:002(por.) and (2)4-5-002:999. See **Figure 1.**

Project Area 1 is approximately 715 feet long and extends from Dickenson Street to Lahainaluna Road on the makai side of Front Street. It is currently used as a pedestrian walkway. Existing streetscape elements have deteriorated and the proposed repairs are intended to improve the safety and asthetics of the walkway.

Project Area 2 is approximately 730 feet long, also on the makai side of Front Street, between Pāpalaua Street and Baker Street, and encompasses a concrete rubble masonry wall and stacked, ungrouted boulder wall along the shoreline. The proposed project involves replacing the dislodged boulders to restore the integrity of the stacked boulder wall.

B. PROJECT NEED

The DPW is proposing to repair two (2) portions of the existing walkways, seawalls and other related improvements along the western portion of Front Street in Lāhainā that have fallen into disrepair. The public pedestrian areas overlook scenic view points from Lāhainā Town and are located within and adjacent to the existing commercial areas of Front Street.

The seawall in Area 1 has existed since the early 1900s, based on historical photos of the area. Photos from 1930's show a paved Front Street with a seawall, topped with a concrete sidewalk and solid concrete wall adjacent to the shoreline. In 1979, the County of Maui repaired the seawall and replaced the concrete solid wall with the wooden railing that exists today. Additional improvements at that time were the addition of concrete pilasters to support the new railing improvements as well as the raised planters and additional landscaping, seating areas, wooden bollards and lighting improvements. A concrete stairway at the north end of Area 1 was also installed in the 1979 project to provide access to the shoreline in the area.

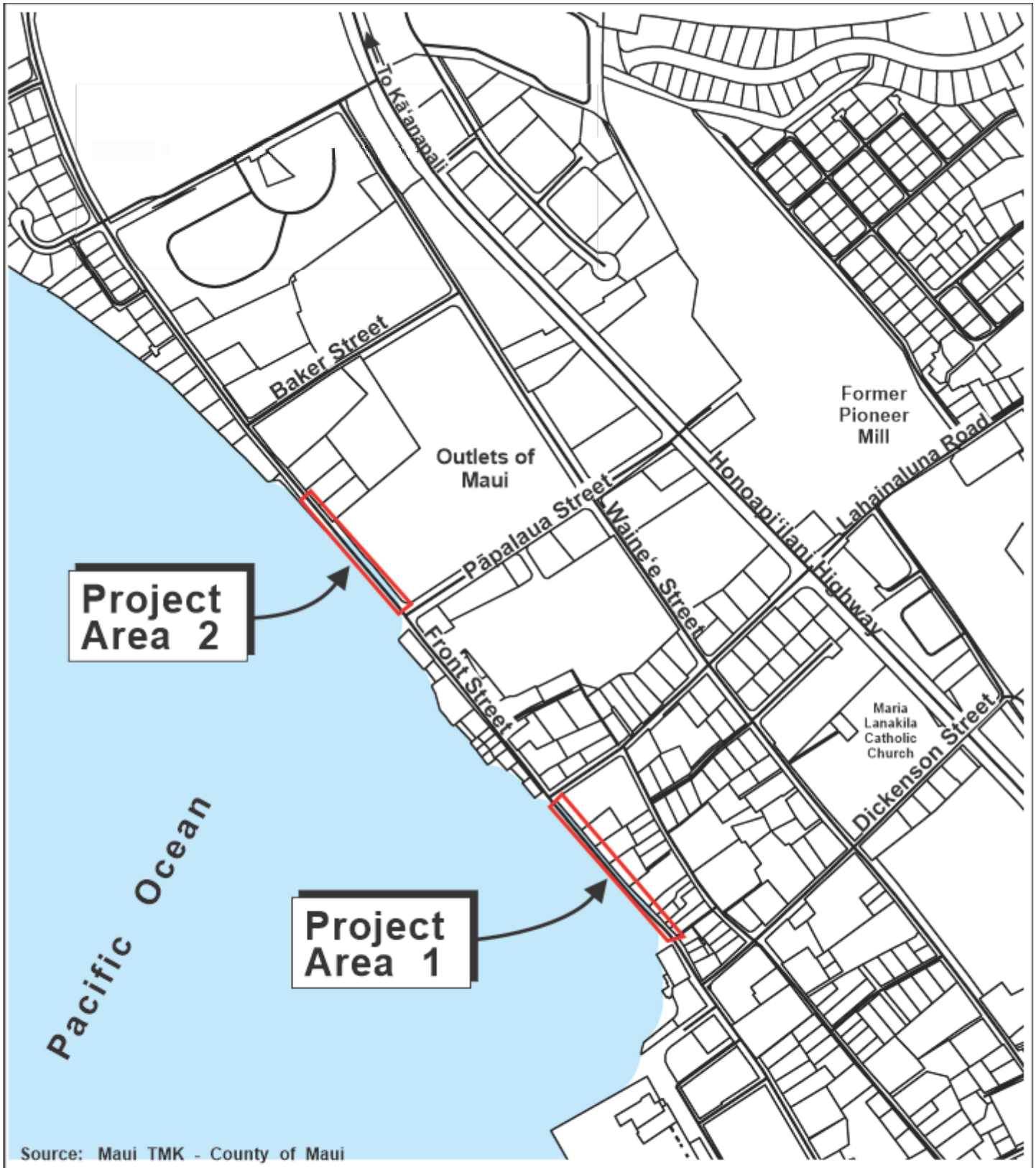


Figure 1

Front Street Sidewalk, Railing, and Seawall Repair

Property Location Map

0 125 250 500 Feet

Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Property Location

Over time, high surf events have caused waves to splash over the railing and seawall, deteriorating the concrete wave deflector, the wooden railings, and sidewalk. Similarly, the sea water has deteriorated the concrete stairs at the north end of Area 1, causing spalling and rebar corrosion. DPW has maintained the improvements throughout the years, but the damage has progressed beyond the minor repair stage. See **Figure 2**, photos of Area 1.

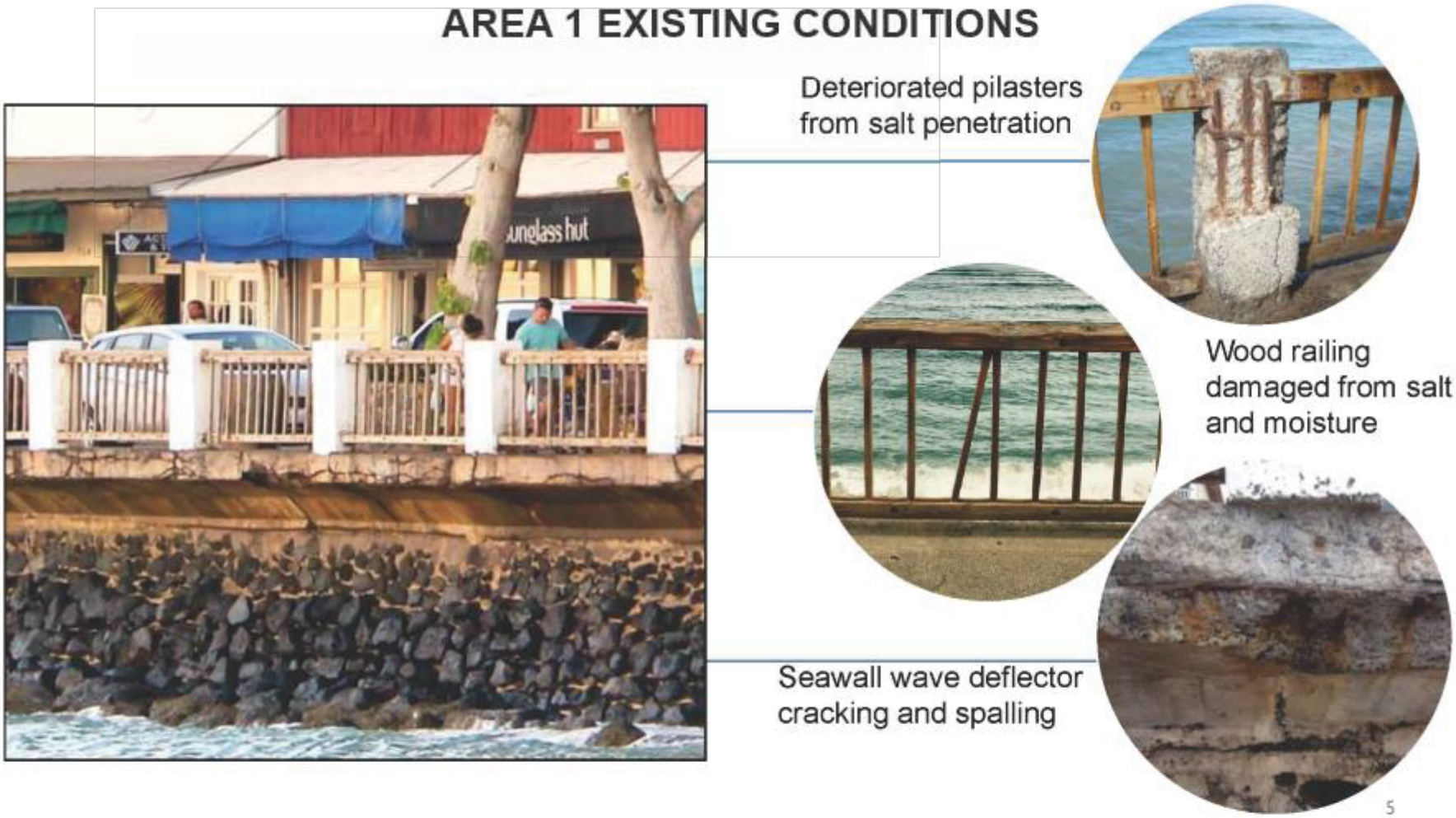
In Area 2, the portion of the shoreline is protected by a concrete rubble masonry (CRM) wall which rises approximately two (2) feet above the existing sidewalk. The existing seawall is approximately three (3) feet wide with a flat concrete top. There are existing coconut trees that are adjacent to the seawall or incorporated into the seawall. The CRM wall is fronted by a stacked, ungrouted boulder wall. The boulders are of various sizes and are stacked to protect the CRM wall. There were no historical plans or specifications located by the DPW for the seawall in Area 2, however, the maturity of the coconut trees and weathering of the existing CRM would suggest that the improvements have existed for quite some time. Over time, the boulder wall has experienced damage from high coastal wave events, such that there are gaps within the wall areas along the CRM wall. The exposure of the CRM wall to high coastal wave events may expedite the deterioration of the CRM wall. The seawall in Area 2 provides protection for Front Street, the infrastructure located within the road as well as the surrounding commercial and residential developments. See Figure 3, photos of Area 2.

C. PROPOSED ACTION

Area 1: Repair of Pedestrian Elements

The existing streetscape elements have deteriorated due to salt penetration, exposure to moisture, and chloride intrusion. Based on design parameters, consideration of the character of the area, public input at community outreach meetings, and the regulatory requirements for the Project Area, conceptual plans were prepared for the project repairs. The following improvements are under consideration.

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new composite fiber and stainless steel railing system
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish
- Removal of the raised rubble masonry planters and replacement with at-grade planters
- Replace overgrown trees
- Removal of wooden bollards and patching with concrete
- Replacement of existing light fixtures
- Replacement of other street amenities such as trash receptacles and bicycle racks



Source: Sato & Associates, Inc.

Figure 2 Front Street Sidewalk, Railing, and Seawall Repair
Area 1 Photos

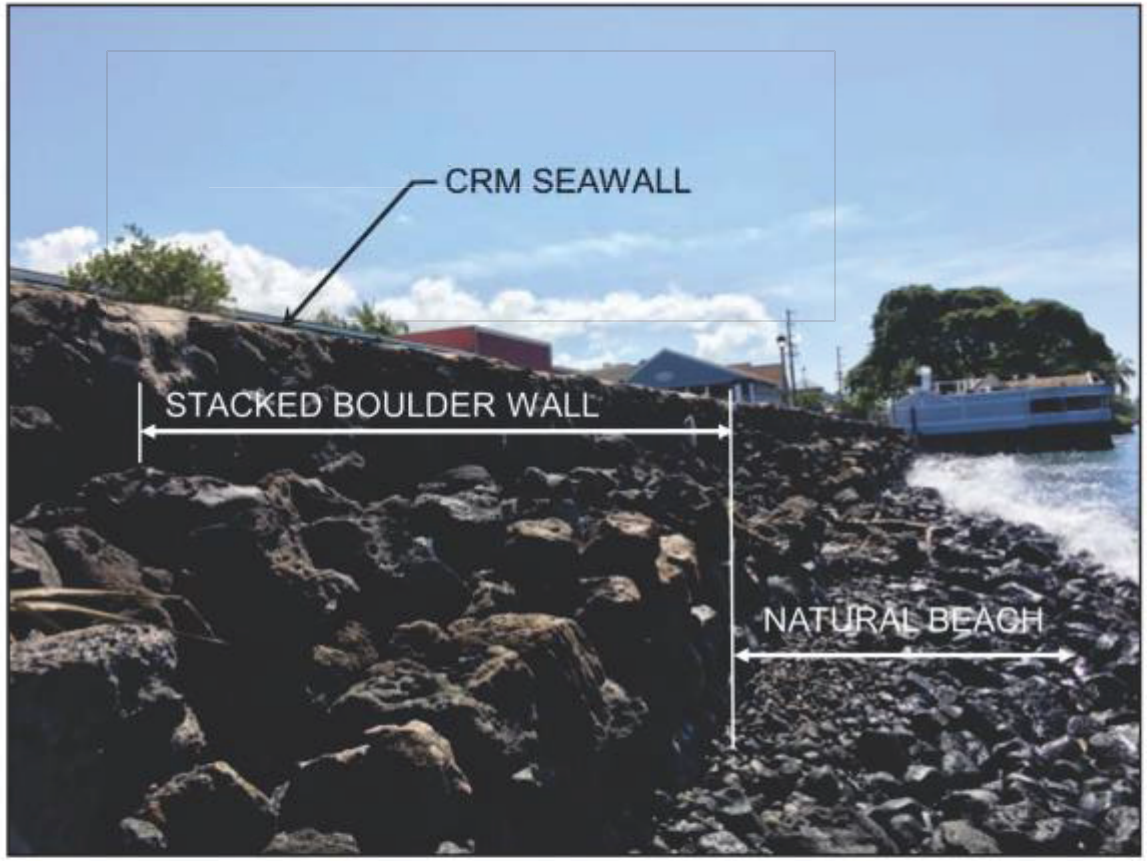
NOT TO SCALE

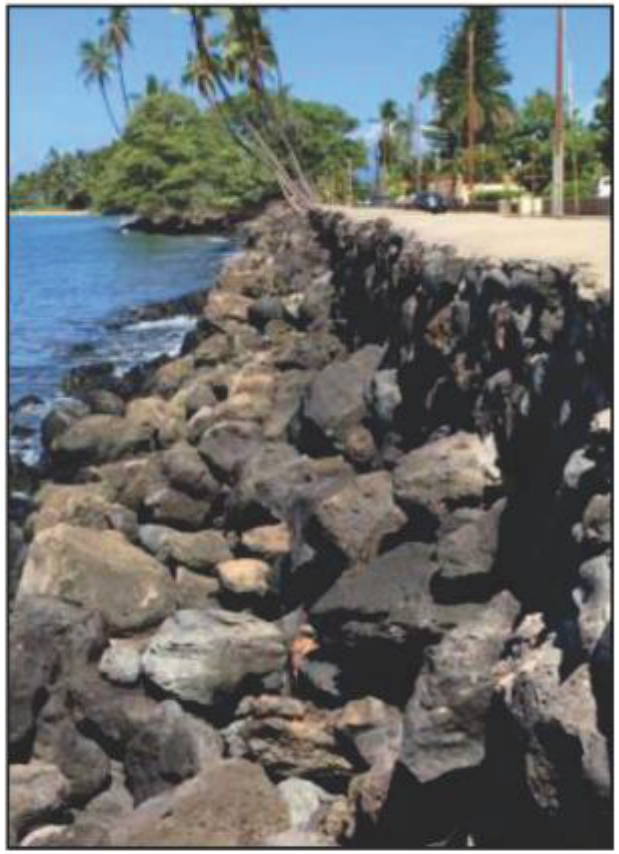
Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

HawnCemt\KahuluiHarborReloc\Applications\Figures\Area 1 Photo

AREA 2 EXISTING CONDITIONS





Wave action has displaced boulders from the stacked wall.

Source: Sato & Associates, Inc.

Figure 3 Front Street Sidewalk, Railing, and Seawall Repair
Area 2 Photos

NOT TO SCALE

MUNEKIYO HIRAGA

Prepared for: County of Maui, Department of Public Works

HawnCemt\KahuluiHarborReloc\Applications\Figures\Area 2 Photo

- Repair existing concrete stairs at north end of Area 1 that provides public access to the shoreline

See **Figure 4** and see **Appendix "A"**, Preliminary Project Plans.

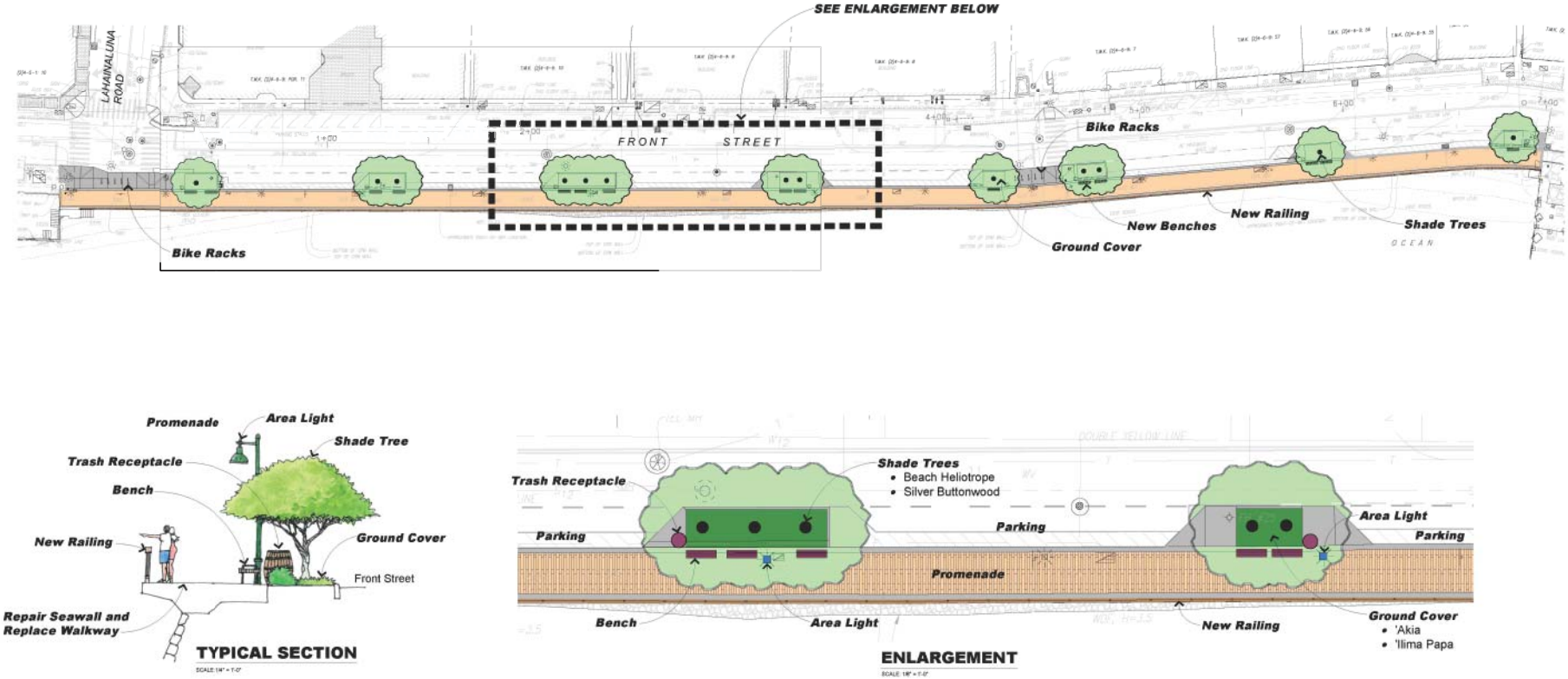
Area 2: Seawall Repair

Boulders have been displaced from the wall along the shoreline. Two (2) design options were considered: 1) an engineered replacement of the stacked boulder wall, and 2) replenishment of the boulder wall. Following consultation with the community, the DPW is proposing the second option, to replenish boulders in the frontal wall that have been dislodged. See **Figure 5** and refer to **Appendix "A"**.

D. PROJECT DEVELOPMENT REGULATORY CONSIDERATIONS

The use of State and County land and County funds for this project are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statues (HRS) and Section 11-200.1-8, Hawai'i Administrative Rules (HAR). Additionally, the proposed project will utilize lands designated "Conservation" by the State Land Use Commission (SLUC) and will have improvements within the shoreline setback area. A Conservation District Use Permit application will be filed with the Office of Conservation and Coastal Lands. This EA was prepared to evaluate the technical characterstics, environmental impacts and alternatives, as well as advance findings relative to the significance of the project. The Approving Agency for the EA will be the DPW.

The Project Areas are located within the County of Maui's Special Management Area (SMA) and involves work in the Shoreline Area. See **Figure 6.** As such, a SMA Use Permit Application and Shoreline Setback Variance (SSV) are anticipated to be required for the project. This EA will act as the primary supporting document for the SMA Use Permit, SSV and other applications. Additional permits which may be applicable to the project, including a Department of Army (DA), U.S. Army Corps of Engineers Section 404 Permit, a Clean Water Act Section 401 Water Quality Certification, and a County of Maui Historic District Assessment, will be secured prior to the start of construction. In addition, consultations pursuant to Section 106 of the National Historic Preservation Act, and Section 7 of the Endangered Species Act are anticipated in conjunction with the DA permit process.



Source: Sato and Associates, Inc. and Miyabara and Associates

Figure 4

Front Street Sidewalk, Railing, and Seawall Repair

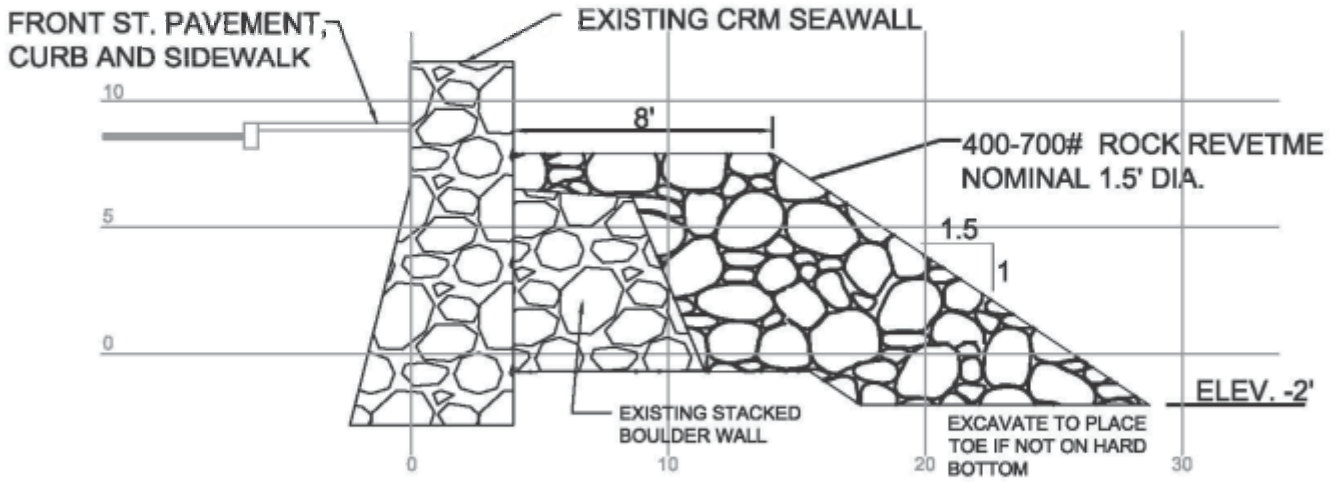
Site Plan for Area 1

NOT TO SCALE

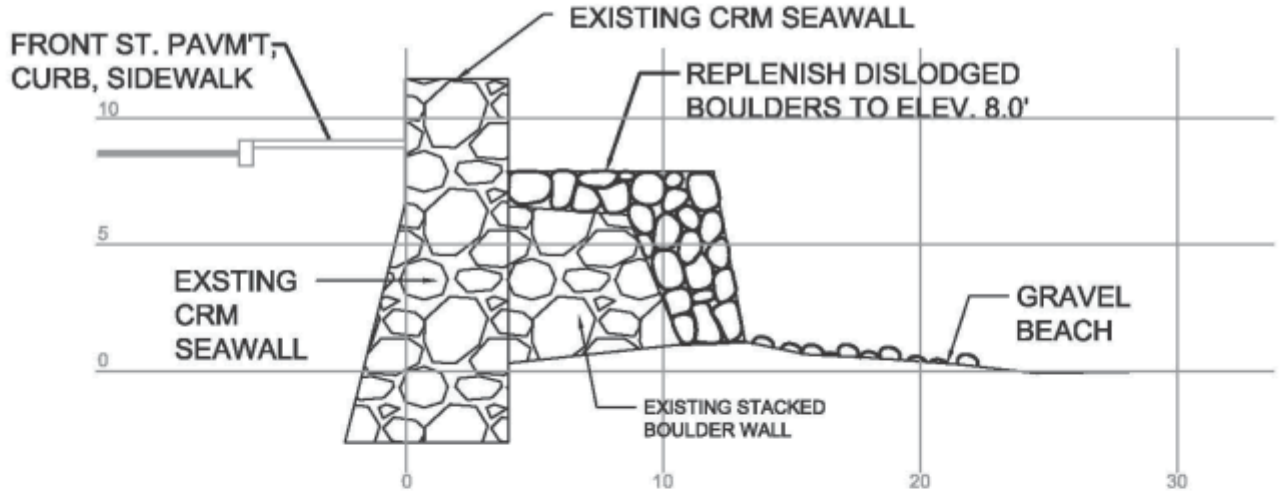
Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Site Plan for Area 1



REVETMENT



REPLENISHMENT

Figure 5

Front Street Sidewalk, Railing, and Seawall Repair

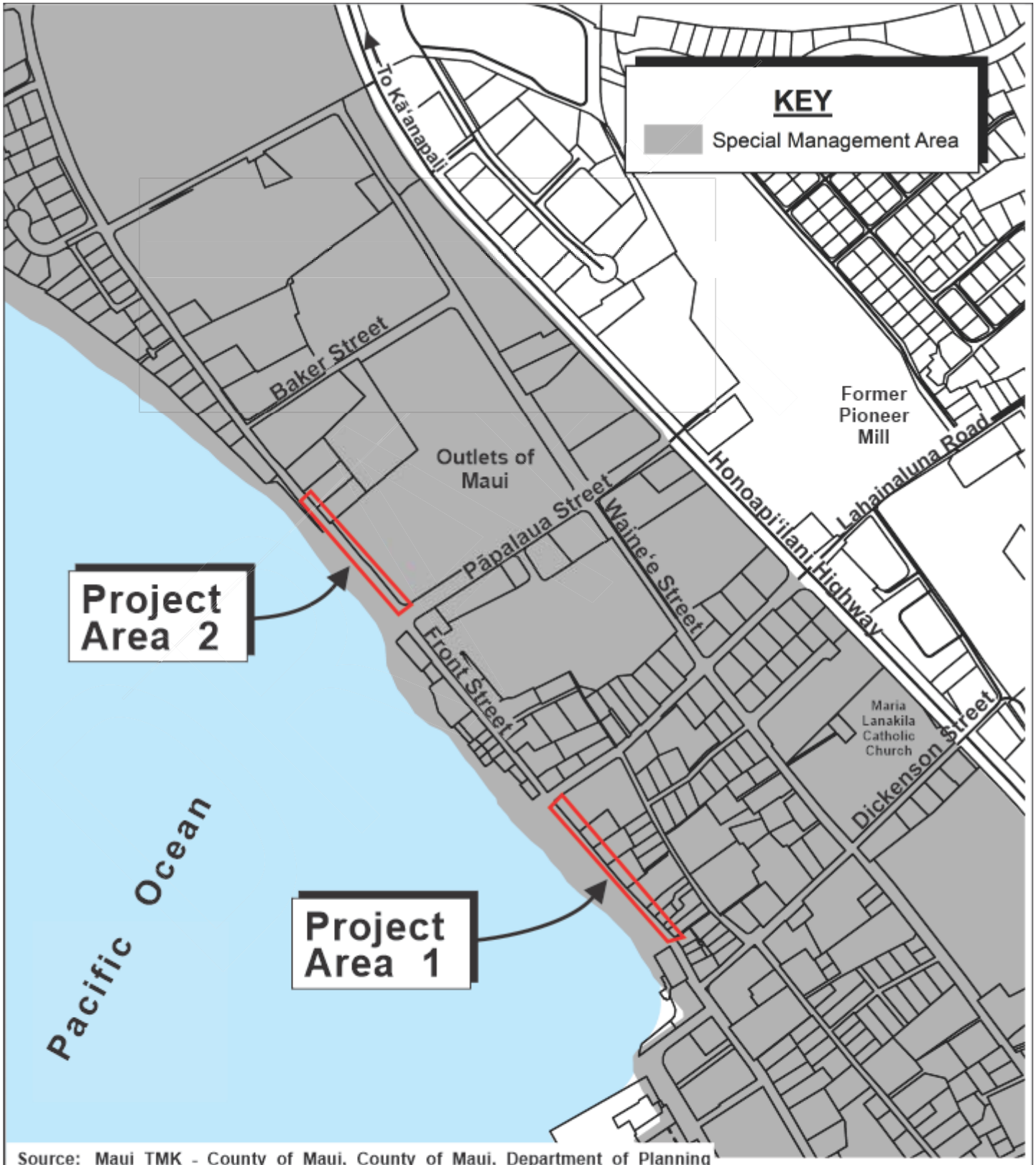
Area 2 Repair Options

NOT TO SCALE

Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Area 2 Repair Options



Source: Maui TMK - County of Maui, County of Maui, Department of Planning

Figure 6

Front Street Sidewalk, Railing, and Seawall Repair

Special Management Area Boundary Map

0 125 250 500 Feet

Prepared for: County of Maui, Department of Public Works

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E. PROJECT DEVELOPMENT SCHEDULE AND COST

Based on the Applicant's current design, permitting, and development schedule, site work is targeted to begin following receipt of all applicable entitlement and construction permit approvals. It is anticipated the project will take 12 months to complete. The preliminary cost estimate for the proposed improvements is $4.0 million.

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

II

II. DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS, AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

a. Existing Conditions

An Archaeological Field Inspection and Literature Review for the proposed Front Street seawall project were prepared by Scientific Consultants Hawaiʻi in April 2020. See **Appendix "B".**

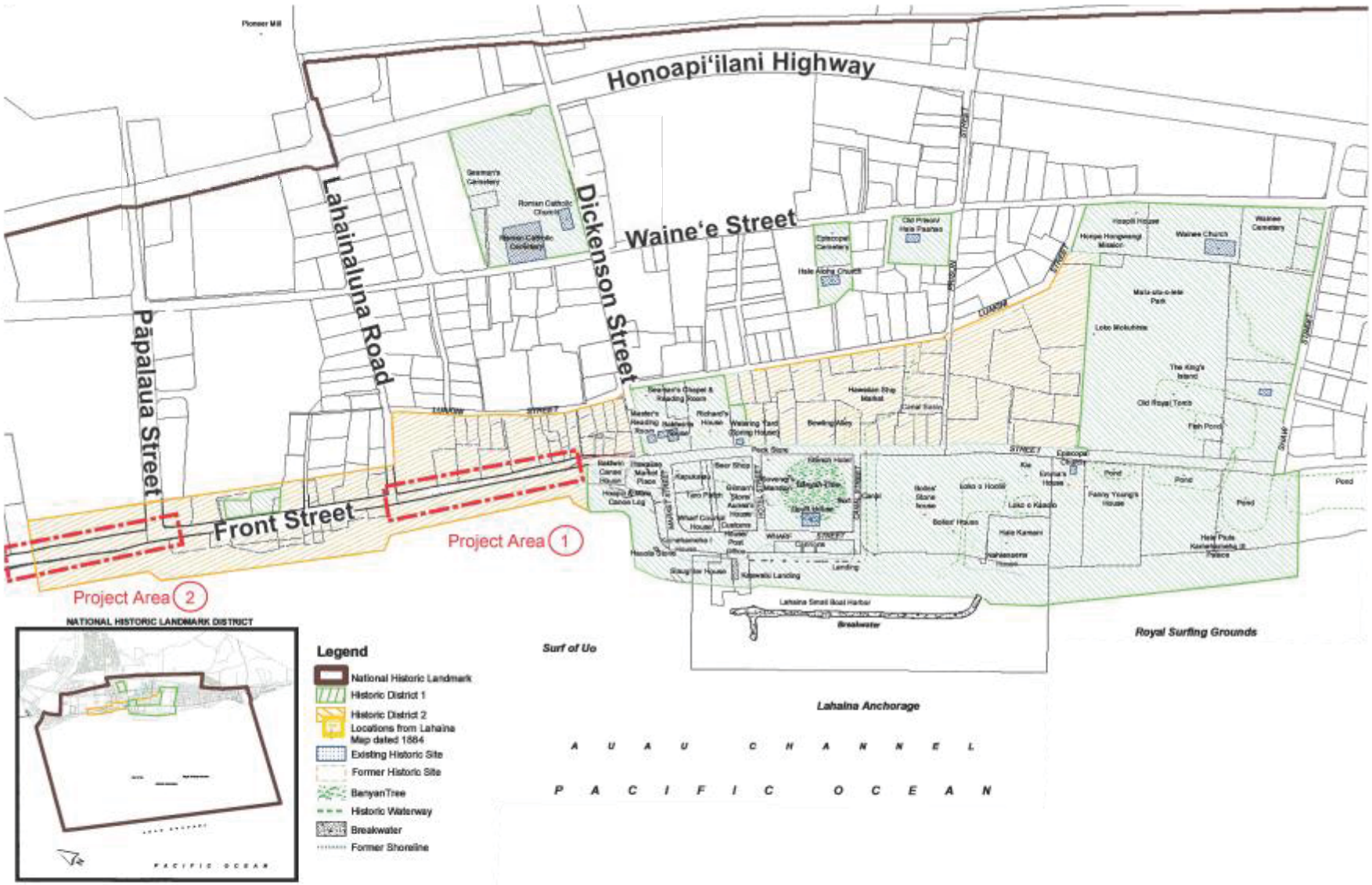
As stated previously, the proposed Project Areas consist of two (2) seawall segments (Area 1 and Area 2) located along the southwest (makai) edge of Front Street, within Historic Lāhainā Town, Paunau Ahupuaʻa, Lāhainā (Lāhainā) District, Maui island, Hawaiʻi (TMK: (2) 4-6-009 and 4-5-002; refer to **Figure 1**.

The seawall segments are located within the Lahaina National Historic Landmark District, National Park Service (NPS reference number 66000302); see **Figure 7**). The Lahaina Historic District is a National Historic Landmark District which encompasses more than 60 sites and was nominated for placement on the National Register of Historic Places on December 29, 1962 (updated in 1974). The Lahaina Historic District is currently listed on the Hawaiʻi Register of Historic Places as State Site Number-50-03-3001 (State Site 50-50-03-3001). Area 1 is also located in an area zoned "Lahaina Historic District 2", by the County of Maui.

b. Potential Impacts and Mitigation Measures

The proposed project will protect the Front Street thoroughfare, address extensive deterioration sustained by the seawall, sidewalk, railing, wave deflector, planters, benches and bollards in Area 1, as well as the seawall in Area 2 from exposure to the salt environment and wave impacts, and ensure the long-term safety and structural integrity of these streetscape elements.

Because the proposed project will involve walkway and road closures on the makai (seaward) side of an approximately half mile stretch along Front Street, it will temporarily alter the area's character during construction. However, once construction is completed, the area will be restored to a



Source: County of Maui, Department of Management

Figure 7

Front Street Sidewalk, Railing, and Seawall Repair
Lahaina Historic Districts Map

0 250 500 1000 FEET

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state of similar character and state of similar commercial viability. From a long-term perspective, the proposed project will enhance the surrounding properties by solidifying the structural integrity of the streetscape and provide for a continued safe pedestrian walkway for the visitors to the area.

2. Climate

a. Existing Conditions

According to the online Rainfall Atlas of Hawai‘i (Giambelluca et al. 2013), the Project Areas receive approximately 18.7 inches per year mean annual rainfall. Approximately 2.6 to 2.7 inches of rainfall occur within the winter months and 0.23 to 0.25 inches occur during the summer months. According to the Maui County Data Book 2018, the annual average temperature in West Maui ranges from a high of 78.9 degrees to a low of 72.0 degrees.

b. Potential Impacts and Mitigation Measures

The proposed improvements are limited to the seawalls, a sidewalk, railing, planters, benches, and bollards along an approximately half mile stretch of Front Street. Since the project scope is to repair existing infrastructure or replace it with something similarly designed, no significant adverse impacts to climate conditions are anticpated as a result of the proposed project.

3. Topography and Soil Characteristics

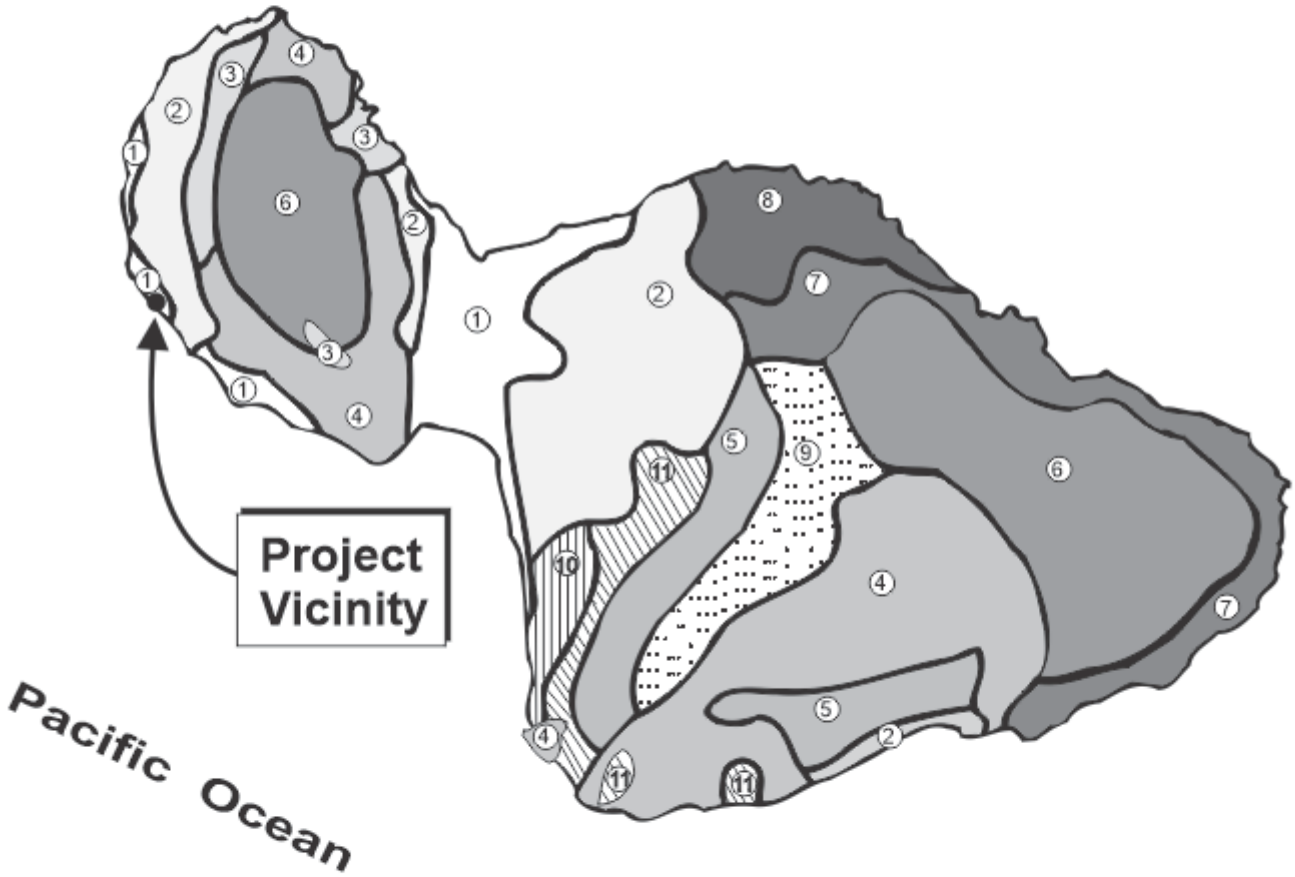
a. Existing Conditions

According to the *“Soil Survey of Island of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii”*, prepared by the U.S. Department of Agriculture Soil Conservation Service, the underlying soils at the Project Areas and surrounding lands are soils belonging to Pulehu-Ewa-Jaucas association. See **Figure 8**. This soil association is characteristically deep and well-drained as well as located on alluvial fans and in basins.

The southern portion of Area 1 is comprised of soils of the Ewa Soil Series, specifically Ewa silty clay loam, 0 to 3 percent slope (EaA) (Foote et al. 1972:29-30). The well-drained alluvial soils of the Ewa Series formed from volcanic rock. These soils occur from 0 to 150 feet above mean sea level (amsl) in areas receiving 10 to 30 inches of rainfall annually (Foote et al. 1972: 29). The EaA soils exhibit very slow runoff with a very slight erosion hazard and are typically used for the cultivation of sugarcane and for residential areas (Foote et al. 1972: 30). See **Figure 9**.

LEGEND

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



Source: USDA Soil Conservation Service

Figure 8

Front Street Sidewalk, Railing, and Seawall Repair

Soil Association Map

NOT TO SCALE

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Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Soil Association Map

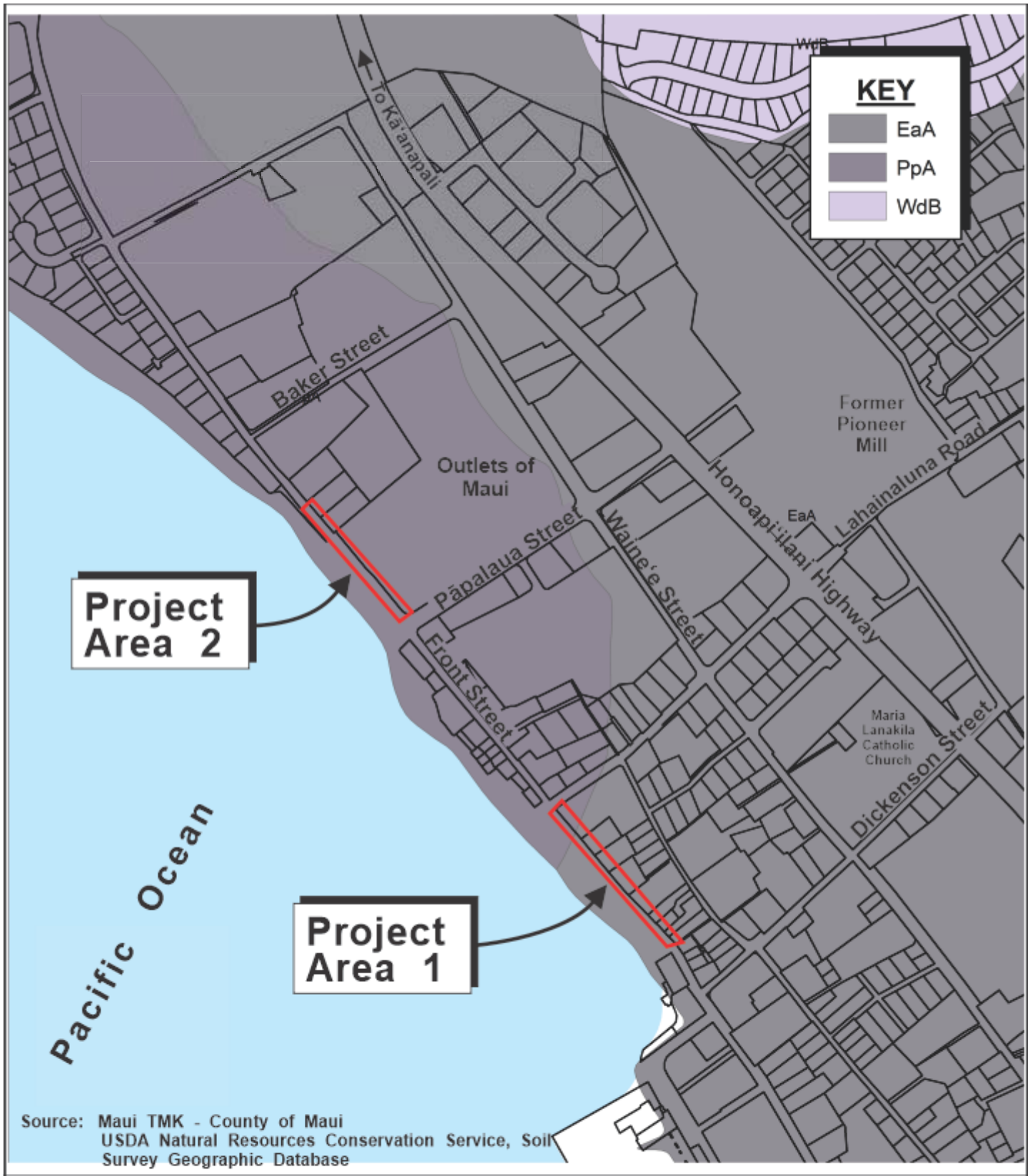

Figure 9

Front Street Sidewalk, Railing, and Seawall Repair
Soil Classification Map

0 125 250 500 Feet

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Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Soil Classification

Area 2 is comprised of soils of the Pulehu Series, specifically Pulehu silt loam, 0 to 3 percent slopes (PpA) (see(1972:Sheet 94; see Figure 6). The well-drained soils of the Pulehu Series can be found in alluvial fans, stream terraces, and basins between sea level and 300 ft. amsl in areas receiving 10 to 35 inches of rainfall annually (Foote et al. 1972:115). The PpA soils exhibit moderate permeability, slow runoff, and a very slight erosion hazard. Large land parcels comprised of PpA soils are used for the cultivation of sugarcane, while smaller lots are used for residences (Foote et al. 1972: 116). Refer to **Figure 9**.

b. Potential Impacts and Mitigation Measures

The proposed action involves the repair or replacement of existing structures. Topographic conditions of the project site will not be substantially altered and soil characteristics at the project site do not pose construction constraints for the proposed project. No adverse impacts to the topography or soil characteristics of the project site are anticipated.

4. Agriculture

a. Existing Conditions

The lands underlying the subject property are located within the State "Urban" district, and as such have supported business, commercial, and public/quasi-public activities for decades. Small portions of the Project Areas are located in the "Conservation" district.

In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawai‘i (ALISH). The classification system is based primarily, though not exclusively, upon the soil characteristics of the lands. The three (3) classes of ALISH lands are: "Prime", "Unique", and "Other Important" agricultural land, with all remaining lands termed "Unclassified".

When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season, and moisture supply necessary to produce sustained crop yields economically. "Unique" agricultural lands possess a combination of soil quality, growing season, and moisture supply to produce sustained high yields of a specific crop. "Other Important" agricultural lands include those that have not been rated as "Prime" or "Unique", but are of Statewide or local importance for agricultural use. As long standing urbanized areas, the Project Areas are designated as "Unclassified."

With regard to agricultural productivity attributes, the Land Study Bureau classifies lands with a productivity rating of “A” through “E”, with “A” reflecting lands with the highest productivity and “E” the lowest. With its previously developed urbanized uses, the lands underlying the Project Areas are unclassified.

b. Potential Impacts and Mitigation Measures

The majority of the Project Areas are currently developed with urban uses and does not provide suitable conditions for agriculture. As such, implementation of the proposed action is not anticipated to present significant adverse impacts on agricultural land availability or productivity parameters and does not curtail the range of beneficial uses of the environment.

5. Nearshore Water Quality

a. Existing Conditions

Environmental surveys for the proposed Front Street sea wall project were prepared by AECOS, Inc. in September 2019. See **Appendix “C”**.

The nearshore marine waters off of the Front Street Project Areas are classified as open coastal waters in Hawai‘i’s Water Quality Standards and are included in the State Department of Health’s (DOH) 2018 list of impaired waters. State water quality criteria was utilized in the review of the existing conditions of the ocean water areas adjacent to the proposed improvement areas. It was noted in the report that not all water quality results from the sampling conducted for the study could be compared directly with the state water quality criteria because the minimum number of three (3) samplings are needed. However, the report noted that the criteria serves as a guide to what is acceptable water quality, provided that the limitation of sampling size is understood.

Water quality sampling was conducted on July 9, 2019 along six (6) transects set perpendicular to shore (three (3) transects in Area 1 and three (3) transects in Area 2) at stations 2 and 10 m from shore.

Weather conditions were as follows on the morning of July 9, 2019: cloud cover was about 10 percent with winds from the east at 0 to 5 mph and 0.3 m (1 ft) waves breaking at all stations. Surf was 0.6 m (2 ft) to 1.2 m (4 ft) offshore with strong surge along shoreline.

Little variation between stations was recorded for temperature (27.6 – 28.4° C), salinity (34.91 – 35.36 Practical Salinity Unit (PSU)), and potential

Hydrogen (pH) (8.06 – 8.13). Dissolved Oxygen (DO) saturation was noticeably low (71%) at Sta. 1N-10, and turbidity was elevated (9.15 Nephelometric Turbidity Units (NTU)) at Sta. 1N-2. Turbidity was higher at Area 1 stations compared with Area 2 stations. Ammonium and chlorophyll α values tended to be greater at Area 1 stations compared with Area 2. Total nitrogen values were low compared with most Hawai‘i coastal waters at all stations except Sta. 2S-2.

The Environmental Survey report noted that the salinity and pH results met the State water quality criteria during the sample survey. DO saturation at one (1) station (Sta. 1N-10) did not meet the state criteria. Turbidity levels were elevated, but the report noted that this is typical in nearshore waters due to wind and wave action. Ammonia, nitrate+nitrite, and chlorophyll a concentrations were elevated off of the Project Areas, which the report noted was a common occurrence. Total nitrogen concentrations were noted to be uncharacteristically low and total phosphorus concentrations were typical. Refer to **Appendix "C"**.

b. Potential Impacts and Mitigation Measures

During construction, project mitigation will include the incorporation of Best Management Practices (BMPs) to minimize possible contamination of nearshore waters by construction activities. Among the BMPs to be implemented are placement of a steel framed falsework cantilevered over the ocean, sealing the falsework to the face of the seawall to remain, and installation of compost filter socks around the work area boundary. See **Appendix "D"**, Best Management Practices plan.

In the long-term, it is anticipated the proposed improvements will not adversely impact nearshore water quality.

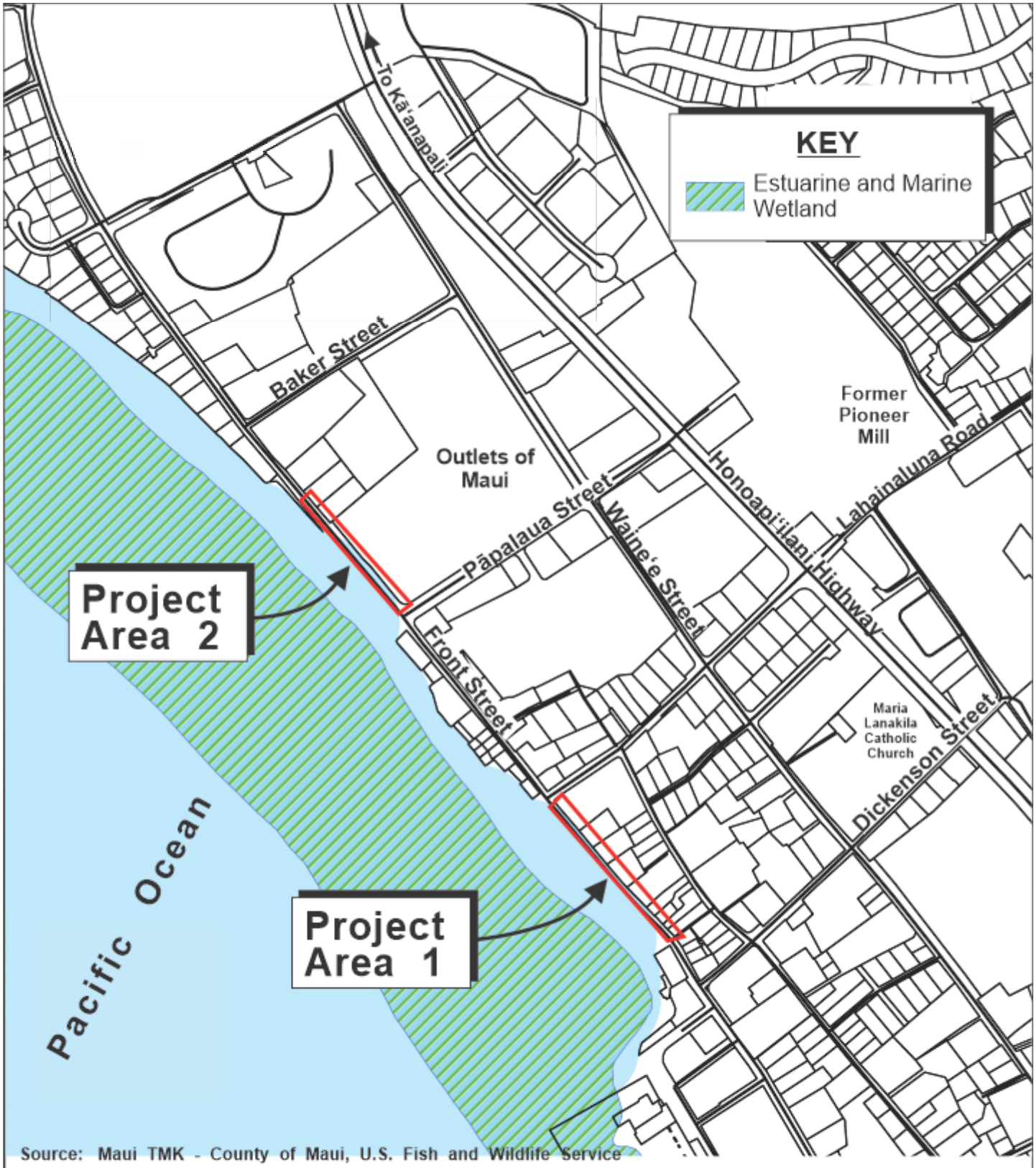
6. Streams and Wetlands

a. Existing Conditions

According to the United States Department of the Interior, Fish and Wildlife Service, National Wetland Inventory Map, there are no streams or wetland features within the Project Areas. However, there is a Estuarine and Marine Wetland habitat identified located offshore, west of the Project Areas. See **Figure 10**.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to present any significant adverse



Source: Maui TMK - County of Maui, U.S. Fish and Wildlife Service

Figure 10

Front Street Sidewalk, Railing, and Seawall Repair
Wetlands Map

0 125 250 500 Feet

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Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Wetlands

impacts on streams or wetlands with the use of Best Management Practices (BMPs) to prevent construction related pollution from affecting the nearshore ocean habitat.

Seawall wave deflector demolition in Area 1 will be contained using a framework placed over the seawall, with a plaster sheet liner to catch and retain water and demolition debris. The framework will be moved along the seawall as the demolition and reconstruction of the seawall lip progresses. For the repairs to the existing stairs in Area 1, a temporary enclosure will be installed to prevent wave wash from mixing with freshly placed concrete. The containment measures will be removed from the stairs following the completion of the repairs. For Area 2, a silt curtain will be maintained around the active work area while the boulder wall is being reconstructed. This will control turbidity which may occur when boulders are removed from the foreshore area.

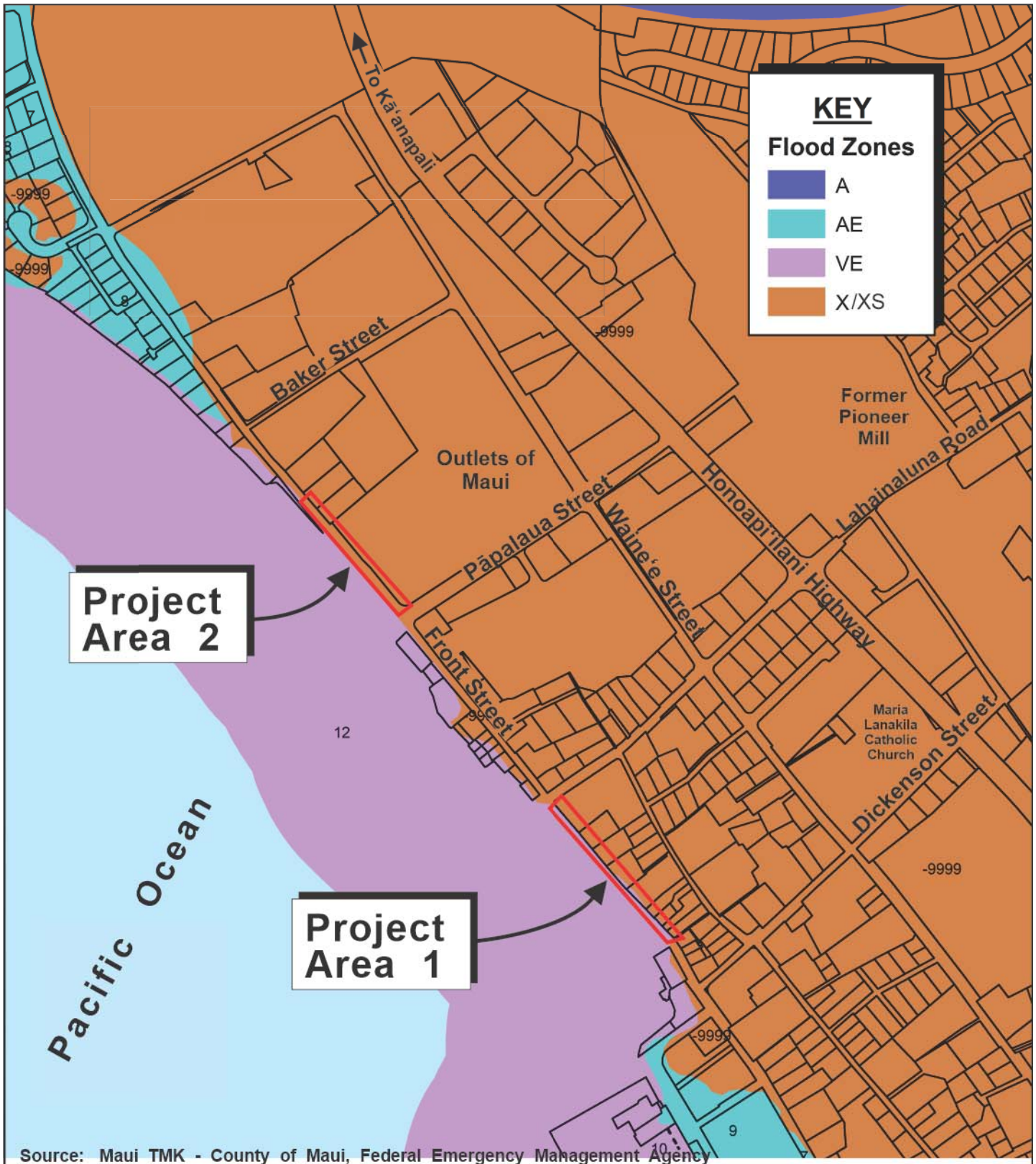
Since the project scope is to repair existing infrastructure or replace it with similar construction, long-term changes to the surrounding natural environment should be minimal. Refer to **Appendix "C"**.

7. Flood and Tsunami Hazards

a. Existing Conditions

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) indicates that the project site is located within Flood Zone X, XS, and VE. The portion located in Zone X is an area of minimal risk. The portion in XS is an area of moderate flood hazard. The portion of the area designated Zone VE is at a high risk of flooding. See **Figure 11**.

The National Oceanic and Atmospheric Administration's Tsunami Evacuation Maps designate three (3) areas: 1) the Safe Zone, illustrated in green on the maps, identifies the area to which people should evacuate in the event of a tsunami; 2) the Extreme Tsunami Evacuation Zone, shown in yellow, designates areas which should be evacuated during an Extreme Tsunami Warning; and 3) the Tsunami Evacuation Zone, shown in red, identifies areas which should be evacuated in the event of any type of Tsunami Warning. During a Tsunami Warning, destructive waves may inundate all coastlines. During an Extreme Tsunami Warning, waves may move more significantly inland. The Tsunami Evacuation Map for the project area shows the project sites are within the Tsunami Evacuation Zone. See **Figure 12**.



Source: Maui TMK - County of Maui, Federal Emergency Management Agency

Figure 11

Front Street Sidewalk, Railing, and Seawall Repair

Flood Insurance Rate Map

0 125 250 500 Feet

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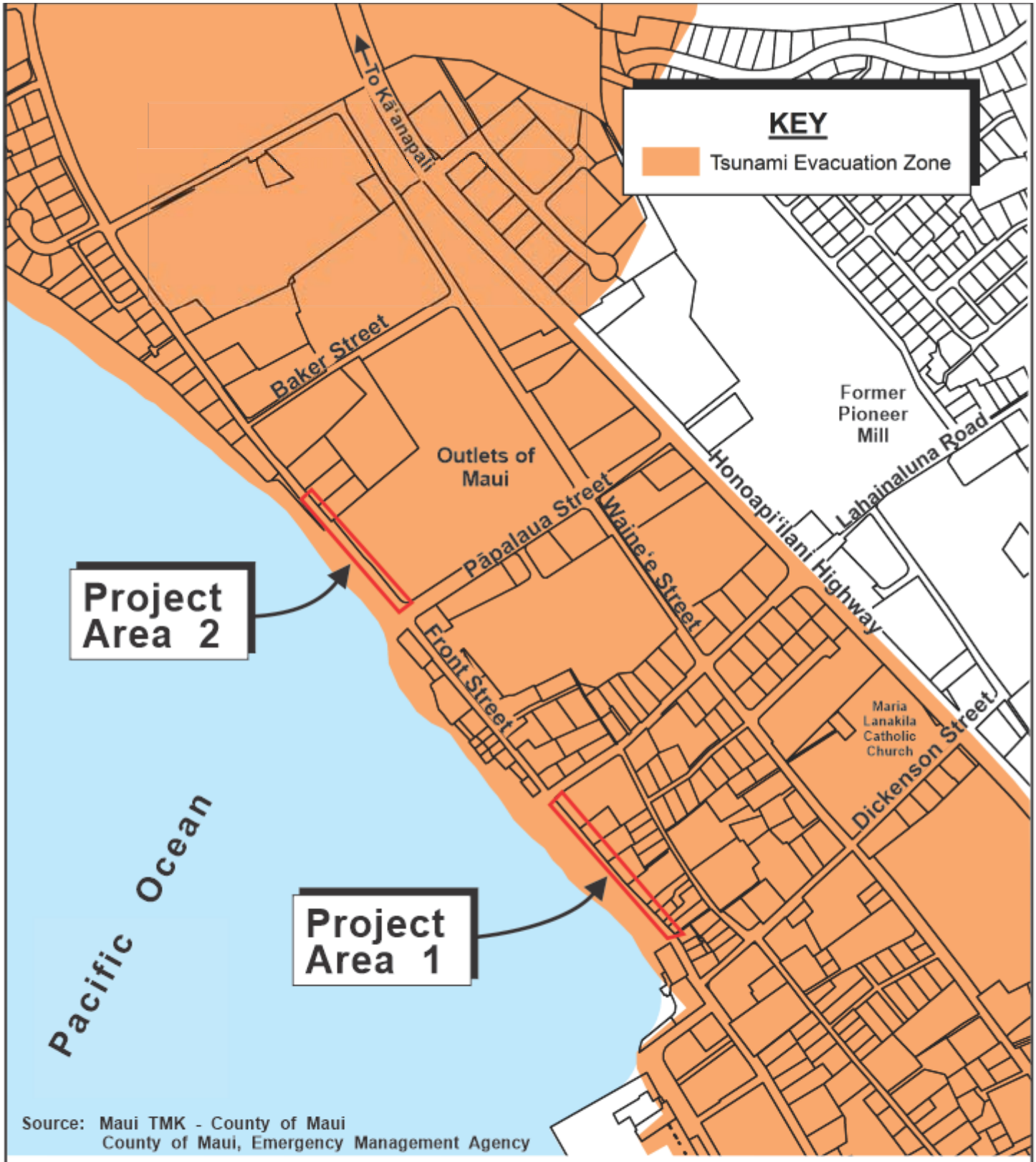

Figure 12

Front Street Sidewalk, Railing, and Seawall Repair
Tsunami Evacuation Map

0 125 250 500 Feet

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Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Tsunami Evacuation

b. Potential Impacts and Mitigation Measures

The proposed project intends to repair or replace existing infrastructure along the coastline which is nearing the end of its service life. The proposed repairs within Areas 1 and 2 will ensure continued protection of the roadway and continued use of the pedestrian path in the area.

8. Sea Level Rise

a. Existing Conditions

Due to Hawai‘i’s location in the Pacific, it is often faced with risks due to extreme weather events. Changing climatic patterns caused by global warming result in impacts including rising sea levels, storm surge, increased flood potential, and beach erosion for oceanfront and shoreline parcels. A 3.2-foot rise in sea level is projected for the Hawaiian Islands by the mid to latter half of the 21st Century based on the findings of the Hawaii Sea Level Rise Vulnerability and Adoption Report that was prepared in 2017 by the Hawaii Climate Change Mitigation and Adoption Commission. According to the Hawaii Climate Change Mitigation and Adoption Commission’s mapping tool, the project site is located within the projected 3.2-foot sea level rise exposure area. See **Figure 13**.

b. Potential Impacts and Mitigation Measures

There are some concerns with the Sea Level Rise model developed by Tetra Tech, Inc., which combines hazard exposure data layers from the University of Hawaii, School of Ocean and Earth Science Technology (UH SOEST) Coastal Geology Group. These flaws are acknowledged by its developers and should be considered when evaluating the model’s projections. One concern is an inability to accurately account for existing seawalls or hardened shorelines, which are present along Front Street. Given the fact that the existing seawalls extend approximately eight (8) to ten (10) feet above the area mean sea level, projections showing inundation after 3.2 feet of sea level rise seem inaccurate.

The County of Maui does not have a policy related to nearshore communities that are exposed to the effects of sea level rise. While the Project Areas and surrounding lands are not anticipated to be directly inundated by sea level rise, the proposed project for repair and maintenance will provide the County more time to develop a comprehensive plan to mitigate the effects of climate change in the area.

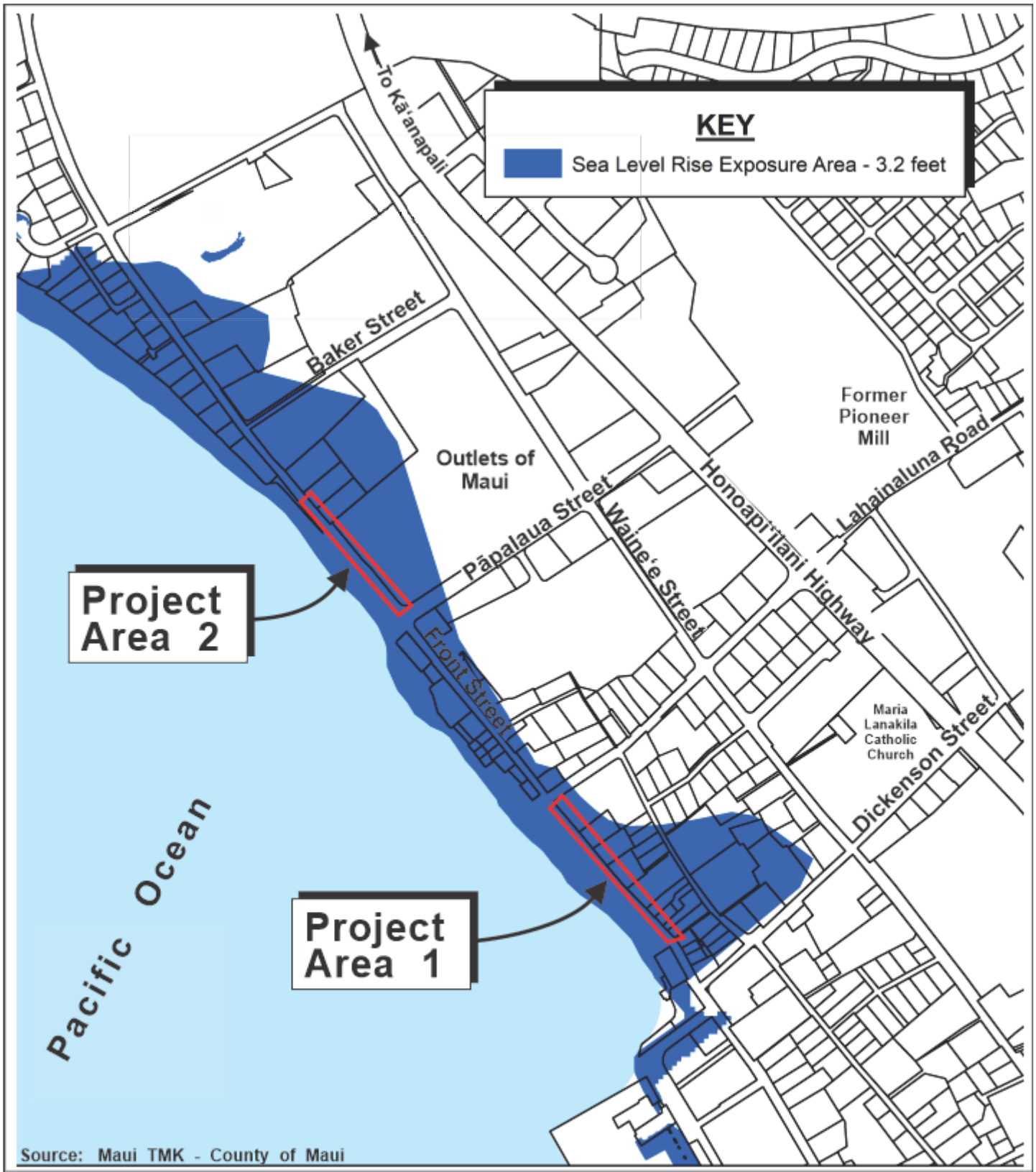

Figure 13

Front Street Sidewalk, Railing, and Seawall Repair

Sea Level Rise - 3.2 Feet Map

0 125 250 500 Feet

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9. Flora and Fauna

a. Existing Conditions

Environmental surveys prepared by AECOS, Inc. included a plant survey of the project site, an avian observation study, terrestrial mammal survey, and an abbreviated insect survey. Refer to **Appendix "C"**.

Flora

Twenty species of plants were recorded from an area survey conducted on July 9, 2019. The planters in Area 1 have plantings of *kou* (*Cordia subcordata*), Mexican false heather (*Cuphea hyssopifolia*), and mock orange (*Murraya paniculata*). Bermuda grass (*Cynodon dactylon*), nutgrass (*Cyperus gracilis*), McCoy grass (*Cyperus gracilis*), and lovegrass (*Eragratis pectinaceae*) grow around the roots of the *kou* trees. A single tropical almond (*Terminalia catappa*) is growing along the shoreline at the south end of Area 1. Coconut palms (*cocos nucifera)* grow out of the seawall in the northern half of Area 2. Buffelgrass (*Cenchrus ciliaris)* and pigweed (*Portulaca oleracea*) grow in cracks in the sidewalk.

Kou is the only plant native to Hawai'i, while coconut palms are a Polynesian introduced species. All other plants documented in the Project Areas are non-native and commonly found throughout Hawai'i.

Birds

During two (2) stationary point-count surveys, 100 individual birds of eight (8) species representing six (6) families were observed. Nearly all species detected during these point-counts are alien to Hawai'i. House Sparrow (*Passer domesticus*), Common Myna (*Acridotheres tristis*) and Rock Pidgeon (*Columba livia*) were the most abundant species observed, accounting for 66 percent of individual birds sighted. The only indigenous species recorded was a single '*iwa,* or Great Frigatebird (*Fregata minor*), flying south above shore.

Mammals

Two (2) domesticated dogs (Canus lupus familiaris) were observed along the beach north of the project site and tracks from a dog were present on the beach fronting Area 1. No other mammal was detected during the survey.

Insects

No Hawaiian yellow-face bees (Hylaeus spp.) were noted at the project site. A few carpenter bees (Ceratina sp.) were observed flying among the flowers and leaves of the mock orange and Mexican false heather hedges in Area 1.

b. Potential Impacts and Mitigation Measures

The AECOS report noted that the flora and fauna observed throughout the Project Areas are predominantly non-native in character and are of no special conservation concern.

Flora

No plants needing special conservation consideration were recorded during the survey in Area 1 or Area 2. Most observed species are non-native to Hawai‘i, and most are commonly found throughout the Hawaiian Islands. Preliminary project designs for Area 1 include the use of native trees and ground cover that are salt-tolerant and produce less debri than the current *kou* trees. The coconut trees in Area 2 will remain. The proposed project is not expected to have significant adverse effects on local flora.

Birds

There were no observed bird species listed as threatened or endangered on state or federal registries. The majority of birds observed in the Project Areas are naturalized and urban dwelling. No known nesting colonies of any of Maui’s resident seabird species are within, or in close proxmimity of, the Project Areas.

Due to the coastal location of the project, construction activity could impact seabird populations if night-time work is conducted. If construction activity is undertaken after sunset, BMPs will be used, such as placing lights on poles high enough so that they can be pointed directly downward and using lights with definite cutoff shields to prevent indiscriminate spreading of light and limiting luminaire visibility, to minimize adverse impacts to seabirds that might fly over the Project Areas. Refer to **Appendix “C”**. Permanent light fixtures in the project areas will be shielded and downward facing to minimize glare and light trespass. Amber LED lights will likely be utilized because they produce longer wavelength lights that are less disruptive to wildlife.

Mammals

No mammalian species currently protected or proposed for protection under state or federal programming were detected. The only mammals observed during the AECOS study were domesticated dogs, which are not dependent on resources from the area. The proposed project is not anticipated to have significant adverse effects on terrestrial mammal populations.

Insects

None of the plant species that Hawaiian yellow-faced bees forage on are present at the project site. Replacing existing plants with others will not have an adverse effect on Hawaiian yellow-faced bee populations or their existing known habitat.

10. Marine Environment

a. Existing Conditions

AECOS, Inc. conducted a survey of marine resources off Area 1 and Area 2 in the project vicinity. The survey area included the nearshore waters out to approximately 120 m (400 ft.) from the shore. Refer to **Appendix "C"**.

The beach fronting the north end of Area 1 is mainly composed of coral sand. Ghost crabs (Ocypode pallidula) are common there. At the south end of Area 1, basalt boulders line the shore and host helmet urchin *(Colobocentrotus atratus)*, pipipi *(Nerita picea)*, dotted periwinkle *(Littoraria pintado),* ʻopihi *(Cellana exarata and C. sandwicensis)*, and thin shelled rock crab or ʻaʻama *(Grapsus tenuicrustatus)*. Offshore, the bottom is sand with limestone cobbles. A moderate amount of macroalgae is growing on the cobbles. Corals *(Porites spp.)* are rare in this area, with a few colonies observed at least 20 m (65 ft) from the shore. Fishes are uncommon. Those observed include manini *(Acanthurus triostegus)*, ringtail surgeonfish *(A. blochii)*, Hawaiian sergeant *(Abudefduf abdominalis)*, saddle wrasse *(Thalassoma duperrey)*, Hawaiian whitespot toby *(Canthigaster jacator)*, or humuhumunukunukuāpuaʻa *(Rhinecanthus rectangulus)*, and juvenile racoon butterflyfish *(Chaetodon lunula)*. A single green sea turtle *(Chelonia mydas)* was observed during the survey.

Basalt boulders front the seawall in Area 2. Helmet urchin, *pipipi*, dotted periwinkle, ʻ*opihi*, and thin shelled rock crab or *ʻaʻama* are observed on the boulders. Offshore the bottom is rubble and sand with scattered boulders. The rubble and boulders host macroalgae. Corals *(Porites spp.)* are rare

off the south end of the Area 2, with a few colonies observed in this vicinity. Fishes observed in Area 2 include convict tang *(A. triostegus)*, surgeonfish *(A. blochii, A. dussumieri, Naso unicornis, N. lituratus)*, Hawaiian sergeant *(A. abdominalis)*, blackspot sergeant *(A. sordidus)*, wrasses *(T. duperrey* and *Stethojulis balteata)*, whitesaddle goatfish *(Parupeneus porphyreus)*, and bluefin trevally *(Caranx melampygus)*.

Essential Fish Habitat

AECOS, Inc. also carried out an assessment of Essential Fish Habitat (EFH) in the nearshore environment in the vicinity of the Project Areas. Refer to **Appendix "C"**. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". Waters off the Project Areas are designated as EFH, including water column and all bottom areas for coral reef ecosystem, bottomfish, pelagic, and crustacean Management Unit Species (MUS). As noted in AECOS, Inc.'s report, the project vicinity is absent of EFH for precious corals, deep-water shrimp, and seamount ground fish. Furthermore, no juveniles or adults for either bottom fish MUS or crustacean MUS were recorded in the AECOS, Inc. survey in the area.

b. Potential Impacts and Mitigation Measures

In the short term, construction activities may be a source of aquatic pollutants and disturbances. However, direct impacts to marine resources at Project Area 1 are anticipated to be minimal. Direct impacts to marine biological resources at Project Area 2 may result in the loss of marine resources that occur on the existing boulders and within the footprints of the proposed replenishment area. These communities include a few macroinvertebrates *(N. picea, C. sandwicensis, S. normalis, L. pintado, G. tenuicrustatus)*. Appropriate Best Management Practices (BMPs) will be utilized to minimize impacts to the marine environment. The BMP measures include compost filter socks to control stormwater runon and runoff, enclosures around construction activity areas, and immediately removing shavings produced from cement saw cutting via a vacuum truck. It is noted that, if a basking sea turtle or monk seal is found within the Project Areas, construction activities within 100 ft. will cease until the animal voluntarily leaves the area. After completion of construction, the proposed project is not anticipated to generate adverse long-term impacts to the marine environment. It is expected that the new replenishment structures will maintain fish habitat in Project Area 2, and will provide additional fish foraging resources on the boulders. Refer to **Appendix "C"**.

Essential Fish Habitat

Potential adverse impacts to EFH in the waters off the Project Areas are not anticipated. No corals were observed on the existing boulders in Project Area 2, nor were there any juveniles or adults for either bottom fish or crustaceans MUS identified in the marine survey. BMPs will be implemented during construction to mitigate potential adverse impacts to water quality in the nearshore marine environment. In the long-term, the proposed project is not anticipated to adversely impact EFH in Project Areas 1 or 2.

11. Air Quality

a. Existing Conditions

There are no point sources of airborne emissions in the immediate vicinity of the project site. Although minimal, airborne pollutants are largely attributable to vehicular exhaust from traffic along Front Street, Honoapiʻilani Highway, and nearby roadways. Windblown dust from fallow fields is another source of indirect air particulates in the region. These sources, however, are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources.

b. Potential Impacts and Mitigation Measures

In the short term, construction-related activities for the proposed project will be the primary source of airborne pollutants affecting air quality. Appropriate Best Management Practices (BMPs) will be utilized to minimize air quality impacts associated with project construction. BMPs include minimizing exposed areas through the schedule of contruction; utilizing vegetation, mulching, and water sprinkling; and directing construction vehicular traffic to stabilized roadways. After the completion of construction, the proposed action is not anticipated to generate adverse long-term air quality impacts.

12. Greenhouse Gas Emissions

a. Existing Conditions

Greenhouse gases (GHG) (carbon dioxide, methane, nitrous oxide and fluorinated gases) trap heat in the earth's atmosphere. In the context of climate and ocean warming, increases in levels of atmospheric GHG have been attributed to human activity (IPCC, 2017). Within the State of Hawaiʻi, the energy sector (including fossil fuel burning to produce electricity, transportation, waste incineration, and natural gas systems) is identified as

the source of 89.7 percent of GHG emissions (Hawai‘i Department of Health, 2019). Other sources of GHG emissions include industrial facilities, agriculture and forestry, and waste treatment such as landfills, composting, and wastewater treatment.

The Federal Greenhouse Gas Reporting Program (40 CFR Part 98) requires mandatory reporting of GHG emissions from sources that emit 25,000 metric tons or more of carbon dioxide equivalent (CO2 EQ) per year in the United States. Categories of use which are generally associated with this level of reporting include power plants, petroleum and natural gas systems, refineries and other heavy manufacturing processes. On Maui, the facilities operating at or above the 25,000 metric ton level include Hawaiian Electric Company’s Kahului Power Plant, Mā‘alaea Power Plant and the Central Maui Landfill (U.S. EPA, 2017).

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

The proposed action involves repairing railing, sidewalk, and seawall along Front Street in Lāhainā.

Limited greenhouse gas emissions are anticipated during the construction phase of the project as it will take energy to transport equipment to the project site and operate the machinery. Beyond that, GHG emissions are not expected as a result of this project.

Based on the foregoing, greenhouse gas emissions from the proposed project are not anticipated to be significant.

13. <u>Noise</u>

a. <u>Existing Conditions</u>

Existing background noise levels are primarily attributed to waves crashing along the shore and traffic along Front Street. Crowds that occasionally gather along the walkway or in one of the nearby restaurants may also contribute to the ambient noise of the area.

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

Ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment and possible vibrations from construction activities would be the dominant source of noise during construction. Appropriate BMPs will be employed to mitigate noise impacts generated by construction machinery and operations. Should a community

noise permit be required, said permit will be obtained from the State DOH by the contractor, prior to the commencement of construction.

Night work may be conducted in Area 1. Prior to construction, a community meeting will be held to coordinate construction activities with affected stakeholders. Construction in Area 2 is expected to occur during the daytime. Construction activities are anticipated during the weekdays with the exception of State and County of Maui holidays.

Once completed, the proposed project is not anticipated to detrimentally affect ambient noise levels.

14. Scenic and Open Space Resources

a. Existing Conditions

The project site is located amidst the business and commercial center of Lāhainā Town. On the *mauka* side (upland) of the street are restaurants and retail shops, while the Pacific Ocean and offshore islands of Lānai, Molokaʻi, and Kahoʻolawe can be seen on the *makai* side (seaward) of the street.

b. Potential Impacts and Mitigation Measures

The proposed action involves repairs and renovations to existing strucures, including railing, sidewalk, and seawalls, and well as minor landscaping improvements. The proposed architecture and landscaping will be in keeping with and complementary to the existing townscape.

Views of the ocean will be impacted during construction due to construction barriers and equipment. Beyond that, the project will not affect views and the proposed project is not anticipated to have an adverse impact on the visual character of the area.

15. Archaeological Resources

a. Existing Conditions

An *Archaeological Field Inspection* and *Archaeological Literature Review* for the Project Areas was prepared by Scientific Consultant Services. Refer to **Appendix "B"**.

The findings of the report indicate that the seawalls in both Area 1 and Area 2 are historic since they were originally constructed over 50 years ago.

There were, however, recent modifications of areas on and adjacent to the two (2) seawalls.

It is noted that the DPW filed a HRS 6E Review form with the State Historic Preservation Division (SHPD) for the proposed project in December 2019. See **Appendix "E"**. The DPW will continue to coordinate with the SHPD to receive a response to the archaeological review request.

b. Potential Impacts and Mitigation Measures

The planned repairs and modifications will not impact the historic sections of the Area 1 or Area 2 seawalls. The proposed work is limited to re-construction of modern elements of the seawalls for stability and long-term protection. There are no significant adverse impacts to the historic seawalls expected as a result of the proposed project.

16. Cultural Resources

a. Existing Conditions

A Cultural Impact Assessment (CIA) for the Project Areas was prepared by Scientific Consultant Services. See **Appendix "F"**. The purpose of the CIA was to identify the possibility of on-going cultural activities and resources in the vicinity of the Project Areas and assess the potential for impacts on these cultural resources.

The project site is located in an area rich with traditional and customary practices during the pre-Contact and early Historic Periods. While Front Street now consists of historic buildings which house modern businesses, some native Hawaiians continue to use the area for traditional cultural practices of fishing and gathering of marine resources.

b. Potential Impacts and Mitigation Measures

The proposed sidewalk, railing, and seawall repair project will enhance shoreline access to create a safer and more comfortable route to the beach along Front Street, including repair work to the stairwell that leads to the beach near the intersection of Front Street and Lahainaluna Road. The repair work will allow better connectivity for those who want to continue using the area for fishing and gathering of marine resources. As such, the proposed project is not anticipated to adversely impact cultural resources.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Regional Setting

a. Existing Conditions

The majority of lands in West Maui are classified “Conservation” or “Agricultural” by the State Land Use Commission. Generally, higher elevations are deemed “Conservation” lands, while foothills of the middle elevations are designated “Agricultural”. Much of the lower elevations, lands running along the coast, are classified “Urban”.

Lāhainā encompasses a diverse mix of land uses, including residential, business, light industrial, recreational, and agricultural uses. Lāhainā Town is the commercial center of West Maui, and the former capital of the State of Hawai‘i. Moreover, as the former whaling capital of the Pacific, Lāhainā Town has been designated a National Historic Landmark District (NHLD). The town contains several shopping centers and business retail areas, serving as a core for the region’s residential communities.

With a consistently warm, dry climate, complemented by lengths of white sand beaches and scenic landscapes, West Maui is a popular visitor destination. A number of visitor accommodations are located in Lāhainā Town, as well as in the resort communities of Kā‘anapali, Kapalua, Kahana, and Nāpili. The Kapalua-West Maui Airport at Māhinahina, located approximately 6.9 miles north of the project site, provides commuter air services which conveniently links West Maui with neighbor islands.

Diversified agriculture, including corn, banana, melon, and papaya crops, comprise the active agricultural cultivation of the West Maui region. Since the closure of its sugar cane operations in September 1999, Pioneer Mill Company has set aside a portion of former agricultural lands in Kāanapali for diversified agriculture.

b. Potential Impacts and Proposed Mitigation Measures

The proposed sidewalk, railing, and seawall repair project will enable the DPW to provide the public with safe and comfortable access to some of Lāhainā Town’s most iconic shops and attractions. The redevelopment of the walkway is complementary to the surrounding businesses, retail, and commercial activities, and as such, is not anticipated to adversely alter the community character of Front Street, Lāhainā Town, or West Maui.

2. Population and Demography

a. Existing Conditions

The County of Maui, specifically the Island of Maui and the West Maui region, has exhibited relatively strong growth over the past two (2) decades. In 2010, the population of Maui County was 154,834, compared to a 2000 population of 128,241. The percent change from 2000 to 2010 is 23.3 percent, which averages out to 2.33 percent per year (Maui County Databook 2018). The estimated population on July 1, 2018, was 167,207 (U.S. Census, 2020).

West Maui's growth over the last two (2) decades has kept pace with that of Maui County. In 2010, the resident population of West Maui was approximately 22,156, compared to approximately 17,967 in 2000. The percent change from 2000 to 2010 is 23.3 percent (Maui County Databook 2018).

b. Potential Impacts and Mitigation Measures

The proposed action involves repair work to sidewalks, railings, and a seawall in West Maui. The West Maui region is supported by a resident population of over 22,000 residents and a constant stream of visitors. The proposed action is inenteded to provide an enhanced experience for current residents and visitors, and is not designed to be a direct population generator. As such, the proposed project is not anticipated to adversely impact population or demographic trends in the West Maui region.

3. Economy and Labor Force

a. Existing Conditions

Hawaiʻi's economy through 2019 was strong, with record-setting visitor arrivals and low unemployment. However, the COVID-19 pandemic will have far reaching impacts on the economy on Maui, in Hawaiʻi, and across the nation and world. Stay-at-home regulations and travel quarantines aimed to curb the spread of COVID-19 virus in Hawaiʻi have caused many businesses to shut down or drastically reduce operations. Unemployment claims have soared. In June 2020, the unemployment rate for the island of Maui reached 23.4 percent, compared to 3.0 percent in June 2019 (Department of Labor and Industrial Relations, 2020).

b. Potential Impacts and Mitigation Measures

The proposed project is to repair and replace existing infrastructure along Front Street in Lāhainā. It will create temporary construction related jobs during the renovation period but is not expected to have any significant long-term impacts on the labor force in West Maui.

C. PUBLIC SERVICES

1. Police and Fire Protection and Civil Defense

a. Existing Conditions

The project site is within the service area of the Maui Police Department's Lāhainā patrol district, which services the West Maui region. Built in the early 1970's, the Lāhainā Police Station is located in the Lāhainā Civic Center (LCC) complex, approximately 2.2 miles north of the project site. In addition, there is also a police sub-station in Nāpili.

Fire prevention, suppression, and protection services for the West Maui region are provided by the County Department of Fire and Public Safety's Lāhainā and Nāpili fire stations. The Lāhainā Fire Station is located approximately 2.2 miles north of the project site at the LCC, while the Nāpili Fire Station is located approximately 8.3 miles further north. The Lāhainā Fire Station includes an engine and a ladder company, and also has a boat for ocean rescues. The Nāpili Fire Station consists of an engine company with full-time firefighting personnel. All firefighting personnel are first-responder trained to provide emergency medical care.

b. Potential Impacts and Proposed Mitigation Measures

The proposed action, involving repairs and renovations to an existing pedestrian walkway, seawalls, and related improvements, is not anticipated to affect the capabilities of police and fire services. The existing operational limits of these services will not be extended or affected.

2. Medical Facilities

a. Existing Conditions

The only major medical facility on the island is Maui Memorial Medical Center, which is located in Wailuku about 25.0 miles from the project site. This 213-bed facility provides general, acute, and emergency care services. In West Maui, there are health care services provided by Kaiser

Permanente Medical Clinic, West Maui Healthcare Center, Maui Medical Group, and other private providers.

b. Potential Impacts and Proposed Mitigation Measures

Because the proposed action involves repairs and renovations to the existing Front Street sidewalk, railing, and seawall, medical and emergency response service limits will not be expanded. The proposed project is not anticipated to adversely impact medical services and delivery capacities in the area.

3. Educational Facilities

a. Existing Conditions

The West Maui region is served by four (4) public schools (Lahainaluna High School, Lāhainā Intermediate School, Princess Nāhiʻenaʻena Elementary School, and Kamehameha III Elementary School) operated by the State of Hawaiʻi, Department of Education (DOE) and two (2) smaller private schools (Sacred Hearts School and Maui Preparatory Academy). All four (4) of the public schools are located within Lāhainā Town, with three (3) of those schools located along Lahainaluna Road mauka of Honoapiʻilani Highway. The enrollments in the four (4) schools are shown below. See **Table 1**.

Table 1. Actual Enrollments at Department of Education Schools

School	Actual Enrollment SY 18-19
Lahainaluna High School	902
Lāhainā Intermediate	696
Kamehameha III Elementary	657
Princess Nāhiʻenaʻena Elementary	695
Source: State of Hawaiʻi, Department of Education, Enrollment 2018-19.	

The University of Hawaiʻi Maui College (UHMC), located in Kahului, is the primary higher education institution serving Maui.

b. Potential Impacts and Mitigation Measures

The proposed project is not a direct population generator and, as such, is not anticipated to have an adverse impact on educational facilities in the region.

4. Recreational Facilities

a. Existing Conditions

West Maui has numerous recreational facilities offering diverse opportunities for the region's residents. These facilities include several County and State parks and beach parks in West Maui. Approximately one-third of the County parks are situated along the shoreline and offer excellent swimming, diving, and snorkeling areas. In addition, Kāanapali and Kapalua Resorts operate world-class golf courses available for public use.

Recreational facilities in Lāhainā Town include the Lāhainā Aquatic Center, the West Maui Youth Center, the Lāhainā Recreation Center, and the LCC. The Lāhainā Aquatic Center includes an Olympic-size swimming pool, a children's wading pool, a paved parking lot and office and storage space, as well as shower, restroom, and changing room facilities. The 15-acre Waineʻe Park expansion includes fields, parking, and restroom facilities. The West Maui Youth Center has a building for youth activities, as well as paved parking, an outdoor playground, and a basketball court. The Lāhainā Recreation Center includes baseball fields and playfields for soccer and football, as well as restrooms and paved parking facilities. The LCC includes a gymnasium, amphitheater, and tennis courts complex, as well as restrooms and paved parking facilities.

Additionally, the clear ocean waters and well-developed reef system along the Lāhainā and Kāanapali coastline offer many recreational opportunities for residents and visitors. Many tourism-based businesses also rely on the ocean and reef system for their operation. Fishing by shorecasting and netting is practiced in the ocean waters near Lāhainā Town, Kāanapali Beach, Hanakaʻōʻō Point, and Honokōwai Point.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not a direct population generator and is not anticipated to have an adverse impact on recreational facilities in the West Maui region. The existing beach access in Area 1 will remain open to the public, following the completion of the improvements in the area.

5. Solid Waste Disposal

a. Existing Conditions

Residential refuse collection is provided by the County's Department of Environmental Management, Solid Waste Division. Private refuse

collectors provide solid waste disposal services for commercial and institutional accounts. With the exception of the Hāna region, residential and commercial solid waste from throughout the island is transported to the Central Maui Landfill at Puunēnē, about 28.0 miles to the southeast of the project site.

A refuse transfer station located at Olowalu, approximately 6.0 miles south of the project site, accepts household and green wastes, as well as used oil, for transport to the Central Maui Landfill in Puʻunēnē. The disposal of commercial and institutional refuse is not permitted at the Olowalu transfer station.

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

As applicable, a solid waste management plan will be developed for the disposal of materials resulting from the construction activities. With regard to waste generated by construction, to the extent practicable, uncontaminated concrete that meets the definition of "inert fill material" as defined by Section 342H-1, Hawaiʻi Revised Statutes (HRS), will be reused onsite. Any non-reusable uncontaminated concrete will be disposed of at a DOH permitted facility. Treated wood waste and other non-hazardous building components resulting from demolition will also be disposed of at a DOH-permitted facility. The disposal of any hazardous waste resulting from demolition will be handled by a company experienced in abatement remediation, site demolition and removal, and hazardous materials surveying and sampling.

Solid waste disposal for the commercial establishments through a private waste collection service would continue. The County of Maui's Solid Waste Division estimates that the Central Maui Landfill will have sufficient capacity for several years. In addition, lands adjacent to the existing landfill are currently utilized for rock quarrying and will likely be available for County expansion of the landfill, further increasing available capacity.

Aside from the waste generated during the construction period, the proposed action is not anticipated to significantly alter solid waste collection and disposal capabilities and capacities.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

Access to Lāhainā is provided by Honoapiʻilani Highway from Central and South Maui. Extending from Wailuku to Kapalua, Honoapiʻilani Highway is the principal State highway serving the West Maui region. This highway runs parallel to Project Areas 1 and 2 and is approximately 1,300 feet to the Northeast. Vehicles can access the Project Areas from Honoapiʻilani Highway via Dickenson Street, Lahainaluna Road, or Pāpalaua Street.

Front Street is a two (2) lane County of Maui roadway that runs through Lāhainā Town. The speed limit is 20 miles per hour (mph) throughout the Project Areas.

The Project Areas run along Front Street, with the Baker Street intersection just above the Northern boundary and Dickenson Street intersecting below the Southern border. As stated above, Lahainaluna Road and Pāpalaua Street also interesct Front Street within the Project Areas. Vehicular access to the project site is currently available from any of these roads.

b. Potential Impacts and Mitigation Measures

Construction activities will temporarily alter traffic flow along Front Street. The makai (south bound) lane will be utilized for construction equipment and crew members. Front Street will temporarily be a one-way road during the construction period.

There are no significant, long-term adverse impacts expected to the Project Areas' roadways as a result of the proposed activity.

2. Water System

a. Existing Conditions

The West Maui region is served by the County's Department of Water Supply domestic water system. The County water system services the coastal areas from Launiupoko to Kāʻanapali and from Honokowai to Nāpili. The County's system includes two (2) surface and nine (9) groundwater sources.

b. Potential Impacts and Mitigation Measures

The proposed project is to repair or replace existing sidewalk, railing, and seawalls, and is not anticipated to significantly alter demands for water in West Maui or impact impact the County's existing water system.

There are Department of Water Supply lines that run beneath Front Street. The project's contractor, once selected, will coordinate with the Department of Water Supply (DWS) prior to construction to ensure no waterlines are damaged.

3. Wastewater System

a. Existing Conditions

The County Department of Environmental Management's Wastewater Reclamation Division provides sanitary sewer service for the West Maui region. Wastewater from the Kāʻanapali and Lāhainā areas is treated at the County's Lahaina Wastewater Reclamation Facility (WWRF). The WWRF's potential total treatment capacity is 9.0 million gallons per day (mgd), with 6.0 mgd for secondary treatment and 3.0 mgd for R-1 treatment.

b. Potential Impacts and Mitigation Measures

The proposed project is to repair or replace existing sidewalk, railing, and seawalls, and is not anticipated to significantly alter demands for water in West Maui or impact impact the County's existing water system. There are Department of Environmental Management (DEM) wastewater lines that run beneath Front Street. Contractors will coordinate with the Department of Environmental Management prior to construction to ensure no wastewater lines are damaged.

4. Drainage System

a. Existing Conditions

A Preliminary Drainage Report for Front Street was prepared by Sato & Associates, Inc. in September 2019. See **Appendix "G".**

Area 1

The existing walkway above the seawall is sloped such that runoff sheetflows towards the ocean. Runoff from the existing raised planters percolates into the ground. For runoff from paved street areas which front the Project Areas, it sheetflows along the curb line on both sides of Front

Street. The runoff is then collected by existing drain inlets and piped to various outlet locations along the shoreline.

For the purposes of their study, Sato & Associates, Inc. calculated the runoff for each surface area type separately. Runoff for the pavement, concrete walkway, and landscaping was calculated to be 2.13, 0.82, and 0.03 cubic feet per second (cfs) respectively. The total runoff produced for the impacted area fronting Area 1 is 2.98 cfs.

Area 2

The runoff from the existing concrete walkway fronting Area 2 flows toward Front Street. Following the slope of the roadway, runoff from both the walkway and pavement areas flow along the curb line where it is eventually collected by existing drain inlets or catch basins and eventually flows into the ocean. Runoff from the walkway and pavement fronting Area 2 was calculated to be 0.40 and 1.56 cfs respectively, for a total of 1.96 cfs. No concentrated runoff is generated from the stacked boulder wall.

b. Potential Impacts and Mitigation Measures

Area 1

Since the scope of the project is limited to repair of the spalling concrete walkway, deteriorating seawall wave deflector, and redesign of landscape areas fronting the seawall, no increase in runoff is anticipated. Once repairs are completed, runoff from the pavement, walkway, and new landscaped islands fronting the Project Areas is calculated to be 2.12, 0.82, and 0.03 cfs respectively, for a total of 2.97 cfs. The slightly lower anticipated runoff is due to a slight increase in landscaped areas.

Area 2

Repairs for Area 2 will be limited to replenishment of boulders in the stacked boulder seawall and filling of voids under the concrete rubble masonry. Since there will be no increase in impervious surface area, there is no expected increase in runoff. Both the existing concrete walkway and the portion of Front Street fronting Area 2 will remain in its current condition.

5. Electrical, Telephone, and Cable Television Services

a. Existing Conditions

Electrical power, telephone, and cable television services for the West Maui region are provided by Hawaiian Electric Company (HECO), Hawaiian

Telcom, and Spectrum Oceanic Time Warner Cable of Hawaii, respectively. These distribution systems, consisting of underground and overhead lines, are located along Honoapiʻilani Highway and service is available around the project site on both Lahainaluna Road and Waineʻe Street.

b. Potential Impacts and Mitigation Measures

The proposed action is not anticipated to have a significant impact on existing electrical, telephone, or cable television systems, nor is it expected to extend existing service area limits.

E. CUMULATIVE AND SECONDARY IMPACTS

Cumulative impacts are defined by Title 11, Chapter 200.1, Hawaiʻi Administrative Rules (HAR), Environmental Impact Statement Rules as:

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

"Secondary impact", "secondary effect", "indirect impact", or "indirect effect" is defined by Title 11, Chapter 200.1, HAR as:

> *[A]n effecct that is caused by the action and is later in time or farther removed in distance, but is still reasonably foreseeable. An indirect effect may include a growth-inducing effect and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems.*

As the project sites were previously disturbed and developed, the proposed actions do not pose any significant impacts on environmental resources, local ecosystems, or the surrounding community. Furthermore, the proposed action is not a phase or increment of a larger undertaking; a necessary precedent for a larger project; a commitment to some larger project; or one of a series of individual actions planned for the area in the reasonably forseable future. However, the DPW may consider adopting measures in the future, to combat climate change in the Project Areas. Should the DPW determine that a longer term solution is needed to address climate change impacts to the area, the solution will undergo a separate environmental review and permitting. There is an immediate need to protect the public that access the area as well as the existing infrastructure within Front Street.

With respect to secondary impacts, the proposed action will support economic activity in the area by revitalizing the walkway sidewalk and streetscape facilities, allowing Front Street to continue to be an attractive destination to eat and shop.

RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

III

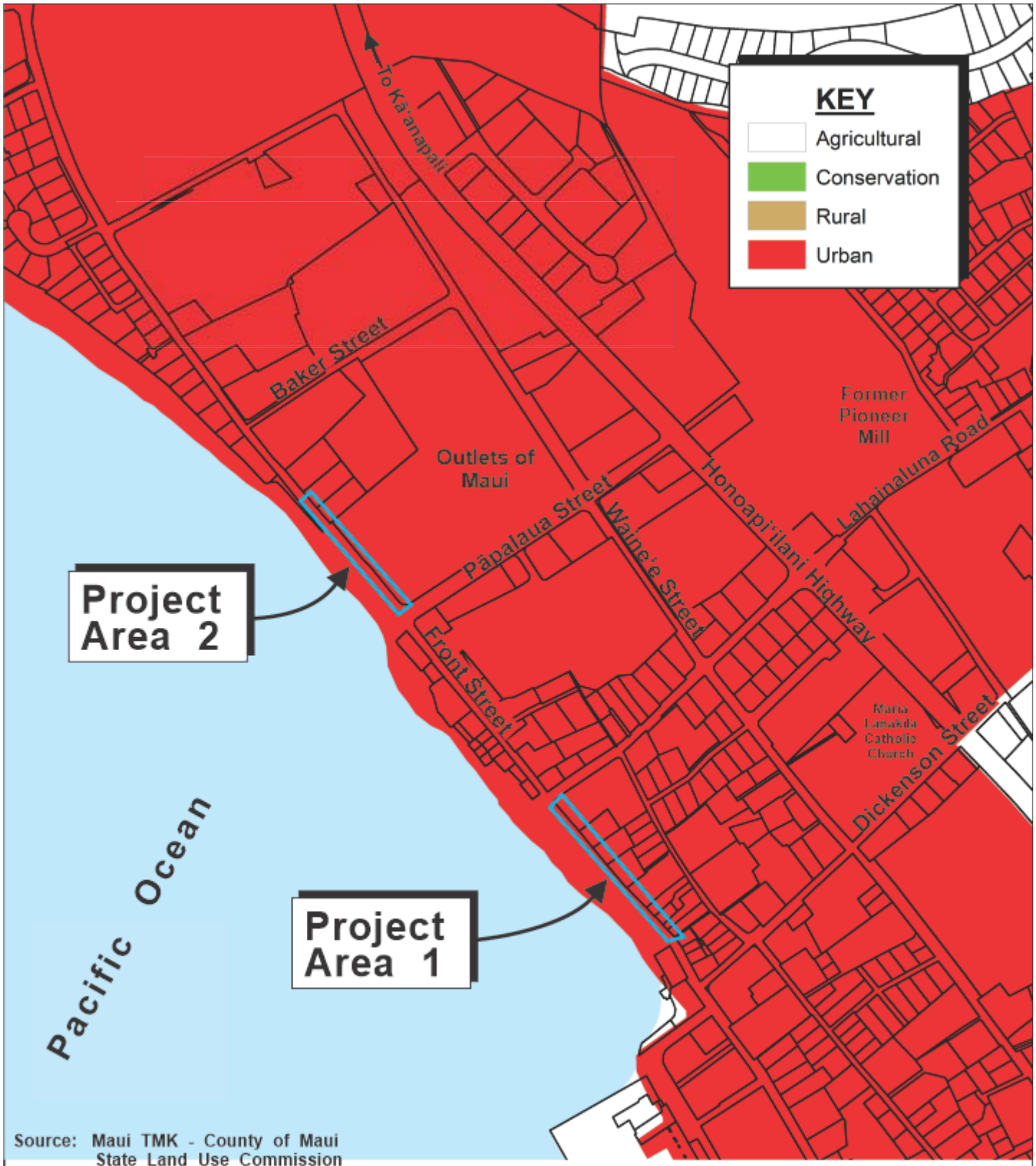
III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawai‘i Revised Statutes (HRS), relating to the Land Use Commission, establishes four (4) major land use districts in which all lands in the State are placed. These districts are designated “Urban”, “Rural”, “Agricultural”, and “Conservation”. The proposed projects will affect TMK Nos.(2)4-5-002:999 and 002(por.) and (2)4-6-009:999; the State Land Use District designation for these parcels is “Urban”. See **Figure 14**. It is noted that the areas west of the certified shoreline are considered Conservation District lands. A small portion of the project areas are within the Conservation District area. As previously noted, a Conservation District Use application will be filed with the Office of Conservation and Coastal Lands for the work proposed within the Conservation District designated areas.

B. HAWAI‘I STATE PLAN

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



Source: Maui TMK - County of Maui
State Land Use Commission

Figure 14

Front Street Sidewalk, Railing, and Seawall Repair
State Land Use District Boundary Map

0 250 125 500 Feet

Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\SLUD

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
HRS 226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.			
Chapter 226-5 Objective and Policies for Population			
Objective: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.			✓
Policies:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.			✓
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.			✓
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.			✓
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaii's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaii's population.			✓
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			✓
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			✓
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.			✓
Analysis: **Not Applicable.**			
Chapter 226-6 Objectives and policies for the economy – – in general			
Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense,			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			✓
Policies:			
(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.			✓
(2) Expand Hawaii's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			✓
(3) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.			✓
(4) Transform and maintain Hawaii as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			✓
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawaii.			✓
(6) Seek broader outlets for new or expanded Hawaii business investments.			✓
(7) Expand existing markets and penetrate new markets for Hawaii's products and services.			✓
(8) Assure that the basic economic needs of Hawaii's people are maintained in the event of disruptions in overseas transportation.			✓
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.	✓		
(10) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaii's small scale producers, manufacturers, and distributors.			✓
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			✓
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawaii.			✓
(13) Foster greater cooperation and coordination between the government and private sectors in developing Hawaii's employment and economic growth opportunities.			✓
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			✓
(15) Maintain acceptable working conditions and standards for Hawaii's workers.			✓
(16) Provide equal employment opportunities for all segments of Hawaii's population through affirmative action and nondiscrimination measures.			✓
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(18) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy, particularly with respect to emerging industries in science and technology.			✓
(19) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.	✓		
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs-- that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: **The proposed project will generate short-term (construction) employment opportunities and protect economic activity and scenic beauty along Front Street by repairing and revitalizing the streetscape. The proposed project is, therefore, consistent with the intent of the applicable provisions of Chapter 226.6.**			
Chapter 226-7 Objectives and policies for the economy – – agriculture.			
Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓
Policies:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			✓
(2) Encourage agriculture by making the best use of natural resources.			✓
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			✓
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			✓
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaii's economy.			✓
(6) Seek the enactment and retention of federal and state legislation that benefits Hawaii's agricultural industries.			✓
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's food producers and consumers in the State, nation, and world.			✓
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓

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(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko ia, māla, and irrigated loi, and growth of traditional Hawaiian crops, such as kalo, uala, and ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: **Not applicable.**			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
Objective: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			✓
Policies:			
(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.	✓		
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.			✓
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			✓
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			✓
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.			✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.			✓

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(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.			✓
Analysis: **Lāhainā town is a popular tourist destination and many of the most popular restaurants, shops, and historic sites are located along Front Street. Repairing and beautifying the walkway will make it safer and more comfortable for visitors to explore the area.**			
Chapter 226-9 Objective and policies for the economy – – federal expenditures.			
Objective: Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaii's economy.			✓
Policies:			
(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment;			✓
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy;			✓
(3) Promote the development of federally supported activities in Hawaii that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaii's environment;			✓
(4) Increase opportunities for entry and advancement of Hawaii's people into federal government service;			✓
(5) Promote federal use of local commodities, services, and facilities available in Hawaii;			✓
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii; and			✓
(7) Pursue the return of federally controlled lands in Hawaii that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			✓
Analysis: **Not applicable.**			
Chapter 226-10 Objective and policies for the economy – – potential growth and innovative activities.			
Objective: Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawaii's economic base.			✓
Policies:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			✓

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(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products;			✓
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			✓
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			✓
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			✓
(6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people;			✓
(7) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			✓
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			✓
(9) Promote Hawaii's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			✓
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawaii's social, economic, physical, and environmental objectives;			✓
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			✓
(12) Develop, promote, and support research and educational and training programs that will enhance Hawaii's ability to attract and develop economic activities of benefit to Hawaii;			✓
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawaii;			✓
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic, physical, and environmental objectives;			✓
(15) Increase research and development of businesses and services in the telecommunications and information industries;			✓
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and			✓
(17) Recognize and promote health care and health care information technology as growth industries.			✓
Analysis: **Not applicable.**			
Chapter 226-10.5 Objectives and policies for the economy – – information industry.			
Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward			✓

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recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.			
Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawaii and between Hawaii and the world, and make high speed communication available to all residents and businesses in Hawaii;			✓
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth and innovation in Hawaii's economy;			✓
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii;			✓
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state;			✓
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;			✓
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;			✓
(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry;			✓
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy; and			✓
(9) Assist in the promotion of Hawaii as a broker, creator, and processor of information in the Pacific.			✓
Analysis: **Not applicable.**			
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:			
(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.	✓		
(2) Effective protection of Hawaii's unique and fragile environmental resources.	✓		
Policies:			
(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.			✓
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			✓

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(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	✓		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			✓
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.			✓
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.			✓
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	✓		
Analysis: **The proposed repairs to the existing sidewalk, railing, and seawalls will protect the shoreline from erosion and prevent degredation of the nearshore water quality that would otherwise occur due to silt, debris, and runoff. Additionally, the proposed project will provide safe access to the shoreline area for public recreation. As such, the proposed project is consistent with the intent of the applicable provisions of Chapter 226-11.**			
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			
Objective: Planning for the State’s physical environment shall be directed towards achievement of the objective of enhancement of Hawaii’s scenic assets, natural beauty, and multi-cultural/historical resources.	✓		
Policies:			
(1) Promote the preservation and restoration of significant natural and historic resources.	✓		
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.	✓		
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	✓		
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii’s ethnic and cultural heritage.	✓		
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.	✓		
Analysis: **The proposed repairs to the existing sidewalk, railing, and seawalls will protect Front Street from erosion and enhance an area to enjoy views of Moloka‘i, Lāna‘i, Kaho‘olawe, and the Pacific Ocean. The proposed project will also protect the historic and culturally significant properties located close to the shoreline. As such, the proposed project is consistent with the intent of the applicable provisions of Chapter 226-12.**			
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			

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Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.			
(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.	✓		
(2) Greater public awareness and appreciation of Hawaii's environmental resources.			✓
Policies:			
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.			✓
(2) Promote the proper management of Hawaii's land and water resources.			✓
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.	✓		
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.			✓
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	✓		
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.	✓		
(7) Encourage urban developments in close proximity to existing services and facilities.	✓		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.			✓
Analysis: **The proposed repairs to the existing sidewalk, railing, and seawalls are in an area identified by both the State of Hawai‘i, Land Use Commission, and, the County of Maui's Maui Island Plan as an appropriate location for urban-scale growth. The project area is in close proximity to restaurants, shops, museums, and other commercial buildings. The streetscape fronting these properties will be protected from erosion and storm surge that would occur if the existing infrastructure is allowed to fall into disrepair. Additionally, the nearshore marine environment will be protected from the degraded water quality that would otherwise occur due to erosion of the shoreline. As such, the proposed project is consistent with the applicable provisions of Chapter 226-13.**			
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective: Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.			✓
Policies:			
(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			✓
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			✓
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			✓
Analysis: **Not applicable.**			
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives: Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			✓
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			✓
Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			✓
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			✓
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			✓
Analysis: **Not applicable.**			
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.			✓
Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.			✓
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			✓
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			✓
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			✓
(5) Support water supply services to areas experiencing critical water problems.			✓
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			✓
Analysis: **Not applicable.**			
Chapter 226-17 Objectives and policies for facility systems – – transportation.			

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Objectives: Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			✓
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			✓
Policies:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			✓
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			✓
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			✓
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			✓
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			✓
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			✓
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			✓
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			✓
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			✓
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment;			✓
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			✓
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			✓
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			✓
Analysis: **Not applicable.**			
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical			✓

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generation and ground transportation.			
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably prices, and dependable energy services to accommodate demand.			✓
Policies:			
(1) Support research and development as well as promote the use of renewable energy sources;			✓
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			✓
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			✓
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:			✓
(A) Development of cost-effective demand-side management programs;			✓
(B) Education;			✓
(C) Adoption of energy-efficient practices and technologies; and			✓
(D) Increasing energy efficiency and decreasing energy use in public infrastructure			✓
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; and			✓
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			✓
(7) Promote alternate fuels and transportation energy efficiency;			✓
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			✓
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives;			✓
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			✓
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
and does not impede the development and use of other cost-effective renewable energy sources; and			
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
<u>Objectives</u>:			
(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.			✓
(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			✓
<u>Policies</u>:			
(1) Facilitate research and development of telecommunications systems and resources;			✓
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			✓
(3) Promote efficient management and use of existing telecommunications systems and services; and			✓
(4) Facilitate the development of education and training of telecommunications personnel.			✓
Analysis: **Not applicable.**			
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
<u>Objectives</u>: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.			✓
(2) The orderly development of residential areas sensitive to community needs and other land uses.			✓
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.			✓
<u>Policies</u>:			
(1) Effectively accommodate the housing needs of Hawaii's people.			✓
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.			✓
(3) Increase homeownership and rental opportunities and choices in terms of			✓

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quality, location, cost, densities, style, and size of housing.			
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			✓
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			✓
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			✓
(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.			✓
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives: Planning for the State’s socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii’s communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Policies:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			✓
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			✓
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			✓
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			✓
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			✓
(6) Improve the State’s capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			✓
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			
Analysis: **Not applicable.**			
Chapter 226-21 Objectives and policies for Socio-cultural advancement – – education.			
Objective: Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.			✓
Policies:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.			✓
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.			✓
(3) Provide appropriate educational opportunities for groups with special needs.			✓
(4) Promote educational programs which enhance understanding of Hawaii's cultural heritage.			✓
(5) Provide higher educational opportunities that enable Hawaii's people to adapt to changing employment demands.			✓
(6) Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.			✓
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			✓
(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.			✓
(9) Support research programs and activities that enhance the education programs of the State.			✓
Analysis: **Not applicable.**			
Chapter 226-22 Objective and policies for socio-cultural advancement – – social services.			
Objective: Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.			✓
Policies:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			✓
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and			✓

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

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Analysis: **The proposed repairs to the existing sidewalk, railing, and seawalls will preserve scenic viewing areas and continued access to locations of cultural and historic importance.**			
Chapter 226-24 Objective and policies for socio-cultural advancement – – individual rights and personal well-being.			
Objective: Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			✓
Policies:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			✓
(2) Uphold and protect the national and state constitutional rights of every individual.			✓
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			✓
(4) Ensure equal opportunities for individual participation in society.			✓
Analysis: **Not applicable.**			
Chapter 226-25 Objective and policies for socio-cultural advancement – – culture.			
Objective: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.			✓
Policies:			
(1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.			✓
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.			✓
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii.			✓
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.			✓
Analysis: **Not applicable.**			
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objective: Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			
(1) Assurance of public safety and adequate protection of life and property for all people.			✓
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.			✓
Policies (Public Safety):			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓
(2) Encourage increased community awareness and participation in public safety programs.			✓
Policies (Public Safety-Criminal Justice):			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			✓
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			✓
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			✓
Policies (Public Safety – Emergency Management):			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			✓
(2) Enhance the coordination between emergency management programs throughout the State.			✓
Analysis: **Not applicable.**			
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives: Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.			✓
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓
Policies:			
(1) Provide for necessary public goods and services not assumed by the private sector.			✓
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			✓
(3) Minimize the size of government to that necessary to be effective.			✓
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii.			✓
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.			✓

Hawai‘i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(6) Provide for a balanced fiscal budget.			✓
(7) Improve the fiscal budgeting and management system of the State.			✓
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			✓
Analysis: **Not applicable.**			

HAWAI‘I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Chapter 226-101: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
Chapter 226-102: Overall direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.			
Chapter 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			✓
(A) Encourage investments which:			✓
(i) Reflect long term commitments to the State;			✓
(ii) Rely on economic linkages within the local economy;			✓
(iii) Diversify the economy;			✓
(iv) Reinvest in the local economy;			✓
(v) Are sensitive to community needs and priorities; and			✓
(vi) Demonstrate a commitment to provide management opportunities to Hawaii residents; and			✓
(B) Encourage investments in innovative activities that have a nexus to the State, such as:			✓
(i) Present or former residents acting as entrepreneurs or principals;			✓
(ii) Academic support from an institution of higher education in Hawaii;			✓
(iii) Investment interest from Hawaii residents;			✓
(iv) Resources unique to Hawaii that are required for innovative activity; and			✓
(v) Complementary or supportive industries or government programs or projects.			✓
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			✓

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

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			✓
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			✓
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.			✓
(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.			✓
(6) Support and coordinate tourism promotion abroad to enhance Hawaii's share of existing and potential visitor markets.			✓
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			✓
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			✓
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			✓
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawaii.			✓
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			✓
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			✓
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			✓
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			✓
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawaii's agricultural community.			✓
(6) Seek favorable freight rates for Hawaii's agricultural products from interisland and overseas transportation operators.			✓
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			✓
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			✓
(10) Support the continuation of land currently in use for diversified agriculture.			✓
(11) Encourage residents and visitors to support Hawaii's farmers by purchasing locally grown food and food products.			✓
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			✓
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			✓
(3) Increase the support for research and development of economically feasible alternative water sources.			✓
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			✓
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			✓
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			✓
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			✓
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			✓
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.			✓
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			✓
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			✓
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			✓
(5) Encourage research activities, including legal research in the information and telecommunications fields.			✓
(6) Support promotional activities to market Hawaii's information industry services.			✓
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			✓
Analysis: **Not applicable.**			

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

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(10) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			✓
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			✓
(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.			✓
(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.	✓		
Analysis: **The proposed project will protect and enhance Hawai'i's shoreline and scenic resources. As such, the proposed project is consistent with the applicable provisions of Chapter 226-104.**			
Chapter 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			✓
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			✓
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			✓
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			✓
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			✓
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			✓
Analysis: **Not applicable.**			
Chapter 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.			✓
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			✓
(3) Improve information and analysis relative to land availability and suitability for housing.			✓
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low- and moderate-income households, gap-group households, and residents with special needs.			✓
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
purchase of initial owner-occupied housing.			
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			✓
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			✓
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.			✓
Analysis: **Not applicable.**			
Chapter 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			✓
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			✓
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			✓
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities;			✓
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			✓
(A) The electronic exchange of information;			✓
(B) Statewide electronic mail; and			✓
(C) Access to the Internet.			✓
(6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			✓
(7) Pursue the establishment of Hawaii's public and private universities and colleges as research and training centers of the Pacific;			✓
(8) Develop resources and programs for early childhood education;			✓
(9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			✓
(10) Strengthen and expand educational programs and services for students with special needs.			✓
Analysis: **Not applicable.**			
CHAPTER 226-108: Sustainability			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;	✓		
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;			✓
(3) Promoting a diversified and dynamic economy;			✓
(4) Encouraging respect for the host culture;			✓
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;	✓		
(6) Considering the principles of the ahupuaa system; and			✓
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a			✓

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
sustainable Hawaii.			
Analysis: **The proposed repair project will protect popular gathering spots, scenic locations, and the nearshore marine environment from further degredation. As such, the proposed project is consistent with the applicable priority guidelines of Chapter 226-108.**			
CHAPTER 226-109: Climate change adaptation			
Priority guidelines and principles to promote climate change adaptation shall include:			
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;			✓
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			✓
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;			✓
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			✓
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			✓
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			✓
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.	✓		
Analysis: The proposed repair project protects the shoreline from erosion and ensures continued pedestrain access to the makai walkway along Front Street while a comprehensive plan is developed to address sea level rise in the area. As such, the proposed project is consistent with the applicable priority guidelines of Chapter 226-109.			

C. STATE FUNCTIONAL PLANS

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

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

Table 2 provides an assessment of the relationship between the proposed action and each of the 13 Functional Plans.

Table 2. Analysis of State Functional Plans

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
1	Agriculture Functional Plan (1991)	Department of Agriculture	Continued viability of agriculture throughout the State	Not applicable.
2	Conservation Lands State Functional Plan (1991)	Department of Land and Natural Resources	Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry	Not applicable.
3	Education State Functional Plan (1989)	Department of Education	Improvements to Hawaiʻi's educational curriculum, quality of educational staff, and access to adequate facilities	Not applicable.
4	Employment State Functional Plan (1990)	Department of Labor and Industrial Relations	Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities	Not applicable.
5	Energy State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems	Not applicable.
6	Health State Functional Plan (1989)	Department of Health	Improve health care system by providing for those who don't have access to private health care providers; increasing preventative health measures; addressing quality of care' elements in private and public sectors to cut increasing costs	Not applicable.
7	Higher Education Functional Plan (1984)	University of Hawaiʻi	Prepare Hawaiʻi's citizens for the demands of an increasingly complex world through providing technical and intellectual tools	Not applicable.
8	Historic Preservation State Functional Plan (1991)	Department of Land and Natural Resources	Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawaiʻi	The proposed Project Areas are located within a part of Lāhainā and within the Lahaina National Historic Landmark (reference number 66000302), which encompasses more than 60 sites. The Lahaina Historic District is currently listed on the Hawaiʻi Register of Historic Places as State Site Number-50-03-3001.

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
9	Housing State Functional Plan (1989)	Hawaii Housing Finance and Development Corporation	Provide affordable rental and for-sale housing; increase homeownership and amount of rental housing units; acquiring public and privately-owned lands for future residential development; maintain a statewide housing data system	Not applicable.
10	Human Services State Functional Plan (1989)	Department of Human Services	Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for self-sufficiency'	Not applicable.
11	Recreation State Functional Plan (1991)	Department of Land and Natural Resources	Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation opportunities, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management	The proposed Project Areas are shoreline fronting property with existing, limited public access to the beach.
12	Tourism State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community members; development of a productive workforce and enhancement of career and employment opportunities in the visitor industry	Not applicable.
13	Transportation State Functional Plan (1991)	Department of Transportation	Development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand	Not applicable.

D. STATE ENVIRONMENTAL POLICY

The State Environmental Policy, Chapter 344, HRS, was established to encourage productive and enjoyable harmony between people and their environment, promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources important to the people of Hawai‘i.

1. Environmental Policy

Section 344-3, HRS sets forth the State's Environmental Policy. The following section sets forth those elements of the policy that are applicable to the proposed project:

> *It shall be the policy of the State, through its programs, authorities, and resources to:*
>
> *(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.*
>
> *(2) Enhance the quality of life by:*
>
> * * *
>
> *(C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian.*

Response: The subject property is located within the Urban Growth Boundary (UGB) of the Maui Island Plan (MIP) and is surrounded by historic properties that have developed in part because of protection provided by the existing seawalls and other related improvements. The proposed repairs to the sidewalk, railing, and seawalls will help to protect both the marine and terrestrial communities that have evolved around the existing infrastructure.

The existing infrastructure is dilapidating and in need of repair and replacement to ensure safe pedestrian conditions. The proposed repairs are consistent with the State Environmental Policy given that they will bring the sidewalk, railing, and

seawalls up to modern design and safety standards, maintain the historical and visual character of the area, eliminate the need for constant maintenance, and utilize materials better suited for the shoreline environment.

2. Environmental Guidelines

Section 344-4, HRS sets forth the State's Environmental Guidelines. The following section sets forth those specific guidelines that are applicable to the proposed project:

> *In pursuance of the state policy to conserve the natural resources and enhance the quality of life, all agencies, in the development of programs, shall, insofar as practicable, consider the following guidelines:*

* * *

(4) Parks, Recreation, and Open Space

> *(A) Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;*

Response: The proposed repairs to the existing Front Street sidewalk, railing, and seawalls will help protect and enhance the walkway for public access and recreational use. This will maintain scenic views, access to the beach, and protect to the cultural and historic properties on the opposite side of Front Street.

(8) Community Life and Housing

* * *

> *(B) Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation;*
>
> *(C) Encourage the reduction of environmental pollution which may degrade a community;*

Response: The proposed repairs to the existing Front Street sidewalk, railing, and seawalls will allow continued enjoyment of the beachfront walkway and enhance access to many of the restaurants and shops located near the Project Areas. This will preserve opportunities for shopping and recreation in an iconic location situated in the Lahaina Historic District.

The proposed repairs will also prevent further erosion of the seawall and restrict the degredation of water quality that would otherwise occur due to increased silt, debris, and runoff.

Given the foregoing, the proposed project is consistent with applicable provisions of the State's Environmental Policy as set forth in Section 344, HRS.

E. GENERAL PLAN OF THE COUNTY OF MAUI

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

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

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

The following sections identify pertinent objectives, policies, implementing actions and related provisions set forth in the Countywide Policy Plan and the Maui Island Plan. It is recognized that both documents are comprehensive in nature and address a number of functional planning areas which apply to all programs, plans, and projects. However, for purposes of addressing General Plan compliance requirements, policy considerations which are deemed most relevant in terms of compatibility and consistency are addressed in this report section.

F. COUNTYWIDE POLICY PLAN

The Countywide Policy Plan was adopted in March 2010 and is a comprehensive policy document for the islands of Maui County to the year 2030. The plan replaces the General Plan of the County of Maui 1990 Update and provides the policy framework for the development of the forthcoming Maui Island Plan as well as for updating the nine detailed Community Plans.

The Countywide Policy Plan provides broad goals, objectives, policies and implementing actions that portray the desired direction of the County's future. Goals are intended to describe a desirable condition of the County by the year 2030 and are intentionally general. Objectives tend to be more specific and may be regarded as milestones to achieve the larger goals. Policies are not intended as regulations, but instead provide a general guideline for County decision makers, departments, and collaborating organizations toward the attainment of goals and objectives. Implementing actions are specific tasks, procedures, programs, or techniques that carry out policy.

Discussion of the proposed project conforms to the relevant goals, objectives, policies, and implementing actions of the Countywide Policy Plan is provided below.

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	**S**	**N/S**	**N/A**
A. PROTECT THE NATURAL ENVIRONMENT			
Goal: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.			✓
Objective:			
(1) Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations.			✓
Policies:			
(a) Perpetuate native Hawaiian biodiversity by preventing the introduction of invasive species, containing or eliminating existing noxious pests, and protecting critical habitat areas.			✓
(b) Preserve and reestablish indigenous and endemic species' habitats and their connectivity.			✓
(c) Restore and protect forests, wetlands, watersheds, and stream flows, and guard against wildfires, flooding, and erosion.			✓
(d) Protect baseline stream flows for perennial streams, and support policies that ensure adequate stream flow to support Native Hawaiian aquatic species, traditional kalo cultivation, and self-sustaining ahupuaa.			✓
(e) Protect undeveloped beaches, dunes, and coastal ecosystems, and restore natural shoreline processes.			✓
(f) Protect the natural state and integrity of unique terrain, valued natural environments, and geological features.			✓
(g) Preserve and provide ongoing care for important scenic vistas, view planes, landscapes, and open-space resources.	✓		
(h) Expand coordination with the State and nonprofit agencies and their volunteers to reduce invasive species, replant indigenous species, and identify critical habitat.			✓
Implementing Actions:			
(a) Develop island-wide networks of greenways, watercourses, and habitat corridors.			
Analysis: **The proposed project helps to preserve and provide ongoing care for an important scenic view plane and open-space resource. It is therefore in alignment with the goal to preserve, manage, and care for Maui County's distinctive open spaces.**			
Objective:			
(2) Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.	✓		
Policies:			
(a) Protect and restore nearshore reef environments and water quality.	✓		

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(b) Protect marine resources and valued wildlife.	✓		
(c) Improve the connection between urban environments and the natural landscape, and incorporate natural features of the land into urban design.	✓		
(d) Utilize land-conservation tools to ensure the permanence of valued open spaces.			✓
(e) Mitigate the negative effects of upland uses on coastal wetlands, marine life, and coral reefs.	✓		
(f) Strengthen coastal-zone management, re-naturalization of shorelines, where possible, and filtration or treatment of urban and agricultural runoff.	✓		
(g) Regulate the use and maintenance of stormwater-treatment systems that incorporate the use of native vegetation and mimic natural systems.	✓		
(h) Advocate for stronger regulation of fishing, boating, cruise ship, and ecotourism activities.			✓
(i) Restore watersheds and aquifer-recharge areas to healthy and productive status, and increase public knowledge about the importance of watershed stewardship, water conservation, and groundwater protection.			✓
Implementing Actions:			
(a) Develop regulations to minimize runoff of pollutants into nearshore waters and reduce nonpoint and point source pollution.			✓
Analysis: **The proposed project will protect the nearshore marine environment in two (2) distinct ways. First, repairing the existing seawalls and wave deflector will prevent further shoreline erosion and degradation of the nearshore water quality. Second, proposed repairs for the walkway incorporate more vegetation and less impervious surface. As such, it is anticipated that there will be less runoff and pollution entering the ocean.**			
Objective:			
(3) Improve the stewardship of the natural environment.	✓		
Policies:			
(a) Preserve and protect natural resources with significant scenic, economic, cultural, environmental, or recreational value.	✓		
(b) Improve communication, coordination, and collaboration among government agencies, nonprofit organizations, communities, individuals, and land owners that work for the protection of the natural environment.			✓
(c) Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.			✓
(d) Improve efforts to mitigate and plan for the impact of natural disasters, human influenced emergencies, and global warming.	✓		
(e) Regulate access to sensitive ecological sites and landscapes.			✓
(f) Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.	✓		
(g) Plan and prepare for and educate visitors and residents about the possible effects of global warming.			✓
(h) Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.	✓		
(i) Educate the construction and landscape industries and property owners about the use of best management practices to prevent erosion and nonpoint source pollution.			✓
(j) Support the acquisition of resources with scenic, environmental, and recreational value, and encumber their use.			✓
(k) Improve enforcement activities relating to the natural environment.			✓
(l) For each shoreline community, identify and prioritize beach-conservation objectives, and develop action plans for their implementation.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Implementing Actions:			✓
(a) Document, record, and monitor existing conditions, populations, and locations of flora and fauna communities.			✓
(b) Implement Federal and State policies that require a reduction of greenhouse-gas emissions.			✓
(c) Establish a baseline inventory of available natural resources and their respective carrying capacities.			✓
Analysis: **The proposed project helps to preserve and protect resources with significant scenic, economic, and recreational value. The proposed repairs will fortify infrastructure that protects the surrounding inland area from storm surge and sea level rise, and will protect the nearshore marine environment from erosion related pollutants that would degrade the water quality.**			
Objective:			
(4) Educate residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.			✓
Policies:			
(a) Expand education about native flora, fauna, and ecosystems.			✓
(b) Align priorities to recognize that the health of the natural environment and the health of people are inextricably linked.			✓
(c) Promote programs and incentives that decrease greenhouse-gas emissions and improve environmental stewardship.			✓
Analysis: **Not applicable.**			
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
Goal: Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents‟ multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.			✓
Objective:			
(1) Perpetuate the Hawaiian culture as a vital force in the lives of residents.			✓
Policies:			
(a) Protect and preserve access to mountain, ocean, and island resources for traditional Hawaiian cultural practices.			✓
(b) Prohibit inappropriate development of cultural lands and sites that are important for traditional Hawaiian cultural practices, and establish mandates for the special protection of these lands in perpetuity.			✓
(c) Promote the use of ahupuaa and moku management practices.			✓
(d) Encourage the use of traditional Hawaiian architecture and craftsmanship.			✓
(e) Promote the use of the Hawaiian language.			✓
(f) Recognize and preserve the unique natural and cultural characteristics of each ahupuaa or district.			✓
(g) Encourage schools to promote broader incorporation of Hawaiian and other local cultures' history and values lessons into curriculum.			✓
(h) Ensure the protection of Native Hawaiian rights.			✓
(i) Promote, encourage, and require the correct use of traditional place names, particularly in government documents, signage, and the tourism industry.			✓
Implementing Actions:			
(a) Establish alternative land use and overlay zoning designations that recognize and preserve the unique natural and cultural characteristics of each ahupuaa or district.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(b) Develop requirements for all County applicants to perpetuate and use proper traditional place names in all applications submitted.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Emphasize respect for our island lifestyle and our unique local cultures, family, and natural environment.			✓
Policies:			
(a) Acknowledge the Hawaiian culture as the host culture, and foster respect and humility among residents and visitors toward the Hawaiian people and their practices.			✓
(b) Perpetuate a respect for diversity, and recognize the historic blending of cultures and ethnicities.			✓
(c) Encourage the perpetuation of each culture's unique cuisine, attire, dance, music, and folklore, and other unique island traditions and recreational activities.			✓
(d) Recognize the interconnectedness between the natural environment and the cultural heritage of the islands.			✓
(e) Protect and prioritize funding for recreational activities that support local cultural practices, such as surfing, fishing, and outrigger-canoe paddling.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Preserve for present and future generations the opportunity to know and experience the arts, culture, and history of Maui County.			✓
Policies:			
(a) Foster teaching opportunities for cultural practitioners to share their knowledge and skills.			✓
(b) Support the development of cultural centers.			✓
(c) Broaden opportunities for public art and the display of local artwork.			✓
(d) Foster the Aloha Spirit by celebrating the Hawaiian host culture and other Maui County cultures through support of cultural-education programs, festivals, celebrations, and ceremonies.			✓
(e) Support the perpetuation of Hawaiian arts and culture.			✓
(f) Support programs and activities that record the oral and pictorial history of residents.			✓
(g) Support the development of repositories for culture, history, genealogy, oral history, film, and interactive learning.			✓
Implementing Actions:			
(a) Establish incentives for the display of public art.			✓
(b) Establish centers and programs of excellence for the perpetuation of Hawaiian arts and culture.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Preserve and restore significant historic architecture, structures, cultural sites, cultural districts, and cultural landscapes.	✓		
Policies:			
(a) Support the development of island-wide historic, archaeological, and cultural resources inventories.			✓
(b) Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures to perpetuate a traditional sense of place.	✓		
(c) Identify a sustainable rate of use and set forth specific policies to protect cultural resources.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(d) Protect and preserve lands that are culturally or historically significant.	✓		
(e) Support programs that protect, record, restore, maintain, provide education about, and interpret cultural districts, landscapes, sites, and artifacts in both natural and museum settings.			✓
(f) Perpetuate the authentic character and historic integrity of rural communities and small towns.	✓		
(g) Seek solutions that honor the traditions and practices of the host culture while recognizing the needs of the community.			✓
(h) Support the development of an Archaeological District Ordinance.			✓
(i) Protect summits, slopes, and ridgelines from inappropriate development.			✓
(j) Support the registering of important historic sites on the State and Federal historic registers.			✓
(k) Provide opportunities for public involvement with restoration and enhancement of all types of cultural resources.			✓
(l) Foster partnerships to identify and preserve or revitalize historic and cultural sites.			✓
Implementing Actions:			
(a) Identify, develop, map, and maintain an inventory of locally significant natural. cultural, and historical resources for protection.			✓
(b) Prepare, continually update, and implement a cultural-management plan for cultural sites, districts, and landscapes, where appropriate.			✓
(c) Enact an Archaeological District Ordinance.			✓
(d) Nominate important historic sites to the State and Federal historic registers.			✓
Analysis: **Portions of the seawalls are historic as they were built over a century ago. While this project does not repair those historic sections, it will repair structures that protect or reinforce them. Additionally, the seawalls as a whole protect an important part of the Lahaina Historic District. This will preserve the character and historic integrity of Lāhainā Town for future generations.**			
C. IMPROVE EDUCATION			
Goal: Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.			✓
Objective:			
(1) Encourage the State to attract and retain school administrators and educators of the highest quality.			✓
Policies:			
(a) Encourage the State to provide teachers with nationally competitive pay and benefit packages.			✓
(b) Encourage the State to ensure teachers will have the teaching tools and support staff needed to provide students with an excellent education.			✓
(c) Explore Maui County district- and school-based decision making in public education.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Provide nurturing learning environments that build skills for the 21st century.			✓
Policies:			
(a) Expand professional-development opportunities in disciplines that support the economic-development goals of Maui County.			✓
(b) Plan for demographic, social, and technological changes in a timely manner.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(c) Encourage collaborative partnerships to improve conditions of learning environments.			✓
(d) Promote development of neighborhood schools and educational centers.			✓
(e) Integrate schools, community parks, and playgrounds, and expand each community's use of these facilities.			✓
(f) Support coordination between land use and school-facility planning agencies.			✓
(g) Encourage the upgrade and ongoing maintenance of public-school facilities.			✓
(h) Encourage the State Department of Education to seek reliable, innovative, and alternative methods to support a level of per-pupil funding that places Hawaii among the top tier of states nationally for its financial support of public schools.			✓
(i) Encourage the State to promote healthier, more productive learning environments, including by providing healthy meals, more physical activity, natural lighting, and passive cooling.			✓
(j) Encourage the State to support the development of benchmarks to measure the success of Hawaii's public-education system and clarify lines of accountability.			✓
(k) Design school and park facilities in proximity to residential areas.			✓
(l) Support technology- and natural-environment-based learning.			✓
(m) Encourage the State to support lower student-teacher ratios in public schools.			✓
(n) Encourage alternative learning and educational opportunities.			✓
Implementing Actions:			
(a) Develop safe walking and bicycling programs for school children.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Provide all residents with educational opportunities that can help them better understand themselves and their surroundings and allow them to realize their ambitions.			✓
Policies:			
(a) Encourage the State to improve Maui Community College as a comprehensive community college that will serve each community.			✓
(b) Broaden the use of technology and telecommunications to improve educational opportunities throughout the County.			✓
(c) Attract graduate-level research programs and institutions.			✓
(d) Promote the teaching of traditional practices, including aquaculture; subsistence agriculture; Pacific Island, Asian, and other forms of alternative health practices; and indigenous Hawaiian architecture.			✓
(e) Integrate cultural and environmental values in education, including self-sufficiency and sustainability.			✓
(f) Foster a partnership and ongoing dialogue between business organizations, formal educational institutions, and vocational training centers to tailor learning and mentoring programs to County needs.			✓
(g) Ensure teaching of the arts to all ages.			✓
(h) Expand and develop vocational learning opportunities by establishing trade schools.			✓
(i) Encourage the State to integrate financial and economic literacy in elementary, secondary, and higher-education levels.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Implementing Actions:			
(a) Encourage the State to establish a four-year university, and support the development of other higher-education institutions to enable residents to obtain bachelor degrees and postgraduate degrees in Maui County.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Maximize community-based educational opportunities.			✓
Policies:			
(a) Encourage the State and others to expand pre-school, after-school, and homebased (parent-child) learning.			✓
(b) Support public-private partnerships to develop youth-internship, -apprenticeship, and -mentoring programs.			✓
(c) Support the development of a wide range of informal educational and cultural programs for all residents.			✓
(d) Improve partnerships that utilize the skills and talents at Hawaii's colleges and universities to benefit the County.			✓
(e) Support career-development and job-recruitment programs and centers.			✓
(f) Attract learning institutions and specialty schools to diversify and enhance educational opportunities.			✓
(g) Expand education of important life skills for the general public.			✓
(h) Support community facilities such as museums, libraries, nature centers, and open spaces that provide interactive-learning opportunities for all ages.			✓
Analysis: **Not applicable.**			
D. STRENGTHEN SOCIAL AND HEALTHCARE SERVICES			
Goal: Health and social services in Maui County will fully and comprehensively serve all segments of the population.			✓
Objective:			
(1) In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County.			✓
Policies:			
(a) Work with other levels of government and the nonprofit sector to expand services to address hunger, homelessness, and poverty.			✓
(b) Support the improvement of opportunities for disadvantaged youth, encourage the tradition of hanai relatives, and support expanded opportunities for foster care.			✓
(c) Support expanded long-term-care options, both in institutions and at home, for patients requiring ongoing assistance and medical attention.			✓
(d) Encourage the expansion and improvement of local hospitals, facilitate the establishment of new healthcare facilities, and facilitate prompt and high-quality emergency- and urgent-care services for all.			✓
(e) Support broadened access to affordable health insurance and health care, and recognize the unique economic challenges posed to families when healthcare services are provided off-island.			✓
(f) Encourage equal access to social and healthcare services through both technological and traditional means.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Policies:			
(a) Strengthen partnerships with government, nonprofit, and private organizations to provide funding and to improve counseling and other assistance to address substance abuse, domestic violence, and other pressing social challenges.			✓
(b) Encourage the State to improve the quality of medical personnel, facilities, services, and equipment.			✓
(c) Encourage investment to improve the recruitment of medical professionals and the quality of medical facilities and equipment throughout Maui County.			✓
(d) Promote the development of continuum-of-care facilities that provide assisted living, hospice, home-care, and skilled-nursing options allowing the individual to be cared for in a manner congruent with his or her needs and desires.			✓
(e) Support improved social, healthcare, and governmental services for special needs populations.			✓
(f) Plan for the needs of an aging population and the resulting impacts on social services, housing, and healthcare delivery.			✓
(g) Improve coordination among the police, the courts, and the public in the administration of social and healthcare services.			✓
(h) Support programs that address needs of veterans.			✓
(i) Support programs that address the needs of immigrants.			✓
Implementing Actions:			
(a) Invest in programs designed to improve the general welfare and quality of life of Native Hawaiians.			✓
(b) Assist and facilitate the State Department of Public Safety and others in efforts to strengthen programs and facilities that will improve the mental and social health of incarcerated people and assist in prison inmates' successful transition back into Maui County communities.			✓
(c) Develop and maintain a comprehensive index that will measure the health and wellness needs of families.			✓
(d) Provide heliports countywide for emergency health and safety purposes.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Strengthen public-awareness programs related to healthy lifestyles and social and medical services.			✓
Policies:			
(a) Expand public awareness about personal safety and crime prevention.			✓
(b) Encourage residents to pursue education and training for careers in the healthcare, social services, and community-development fields.			✓
(c) Expand public awareness and promote programs to achieve healthy eating habits and drug-free lifestyles.			✓
Analysis: **Not applicable.**			
E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS			
Goal: Quality, island-appropriate housing will be available to all residents.			✓
Objective:			
(1) Reduce the affordable housing deficit for residents.			✓
Policies:			
(a) Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(b) Seek innovative ways to lower housing costs without compromising the quality of our island lifestyle.			✓
(c) Seek innovative methods to secure land for the development of low- and moderate- income housing.			✓
(d) Provide the homeless population with emergency and transitional shelter and other supportive programs.			✓
(e) Provide for a range of senior-citizen and special needs housing choices on each island that affordably facilitates a continuum of care and services.			✓
(f) Support the Department of Hawaiian Home Lands' development of homestead lands.			✓
(g) Manage property-tax burdens to protect affordable resident homeownership.			✓
(h) Explore taxation mechanisms to increase and maintain access to affordable housing.			✓
(i) Improve awareness regarding available affordable homeowner's insurance.			✓
(j) Redevelop commercial areas with a mixture of affordable residential and business uses, where appropriate.			✓
(k) Ensure residents are given priority to obtain affordable housing units developed in their communities, consistent with all applicable regulations.			✓
(l) Establish pricing for affordable housing that is more reflective of Maui County's workforce than the United States Housing and Urban Development's median-income estimates for Maui County.			✓
(m) Develop neighborhoods with a mixture of accessible and integrated community facilities and services.			✓
(n) Provide alternative regulatory frameworks to facilitate the use of Kuleana lands by the descendants of Native Hawaiians who received those lands pursuant to the Kuleana Act of 1850.			✓
(o) Work with lending institutions to expand housing options and safeguard the financial security of homeowners.			✓
(p) Promote the use of the community land trust model and other land-lease and land- financing options.			✓
(q) Support the opportunity to age in place by providing accessible and appropriately designed residential units.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small town character.			✓
Policies:			
(a) Seek innovative ways to develop ohana cottages and accessory-dwelling units as affordable housing.			✓
(b) Design neighborhoods to foster interaction among neighbors.			✓
(c) Encourage a mix of social, economic, and age groups within neighborhoods.			✓
(d) Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patterns of development.			✓
(e) Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.			✓
(f) Develop workforce housing in proximity to job centers and transit facilities.			✓
(g) Provide incentives to developers and owners who incorporate green building practices and energy-efficient technologies into their housing developments.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Implementing Actions:			
(a) Revise laws to support neighborhood designs that incorporate a mix of housing types that are appropriate for island living.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Increase and maintain the affordable housing inventory.			✓
Policies:			
(a) Recognize housing as a basic human need, and work to fulfill that need.			✓
(b) Prioritize available infrastructure capacity for affordable housing.			✓
(c) Improve communication, collaboration, and coordination among housing providers and social-service organizations.			✓
(d) Study future projected housing needs, monitor economic cycles, and prepare for future conditions on each island.			✓
(e) Develop public-private and nonprofit partnerships that facilitate the construction of quality affordable housing.			✓
(f) Streamline the review process for high-quality, affordable housing developments that implement the goals, objectives, and policies of the General Plan.			✓
(g) Minimize the intrusion of housing on prime, productive, and potentially productive agricultural lands and regionally valuable agricultural lands.			✓
(h) Encourage long-term residential use of existing and future housing to meet residential needs.			✓
Implementing Actions:			
(a) Develop policies to even out the peaks and valleys in Maui County's construction-demand cycles.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Expand access to education related to housing options, homeownership, financing, and residential construction.			✓
Policies:			
(a) Broaden access to information about County, State, and Federal programs that provide financial assistance to renters and home buyers.			✓
(b) Expand access to information about opportunities for homeownership and self-help housing.			✓
(c) Educate residents about making housing choices that support their individual needs, the needs of their communities, and the health of the islands' natural systems.			✓
(d) Improve home buyers' education on all aspects of homeownership.			✓
Analysis: **Not applicable.**			
F. STRENGTHEN THE LOCAL ECONOMY			
Goal: Maui County's economy will be diverse, sustainable, and supportive of community values.	✓		
Objective:			
(1) Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.			✓
Policies:			
(a) Support economic decisions that create long-term benefits.	✓		
(b) Promote lifelong education, career development, and technical training for existing and emerging industries.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(c) Invest in infrastructure, facilities, and programs that foster economic diversification.	✓		
(d) Support and promote locally produced products and locally owned operations and businesses that benefit local communities and meet local demand.			✓
(e) Support programs that assist industries to retain and attract more local labor and facilitate the creation of jobs that offer a living wage.			✓
(f) Encourage work environments that are safe, rewarding, and fulfilling to employees.			✓
(g) Support home-based businesses that are appropriate for and in character with the community.			✓
(h) Encourage businesses that promote the health and well-being of the residents, produce value-added products, and support community values.			✓
(i) Foster an understanding of the role of all industries in our economy.			✓
(j) Support efforts to improve conditions that foster economic vitality in our historic small towns.	✓		
(k) Support and encourage traditional host-culture businesses and indigenous agricultural practices.			✓
(l) Support public and private entities that assist entrepreneurs in establishing locally operated businesses.			✓
Implementing Actions:			
(a) Develop regulations and programs that support opportunities for local merchants, farmers, and small businesses to sell their goods and services directly to the public.			✓
(b) Monitor the carrying capacity of the islands' social, ecological, and infrastructure systems with respect to the economy.			✓
Analysis: **The proposed repairs to the Front Street seawalls protect the streetscape located along the shoreline from erosion, thus enhancing the neighborhood for business located along the Project Areas. Design of the new planters and benches will open up sightlines to discourage illicit activity and enhance the character of the popular walkway.**			
Objective:			
(2) Diversify and expand sustainable forms of agriculture and aquaculture.			✓
Policies:			
(a) Support programs that position Maui County's agricultural products as premium export products.			✓
(b) Prioritize the use of agricultural land to feed the local population, and promote the use of agricultural lands for sustainable and diversified agricultural activities.			✓
(c) Capitalize on Hawaii's economic opportunities in the ecologically sensitive aquaculture industries.			✓
(d) Assist farmers to help make Maui County more self-sufficient in food production.			✓
(e) Support ordinances, programs, and policies that keep agricultural land and water available and affordable to farmers.			✓
(f) Support a tax structure that is conducive to the growth of the agricultural economy.			✓
(g) Enhance County efforts to monitor and regulate important agricultural issues			✓
(h) Support education, research, and facilities that strengthen the agricultural industry.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(i) Maintain the genetic integrity of existing food crops.			✓
(j) Encourage healthy and organic farm practices that contribute to land health and regeneration.			✓
(k) Support cooperatives and other types of nontraditional communal farming and efforts.			✓
(l) Encourage methods of monitoring and controlling genetically modified crops to prevent adverse effects.			✓
(m) Work with the State to ease the permitting process for the revitalization of traditional fish ponds.			✓
Implementing Actions:			
(a) Redirect efforts in the Office of Economic Development to further facilitate the development of the agricultural section and to monitor agricultural legislation and issues.			✓
(b) Publicly identify, with signage and other means, the field locations of all genetically modified crops.			✓
(c) Create agricultural parks in areas distant from genetically modified crops.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Support a visitor industry that respects the resident culture and the environment.			✓
Policies:			
(a) Promote traditional Hawaiian practices in visitor-related facilities and activities.			✓
(b) Encourage and educate the visitor industry to be sensitive to island lifestyles and cultural values.			✓
(c) Encourage a spirit of welcome for residents at visitor facilities, such as by offering kamaaina incentives and discount programs.			✓
(d) Support the renovation and enhancement of existing visitor facilities.			✓
(e) Support policies, programs, and a tax structure that redirect the benefits of the visitor industry back into the local community.			✓
(f) Encourage resident ownership of visitor-related businesses and facilities.			✓
(g) Develop partnerships to provide educational and training facilities to residents employed in the visitor industry.			✓
(h) Foster an understanding of local cultures, customs, and etiquette, and emphasize the importance of the Aloha Spirit as a common good for all.			✓
(i) Support the diversification, development, evolution, and integration of the visitor industry in a way that is compatible with the traditional, social, economic, spiritual, and environmental values of island residents			✓
(j) Improve collaboration between the visitor industry and the other sectors of Maui County's economy.			✓
(k) Perpetuate an authentic image of the Hawaiian culture and history and an appropriate recognition of the host culture.			✓
(l) Support the programs and initiatives outlined in the Maui County Tourism Strategic Plan 2006-2015.	✓		
(m) Promote water conservation, beach conservation, and open-space conservation in areas providing services for visitors.	✓		
(n) Recognize the important contributions that the visitor industry makes to the County's economy, and support a healthy and vibrant visitor industry.			✓
Analysis: **The proposed project protects beach access, water quality, and open-space in a popular destination.**			

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Objective:			
(4) Expand economic sectors that increase living-wage job choices and are compatible with community values.			✓
Policies:			
(a) Support emerging industries, including the following: • Health and wellness industry; • Sports and recreation industry; • Film and entertainment industry; • Arts and culture industry; • Renewable-energy industry; • Research and development industry; • High-technology and knowledge-based industries; • Education and training industry; • Ecotourism industry; and • Agritourism industry.			✓
Analysis: **Not applicable.**			
G. IMPROVE PARKS AND PUBLIC FACILITIES			
Goal: A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.	✓		
Objective:			
(1) Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.	✓		
Policies:			
(a) Protect, enhance, and expand access to public shoreline and mountain resources.	✓		
(b) Expand and enhance the network of parks, multi-use paths, and bikeways.	✓		
(c) Assist communities in developing recreational facilities that promote physical fitness.			✓
(d) Expand venue options for recreation and performances that enrich the lifestyles of Maui County's people.			✓
(e) Expand affordable recreational and after-school programs for youth.			✓
(f) Encourage and invest in recreational, social, and leisure activities that bring people together and build community pride.			✓
(g) Promote the development and enhancement of community centers, civic spaces, and gathering places throughout our communities.	✓		
(h) Expand affordable access to recreational opportunities that support the local lifestyle.	✓		
Implementing Actions:			
(a) Identify and reserve lands for cemeteries, and preserve existing cemeteries on all islands, appropriately accommodating varying cultural and, faith-based traditions.			✓
Analysis: **The proposed project will protect and preserve public facilities and recreational spaces that provide access to the beach and encourage social and leisure activities.**			
Objective:			
(2) Improve the quality and adequacy of community facilities.	✓		
Policies:			
(a) Provide an adequate supply of dedicated shelters and facilities for disaster relief.			✓
(b) Provide and maintain community facilities that are appropriately designed to reflect the traditions and customs of local cultures.			✓
(c) Ensure that parks and public facilities are safe and adequately equipped for the needs of all ages and physical abilities to the extent reasonable.	✓		

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(d) Maintain, enhance, expand, and provide new active and passive recreational facilities in ways that preserve the natural beauty of their locations.	✓		
(e) Redesign or retrofit public facilities to adapt to major shifts in environmental or urban conditions to the extent reasonable.			✓
Analysis: **The proposed repairs will help to improve the safety and quality of a popular walkway.**			
Objective:			
(3) Enhance the funding, management, and planning of public facilities and park lands.			✓
Policies:			
(a) Identify and encourage the establishment of regulated and environmentally sound campgrounds.			✓
(b) Manage park use and control access to natural resources in order to rest sensitive places and utilize the resources in a sustainable manner.			✓
(c) Provide public-recreational facilities that are clean and well-maintained.	✓		
(d) Develop partnerships to ensure proper stewardship of the islands' trails, public lands, and access systems.			✓
(e) Ensure that there is an adequate supply of public restrooms in convenient locations.			✓
Implementing Actions:			
(a) Encourage the State to allow for overnight fishing along the shoreline in accordance with management plans and regulations.			✓
(b) Develop and regularly update functional plans, including those relating to public facilities, parks, and campgrounds.			✓
(c) Develop and adopt local level-of service standards for public facilities and parks.			✓
(d) Identify, acquire, and develop lands for parks, civic spaces, and public uses.			✓
Analysis: **The proposed repairs to the seawalls, railing, and walkway align with the goal of providing clean and well-maintained public-recreational facilities.**			
H. DIVERSIFY TRANSPORTATION OPTIONS			
Goal: Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.			✓
Objective:			
(1) Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.			✓
Policies:			
(a) Execute planning strategies to reduce traffic congestion.			✓
(b) Plan for the efficient relocation of roadways for the public benefit.			✓
(c) Support the use of alternative roadway designs, such as traffic-calming techniques and modern roundabouts.			✓
(d) Increase route and mode options in the ground-transportation network.			✓
(e) Ensure that roadway systems are safe, efficient, and maintained in good condition.	✓		
(f) Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.	✓		
(g) Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(h) Promote a variety of affordable and convenient transportation services that meet countywide and community needs and expand ridership of transit systems.			✓
(i) Collaborate with transit agencies, government agencies, employers, and operators to provide planning strategies that reduce peak-hour traffic.			✓
(j) Develop and expand an attractive, island-appropriate, and efficient public transportation system.			✓
(k) Provide and encourage the development of specialized transportation options for the young, the elderly, and persons with disabilities.			✓
(l) Evaluate all alternatives to preserve quality of life before widening roads.			✓
(m) Encourage businesses in the promotion of alternative transportation options for resident and visitor use.			✓
(n) Support the development of carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.			✓
Implementing Actions:			
(a) Create incentives and implement strategies to reduce visitor dependence on rental cars.			✓
(b) Establish efficient public-transit routes between employment centers and primary workforce residential areas.			✓
(c) Create attractive, island-appropriate, conveniently located park-and-ride and ride- share facilities.			✓
Analysis: **The proposed seawall repairs protect the structural integrity of the Front Street walkway and roadway, which have scenic attributes and enhance the character of Lāhainā Town.**			
Objective:			
(2) Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.			✓
Policies:			
(a) Make walking and bicycling transportation safe and easy between and within communities.	✓		
(b) Require development to be designed with the pedestrian in mind.			✓
(c) Design new and retrofit existing rights-of-way with adequate sidewalks, bicycle lanes, or separated multi-use transit corridors.			✓
(d) Support the development of a countywide network of bikeways, equestrian trails, and pedestrian paths.			✓
(e) Support the reestablishment of traditional trails between communities, to the ocean, and through the mountains for public use.			✓
(f) Encourage educational programs to increase safety for pedestrians and bicyclists.			✓
Implementing Actions:			
(a) Design, build, and modify existing bikeways to improve safety and separation from automobiles.			✓
(b) Increase enforcement to reduce abuse of bicycle and pedestrian lanes by motorized vehicles.			✓
(c) Identify non-motorized transportation options as a priority for new sources of funding.			✓
Analysis: **The proposed sidewalk repairs and related improvements help to make walking safer and easier within the Lāhainā community.**			
Objective:			
(3) Improve opportunities for affordable, efficient, safe, and reliable air transportation.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Policies:			
(a) Discourage private helicopter and fixed-wing landing sites to mitigate environmental and social impacts.			✓
(b) Encourage the use of quieter aircraft and noise-abatement procedures for arrivals and departures.			✓
(c) Encourage the modernization and maintenance of air-transportation facilities for general-aviation activities.			✓
(d) Encourage a viable and competitive atmosphere for air carriers to expand service and ensure sufficient intra-County flights and affordable fares for consumers.			✓
(e) Continue to support secondary airports, and encourage the State to provide them with adequate funding.			✓
(f) During Community Plan updates, explore the use of the smaller airports.			✓
(g) Encourage the State to provide efficient, adequate, and affordable parking and transit connections within and around airports.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Improve opportunities for affordable, efficient, safe, and reliable ocean transportation.			✓
Policies:			
(a) Support programs and regulations that reduce the disposal of maritime waste and prevent spills into the ocean.			✓
(b) Encourage the upgrading of harbors to resist damage from natural hazards and disasters.			✓
(c) Encourage the State to study the use of existing harbors and set priorities for future use.			✓
(d) Explore all options to protect the traditional recreational uses of harbors, and mitigate harbor-upgrade impacts to recreational uses where feasible.			✓
(e) Encourage the upgrading of harbors and the separation of cargo and bulk materials from passenger and recreational uses.			✓
(f) Encourage the State to provide for improved capacity at shipping, docking, and storage facilities.			✓
(g) Encourage the State to provide adequate parking facilities and transit connections within and around harbor areas.			✓
(h) Encourage the redevelopment and revitalization of harbors while preserving historic and cultural assets in harbor districts.			✓
(i) Encourage the State to provide adequate facilities for small-boat operations, including small-boat launch ramps, according to community needs.			✓
(j) Support the maintenance and cleanliness of harbor facilities.			✓
(k) Support the redevelopment of harbors as pedestrian-oriented gathering places.			✓
Analysis: **Not applicable.**			
Objective:			
(5) Improve and expand the planning and management of transportation systems.			
Policies:			
(a) Encourage progressive community design and development that will reduce transportation trips.			✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓
(c) Establish appropriate user fees for private enterprises that utilize public transportation facilities for recreational purposes.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(d) Support the revision of roadway-design criteria and standards so that roads are compatible with surrounding neighborhoods and the character of rural areas.			✓
(e) Plan for multi-modal transportation and utility corridors on each island.			✓
(f) Support designing all transportation facilities, including airport, harbor, and mass- transit stations, to reflect Hawaiian architecture.			✓
(g) Utilize transportation-demand management as an integral part of transportation planning.			✓
(h) Accommodate the planting of street trees and other appropriate landscaping in all public rights-of-way.			✓
Analysis: **Not applicable.**			
I. IMPROVE PHYSICAL INFRASTRUCTURE			
Goal: Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.	✓		
Objective:			
(1) Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.			✓
Policies:			
(a) Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents.			✓
(b) Develop and fund improved water-delivery systems.			✓
(c) Ensure a reliable and affordable supply of water for productive agricultural uses.			✓
(d) Promote the reclamation of gray water, and enable the use of reclaimed, gray, and brackish water for activities that do not require potable water.			✓
(e) Retain and expand public control and ownership of water resources and delivery systems.			✓
(f) Improve the management of water systems so that surface-water and groundwater resources are not degraded by overuse or pollution.			✓
(g) Explore and promote alternative water-source-development methods.			✓
(h) Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.			✓
Implementing Actions:			
(a) Develop a process to review all applications for desalination.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Improve waste-disposal practices and systems to be efficient, safe, and as environmentally sound as possible.			✓
Policies:			
(a) Provide sustainable waste-disposal systems and comprehensive, convenient recycling programs to reduce the flow of waste into landfills.			✓
(b) Support innovative and alternative practices in recycling solid waste and wastewater and disposing of hazardous waste.			✓
(c) Encourage vendors and owners of automobile, appliance, and white goods to participate in the safe disposal and recycling of such goods, and ensure greater accountability for large waste producers.			✓
(d) Develop strategies to promote public awareness to reduce pollution and litter, and encourage residents to reduce, reuse, recycle, and compost waste materials.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(e) Pursue improvements and upgrades to existing wastewater and solid-waste systems consistent with current and future plans and the County's Capital Improvement Program.			✓
Implementing Actions:			
(a) Establish recycling, trash-separation, and materials recovery programs and facilities to reduce the flow of waste into landfills.			✓
(b) Study the feasibility of developing environmentally safe waste-to-energy facilities.			✓
(c) Utilize taxes and fees as means to encourage conservation and recycling.			✓
(d) Implement and regularly update the Integrated Solid Waste Management Plan.			✓
(e) Phase out the use of injection wells.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Significantly increase the use of renewable and green technologies to promote energy efficiency and energy self-sufficiency.			✓
Policies:			
(a) Promote the use of locally renewable energy sources, and reward energy efficiency.			✓
(b) Consider tax incentives and credits for the development of sustainable- and renewable-energy sources.			✓
(c) Expand education about energy conservation and self-sufficiency.			✓
(d) Encourage small-scale energy generation that utilizes wind, sun, water, biowaste, and other renewable sources of energy.			✓
(e) Expand renewable-energy production.			✓
(f) Develop public-private partnerships to ensure the use of renewable energy and increase energy efficiency.			✓
(g) Require the incorporation of locally appropriate energy-saving and green building design concepts in all new developments by providing energy efficient urban design guidelines and amendments to the Building Code.			✓
(h) Encourage the use of sustainable energy to power vehicles.			✓
(i) Promote the retrofitting of existing buildings and new development to incorporate energy-saving design concepts and devices.			✓
(j) Encourage green footprint practices.			✓
(k) Reduce Maui County's dependence on fossil fuels and energy imports.			✓
(l) Support green building practices such as the construction of buildings that aim to minimize carbon dioxide production, produce renewable energy, and recycle water.			✓
(m) Promote and support environmentally friendly practices in all energy sectors.			✓
Implementing Actions:			
(a) Adopt an energy-efficiency policy for Maui County government as a model for other jurisdictions.			✓
(b) Adopt a Green Building Code, and support green building practices.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Policies:			
(a) Capitalize on existing infrastructure capacity as a priority over infrastructure expansion.			✓
(b) Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas.			✓
(c) Utilize appropriate infrastructure technologies in the appropriate locations.			✓
(d) Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner.			✓
(e) Support catchment systems and on-site wastewater treatment in rural areas and aggregated water and wastewater systems in urban areas if they are appropriately located.			✓
Implementing Actions:			
(a) Develop a streamlining system for urban infill projects.			✓
(b) Identify appropriate areas for urban expansion of existing towns where infrastructure and public facilities can be provided in a cost-effective manner.			✓
Analysis: **Not applicable.**			
Objective:			
(5) Improve the planning and management of infrastructure systems.	✓		
Policies:			
(a) Provide a reliable and sufficient level of funding to enhance and maintain infrastructure systems.	✓		
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓
(c) Improve coordination among infrastructure providers and planning agencies to minimize construction impacts.			✓
(d) Maintain inventories of infrastructure capacity, and project future infrastructure needs.			✓
(e) Require social-justice and -equity issues to be considered during the infrastructure-planning process.			✓
(f) Discourage the development of critical infrastructure systems within hazard zones and the tsunami-inundation zone to the extent practical.			✓
(g) Ensure that infrastructure is built concurrent with or prior to development.			✓
(h) Ensure that basic infrastructure needs can be met during a disaster.			✓
(i) Locate public facilities and emergency services in appropriate locations that support the health, safety, and welfare of each community and that minimize delivery inefficiencies.			✓
(j) Promote the undergrounding of utility and other distribution lines for health safety, and aesthetic reasons.	✓		
Implementing Actions:			
(a) Develop and regularly update functional plans for infrastructure systems.			✓
(b) Develop, adopt, and regularly update local or community-sensitive level-of service standards for infrastructure systems.			✓
Analysis: **The proposed seawall repairs will protect cable, electrical, water, and wastewater lines located beneath Front Street from erosion, thus allowing continued service of these utilities to the surrounding neighborhoods.**			
J. PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT			
Goal: Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.	✓		

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Objective:			
(1) Improve land use management and implement a directed-growth strategy.			✓
Policies:			
(a) Establish, map, and enforce urban- and rural-growth limits.			✓
(b) Direct urban and rural growth to designated areas.			✓
(c) Limit the number of visitor-accommodation units and facilities in Community Plan Areas.			✓
(d) Maintain a sustainable balance between the resident, part-time resident, and visitor populations.			✓
(e) Encourage redevelopment and infill in existing communities on lands intended for urban use to protect productive farm land and open-space resources.			✓
(f) Discourage new entitlements for residential, resort, or commercial development along the shoreline.			✓
(g) Restrict development in areas that are prone to natural hazards, disasters, or sea-level rise.			✓
(h) Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources.			✓
(i) Establish and maintain permanent open space between communities to protect each community's identity.			✓
(j) Support the dedication of land for public uses.			✓
(k) Preserve the public's rights of access to and continuous lateral access along all shorelines.	✓		
(l) Enable existing and future communities to be self-sufficient through sustainable land use planning and management practices.			✓
(m) Protect summits, slopes, and ridgelines from inappropriate development.			✓
Implementing Actions:			
(a) Regularly update urban- and rural-growth boundaries and their maps.			✓
(b) Establish transfer and purchase of development rights programs.			✓
(c) Develop and adopt a green infrastructure plan.			✓
(d) Develop studies to help determine a sustainable social, environmental, and economic carrying capacity for each island.			✓
(e) Identify and define resort-destination areas.			✓
Analysis: **The proposed project includes repair work to a stairwell that leads from the roadway to the beach, thus preserving public access to the shoreline.**			
Objective:			
(2) Improve planning for and management of agricultural lands and rural areas.			✓
Policies:			
(a) Protect prime, productive, and potentially productive agricultural lands to maintain the islands' agricultural and rural identities and economies.			✓
(b) Provide opportunities and incentives for self-sufficient and subsistence homesteads and farms.			✓
(c) Discourage developing or subdividing agriculturally designated lands when non- agricultural activities would be primary uses.			✓
(d) Conduct agricultural-development planning to facilitate robust and sustainable agricultural activities.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Implementing Actions:			
(a) Inventory and protect prime, productive, and potentially productive agricultural lands from competing non-agricultural land uses.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Design all developments to be in harmony with the environment and to protect each community's sense of place.			✓
Policies:			
(a) Support and provide incentives for green building practices.			✓
(b) Encourage the incorporation of green building practices and technologies into all government facilities to the extent practicable.			✓
(c) Protect and enhance the unique architectural and landscape characteristics of each Community Plan Area, small town, and neighborhood.			✓
(d) Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.	✓		
(e) Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.			✓
(f) Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.	✓		
(g) Where appropriate, integrate public-transit, equestrian, pedestrian, and bicycle facilities, and public rights-of-way as design elements in new and existing communities.	✓		
(h) Ensure better connectivity and linkages between land uses.			✓
(i) Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.			✓
(j) Protect rural communities and traditional small towns by regulating the footprint, locations, site planning, and design of structures.			✓
(k) Support small-town revitalization and preservation.	✓		
(l) Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.			✓
Implementing Actions:			
(a) Establish design guidelines and standards to enhance urban and rural environments.			✓
(b) Provide funding for civic-center and civic-space developments.			✓
(c) Establish and enhance urban forests in neighborhoods and business districts.			✓
Analysis: **The proposed project protects open space and public-gathering places; utilizes trees and other forms of landscaping to provide shade, beauty, and urban-head reduction; revitalizes a pedestrian pathway; and preserves the character of Lāhainā Town.**			
Objective:			
(4) Improve and increase efficiency in land use planning and management.			✓
Policies:			
(a) Assess the cumulative impact of developments on natural ecosystems, natural resources, wildlife habitat, and surrounding uses.			✓
(b) Ensure that new development projects requiring discretionary permits demonstrate a community need, show consistency with the General Plan, and provide an analysis of impacts.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(c) Encourage public and private partnerships to preserve lands of importance, develop housing, and meet the needs of residents.			✓
(d) Promote creative subdivision designs that implement best practices in land development, sustainable management of natural and physical resources, increased pedestrian and bicycle functionality and safety, and the principles of livable communities.			✓
(e) Coordinate with Federal, State, and County officials in order to ensure that land use decisions are consistent with County plans and the vision local populations have for their communities.			✓
(f) Enable greater public participation in the review of subdivisions.			✓
(g) Improve land use decision making through the use of land- and geographic information systems.			✓
Implementing Actions:			
(a) Institute a time limit and sunsetting stipulations on development entitlements and their implementation.			✓
Analysis: **Not applicable.**			
K. STRIVE FOR GOOD GOVERNANCE			
Objective:			
(1) Strengthen governmental planning, coordination, consensus building, and decision making.			✓
Policies:			
(a) Plan and prepare for the effects of social, demographic, economic, and environmental shifts.			✓
(b) Plan for and address the possible implications of Hawaiian sovereignty.			✓
(c) Encourage collaboration among government agencies to reduce duplication of efforts and promote information availability and exchange.			✓
(d) Expand opportunities for the County to be involved in and affect State and Federal decision making.			✓
(e) Plan and prepare for large-scale emergencies and contingencies.			✓
(f) Improve public awareness about preparing for natural hazards, disasters, and evacuation plans.			✓
(g) Improve coordination among Federal, State, and County agencies.			✓
Implementing Actions:			
(a) Develop policies, regulations, and programs to protect and enhance the unique character and needs of the County's various communities.			✓
(b) Evaluate and if necessary, recommend modifications to the County Charter that could result in a possible change to the form of governance for Maui County.			✓
(c) Study and evaluate the feasibility and implications of voting in Maui County Council elections.			✓
(d) Study and evaluate the feasibility of authorizing town governments in Maui County.			✓
Analysis: **Not applicable.**			
Objective:			
(2) Promote civic engagement.			✓
Policies:			
(a) Foster consensus building through in-depth, innovative, and accessible public participatory processes.			✓
(b) Promote and ensure public participation and equal access to government among all citizens.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(c) Encourage a broad cross-section of residents to volunteer on boards and commissions.			✓
(d) Encourage the State to improve its community-involvement processes.			✓
(e) Support community-based decision making.			✓
(f) Expand advisory functions at the community level.			✓
(g) Expand opportunities for all members of the public to participate in public meetings and forums.			✓
(h) Facilitate the community's ability to obtain relevant documentation.			✓
(i) Increase voter registration and turnout.			✓
Implementing Actions:			
(a) Implement two-way communication using audio-visual technology that allows residents to participate in the County's planning processes.			✓
(b) Ensure and expand the use of online notification of County business and public meetings, and ensure the posting of all County board and commission meeting minutes.			✓
(c) Explore funding mechanisms to improve participation by volunteers on boards and commissions.			✓
(d) Develop a project-review process that mandates early and ongoing consultation in and with communities affected by planning and land use activities.			✓
Analysis: **Not applicable.**			
Objective:			
(3) Improve the efficiency, reliability, and transparency of County government's internal processes and decision making.			✓
Policies:			
(a) Use advanced technology to improve efficiency.			✓
(b) Simplify and clarify the permitting process to provide uniformity, reliability, efficiency, and transparency.			✓
(c) Improve communication with Lanai and Molokai through the expanded use of information technologies, expanded staffing, and the creation and expansion of government-service centers.			✓
(d) Ensure that laws, policies, and regulations are internally consistent and effectuate the intent of the General Plan.			✓
Implementing Actions:			
(a) Update the County Code to be consistent with the General Plan.			✓
(b) Identify and update County regulations and procedures to increase the productivity and efficiency of County government.			✓
(c) Develop local level-of-service standards for infrastructure, public facilities, and services.			✓
(d) Implement plans through programs, regulations, and capital improvements in a timely manner.			✓
(e) Expand government online services.			✓
Analysis: **Not applicable.**			
Objective:			
(4) Adequately fund in order to effectively administer, implement, and enforce the General Plan.			✓
Policies:			
(a) Adequately fund, staff, and support the timely update and implementation of planning policy, programs, functional plans, and enforcement activities.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(b) Ensure that the County's General Plan process provides for efficient planning at the County, island, town, and neighborhood level.			✓
(c) Encourage ongoing professional development, education, and training of County employees.			✓
(d) Encourage competitive compensation packages for County employees to attract and retain County personnel.			✓
(e) Enable the County government to be more responsive in implementing our General Plan and Community Plans.			✓
(f) Review discretionary permits for compliance with the Countywide Policy Plan.			✓
(g) Strengthen the enforcement of County, State, and Federal land use laws.			✓
Implementing Actions:			
(a) Establish penalties to ensure compliance with County, State, and Federal land use laws.			✓
Analysis: **Not applicable.**			
Objective:			
(5) Strive for County government to be a role model for implementing cultural and environmental policies and practices.			✓
Policies:			
(a) Educate residents on the benefits of sustainable practices.			✓
(b) Encourage the retention and hiring of qualified professionals who can improve cultural and environmental practices.			✓
(c) Incorporate environmentally sound and culturally appropriate practices in government operations and services.			✓
(d) Encourage all vendors with County contracts to incorporate environmentally sound and culturally appropriate practices.			✓
Analysis: **Not applicable.**			

G. MAUI ISLAND PLAN

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

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

1. *An island-wide land use strategy, including a managed and directed growth plan*

2. *A water element assessing supply, demand and quality parameters*

3. *A nearshore ecosystem element assessing nearshore waters and requirements for preservation and restoration*

4. *An implementation program which addresses the County's 20-year capital improvement requirements, financial program for*

implementation, and action implementation schedule

5. *Milestone indicators designed to measure implementation progress of the MIP*

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

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

1. *Population*
2. *Heritage Resources*
3. *Natural Hazards*
4. *Economic Development*
5. *Housing*
6. *Infrastructure and Public Facilities*
7. *Land Use*

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

The proposed project is located within the UGB. In this regard, it is consistent with the directed growth strategy defined via growth maps adopted in the MIP.

In addition, the proposed project has been reviewed with respect to pertinent goals, objectives, policies and implementing actions of the MIP. The analysis is presented in the table below.

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
CHAPTER 1 – POPULATION				
Goal:				
1.1	Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.			✓
Objective:				
1.1.1	Greater retention and return of island residents by providing viable work, education, and lifestyle options.			✓
Policies:				
1.1.1.a	Expand programs that enable the community to meet the education, employment, housing, and social goals of youth and young adults.			✓
1.1.1.b	Expand housing, transportation, employment, and social opportunities to ensure residents are able to comfortably age within their communities.			✓
1.1.1.c	Measure and track resident satisfaction through surveys and community indicators.			✓
1.1.1.d	Support funding for transportation, housing, health care, recreation, and social service programs that help those with special needs (including the elderly and disabled).			✓
Analysis: **Not applicable.**				
CHAPTER 2 – HERITAGE RESOURCES				
CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES ISSUES				
Goal:				
2.1	Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.			✓
Objective:				
2.1.1	An island culture and lifestyle that is healthy and vibrant as measured by the ability of residents to live on Maui, access and enjoy the natural environment, and practice Hawaiian customs and traditions in accordance with Article XII, Section 7, Hawaii State Constitution, and Section 7-1, Hawai`i Revised Statutes (HRS).			✓
Policies:				
2.1.1.a	Perpetuate the spirit of aloha and celebrate the host Hawaiian culture and other ethnic cultures.			✓
2.1.1.b	Perpetuate a respect for diversity and recognize the broad blending of cultures and ethnicities as vital to the quality of life on Maui.			✓
2.1.1.c	Ensure traditional public access routes, including native Hawaiian trails, are maintained for public use.			✓
2.1.1.d	Support the education of visitors and new residents about the customs and etiquette of the Hawaiian culture, as well as other cultures.			✓
Analysis: **Not applicable.**				
Objective:				
2.2	A more effective and efficient planning and review process that incorporates the best available cultural resources inventory, protection techniques, and preservation strategies.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
2.1.2.a	Ensure that the island has a comprehensive and up-to-date inventory of historic and archaeological resources, and their cultural significance.			✓
2.1.2.b	Require the update of existing planning and regulatory mechanisms to protect the natural, cultural, scenic, and historic resources within designated Heritage Areas (see Cultural Resources Overlay/Scenic Corridor Protection Technical Reference Map).			✓
2.1.2.c	Ensure that cultural, historic, and archaeological resources are protected for the benefit of present and future generations.	✓		
Objective:				
2.3	Enhance the island's historic, archaeological, and cultural resources.	✓		
Policies:				
2.1.3.a	Identify and pursue a listing of the properties and sites on the State and National Register of Historic Places.			✓
2.1.3.b	Support the use of easements, dedications, and other mechanisms to acquire, maintain, and protect lands with cultural, archaeological, and historic significance.	✓		
2.1.3.c	Support regulations to require developers, when appropriate, to prepare an Archaeological Inventory Survey, Cultural Impact Assessment, and Ethnographic Inventories that are reviewed and commented upon by the Office of Hawaiian Affairs, Native Hawaiian advisory bodies, the State Historic Preservation Division (SHPD), and the Office of Environmental Quality Control, and systematically comply with the steps listed in SHPD's administrative rules, including consultation and monitoring during construction phases of projects.			✓
2.1.3.d	Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures.	✓		
2.1.3.e	Encourage property owners to register historic and archaeological sites on the State and National Register.			✓
2.1.3.f	Support opportunities for public involvement with the intent to facilitate the protection and restoration of historic and archeological sites, including consultation with stakeholders.			✓
2.1.3.g	Encourage the resolution of land title questions relating to Land Commission Awards and Royal patents.			✓
2.1.3.h	Ensure compliance with historic preservation laws, and discourage demolition of properties that are determined to be eligible for listing on the National or State Register of Historic Places.	✓		
Analysis: **Portions of the two (2) seawall segments are historic structures, though repair work is limited to the mauka sections of the wall that are modern structures. The proposed repairs seek to reinforce and protect the walls, maintain their original height and preserve the visible quality of the original wall.**				
SHORELINE, REEFS, AND NEARSHORE WATERS				
Goal:				
2.2	An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.	✓		

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Objective:			
2.2.1 A more comprehensive and community-based ICZM program.			✓
Policies:			
2.2.1.a Encourage a management system that protects and temporarily rests the reef ecosystems from overuse.			✓
2.2.1.b Support the establishment of additional MMAs and reef replenishment areas.			✓
2.2.1.c Work with appropriate agencies and community members to protect any special managed conservation areas from overuse and ensure that surrounding land uses do not contribute to the degradation of the natural resources, such as Ahihi-Kinau Natural Area Reserve, Honolua-Mokulēia Bay Marine Life Conservation District, and Mākena State Park.			✓
2.2.1.d Incorporate the following into the MIP, where consistent with the MIP:			✓
(1) Beach Management Plan for Maui;			✓
(2) Coastal Nonpoint Pollution Control Program Management Plan;			✓
(3) Implementation Plan for Polluted Runoff Control; and			✓
(4) Ocean Resource Management Plan.			✓
2.2.1.e Support greater coordination among governmental agencies involved with the protection of the island's marine resources.			✓
Objective:			
2.2.2 Improved reef health, coastal water quality, and marine life.			✓
Policies:			
2.2.2.a Create additional mechanisms where needed to contain and control runoff and pollution.	✓		
2.2.2.b Allow extraction of high quality, Class A, low silt sands only when they will be used to protect or restore Maui's shorelines and beaches.			✓
2.2.2.c Carefully manage beach nourishment activities to protect the coastal and marine ecosystem.			✓
2.2.2.d Require, where appropriate, a buffer between landscaped areas and the shoreline, gulches, and streams to reduce the runoff of fertilizers, pesticides, herbicides, and other pollutants into coastal waters.			✓
2.2.2.e Strictly regulate shoreline armoring in accordance with adopted Shoreline Rules, with an intent to protect the coastal and marine ecosystem.			✓
2.2.2.f Support greater protection of Keālia Pond National Wildlife Refuge through the following:			✓
(1) Enhancement of marine ecosystems;			✓
(2) Beach and sand dune restoration; and			✓
(3) Expansion of habitat for Maui's threatened or endangered sea turtles, birds, and other species.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.2.2.g	Support the development of regulations to prevent the excessive depletion of fish stocks due to non-sustainable practices and gear such as SCUBA spear-fishing and lay nets, within the context of nearshore ecosystems.			✓
2.2.2.h	Encourage the State to conduct a regular census of fish populations and monitor coral health.			✓
2.2.2.i	Encourage the State to significantly increase the number of park rangers, enforcement officers, and marine biologists to protect coastal resources.			✓
2.2.2.j	Encourage the State to prohibit the collection and exportation of fish, coral, algae, and other marine species for the ornamental and aquarium trade.			✓
Objective:				
2.2.3	Water quality that meets or exceeds State Clean Water Act standards.			✓
Policies:				
2.2.3.a	Reduce the amount of impervious surface and devise site plan standards that aim to minimize storm runoff and NPS pollution.	✓		
2.2.3.b	Support the revision of existing regulations to require an Erosion and Sedimentation Control Plan (ESCP) for development activities that may pose a threat to water quality.			✓
2.2.3.c	Require an on-site monitoring program, where applicable, when grading may pose a threat to water quality or when recommended in the ESCP.			✓
2.2.3.d	Avoid development actions that impair Maui's reef systems and remove identified stressors.			✓
2.2.3.e	Phase out cesspools and restrict the use of septic systems in ecologically sensitive coastal areas by converting to environmentally-friendly alternative sewage treatment systems, and connecting to central sewerage systems when and where feasible.			✓
2.2.3.f	Prohibit the development of new wastewater injection wells, except when unavoidable for public health and safety purposes.			✓
2.2.3.g	Ensure that the County upholds its affirmative duty under the Clean Water Act by monitoring and reducing point and NPS pollution to help safeguard coastal waters.			✓
Objective:				
2.2.4	Acquire additional shoreline lands and shoreline access rights.			✓
Policies:				
2.2.4.a	Promote the use of conservation easements, land trusts, transfer and purchase of development rights, and mitigation banking.			✓
2.2.4.b	Require the dedication of public beach and rocky shoreline access ways to and along the shoreline where it serves a practical public interest as a condition of development or subdivision approval; future subdivisions and developments shall be consistent with and effectuate, to the extent practicable, the *Shoreline Access Inventory Update - Final Report* (March 2005), and its updates.			✓
2.2.4.c	Incorporate the *Shoreline Access Inventory Update - Final Report* (March 2005), and its regular updates, into this plan.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.2.4.d	Identify access points while further acquiring key shoreline parcels and easement rights to enhance and protect beach access and shoreline recreation.			✓
***Analysis:* The proposed project will reduce the amount of impervious surface area along Front Street and increase capacity to contain and control runoff.**				
WATERSHEDS, STREAMS, AND WETLANDS ISSUES				
Goal:				
2.3	Healthy watersheds, streams, and riparian environments.			✓
Objective:				
2.3.1	Greater protection and enhancement of watersheds, streams, and riparian environments.			✓
Policies:				
2.3.1.a	All present and future watershed management plans shall incorporate concepts of ahupuaa management based on the interconnectedness of upland and coastal ecosystems/species.			✓
2.3.1.b	Continue to support and be an active member of watershed partnerships.			✓
2.3.1.c	Support the establishment of regional water trusts, composed of public and private members, to manage water resources.			✓
2.3.1.d	Support regulations to require developments to utilize ahupuaa management practices.			✓
2.3.1.e	Work with private and non-profit entities to educate the public about the connection between upland activities within the watershed and the impacts on nearshore ecosystems and coral reefs.			✓
2.3.1.f	Provide adequate funding and staff to develop and implement watershed protection plans and policies, including acquisition and management of watershed resources and land.			✓
2.3.1.g	Encourage the State to mandate instream assessment to provide adequate water for native species.			✓
2.3.1.h	Maui will protect all watersheds and streams in a manner that guarantees a healthy, sustainable riparian environment.			✓
Objective:				
2.3.2	Decreased NPS and point source pollution.	✓		
Policies:				
2.3.2.a	Enforce water pollution related standards and codes.			✓
2.3.2.b	Support the use of LID Techniques such as those described in the State of Hawaii LID Practitioner's Guide (June 2006), as amended.	✓		
2.3.2.c	Encourage farmers and ranchers to use agricultural BMPs to address NPS pollution.			✓
Objective:				
2.3.3	Preserve existing wetlands and improve and restore degraded wetlands.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
2.3.3.a	Prohibit the destruction and degradation of existing upland, mid-elevation, and coastal wetlands.			✓
2.3.3.b	Support and fund wetland protection and improvement, and restoration of degraded wetlands.			✓
2.3.3.c	Where applicable, require developers to provide a wetland protection buffer and/or other protective measures around and between development and wetland resources.			✓
Objective:				
2.3.4	Greater preservation of native flora and fauna biodiversity to protect native species.			✓
Policies:				
2.3.4.a	Work with appropriate agencies to eliminate feral ungulate populations and invasive species.			✓
2.3.4.b	Encourage the State to provide adequate funding to preserve biodiversity, protect native species, and contain or eliminate invasive species.			✓
2.3.4.c	Support the work of conservation groups and organizations that protect, reestablish, manage, and nurture sensitive ecological areas and threatened indigenous ecosystems.			✓
Objective:				
2.3.5	Limited development in critical watershed areas.			✓
Policies:				
2.3.5.a	Discourage development and subdivision of land within critical watersheds and in areas susceptible to high erosion and sediment loss.			✓
2.3.5.b	Designate critical watershed areas as conservation lands.			✓
2.3.5.c	Strongly encourage new subdivisions and developments that are proximate to environmentally sensitive watershed resources to prepare and implement CSD plans.			✓
Objective:				
2.3.6	Enhance the vitality and functioning of streams, while balancing the multiple needs of the community.			✓
Policies:				
2.3.6.a	Protect and enhance natural streambeds and discourage stream alteration.			✓
2.3.6.b	Work with appropriate agencies to establish minimum stream flow levels and ensure adequate stream flow to sustain riparian ecosystems, traditional kalo cultivation, and self-sustaining ahupuaa.			✓
2.3.6.c	Respect and participate in the resolution of native Hawaiian residual land and water rights issues (kuleana lands, ceded lands, and historic agricultural and gathering rights).			✓
2.3.6.d	Ensure that stream flows implement laws and policies found in the State Constitution and Water Code.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.3.6.e	Work with appropriate agencies and stakeholders to establish minimum stream flow levels, promote actions to support riparian habitat and the use of available loi, and maintain adequate flows for the production of healthy kalo crops.			✓
Analysis: **The project design utilizes Low Impact Development (LID) principles to absorb more rain water, thereby producing less storm water runoff that will pollute the ocean.**				
WILDLIFE AND NATURAL AREAS				
Goal:				
2.4	Maui's natural areas and indigenous flora and fauna will be protected.			✓
Objective:				
2.4.1	A comprehensive management strategy that includes further identification, protection, and restoration of indigenous wildlife habitats.			✓
Policies:				
2.4.1.a	Identify and inventory the following:			
	(1) Natural, recreational, and open space resources;			✓
	(2) Flora and fauna with medium, high, and very high concentrations of threatened or endangered species; and			✓
	(3) Location and extent of invasive species.			✓
2.4.1.b	Require flora and fauna assessment and protection plans for development in areas with concentrations of indigenous flora and fauna; development shall comply with the assessment and protection plan and shall use the avoidance, minimization, and mitigation approach respectively, with an emphasis on avoidance.			✓
2.4.1.c	Support the implementation of Hawai`i's Comprehensive Wildlife Conservation Strategy (October 2005).			✓
Objective:				
2.4.2	A decrease in invasive species through programs and partnerships that eradicate undesirable species and protect native habitat.			✓
Policies:				
2.4.2.a	Prevent the introduction of invasive species at all of Maui's airports and harbors.			✓
2.4.2.b	Encourage the State to increase funding in support of invasive species interception, control, and eradication.			✓
2.4.2.c	Encourage the State to develop programs that allow students to participate in invasive species eradication projects.			✓
Objective:				
2.4.3	Greater protection of sensitive lands, indigenous habitat, and native flora and fauna.			✓
Policies:				
2.4.3.a	Secure an interconnected network of sensitive lands, greenways, watercourses, and habitats.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.4.3.b	Protect Maui's sensitive lands (see Sensitive Lands on Protected Areas Diagrams).			✓
2.4.3.c	Promote innovative environmental-planning methods and site-planning standards that preserve and re-establish indigenous flora and fauna habitat, to preserve and restore connected habitat corridors and open space.			✓
2.4.3.d	Utilize protection tools such as conservation easements, land trusts, land banks, Purchase of Developments Rights (PDRs), Transfer of Development Rights (TDRs), and other stewardship tools to acquire natural areas			✓
2.4.3.e	Encourage discussions with communities to designate heritage areas that protect recreational and cultural lifestyles and resources.			✓
2.4.3.f	Support the expansion of Haleakalā National Park, and the creation of new national parks, where appropriate and supported by local communities.			✓
2.4.3.g	Encourage reforestation efforts that increase native species' habitat.			✓
2.4.3.h	Utilize the Natural Area Partnership Program (NAPP) and other programs to protect natural lands.			✓
2.4.3.i	Support increased dedicated funding for the acquisition, protection, restoration, or preservation of important natural areas or open space through the following: grants from the Land and Water Conservation Fund; dedicated funding from real property taxes or other appropriate revenues; bond issues; real estate transfer tax; revenues from the Transient Accommodations Tax; development mitigation fees; and other appropriate funding sources.			✓
Analysis: **Not applicable.**				
SCENIC RESOURCES				
Goal:				
2.5	Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.	✓		
Objective:				
2.5.1	A greater level of protection for scenic resources.	✓		
Policies:				
2.5.1.a	Protect views to include, but not be limited to, Haleakalā, Īao Valley, the Mauna Kahalawai (West Maui Mountains), Puu Ōlai, Kahoolawe, Molokini, Molokai, and Lānai, Mauna Kea, Mauna Loa, sea stacks, the Pacific Ocean, and significant water features, ridgelines, and landforms.	✓		
2.5.1.b	Identify, preserve, and provide ongoing management of important scenic vistas and open space resources, including mauka-to-makai and makai-to-mauka view planes.			✓
2.5.1.c	Protect "night sky" resources by encouraging the implementation of ambient light ordinances and encouraging conversion of all sources that create excessive light pollution, affecting our ability to view the stars.			✓
2.5.1.d	Protect ridgelines from development where practicable to facilitate the protection of public views.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.5.1.e	Protect scenic resources along Maui's scenic roadway corridors.	✓		
Objective:				
2.5.2.	Reduce impacts of development projects and public-utility improvements on scenic resources.			✓
Policies:				
2.5.2.a	Enforce the policies and guidelines of the SMA regarding the protection of views.	✓		
2.5.2.b	Require any new subdivision of land, development, or redevelopment adjacent to a "high" or "exceptional" scenic corridor to submit an impact assessment of the project's scenic impacts; this assessment shall use the avoidance, minimization, and mitigation steps respectively, with an emphasis on avoidance.			✓
2.5.2.c	Require appropriate building setbacks and limits on wall heights to protect views along scenic corridors.			✓
2.5.2.d	Encourage the State of Hawai`i Board of Land and Natural Resources to deny any development within the State Conservation District that interferes with a scenic landscape or disrupts important open space resources.			✓
2.5.2.e	Require Urban Design and Review Board (UDRB) review and approval of utility poles, facilities, and other visible infrastructure improvements along scenic corridors.			✓
2.5.2.f	Ensure little or no effect on scenic resources from utility improvements, primarily power poles.			✓
2.5.2.g	Protect scenic vistas from intrusion by power poles.			✓
Objective:				
2.5.3	Greater protection of and access to scenic vistas, access points, and scenic lookout points.	✓		
Policy:				
2.5.3.a	Protect, enhance, and acquire access to Maui's scenic vistas and resources.	✓		
***Analysis*: The proposed repairs will preserve and enhance a scenic resource for viewing Molokaʻi, Lānaʻi, Kahoʻolawe, and the Pacific Ocean.**				
CHAPTER 3 – NATURAL HAZARDS				
Goal:				
3.1	Maui will be disaster resilient.	✓		
Objective:				
3.1.1	Increased inter-agency coordination.			✓
Policy:				
3.1.1.a	Reinforce the island's preparedness capacity by:			✓
	(1) Applying the latest data-gathering techniques/technology;			✓
	(2) Pursuing funding opportunities;			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
	(3) Improving monitoring and advance warning systems;			✓
	(4) Fostering public awareness; and			✓
	(5) Working with external agencies to coordinate disaster mitigation and response.			✓
Objective:				
3.1.2	Greater protection of life and property.	✓		
Policies:				
3.1.2.a	Identify critical infrastructure, lifelines, roads, and populations that are vulnerable to coastal hazards, and encourage strategic retreat and relocation to safer areas.			✓
3.1.2.b	Consider the location of dams, reservoirs, holding ponds, and other water-containing entities that are upstream of inhabited areas to anticipate, avoid, and mitigate inundation risks, and discourage new development in areas where possible inundation hazards may exist.			✓
3.1.2.c	Strengthen current development standards to minimize destruction of land and property.			✓
3.1.2.d	Encourage the use of construction techniques that reduce the potential for damage from natural hazards.	✓		
3.1.2.e	Increase the County's resilience to drought.			✓
3.1.2.f	Increase food and energy security through local production and storage.			✓
Objective:				
3.1.3	A more coordinated emergency response system that includes clearly defined and mapped evacuation routes.			✓
Policy:				
3.1.3.a	Identify and expand shelter facilities and evacuation routes away from areas susceptible to natural hazards.			✓
Objective:				
3.1.4	A more educated and involved public that is aware of and prepared for natural hazards.			✓
Policies:				
3.1.4.a	Promote public education and involvement related to natural hazards awareness and preparedness.			✓
3.1.4.b	Coordinate a multi-agency effort to establish and promote a comprehensive public education program that will focus on practical approaches to preparedness, damage prevention, and hazard mitigation.			✓
Analysis: **The proposed repairs will protect the shoreline, roadway and underlying infrastructure, and nearby properties from daily erosion and storm surge during natural disasters.**				

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CHAPTER 4 – ECONOMIC DEVELOPMENT				
ECONOMIC DIVERSIFICATION				
Goal:				
4.1	Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.			✓
Objective:				
4.1.1	A more diversified economy.			✓
Policies:				
4.1.1.a	Encourage an economy that is driven by innovation, research and development, and human resource development, including but not limited to, increasing technology- and knowledge-based sectors to be a major component in Maui County's economic base.			✓
4.1.1.b	Support the creation of new jobs and industries that provide a living wage.			✓
4.1.1.c	Facilitate and expedite permits and approvals.			✓
4.1.1.d	Develop linkages and partnerships among international research and development activities and Maui businesses.			✓
Objective:				
4.1.2	Increase activities that support principles of sustainability.			✓
Policies:				
4.1.2.a	Support industries that are sustainable, and culturally and environmentally sensitive.			✓
4.1.2.b	Encourage and support local businesses.			✓
4.1.2.c	Substitute imports with locally-produced services and products where practicable.			✓
4.1.2.d	Support the development of economic development clusters in targeted industry sectors.	✓		
4.1.2.e	Encourage all businesses to save energy, water, and other resources.			✓
Objective:				
4.1.3	Improve the island's business climate.			✓
Policies:				
4.1.3.a	Upgrade, maintain the quality of, and improve access to telecommunications infrastructure.			✓
4.1.3.b	Ensure an adequate supply of affordable workforce housing.			✓
4.1.3.c	Develop neighborhoods and communities that are attractive to the workforce of a diversified economy.			✓
4.1.3.d	Encourage, nurture, and reward entrepreneurship and innovation.			✓

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4.1.3.e	Encourage employers to establish incentive programs. Support flexibility in workforce policies compatible with business and quality of life goals.			✓
4.1.3.f	Assist community development organizations with revitalization and development of neighborhoods and communities that are attractive to the workforce of a diversified economy.			✓
***Analysis:* The Project Areas are located in West Maui's Urban Growth Boundary (UGB) and the existing seawalls have allowed for urban growth because they maintain the shoreline. Repairing the deteriorating wave deflector and streetscape elements will preserve the popular walkway for future use.**				
TOURISM				
Goal:				
4.2	A healthy visitor industry that provides economic well-being with stable and diverse employment opportunities.			
Objective:				
4.2.1	Increase the economic contribution of the visitor industry to the island's environmental well-being for the island's residents' quality of life.			✓
Policies:				
4.2.1.a	Engage the visitor industry in the growth of emerging sectors where practicable.			✓
4.2.1.b	Support the implementation of the Maui County TSP, when consistent with the MIP.			✓
4.2.1.c	Focus economic growth in the visitor industry through enhanced visitor experiences and an emphasis on attracting higher-spending.			✓
4.2.1.d	Provide a rich visitor experience, while protecting the island's natural beauty, culture, lifestyles, and aloha spirit.			✓
4.2.1.e	Diversify the tourism industry by supporting appropriate niche activities such as ecotourism, cultural tourism, voluntourism, ag-tourism, health and wellness tourism, educational tourism, medical tourism, and other viable tourism-related businesses in appropriate locations.			✓
4.2.1.f	Recognize the important economic contributions that the visitor industry makes and support a healthy and vibrant visitor industry.			✓
4.2.1.g	Support the increased availability of kamaāina discount programs.			✓
Objective:				
4.2.2	Comprehensively manage future visitor-unit expansion.			✓
Policies:				
4.2.2.a	Mitigate the impact of tourism on the host culture, natural environment, and resident lifestyles.			✓
4.2.2.b	Allow, where permitted by the community plan, the development of business hotels and small, sensitively-designed inns.			✓
4.2.2.c	Manage impacts from transient vacation rentals, hotels, bed and breakfast units, timeshares, and resort condominiums on residential communities, public infrastructure, and community facilities.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
4.2.2.d	Discourage supplanting of existing island housing to visitor accommodations that may have a negative impact on long-term rental housing, price of housing, and price of land.			✓
4.2.2.e	Allow the designation of retreat/mini-conference centers in appropriate locations through the community plan process.			✓
4.2.2.f	Community plans should consider establishing standards such as limits on building size, room count, and the number of inns, if any, that will be allowed in small towns.			✓
Objective:				
4.2.3	Maximize residents' benefits from the visitor industry.			✓
Policies:				
4.2.3.a	Promote a desirable island population by striving to not exceed an island-wide visitor population of roughly 33 percent of the resident population.			✓
4.2.3.b	Use the required General Plan Annual Status Report to monitor trends related to residents and visitors.			✓
Analysis: **Not applicable.**				
AGRICULTURE				
Goal:				
4.3	Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.			✓
Objective:				
4.3.1	Strive for at least 85 percent of locally-consumed fruits and vegetables and 30 percent of all other locally-consumed foods to be grown in-State.			✓
Policies:				
4.3.1.a	Strive to substitute food/agricultural product imports with a reliable supply of locally produced food and agricultural products.			✓
4.3.1.b	Facilitate and support the direct marketing/sale of the island's agricultural products to local consumers, through farmers markets and similar venues.			✓
4.3.1.c	Encourage growing a diverse variety of crops and livestock to ensure the stewardship of our land while safeguarding consumer safety.			✓
4.3.1.d	Work with the State to regulate and monitor genetically-modified-organism (GMO) crops to ensure the safety of all crops and label all GMO products.			✓
Objective:				
4.3.2	Maintain or increase agriculture's share of the total island economy.			✓
Policies:				
4.3.2.a	Encourage the export of the island's agricultural products to offshore markets.			✓
4.3.2.b	Support infrastructure investments at harbors, such as ferry service, airports, and other facilities for the rapid and cost-effective export of island-grown products.			✓
4.3.2.c	Encourage the continued viability of sugar cane production, or other agricultural crops, in central Maui and all of Maui Island.			✓

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4.3.2.d	Work with the State to reduce excise taxes for commercial agricultural products produced within the State.			✓
4.3.2.e	Coordinate with appropriate State and Federal Departments and agencies, private shipping companies, and farmers associations to assist in the rapid and cost-effective export of Maui's agricultural products to off-island markets.			✓
Objective:				
4.3.3	Expand diversified agriculture production at an average annual rate of 4 percent.			✓
Policies:				
4.3.3.a	Promote the development of locally-grown and ecologically-sound biofuels, aquaculture, and forest products.			✓
4.3.3.b	Support the development of farming associations/cooperatives.			✓
4.3.3.c	Work with educational institutions and appropriate agencies to provide education and training for farm owners and entrepreneurs.			✓
Analysis: **Not applicable.**				
EMERGING SECTORS				
Goal:				
4.4	A diverse array of emerging economic sectors.			✓
Objective:				
4.4.1	Support increased investment and expanded activity in emerging industries.			✓
Policies:				
4.4.1.a	Support the development of and access to state-of-the-art voice, video, and data telecommunications systems and high-speed Internet.			✓
4.4.1.b	Attract and assist industries to compete in high technology activities such as those related to renewable energy, green technologies, diversified agriculture, ocean sciences, health sciences, space technologies, and other knowledge-based industries.			✓
4.4.1.c	Support new industries that are environmentally and culturally sensitive such as health and wellness, sports and outdoor activities, cultural activities, the arts, film-making, entertainment, and digital media.			✓
4.4.1.d	Support a sustainable, culturally sensitive, astronomy industry.			✓
4.4.1.e	Support the continued development of the Maui Research and Technology Park in Kihei, as a center for research and development, education, and diversified economic development, as provided by the Maui County Code.			✓
4.4.1.f	Work with appropriate organizations to support the development of high technology clusters around renewable energy, diversified agriculture, ocean sciences, health sciences, and other knowledge-based industries.			✓
Objective:				
4.4.2	Increase the development of renewable energy technologies that are supported by the local community.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
4.4.2.a	Support the expansion of the renewable energy sector and the use of solar, wind, wave, and biofuel technologies.			✓
4.4.2.b	Provide incentives to encourage renewable energy development, the use of green energy technologies, and energy conservation.			✓
4.4.2.c	Ensure an adequate supply of land and facilitate permitting to meet the needs for renewable energy technologies such as solar, wind, wave, biofuel, and other technologies, provided that environmental, view plane, and cultural impacts are addressed.			✓
4.4.2.d	Support the Maui County Energy Alliance Plan where consistent with the MIP.			✓
Analysis: **Not applicable.**				
SMALL BUSINESS DEVELOPMENT				
Goal:				
4.5	Small businesses will play a key role in Maui's economy.			✓
Objective:				
4.5.1	Increase the number of and revenue generated by small businesses and decrease the percentage of small business failures.			✓
Policies:				
4.5.1.a	Provide incentives and support for small businesses and entrepreneurs that incorporate sustainable technologies and practices into their operations, utilize local materials, or produce and sell locally-made goods or services.			✓
4.5.1.b	Assist traditional "mom and pop" business establishments.			✓
4.5.1.c	Reduce barriers to small business development.			✓
4.5.1.d	Require, where feasible, the government procurement of goods and services from locally-owned, small businesses.			✓
4.5.1.e	Support community markets and venues that sell locally-made produce, goods, and services.			✓
Analysis: **Not applicable.**				
HEALTH CARE SECTOR				
Goal:				
4.6	Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.			✓
Objective:				
4.6.1	Expand the economic benefits of the health care sector.			✓
Policies:				
4.6.1.a	Encourage expanded services at MMMC and at other medical facilities.			✓
4.6.1.b	Support expansion of federally qualified health centers with the direct involvement of the residents of the communities served.			✓

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4.6.1.c	Support the use of multimedia as a means to provide healthcare information.			✓
4.6.1.d	Encourage digitalization of all diagnostic equipment at all facilities on Maui to enable sharing of data and more efficient use of limited provider workforce, consistent with data protection and patient privacy.			✓
4.6.1.e	Support the expansion of telemedicine.			✓
4.6.1.f	Encourage expansion and improved access to emergency care in all communities.			✓
Objective:				
4.6.2	Be more efficient in the delivery of health care services and in minimizing health care costs.			✓
Policies:				
4.6.2.a	Support expansion of health care providers and facilities to improve access to quality care throughout the island.			✓
4.6.2.b	Encourage the expansion of veteran health care services.			✓
4.6.2.c	Allow home-based out-patient medical care that does not interfere with surrounding neighborhoods.			✓
Objective:				
4.6.3.	Expand Maui's alternative health care services, including spiritual practices.			✓
Policies:				
4.6.3.a	Support efforts to promote alternative medicine.			✓
4.6.3.b	Allow small-scale home-alternative medicine businesses such as massage, chiropractic care, traditional Hawaiian healing, and acupuncture that do not interfere with surrounding neighborhoods.			✓
Analysis: **Not applicable.**				
EDUCATION AND WORKFORCE DEVELOPMENT				
Goal:				
4.7	Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.			✓
Objective:				
4.7.1	Improve preschool and K-12 education to allow our youth to develop the skills needed to successfully navigate the 21st century.			✓
Objective:				
4.7.1.a	Encourage the State to implement programs such as:			✓
	(1) Universally available preschool for children between the ages of one and five;			✓
	(2) Mandatory kindergarten;			✓
	(3) Mandatory K-5th grade classroom size limits of 1 teacher to 20 students;			✓

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	(4) Mandatory nutrition programs; and			✓
	(5) Mandatory Native Hawaiian programs at all grade levels.			✓
4.7.1.b	Encourage the DOE to extend the school day by at least an hour.			✓
4.7.1.c	Encourage the State to increase funding for public education so that Hawaii is among the top 10 states nationally as measured by investment per pupil.			✓
4.7.1.d	Encourage the State to ensure teacher certifications relate to effective delivery and improved student performances, and develop an industry experience/equivalency certification to assure our DOE students have access to career technical education and training.			✓
4.7.1.e	Encourage the UHMC to provide dormitory space for high school students.			✓
4.7.1.f	Encourage the development and implementation of curriculum on native Hawaiian history, culture, and practices, in consultation with native Hawaiian groups and associations.			✓
Objective:				
4.7.2	Encourage an increase in the number of certificate recipients and associate, bachelors, and graduate degrees conferred.			✓
Policies:				
4.7.2.a	Encourage the State to increase the number of articulation agreements between the UHMC and four-year universities, particularly the University of Hawaii at Manoa.			✓
4.7.2.b	Encourage the State to expand accredited 2-year, 4-year, and graduate programs through the UHMC.			✓
4.7.2.c	Encourage the education and training of our residents to meet the needs of a diversified economy.			✓
4.7.2.d	Support education and training programs such as student internships, vocational training, and career development opportunities to ensure a highly skilled workforce			✓
4.7.2.e	Work with educational institutions to improve and expand access to education and training through multiple modes, including distance learning.			✓
Objective:				
4.7.3	Strive to ensure that more of Maui's jobs are developed in STEM-related sectors by 2030.			✓
Policies:				
4.7.3.a	Support the development of STEM-related certificates and degrees at the two- and four year levels.			✓
4.7.3.b	Support the education initiatives of the Maui Agricultural Development Plan.			✓
4.7.3.c	Expand and seek funding for internships, mentoring, job shadowing, etc. to foster interest in health and green workforce careers.			✓
4.7.3.d	Work with MEDB, UHMC, and other similar organizations to expand internship/education programs to support STEM careers.			✓

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4.7.3.e	Continue to partner with the MEDB and other similar organizations to recruit, assist, and retain emerging industries, research and development activities, and educational/workforce opportunities.			✓
Analysis: **Not applicable.**				
CHAPTER 5 – HOUSING				
Goal:				
5.1	Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.			✓
Objective:				
5.1.1	More livable communities that provide for a mix of housing types, land uses, income levels, and age.			✓
Policies:				
5.1.1.a	Promote livable communities (compact/walkable/bikeable, access to transit) that provide for a mix of housing types and land uses, including parks, open space, and recreational areas.			✓
5.1.1.b	Promote planning approaches that provide a mix of multifamily and single-family housing units to expand housing choices.			✓
5.1.1.c	Discourage gated communities.			✓
5.1.1.d	Provide incentives for the rehabilitation or adaptive reuse of historic structures to facilitate more housing choices.			✓
5.1.1.e	Use planning and regulatory approaches to provide higher housing densities.			✓
Objective:				
5.1.2	Better monitoring, evaluation, and refinement of affordable housing policy in conjunction with the economic cycle.			✓
Policies:				
5.1.2.a	Improve data on resident and nonresident housing.			✓
5.1.2.b	Utilize the following approaches to promote resident housing and to minimize offshore market impacts:			✓
	(1) Ensure that the future housing stock is composed of a mix of housing types (multifamily, small lots, ohana units, co-housing, cottage houses, etc.);			✓
	(2) Encourage new housing in proximity to jobs and services, in places that are conducive/affordable to island residents; and			✓
	(3) Explore taxation alternatives and building fee structures.			✓
Objective:				
5.1.3	Provide affordable housing, rental or in fee, to the broad spectrum of our island community.			✓
Policies:				
5.1.3.a	Consider regulations that can help keep affordable housing available at affordable rents.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
5.1.3.b	Seek to have ownership of affordable for-sale and rental housing vested in a non-profit community land trust, or other qualified housing provider, committed to keeping such housing affordable in perpetuity.			✓
5.1.3.c	Facilitate the use of public lands in urban areas that are suitable for affordable housing.			✓
5.1.3.d	Develop or support partnerships and initiatives that provide housing-related education/outreach.			✓
5.1.3.e	Support the continuing efforts of the County and its community partners to:			✓
	(1) Disseminate information on different housing/financial assistance programs (loans, grants, etc.) including information on housing rehabilitation/restoration/adaptive reuse;			✓
	(2) Provide housing-related counseling including budget, credit, and financial planning assistance; and			✓
	(3) Create and maintain a comprehensive/master list of available affordable housing to help residents secure a unit that satisfies their need.			✓
Objective:				
5.1.4	Provide infrastructure in a more timely manner to support the development of affordable housing.			✓
Policies:				
5.1.4.a	Prioritize the development of infrastructure that supports the development of affordable housing.			✓
5.1.4.b	Utilize appropriate financing approaches and assistance tools to encourage the development of infrastructure and public facilities.			✓
5.1.4.c	Tailor infrastructure requirements to correspond with appropriate level-of-service standards to help control housing costs and to maintain safety.			✓
Objective:				
5.1.5	A wider range of affordable housing options and programs for those with special needs.			✓
Policies:				
5.1.5.a	Ensure that residents with special needs have access to appropriate housing.			✓
5.1.5.b	Encourage housing to be built or rehabilitated to allow the elderly and those with special needs to live in their homes.			✓
5.1.5.c	Ensure and facilitate programs to assist those with special needs from becoming homeless.			✓
5.1.5.d	Promote programs that stimulate the production of sustainable homeless shelters and alternative housing technologies.			✓
5.1.5.e	Support programs that offer home modification counseling on low-interest retrofit loans and grants to those with special needs.			✓
Objective:				
5.1.6	Reduce the cost to developers of providing housing that is affordable to families with household incomes 160 percent and below of annual median income.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
5.1.6.a	Support fast-track processing procedures for the following housing-related entitlements: affordable housing projects/units; indigenous Hawaiian housing/units; and special-needs housing units (seniors, disabled, homeless, etc.).			✓
5.1.6.b	Require the construction of affordable for-sale and rental housing units as part of the construction of new housing developments.			✓
5.1.6.c	Offer extra incentives in boom periods and withdraw incentives during slack periods.			✓
Objective:				
5.1.7	Increased preservation and promotion of indigenous Hawaiian housing and architecture.			✓
Policies:				
5.1.7.a	Preserve, promote, and give priority to Hawaiian housing/architecture forms to preserve Hawaiian culture.			✓
5.1.7.b	Provide for indigenous architecture as an allowable structure for native Hawaiian uses to include hula and lāau lapaau.			✓
Analysis: **Not applicable.**				
CHAPTER 6 – INFRASTRUCTURE AND PUBLIC FACILITES				
SOLID WASTE				
Goal:				
6.1	Maui will have implemented the ISWMP thereby diverting waste from its landfills, extending their capacities.			✓
Objective:				
6.1.1	Meet our future solid waste needs with a more comprehensive planning and management strategy.			✓
Policies:				
6.1.1.a	Update and publicize the ISWMP every ten years.			✓
6.1.1.b	Strengthen inter-agency coordination including Planning and Environmental Management departments.			✓
6.1.1.c	Divert waste from the landfills and educate the public about the recommendations of the ISWMP.			✓
6.1.1.d	Minimize future active, unlined landfill cells to the extent feasible.			✓
Objective:				
6.1.2	Divert at least 60 percent of solid waste from the island's landfills.			✓
Policies:				
6.1.2.a	Require residents and commercial enterprises that generate waste to pay a fair proportion of disposal costs.			✓
6.1.2.b	Encourage environmentally safe waste-to-energy solutions.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.1.2.c	Facilitate the reduction of solid waste generated by packaging, food service products, construction waste, etc.			✓
6.1.2.d	Educate residents and visitors about the impacts of and methods to reduce, reuse, and recycle.			✓
6.1.2.e	Discourage the disposal of landfill leachate by diversion to wastewater treatment plants, where practicable.			✓
Analysis: **Not applicable.**				
WASTEWATER				
Goal:				
6.2	Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to accommodate projected demand; ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.			✓
Objective:				
6.2.1	A wastewater planning program capable of efficiently providing timely and adequate capacity to service projected demand where economically feasible and practicable.			✓
Policies:				
6.2.1.a	Encourage the use of renewable energy in support of wastewater treatment facilities.			✓
6.2.1.b	Focus the expansion of wastewater systems to accommodate planned growth consistent with the MIP Directed Growth Strategy.			✓
6.2.1.c	Establish new wastewater treatment plant(s) outside the tsunami zone.			✓
Objective:				
6.2.2	Adequate levels of wastewater service with minimal environmental impacts.			✓
Policies:				
6.2.2.a	Meet or exceed all State and Federal standards regulating wastewater disposal or reuse.			✓
6.2.2.b	Encourage tertiary treatment for all municipal wastewater that is disposed through deep injection wells. Phase out all municipal and private injection wells in coordination with water reuse programs, where feasible, by 2020.			✓
6.2.2.c	Improve and upgrade the County's existing wastewater collection, treatment, and reuse facilities consistent with current and future plans and the County's CIP.			✓
6.2.2.d	Maintain an ongoing sewer inspection program for public and private multi-user systems to identify potential problems and forecast each system's residual life.			✓
6.2.2.e	Require all new developments to fund system improvements in proportion to the development impact and in accordance with the County's wastewater functional plan.			✓
6.2.2.f	Require appropriate funding mechanisms, such as a sinking fund, to adequately maintain or replace aging water-system components.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.2.2.g	Strongly encourage the phase out of cesspools.			✓
Objective:				
6.2.3	Increase the reuse of wastewater.			✓
Policies:				
6.2.3.a	Strengthen coordination between the Department of Water Supply (DWS) and the WWRD to promote reuse/recycling of wastewater.			✓
6.2.3.b	Expand the reuse of wastewater from the Central Maui, Kīhei, Lahaina, and other wastewater systems.			✓
Analysis: **Not applicable.**				
WATER				
Goal:				
6.3	Maui will have an environmentally sustainable, reliable, safe, and efficient water system.			✓
Objective:				
6.3.1	More comprehensive approach to water resources planning to effectively protect, recharge, and manage water resources including watersheds, groundwater, streams, and aquifers.			✓
Policies:				
6.3.1.a	Ensure that DWS actions reflect its public trust responsibilities toward water.			✓
6.3.1.b	Ensure the WUDP implements the State Water Code and MIP's goals, objectives, and policies.			✓
6.3.1.c	Regularly update the WUDP, to maintain compliance with the General Plan.			✓
6.3.1.d	Ensure that the County's CIP for water-source development is consistent with the WUDP and the MIP.			✓
6.3.1.e	Where desirable, retain and expand public ownership and management of watersheds and fresh-water systems.			✓
6.3.1.f	Encourage and improve data exchange and coordination among Federal, State, County, and private land use planning and water resource management agencies.			✓
Objective:				
6.3.2	Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs.			✓
Policies:				
6.3.2.a	Ensure the efficiency of all water system elements including well and stream intakes, water catchment, transmission lines, reservoirs, and all other system infrastructure.			✓
6.3.2.b	Encourage increased education about and use of private catchment systems where practicable for nonpotable uses.			✓
6.3.2.c	Maximize the efficient use of reclaimed wastewater to serve nonpotable needs.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.3.2.d	Work with appropriate State and County agencies to achieve a balance in resolving the needs of water users in keeping with the water allocation priorities of the MIP.			✓
6.3.2.e	Ensure water conservation through education, incentives, and regulations.			✓
6.3.2.f	Acquire and develop additional sources of potable water.			✓
Objective:				
6.3	Improve water quality and the monitoring of public and private water systems.			✓
Policy:				
6.3.3.a	Protect and maintain water delivery systems.			✓
Analysis: **Not applicable.**				
TRANSPORTATION				
Goal:				
6.4	An interconnected, efficient, and well-maintained, multimodal transportation system.	✓		
Objective:				
6.4.1	Provide for a more integrated island-wide transportation and land use planning program that reduces congestion and promotes more efficient (transit-friendly) land use patterns.			✓
Policies:				
6.4.1.a	Plan for an integrated multi-modal transportation system comprised of public transit, bicycle, pedestrian, automobile, and other transportation modes.	✓		
6.4.1.b	Refocus transportation investment from the construction of additional roadways only for the automobile to the expansion of a multimodal transportation system.	✓		
6.4.1.c	Encourage the use of “complete streets” design methods.	✓		
6.4.1.d	Encourage employers to implement TDM strategies.			✓
Objective:				
6.4.2	Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.	✓		
Policies:				
6.4.2.a	Ensure transit-, roadway-, and pedestrian-facilities design and level-of-service standards respect the unique character of our communities.	✓		✓
6.4.2.b	Prioritize transportation improvements list to cost-effectively meet existing and future needs consistent with the MIP.			✓
6.4.2.c	Require new development, where appropriate, to integrate sidewalks, pathways, bikeways, and transit infrastructure into new commercial and residential projects while enhancing community character.			✓
6.4.2.d	Identify and improve hazardous and substandard sections of roadways, drainage infrastructure, and bridges, provided that the historical integrity of the roads and bridges are protected.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
6.4.2.e Consider identification, acquisition where appropriate, and utilization of abandoned right of-ways for bikeways, pedestrian pathways, and open-space networks.			✓
6.4.2.f Support the implementation of the *Central Maui Pedestrian & Bicycle Master Plan* (March 2012), when consistent with the MIP.			✓
Objective:			
6.4.3 An island-wide, multimodal transportation system that respects and enhances the natural environment, scenic views, and each community's character.	✓		
Policies:			
6.4.3.a Ensure that the roadway and transit alignments respect the natural environment and scenic views.	✓		
6.4.3.b Ensure that roadways and transit systems in rural areas and small towns enhance community character.	✓		
6.4.3.c Design all transit systems to respect visual corridors and Maui's character.	✓		
***Analysis:* The Front Street corridor utilizes Complete Streets concepts and the proposed repairs to the sidewalk, railing, and seawalls preserve those design elements. Area 2 is situated along the path taken by the Maui Bus in its Lahaina Villager route, with a bus stop located at the intersection of Front Street and Pāpalaua Street. The walkways along both Area 1 and Area 2 respects visual corridors and the proposed project will maintain design elements that preserve the historic character of Lāhainā Town.**			
TRANSIT			
Goal:			
6.5 An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.			✓
Objective:			
6.5.1 An integrated transit system that better serves all mobility needs of Maui's residents and visitors.			✓
Policies:			
6.5.1.a Maximize access to public transit in town centers, commercial districts, and employment centers.			✓
6.5.1.b Expand regional and inter-regional transit services, where appropriate, in heavily traveled corridors and within communities			✓
6.5.1.c Increase the frequency of current service, add additional bus routes as demand requires, and transition to nonpolluting transit vehicles, as funding permits.			✓
6.5.1.d Provide adequate transit infrastructure (e.g., bus pullouts, waiting benches and shelters, signs) along existing and future transit right-of-ways.			✓
6.5.1.e Require new development where appropriate, to provide right-of-ways (ROWs) to accommodate transit circulation and support facilities.			✓
6.5.1.f Identify, protect, and preserve, or acquire corridors for future inter-community transit use, including but not limited to, rail and also multimodal use corridors.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.5.1.g	Establish transit corridors by planning for and securing right-of-way when appropriate for alternative modes of transportation (such as rail and water ferry service).			✓
6.5.1.h	Pursue improvements and upgrades to the existing transit system consistent with updated MDOT planning studies/transit plans (within the framework of comprehensive island-wide multimodal transportation plans).			✓
6.5.1.i	Increase inter-agency coordination between the Department of Planning, State Department of Transportation, County Department of Public Works, and other applicable agencies.			✓
Objective:				
6.5.2	Plan for a more diversified and stable funding base to support transportation goals.			✓
Policies:				
6.5.2.a	Support alternative methods and sources of funding transportation improvements (including impact fees, higher taxes, fare adjustments, dedicated sources of funding, and assessments).			✓
6.5.2.b	Collaborate with public-private entities or nonprofit organizations to reduce public transit operational expenses.			✓
6.5.2.c	Coordinate with appropriate Federal, State, and County agencies to fund transportation projects in areas where growth is anticipated.			✓
Analysis: **Not applicable.**				
PARKS				
Goal:				
6.6	Maui will have a diverse range of active and passive recreational parks, wilderness areas, and other natural-resource areas linked, where feasible, by a network of greenways, bikeways, pathways, and roads that are accessible to all.			✓
Objective:				
6.6.1	More effective, long-range planning of parks and recreation programs able to meet community needs.			✓
Policies:				
6.6.1.a	Support, consistent with the MIP, the implementation of open-space and recreational plans, such as the *Pali to Puamana Parkway* Master Plan and the *Upcountry Greenways Master Plan*.			✓
6.6.1.b	Utilize the ahupuaa approach by integrating mauka-to-makai natural landscapes into an island-wide parks and recreation functional plan.			✓
6.6.1.c	Provide a balanced mix of passive and active parks, including neighborhood, community, and regional parks, in each community plan area.			✓
6.6.1.d	Support the expansion of Haleakala National Park, where supported by affected communities.			✓
6.6.1.e	Support loi and dryland taro restoration in County, State, and Federal parks.			✓
6.6.1.f	Encourage private landowners to dedicate land to Federal, State, or County governments, or nonprofit land trusts, for parks and open-space protection consistent with the MIP.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.6.1.g	Strengthen inter-agency coordination including State and County departments, such as resolving joint use of facilities and properties.			✓
6.6.1.h	Work with the State to prepare and implement a master management plan for Āhihi-Kīnau and La Perouse-Keoneōio Bay to Kanaloa Point region.			✓
Objective:				
6.6.2	Achieve parks and recreation opportunities to meet the diverse needs of our community.			✓
Policies:				
6.6.2.a	Establish appropriate level-of-service standards at the neighborhood, community, and regional levels.			✓
6.6.2.b	Identify and acquire parks and recreational facilities that address existing park inadequacies and complement and enhance neighborhoods, communities, and natural land features.			✓
6.6.2.c	Design park facilities to preserve and enhance natural site characteristics, maximize views, protect environmental and cultural sites, and minimize water demands.			✓
6.6.2.d	Acquire lands along the shoreline, between coastal roadways and the ocean.			✓
6.6.2.e	Encourage the development of regional parks, district parks, and greenways in a manner that helps to contain sprawl, provide separation between distinct communities, or offer open space within urban communities.			✓
6.6.2.f	Require large master-planned communities that incorporate a mixture of park facilities pursuant to parks standards and functional plans.			✓
6.6.2.g	Support appropriate areas for cultural parks (e.g., Kepaniwai) in each community plan area.			✓
6.6.2.h	Incorporate community input to determine the appropriate location, design, and long-term stewardship of parks and recreation facilities.			✓
6.6.2.i	Manage commercial activities at public parks to minimize impacts to residents.			✓
6.6.2.j	Support public-private partnerships to implement the acquisition and development of parks when consistent with the General Plan.			✓
6.6.2.k	Support a coordinated program to improve, operate, and maintain joint-use facilities and grounds.			✓
Objective:				
6.6.3	An expanded network of greenways, trails, pathways, and bikeways.			✓
Policies:				
6.6.3.a	Link existing and future park sites, natural areas, the shoreline, and residential areas with a network of bikeways, pedestrian paths, trails, and greenways.			✓
6.6.3.b	Support the implementation of plans and programs that facilitate pedestrian mobility and access to active and passive recreation areas and sites.			✓
6.6.3.c	Collaborate with the State and private land owners to ensure perpetual access and proper stewardship of traditional trails and access systems.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.6.3.d	Facilitate the development of well-managed noncommercial campgrounds throughout the island.			✓
6.6.3.e	Consider requiring commercial bike rental businesses to provide funding that supports a mauka-to-makai Haleakalā bikeway improvement program.			✓
6.6.3.f	Ensure ADA compliance and seek opportunities to make all parks and recreational facilities accessible to people with disabilities.			✓
Analysis: **Not applicable.**				
PUBLIC FACILITIES				
Goal:				
6.7	Maui will have adequate public facilities that meet the diverse needs of residents.	✓		
Objective:				
6.7.1	More effective planning for public facilities to meet community needs.	✓		
Policies:				
6.7.1.a	Ensure the development and update of island-wide public facilities functional plans that incorporate prioritized facilities, programs, and a financial component.			✓
6.7.1.b	Establish appropriate level-of-service standards for public facilities provided by the County.			✓
6.7.1.c	Pursue improvements and upgrades of County public facilities consistent with the public facilities functional plan.			✓
6.7.1.d	Recognize Wailuku Town as Maui's Civic Center and support the revitalization of the Civic Center District by consolidating government office spaces, enhancing landscape beautification, and providing adequate public parking.			✓
6.7.1.e	Support, with community input, the relocation of the Maui Community Correctional Center from Wailuku to an appropriate location in Puunēnē.			✓
6.7.1.f	Adequately plan and fund public safety facilities (fire, police, ambulance, civil defense) to meet community needs.			✓
6.7.1.g	Increase joint facilities utilization and program coordination between State and County agencies such as baseyards, communication centers, recreational facilities, etc., where feasible.			✓
6.7.1.h	Focus future expenditures for additional government office space, parking, and related facilities in Wailuku's Civic Center District.			✓
6.7.1.i	Encourage continuous and safe walkways for children within one mile of each school.	✓		
6.7.1.j	Encourage public-private partnerships to identify and resolve public facility plan shortcomings when consistent with the General Plan.			✓
6.7.1.k	Incorporate community/area residents' input to determine the appropriate location and design of public facilities.			✓
Analysis: **The proposed project helps ensure the structural integrity of a popular pedestrian walkway located in the Lahaina Historic District.**				

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
SCHOOLS AND LIBRARIES				
Goal:				
6.8	Maui will have school and library facilities that meet residents' needs and goals.			✓
Objective:				
6.8.1	Assist in providing appropriate school and library facilities in a timely manner and in strategic locations.			✓
Policies:				
6.8.1.a	Work in partnership with all educational institutions to meet current and future needs including appropriate location, timing, and design of future facilities.			✓
6.8.1.b	Allow for the expansion and intensification of uses at the UHMC including satellite campuses operating in remote areas.			✓
6.8.1.c	Encourage the DOE to build and maintain smaller, community-oriented schools.			✓
6.8.1.d	Encourage better cooperation by the State and County for use of State and County facilities.			✓
6.8.1.e	Encourage the State to upgrade, modernize, and expand school facilities, including those in remote communities.			✓
6.8.1.f	Work with the State to develop a master plan for the expansion of UHMC in accordance with the MIP.			✓
6.8.1.g	Support partnerships (public/private/nonprofit) to build and staff new schools and improve existing facilities.			✓
6.8.1.h	Work with the BOE HSPLS to provide centralized library services (including telecommunications) to all areas of Maui.			✓
6.8.1.i	Work with the State to expedite planning and construction of Kīhei High School, including the integration of the high school with the Maui Research and Technology Park.			✓
6.8.1.j	Work with the State to identify intermediate school sites in Central Maui and other areas where needed.			✓
Objective:				
6.8.2	Provide a more expansive network of safe and convenient pedestrian-friendly streets, trails, pathways, and bikeways between neighborhoods and schools where appropriate.			✓
Policies:				
6.8.2.a	Encourage the State to build new school facilities in appropriate locations that minimize time and distance for students to travel to and from school.			✓
6.8.2.b	Encourage the State to implement the Safe Routes to School initiative with funding commitments to help the County plan and fund projects that ensure safe access routes to school.			✓
Analysis: **Not applicable.**				

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HEALTH CARE				
Goal:				
6.9	All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.			✓
Objective:				
6.9.1	Greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
Policies:				
6.9.1.a	Encourage the State to give greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
6.9.1.b	Support innovative financial solutions, such as capital partnerships, joint ventures, and consolidations for MMMC and other health institutions.			✓
6.9.1.c	Support MMMC as a major core medical center that provides a greater range of services.			✓
6.9.1.d	Support the immediate development of a critical access hospital in West Maui.			✓
6.9.1.e	Support the expansion of regional critical-access facilities, where allowed by Federal regulations.			✓
6.9.1.f	Improve medical service to remote and outlying regions.			✓
6.9.1.g	Support transportation services for dialysis patients and community dialysis programs.			✓
6.9.1.h	Work with the State to determine the feasibility of appropriate medical facilities in South Maui and Hāna, including the possible reestablishment of a small community hospital in Hāna, the establishment of a hospital in South Maui, and assist the State in securing funding to meet Maui's health care needs.			✓
Objective:				
6.9.2	An expansion of long-term care facilities and long-term care alternatives to meet the needs of our aging population.			✓
Policies:				
6.9.2.a	Support efforts to increase Maui's long-term care bed capacity to cover current and future needs, close to large population centers.			✓
6.9.2.b	Recognize that facilities for low-income elders who need long-term care are a needed form of affordable and subsidized housing.			✓
6.9.2.c	Evaluate the needs of the long-term disabled and provide planning support for their care, if there is a need for long-term care facilities.			✓
6.9.2.d	Consider long-term care facilities as a major potential employment base and encourage the recruitment and training of potential employees.			✓
Objective:				
6.9.3	More support to home-care and community-based programs so they become alternatives to traditional nursing homes.			✓

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Policies:				
6.9.3.a	Support the establishment of a program to assist the elderly and people with disabilities to remain in their homes or in a home-like setting.			✓
6.9.3.b	Support the establishment of senior and adult-day-care centers and senior housing.			✓
6.9.3.c	Continue to support existing senior centers (e.g. Kaunoa), and establish new senior centers that will provide day-care sites and programs for the disabled and elderly.			✓
6.9.3.d	Support funding alternatives for community-based services that assist home-care efforts.			✓
6.9.3.e	Encourage the State to adopt the recommendations contained within the Legislative Reference Bureau's report entitled "Gimme a Break: Respite Care Services in Other States," (December 2007) where appropriate, feasible, and consistent with the MIP.			✓
Objective:				
6.9.4	Improved preventative medicine and primary health care.			✓
Policies:				
6.9.4.a	Develop and utilize health-status benchmarks to measure prevention and primary health care service delivery.			✓
6.9.4.b	Support programs that provide family planning assistance.			✓
Analysis: **Not applicable.**				
ENERGY				
Goal:				
6.10	Maui will meet its energy needs through local sources of clean, renewable energy, and through conservation.			✓
Objective:				
6.10.1	Reduce fossil fuel consumption. Using the 2005 electricity consumption as a baseline, reduce by 15 percent in 2015; 20 percent by 2020; and 30 percent by 2030.			✓
Policies:				
6.10.1.a	Support energy efficient systems, processes, and methods in public and private operations, buildings, and facilities.			✓
6.10.1.b	Support the Maui Solar Rooftop initiative.			✓
6.10.1.c	Support Hawai`i Energy and other Public Utility Commission (PUC) approved energy efficiency programs.			✓
Objective:				
6.10.2	Increase the minimum percentage of electricity obtained from clean, renewable energy sources. By 2015, more than 15 percent of Maui's electricity will be produced from locally-produced, clean, renewable energy sources, 25 percent by 2020, and 40 percent by 2030.			✓

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Policies:				
6.10.2.a	Evaluate available renewable energy resource sites and applicable technologies.			✓
6.10.2.b	Encourage the installation of renewable energy systems, where appropriate.			✓
6.10.2.c	Support the establishment of new renewable energy facilities at appropriate locations provided that environmental, view plane, and cultural impacts are addressed.			✓
6.10.2.d	Encourage all new County facilities completed after January 1, 2015, to produce at least 15 percent of their projected electricity needs with onsite renewable energy.			✓
Objective:				
6.10.3	Increased use of clean, renewable energy.			✓
Policies:				
6.10.3.a	Support efforts in the PUC to upgrade Maui's power grid to integrate renewable energy from multiple sources and wheeling of electricity.			✓
6.10.3.b	Encourage the PUC to work with the County to implement and expedite community supported renewable energy projects.			✓
6.10.3.c	Encourage efforts to produce more renewable energy using distributed generation.			✓
6.10.3.d	Encourage import substitution by MECO and the broader community to become more self-sufficient in energy production.			✓
6.10.3.e	Educate the public on the economic and environmental benefits from the increased use of renewable energy.			✓
6.10.3.f	Encourage support from the Federal government, State, and the private sector for Maui's renewable energy objectives.			✓
6.10.3.g	Encourage incentives to support the development and use of renewable energy.			✓
Objective:				
6.10.4	More efficient distribution of power throughout the island while preserving island beauty.			✓
Analysis: **Not applicable.**				
HARBORS AND AIRPORT				
Goal:				
6.11	Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.			✓
Objective:				
6.11.1	Upgraded harbor facilities to handle larger volumes of freight and passengers and additional small boat harbors.			✓
Policies:				
6.11.1.a	Support the expansion and upgrade of Kahului Harbor through the following, provided that any expansion is respectful of cultural practices and existing recreational uses and supports improved water quality:			

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
	(1) Accommodate increasing volumes of cargo;			✓
	(2) Provide deeper pier depths and greater fuel-receiving and storing capacities; and			✓
	(3) Ensure safe and efficient work areas, including separating passenger operations from fuel and cargo operations.			✓
6.11.1.b	Work with public and private entities to provide adequate pier slips, utilities, repair facilities, and waste-disposal capabilities.			✓
6.11.1.c	Encourage the State to safely separate passenger (cruise and ferry) operations from hazardous bulk fuels and heavy cargo transporting operations, while not decreasing harbor's capacity to safely support various recreational uses.			✓
6.11.1.d	Encourage the State to develop cargo inspecting sites and facilities for efficient cargo and container processing and transportation and to prevent alien species entry.			✓
6.11.1.e	Support a State and County task force to study the feasibility of a second commercial harbor on Maui.			✓
Objective:				
6.11.2	Establish more economically thriving and environmentally sensitive small boat harbors accommodating resident and business activity, including fishing, recreation, and tour boats.			✓
Policy:				
6.11.2.a	Provide for needed shore-side facilities and capabilities to support small boat harbor users (e.g. repair facilities, parking, cold storage, and mass-transit connections).			✓
Objective:				
6.11.3	Upgraded airport facilities and navigation aids to serve the needs of passengers, freight movements, and general aviation.			✓
Policies:				
6.11.3.a	Protect the island's airports from encroaching urbanization that may negatively impact the airport operations.			✓
6.11.3.b	Support State efforts to improve Kahului Airport operations to better serve passenger and cargo needs.			✓
6.11.3.c	Support State efforts to identify sites and plan to relocate and accommodate small and rotary wing aircraft.			✓
6.11.3.d	Encourage the State to improve airport safety including lighting, fuel transmission, fuel safety, etc.			✓
6.11.3.e	Consider expansion of rental car facilities in West and South Maui.			✓
6.11.3.f	Consider expansion of mass transit (bus, fixed-rail, shuttle, and taxis, bicycle, and pedestrian facilities) to and from Kahului Airport and not limited to passenger movements (allowing for luggage and cargo).			✓
6.11.3.g	Encourage the State to maintain airport capacity and to encourage more responsive air services to Hāna and Kapalua.			✓
Analysis: **Not applicable.**				

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
CHAPTER 7 – LAND USE				
AGRICULTURAL LANDS				
Goal:				
7.1	Maui will have a prosperous agricultural industry and will protect agricultural lands.			✓
Objective:				
7.1.1	Significantly reduce the loss of productive agricultural lands.			✓
Policies:				
7.1.1.a	Allow, where appropriate, the clustering of development on agricultural lands when approved as a CSD plan or similar approval mechanism.			✓
7.1.1.b	Require, where appropriate, the review and approval of CSD plans prior to the subdivision of agricultural land.			✓
7.1.1.c	Discourage developing or subdividing productive agricultural lands for residential uses in which the residence would be the primary use and any agricultural activities would be secondary uses.			✓
7.1.1.d	Consider requirements for public notification and review of the subdivision of agricultural land into four or more lots.			✓
7.1.1.e	Focus urban growth, to the extent practicable, away from productive and important agricultural lands.			✓
7.1.1.f	Strongly discourage the conversion of productive and important agricultural lands (such as sugar, pineapple, and other produce lands) to rural or urban use, unless justified during the General Plan update, or when other overriding factors are present.			✓
7.1.1.g	Further develop the requirements for agricultural assessments found under Section 19.510, MCC.			✓
7.1.1.h	Provide incentives for landowners to preserve and protect agricultural lands from development through the use of TDR/PDR, tax credits, easement programs, or similar means.			✓
7.1.1.i	Promote the use of U.S.D.A. Farm and Ranch Lands Protection Program grants to fund the acquisition of conservation easements on eligible agricultural lands.			✓
7.1.1.j	Require all major developments adjacent to agricultural lands to provide an appropriate and site-specific agricultural protection buffer as part of a required site plan.			✓
7.1.1.k	Support and promote the viability of Maui's agricultural businesses through property tax incentives and other programs and subsidies.			✓
7.1.1.l	Encourage future community plan efforts to identify lands within the County Agricultural zoning district that are primarily being used for large-lot residential or rural use and consider such lands for reclassification to an appropriate County Rural zone.			✓
Objective:				
7.1.2	Reduction of the island's dependence on off-island agricultural products and expansion of export capacity.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
7.1.2.a	Coordinate with the agricultural community, associations/community groups, agricultural landowners, and the State to designate IALs.			✓
7.1.2.b	Support an incentive package for productive Agricultural Lands which aims to ensure agricultural viability for small- and commercial-scale agricultural producers.			✓
7.1.2.c	Actively look to acquire land and provide infrastructure to expand the agricultural park and establish new agricultural parks.			✓
7.1.2.d	Support the designation of a research and development area within agricultural parks to help farmers stay attuned to new technology and research.			✓
7.1.2.e	Support local cooperative extension services to facilitate timely technology transfer opportunities.			✓
7.1.2.f	Support plans and programs to develop additional sources of water for irrigation purposes.			✓
7.1.2.g	Consider appropriate subdivision requirements (gravel roads, above-ground utilities, etc.) in those subdivisions creating Agricultural Parks where lots are limited to agricultural production with no dwellings.			✓
7.1.2.h	Support the recommendations, policies, and actions contained within the Maui Agricultural Development Plan, July 2009, when consistent with the MIP.			✓
7.1.2.i	Allow water and tax discounts for legitimate farming operations on rural and agricultural land.			✓
7.1.2.j	Give priority in delivery and use of agricultural water and agricultural land within County agricultural parks to cultivation of food crops for local consumption.			✓
7.1.2.k	Support programs that control pests and diseases that affect agriculture.			✓
7.1.2.l	Support the development of training and apprenticeship programs to encourage an adequate supply of agricultural workers.			✓
Objective:				
7.1.3	Support and facilitate connectivity between communities.			✓
Policies:				
7.1.3.a	Evaluate the impact of gated communities on interconnectivity.			✓
7.1.3.b	Discourage land use and urban design that impedes interconnectivity between adjacent communities.			✓
Analysis: **Not applicable.**				
RURAL AREAS				
Goal:				
7.2	Maui will have a rural landscape and lifestyle where natural systems, cultural resources and farm lands are protected and development enhances and compliments the viability and character of rural communities.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Objective:				
7.2.1	Reduce the proliferation and impact of residential development outside of urban, small town, and rural growth boundaries.			✓
Policies:				
7.2.1.a	Focus development to areas inside urban, small town, and rural growth boundaries to preserve natural, cultural, and agricultural resources.			✓
7.2.1.b	Encourage cluster development with a mandatory buffer requirement/clear edge at the interface of country towns, agricultural uses, and surrounding rural landscapes.			✓
7.2.1.c	Encourage or require, where appropriate, CSDs and the use of green spaces/natural separations to protect the character of rural landscapes.			✓
7.2.1.d	Encourage basic goods/services in business country towns.			✓
7.2.1.e	Allow for mixed uses, including residential uses, within Business Country Town Districts.			✓
7.2.1.f	Encourage the use of alternative stormwater management techniques that minimize land disturbance and preserve natural drainage features.			✓
7.2.1.g	Encourage green belts, open space buffers, and riparian zones to minimize conflicts between agriculture and residential uses.			✓
7.2.1.h	Evaluate the impact of gated communities on inter-connectivity.			✓
Objective:				
7.2.2	More appropriate service/infrastructure standards to enhance and protect the island's rural character and natural systems.			✓
Policies:				
7.2.2.a	Minimize impermeable surfaces within rural areas.			✓
7.2.2.b	Protect and support the character, economic viability, and historic integrity of Maui's small towns.			✓
7.2.2.c	Use infrastructure, public service, and design standards that are appropriate to rural areas.			✓
7.2.2.d	Discourage land use and urban design that impede interconnectivity between adjacent communities.			✓
Analysis: **Not applicable.**				
URBAN AREAS				
Goal:				
7.3	Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.			✓
Objective:				
7.3.1	Facilitate and support a more compact, efficient, human-scale urban development pattern.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Policies:				
7. 3.1.a	Ensure higher-density compact urban communities, infill, and redevelopment of underutilized urban lots within Urban Growth Boundaries.			✓
7.3.1.b	Maintain a distinct separation between communities, such as but not limited to, Wailuku and Waikapū; Wailuku and Waihee; Pukalani and Makawao; Pukalani and Kula; Makawao and Hāliimaile; Lāhainā and Kāanapali; Kīhei and Māalaea; and Māalaea and Waikapū, to protect the character and identity of Maui's communities.			✓
7.3.1.c	Strengthen evaluation requirements for new urban expansion, new towns, and major urban infill projects within urban growth areas. Tailor submittal requirements to reflect the impact or scale of different projects.			✓
7.3.1.d	Ensure future amendments to urban growth boundaries achieve the following: (1) provide a beneficial extension of the existing community; (2) are in areas where it is cost-effective to provide and operate infrastructure/public service facilities; and (3) do not promote automobile-oriented land use patterns.			✓
7.3.1.e	Evaluate the impact of gated communities on inter-connectivity.			✓
7.3.1.f	Encourage the development and implementation of neighborhood design standards that are environmentally friendly, such as LEED for Neighborhood Development (LEED – ND) standards.			✓
7.3.1.g	Discourage future pyramid zoning within the industrial zoning districts, while allowing accessory commercial uses and grandfathering existing uses.			✓
7.3.1.h	Promote agriculture by encouraging community gardening, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓
7.3.1.i	Discourage land use and urban design that impedes inter-connectivity between adjacent communities.			✓
Objective:				
7.3.2	Facilitate more self-sufficient and sustainable communities.			✓
Policies:				
7.3.2.a	When developing new communities, provide sufficient lands for commercial, appropriate industrial, educational, spiritual, and non-profit uses to serve the daily needs of community residents.			✓
7.3.2.b	Site community facilities such as schools, parks, libraries, and community centers within walking and biking distance of residences.			✓
7.3.2.c	Facilitate self-sufficient communities and shorten commutes by:			✓
	(1) Directing residential development to job-rich areas;			✓
	(2) Allowing for appropriate commercial development and community services to shorten commutes; and			✓
	(3) Allowing home occupations or home-based businesses that are compatible with surrounding neighborhoods and lifestyles.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
7.3.2.d	Ensure, where appropriate, that affordable employee housing and multi-modal transportation opportunities are located near major employment centers.			✓
7.3.2.e	Discourage the establishment of bedroom communities where long commutes are required to employment centers.			✓
7.3.2.f	Facilitate the development of housing by focusing projects in locations where land and infrastructure costs facilitate the development of affordably-priced housing.			✓
7.3.2.g	Provide incentives to facilitate the development of multifamily housing.			✓
7.3.2.h	Encourage the placement of rental housing projects in the same areas as for-sale housing to facilitate mixed-income communities.			✓
7.3.2.i	Develop communities that provide sufficient parks, schools, libraries, and other essential public facilities and services to serve resident needs.			✓
7.3.2.j	Promote agriculture by encouraging community gardening, edible landscaping, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓
Objective:				
7.3.3	Strengthen the island's sense of place.	✓		
Policies:				
7.3.3.a	Protect and enhance the unique architectural and landscape characteristics of each community.	✓		
7.3.3.b	Encourage Hawaiian architecture and tropical building designs.			✓
7.3.3.c	Support the continued revitalization of historic country towns, Wailuku Town, and Kahului's commercial core and harbor-front without displacing traditional, cultural, recreational and customary uses.			✓
7.3.3.d	Strongly encourage the preservation of buildings, structures, and sites of historic significance.	✓		
7.3.3.e	Require community input through Design Workshops for major new urban expansion, new towns, and major urban infill projects.			✓
7.3.3.f	Require design enhancement, landscaping, and integration of park and rides, bicycle parking areas, and mass-transit infrastructure to mitigate the effect of parking lots and structured parking on the urban landscape.			✓
7.3.3.g	Ensure that safe and attractive public spaces (e.g., plazas, parks, town/village squares) are provided throughout the island's urban areas.	✓		
Objective:				
7.3.4	Strengthen planning and management for the visitor industry to protect resident quality of life and enhance the visitor experience.			✓
Policies:				
7.3.4.a	Discourage the conversion of hotel units to timeshares and fractional ownership.			✓
7.3.4.b	Monitor and manage the amount of, and impacts from, timeshares and fractional ownership.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
7.3.4.c	Manage short-term rentals and bed-and-breakfast homes through a permitting and regulatory process in accordance with adopted ordinances and community plan policies.			✓
7.3.4.d	Limit large-scale resort development to the four existing resort destination areas of Wailea, Mākena, Kapalua and Kāanapali. "Large Scale Resort" is defined as complexes that include multiple accommodation facilities, activity businesses, retail complexes, and other amenities.			✓
Objective:				
7.3.5	Ensure that Maui's planning and development review process becomes more transparent, efficient, and innovative.			✓
Policies:				
7.3.5.a	Encourage greater community involvement in land use planning and decision making.			✓
7.3.5.b	Establish a predictable and timely development review process that facilitates the approval of projects that meet planning and regulatory requirements.			✓
7.3.5.c	Increase inter-agency coordination between the Department of Planning and all State and County agencies responsible for infrastructure and public facilities provision, particularly as it relates to the mitigation of long-term cumulative impacts resulting from development projects.			✓
7.3.5.d	Provide greater certainty and transparency in the development review process.			✓
7.3.5.e	Expand and maintain land use and geographic information system databases for improved decisions, and make data and products available to the public.			✓
Analysis: **The proposed project helps to preserve the islands' sense of place through the revitalization of a popular and iconic public space in a historic district.**				
CHAPTER 8 – DIRECTED GROWTH PLAN				
URBAN AND SMALL TOWN GROWTH AREA				
Goal:				
8.1	Maui will have well-serviced, complete, and vibrant urban communities and traditional small towns through sound planning and clearly defined development expectations.			✓
Policies:				
8.1.a	The County, with public input, will be responsible for designating new growth areas where infrastructure and public facilities will be provided, consistent with the policies of the MIP and in accordance with State and County infrastructure plans.			✓
8.1.b	Amendments to a UGB or STB shall be reviewed as a MIP amendment. A UGB or STB shall only be expanded if the island-wide inventory (maintained by the Department of Planning) of existing land uses (residential, commercial, industrial) indicates that additional urban density land is necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
8.1.c	Community plans shall provide for urban density land use designations only within UGBs and Small Towns. The County may only support and approve State Urban Land Use Designations for areas within UGBs, STBs, and Rural Villages.			✓
8.1.d	The unique character and function of existing small towns shall be protected to retain and preserve their sense of place.			✓
8.1.e	New development shall be consistent with the UGBs, STBs, and all other applicable policies of the MIP. New urban-density development shall not be allowed outside of a UGB or STB.			✓
8.1.f	The County, as a condition of development approval, shall require developers of privately owned infrastructure systems to provide financial insurance (bonding, etc.) for the operation and maintenance of these systems.			✓
8.1.g	The County shall implement a zoning program to comprehensively redistrict and rezone lands within UGBs according to updated community plan policies and map designations.			✓
8.1.h	The County will seek to focus capital improvements (schools, libraries, roads, and other infrastructure and public facilities) within the UGBs and STBs in accordance with the MIP.			✓
8.1.i	The County will promote (through incentives, financial participation, expedited project review, infrastructure/public facilities support, etc.) appropriate urban infill, redevelopment and the efficient use of buildable land within UGBs to avoid the need to expand the UGBs.			✓
8.1.j	The MIP's UGBs and STBs shall not be construed or implemented to prohibit the construction of a single-family dwelling on any existing parcel where otherwise permitted by law.			✓
Analysis: **Not applicable.**				
RURAL GROWTH AREA				
Goal:				
8.2	Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations.			✓
Policies:				
8.2.a	Amendments to a RGB shall be reviewed as an MIP amendment. A RGB shall only be expanded if an island-wide inventory of existing land uses (residential, commercial, industrial) indicates that additional lands are necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓
8.2.b	New development shall be consistent with RGB and all other applicable policies and requirements of the MIP. Public, quasi-public, civic, and limited commercial or industrial uses may be allowed in the RGB when the proposed uses demonstrate a public need and are consistent with the Community Plan and zoning.			✓
8.2.c	Environmental protection and compatibility will be a top priority in rural growth areas.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
8.2.d	All development within rural growth areas should avoid encroachment upon prime agricultural land.			✓
8.2.e	Rural growth areas include Rural Residential Areas and Rural Villages. Rural residential areas may be designated when they are located in association with or on the border of urban growth areas or Small Towns; and/or when they provide for complete, self-sufficient rural communities with a range of uses to be developed at densities that do not require urban infrastructure.			✓
8.2.f	Community plans shall provide for rural density land use designations only within RGBs; provided that limited community plan urban designations may be allowed within Rural Villages. New rural growth areas shall not be located where urban expansion may ultimately become necessary or desirable. New rural-density development shall not be allowed outside of a RGB.			✓
8.2.g	New rural growth areas intended to be complete, self-sufficient rural communities must be located a significant distance from existing urban areas, distinctly separated by agricultural or open lands.			✓
8.2.h	Urban-scale infrastructure and public facilities shall not be provided in rural areas except as described in the defined Level-of-Service (LOS) standards. There should be no expectations of urban services in rural areas.			✓
8.2.i	Urban development standards shall not be required within RGBs except in fulfillment of Federal law.			✓
8.2.j	The unique character and function of existing small towns and rural communities shall be protected to retain and preserve their sense of place.			✓
8.2.k	Preserve rural landscapes in which natural systems, cultural resources, and agricultural lands are protected and development compliments rural character and contributes to the viability of communities and small towns.			✓
8.2.l	The MIP's RGBs shall not be construed or implemented to prohibit the construction of a single family dwelling on any existing parcel where otherwise permitted by law.			✓
8.2.m	The County shall implement a zoning program to comprehensively redistrict and rezone lands within RGBs, and to implement community plan policies and map designations.			✓
8.2.n	At the time of zoning from agricultural to rural, Council will consider prohibiting restrictions on agricultural activity.			✓
Analysis: **Not applicable.**				
PROTECTED AREA POLICY				
8.3.a	The Protected Areas in Diagrams E-1, NW-1, N-1, NE-1, S-1, SE-1, and WC-1 should be concurrently reviewed with Table 8-2 and with any proposed land uses that may result in an adverse impact on a Protected Area. The County Council and the Administration should be notified if a Protected Area may be compromised by a development proposal.			✓
Analysis: **Not applicable.**				

H. WEST MAUI COMMUNITY PLAN

Within Maui County, there are nine (9) community plan regions. From a General Plan implementation standpoint, each region is governed by a Community Plan which sets forth desired land use patterns, as well as goals, objectives, policies, and implementing actions for a number of functional areas, including infrastructure-related parameters. The project site is located within the West Maui Community Plan (WMCP) region.

Land use guidelines are set forth by the WMCP Land Use Map. The proposed Project Areas are designated "Business/Commercial" and "Open Space". See Error! Reference s ource not found.. The proposed project is, therefore, consistent with the underlying land use designations.

Moreover, the proposed project is also in conformance with the following goals, objectives, and policies of the WMCP:

LAND USE

Goal:

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

Objectives and Policies for the West Maui Region in General:

1. *Protect and enhance the quality of the marine environment.*

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

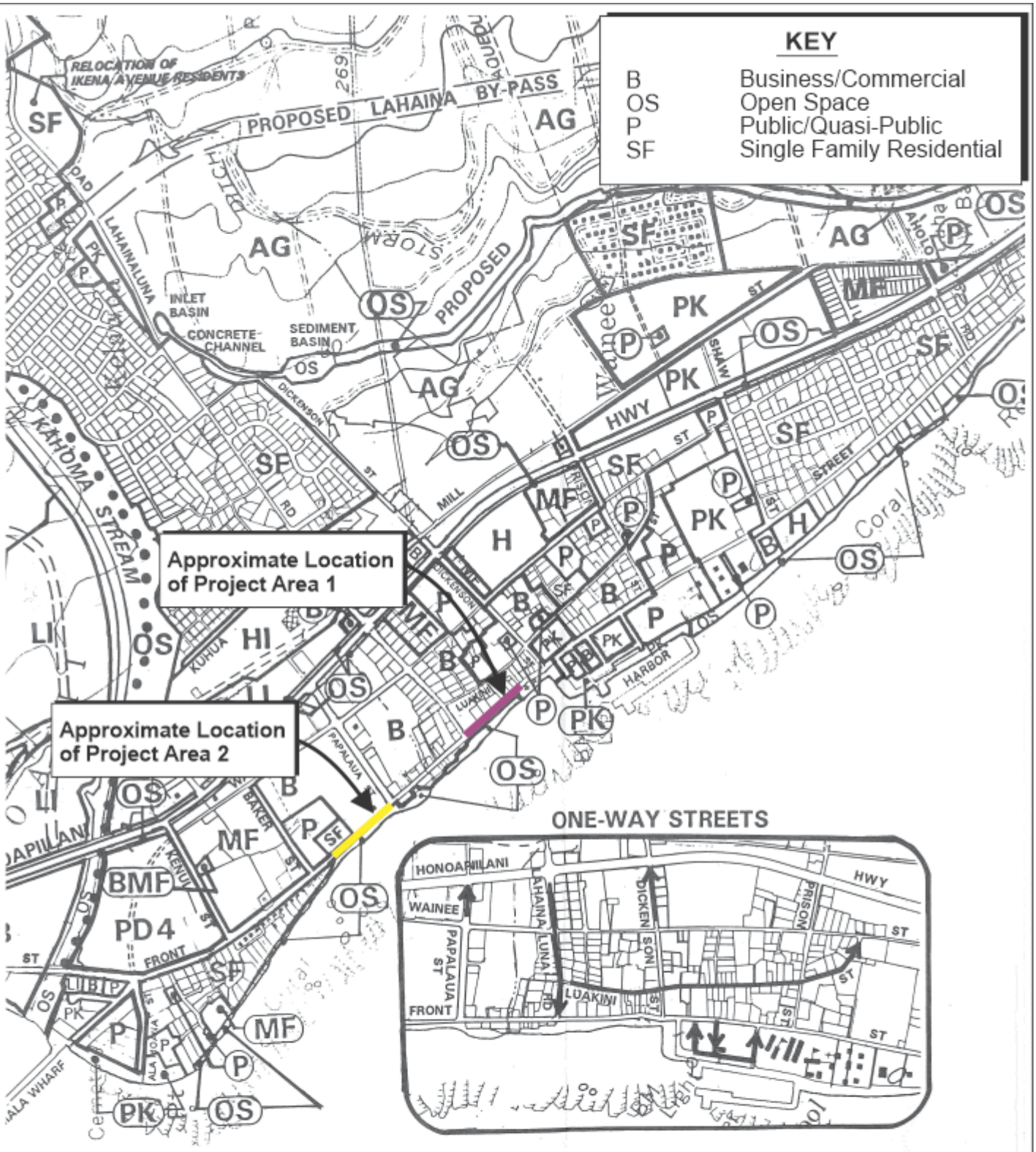
* * *

10. *Provide and maintain parks and beach access for the present and future needs of residents and visitors…*

Objectives and Policies for Lāhainā Town:

1. *The area bounded by Honoapiilani Highway and Front Street define Lahaina town. Within this core, allow higher density commercial and civic activites with lower density residential uses on the periphery to emphasize the importance of Lahaina town as the regional service center and an attraction to residents and visitors alike.*

2. *Emphasize visitor amenities, regional commercial activites and facilities which convey community identity along Front Street from Baker to Dickenson Streets.*



Source: County of Maui, Department of Planning

Figure 15

Front Street Sidewalk, Railing, and Seawall Repair

Community Plan Map

NOT TO SCALE

Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\CommunityPlanMap

Response: *The proposed project is located along Front Street between Baker and Dickenson Streets. The proposed seawall repairs will protect the streetscape situated in the Project Areas from erosion, and protect the nearshore marine environment from pollutants that would enter the water due to erosion. The proposed project also helps enhance a scenic area used to enjoy viewing Molokaʻi, Lānaʻi, Kahoʻolawe, and the Pacific Ocean.*

ENVIRONMENT

Goal:

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

Objectives and Policies:

1. *Protect all waters and wetland resources. Such resoures provide open space and habitat for plant and animal life in the aquatic environment. The area is also important for flood control and natural landscape.*

* * *

3. *Protect the quality of nearshore and offshore waters. Monitor outfall systems, streams and drainage ways and maintain water quality standards. Continue to investigate, and implement appropriate measures to mitigate, excessive growth and proliferation of algae in nearshore and offshore waters.*

* * *

13. *Promote the planting of trees and other landscape planting to enhance streetscapes and the build environment.*

* * *

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

Response: The proposed repairs to the Front Street seawalls will protect the marine environment by preventing further erosion along the shoreline and the accompanying degradation of nearshore water quality. The proposed repairs to the sidewalk in Area 1 incorporate the planting of vegetation that enhances the streetscape and prevents runoff.

URBAN DESIGN

Goal:

An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design at the resort destinations of kaanapali and kapalua, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses, and at major public facilities, and recognizes the historic importance and traditions of the region.

Objectives and Policies for the West Maui Region in General:

3. Improve pedestrian and bicycle access within the region.

* * *

9. Save and incorporate healthy mature trees in the landscape planting plans of subdivisions, roads or any other construction or development.

Objectives and Policies for Lāhainā Town:

1. Maintain the scale, building massing and architectural character of historic Lahaina town.

2. Improve pedestrian and bicycle access within the town core.

* * *

4. Establish, expand and maintain parks, public and private open spaces, public facilities, cemeteries, and public areas within Lahaina town.

* * *

7. Landscape Character:

* * *

c. Front Street landscape palnting should provide canopy shade trees, compatible in scale and subordinated to adjacent buildings. These trees should not obscure the continuous facades of the commercial district; they shold allow views of storefronts and the ocean.

Response: The proposed project will enhance the neighborhood character by revitalizing dilapidating infrastructure. The existing sidewalk, railing, and seawalls are deterioriating and in need of repair to maintain their structural integrity and ensure public safety. The proposed landscaping involves replacing the existing kou trees with another type of shade tree and removing the planters surrounding the trees to provide more room for them to grow. This will also help to open up sight lines along the walkway and discourage illegal activity from occurring in the public space.

INFRASTRUCTURE

Goal:

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

Transportation:

Objectives and Policies:

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

* * *

7. Establish Front Street and Wainee Street as local roads withing Lahaina Town with an emphasis on enhancing pedestrian and bicycle amenities thorugh (a) reduction of on-street parking; and (b) improvements to pedestrian circulation.

Response: The proposed repairs to the Front Street sidewalk, seawalls, and railing will improve the safety and convenience of pedestrians traversing Front Street.

Social Infrastructure

Goal:

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

Objectives and Policies:

2. Provide urban park space for passive activies which allow for respite from shopping and sightseeing activities within Lahaina town.

* * *

7. Ensure adequate public access to shoreline area, including lateral access to establish the continutity of public shoreline.

Response: The proposed sidewalk repairs include replacing the benches and removing the planters that are situated along Front Street. This provides a safer environment for shoppers and sightseers to rest. The proposed project also includes repair work to stairs that lead to the beach near Project Area 1.

I. MAUI COUNTY ZONING

The County of Maui Zoning Designation is Historic District 2 (Lahaina). The proposed project is a permitted use and consistent with the underlying County zoning designations for the property. A Historic District Application will also be prepared for the proposed project and submitted to the Department of Planning for review and processing.

J. COASTAL ZONE MANAGEMENT AREA

The Hawai‘i Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawai‘i Coastal Zone. The Coastal Zone Management (CZM) area is defined as lands of the State and the area extending seaward from the shoreline to the limit of the State’s police power and management authority, including the United States territorial sea. The County of Maui utilizes its Special Management Area (SMA) regulatory mechanism to implement the HCZMP.

The project site is located within the County of Maui’s SMA. Refer to **Figure 6**. This section analyzes the proposed project relative to CZM considerations, as set forth in Chapter 205A, HRS and the SMA Rules and Regulations of the Maui Planning Commission.

HRS 205A-2 Coastal Zone Management Program Objectives and Policies

This section addresses the project’s relationship to applicable coastal zone management considerations, as set forth by Chapter 205A.

1. Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

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

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

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

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

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

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

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

h. Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

i. Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

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

Response: The proposed project will help to preserve public access to County and State controlled shoreline lands for recreational purposes, ensure that access to shoreline lands align with public safety standards, and reduce the amount of runoff that accesses the coastal waters near Front Street.

2. Historic Resources

Objective:

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

Policies:

a. Identify and analyze significant archaeological resources;

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

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

Response: The Project Areas are located within the Lahaina Historic District, National Park Service (NPS reference number 66000302). The cultural and historic significance of Lāhainā is indicated by the placement of the historic section of Lāhainā within the Lahaina Historic District and designated as a National Historic Landmark District, which was nominated for placement on the National Register of Historic Places on December 29, 1962 (updated in 1974). The Lahaina Historic District is currently listed on the Hawai‘i Register of Historic Places as State Site Number-50-03-3001 (State Site 50-50-03-3001). As previously noted, the DPW also submitted a HRS 6E review form to the State Historic Preservation Division (SHPD) regarding archaeology review for the project. Refer to **Appendix "E"**.

Front Street, especially the shoreline abutting areas such as the project site, add to the historic character of Lāhainā Town. The proposed renovations will maintain the town's historic character design elements while enhancing the safety and structural integrity of the sidewalk, railing, and seawalls.

3. Scenic and Open Space Resources

Objective:

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

Policies:

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

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

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

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

Response: The proposed repairs to the Front Street sidewalk, railing, and seawalls help to improve and restore shoreline open spaces and scenic resources. The two (2) Project Areas provide scenic views of the Pacific Ocean and the neighboring islands of Lānaʻi, Molokaʻi, and Kahoʻolawe.

4. Coastal Ecosystems

Objective:

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

Policies:

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

b. Improve the technical basis for natural resource management;

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

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

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

Response: The proposed repairs to the two (2) seawalls will help minimize disruption or degradation of coastal water ecosystems by preventing further erosion of the developed coastline.

5. Economic Uses

Objective:

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

Policies:

a. Concentrate coastal dependent development in appropriate areas;

b. Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

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

i. Use of presently designated locations is not feasible;

ii. Adverse environmental effects are minimized; and

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

Response: The existing seawalls allowed for urban development in the surrounding area. Restaurants, retail shops, and art galleries have been built along Front Street to create a bustling economic corridor. Repairing the sidewalk, railing, and seawalls will enhance the businesses that have been built around the coastal environment.

6. Coastal Hazards

Objective:

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

Policies:

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

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

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

d. Prevent coastal flooding from inland projects.

Response: The proposed repairs to the deteriorating seawalls and wave deflector will reduce hazard to life and property from storm waves, erosion, and pollution.

7. Managing Development

Objective:

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

Policies:

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

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

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

Response: As previously noted, the proposed project will require permitting, including a SMA Use Permit and Shoreline Setback Variance in order to proceed. The Maui Planning Commission is the approving body for said permits and a public hearing by the Commission would be required for the permit review. Further, a public informational meeting was held on February 13, 2020 to inform the public about the proposed options being reviewed for the project. Additionally, other meetings have been held with community stakeholders, such as the West Maui Taxpayers Association and the Lahaina Restoration Foundation. A meeting memo summarizing key discussion points at the February 2020 public meeting and March 2020 meeting with merchants along Front Street is provided in **Appendix "H"** and **Appendix "I"**.

8. Public Participation

Objective:

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

Policies:

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

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

issues, developments, and government activities; and

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

Response: As previously noted, the DPW has engaged the community on the proposed project. A public informational meeting was held in February 2020 and from the meeting was utilized in developing the preferred alternative. Additionally, a joint meeting with the Lahaina Restoration Foundation and Front Street merchants was held in March 2020 to also provide information and receive feedback. Refer to **Appendix "H"** and **Appendix "I"**. Further, the SMA and SSV public hearing by the Maui Planning Commission would be open to the public. The proposed project is in consonance with the objective and policies for Public Participation.

9. Beach Protection

Objective:

Protect beaches for public use and recreation.

Policies:

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

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

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

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

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

Response: The proposed project would repair two (2) existing areas along Front Street. Work involves replacing the wave deflector atop the historic seawall in Area 1 and replenishing boulders in the stacked rock wall in Area 2. The seawalls have existed in this area since the 1900's and provide protection for the

developed area in Lāhainā as well as scenic outlook areas for residents and visitors.

10. Marine Resources

Objective:

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

Policies:

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

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

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

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

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

Response: During construction, appropriate Best Management Practices (BMPs) will be implemented to protect the nearshore environments. Among the BMPs to be implemented are placement of a steel framed falsework cantilevered over the ocean, sealing the falsework to the face of the seawall to remain, and installation of compost filter socks around the work area boundary.

K. SPECIAL MANAGEMENT AREA RULES OF THE MAUI PLANNING COMMISSION

The Special Management Area Rules of the Maui Planning Commission, Chapter 202 were established in order to implement Hawai‘i Revised Statues, Chapter 205A relating to coastal zone management and Special Management Areas. In addition to establishing procedures for processing of Special Management Area applications and procurement of related permits, the rules assist the Commission in giving consideration to state policy regarding coastal zones.

The SMA Rules of the Maui Planning Commission confirm that the objectives and policies of Chapter 202 shall be as set forth under Section 205A-2, HRS, discussed in the previous part of this section, and that the SMA guidelines shall be set forth under Section 205A-26, HRS, also discussed above. The SMA Rules of the Maui Planning Commission also provide that in implementing these objectives and policies of the Maui Planning Commission, it shall fully consider ecological, cultural, historic, and aesthetic values, as well as need for economic development.

This section addresses the project's relationship to applicable CZM considerations as set forth in the Special Management Area Rules of the Maui Planning Commission. Section 12-202-12(e) sets forth the following criteria for determining whether a proposed action may have a substantial adverse environmental or ecological effect, while also taking into account potential cumulative adverse effects. The criteria have been reviewed and analyzed with respect to whether the proposed action may have a significant adverse effect on the environment when the proposed action:

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

   The current project scope does not work to the historic elements of the Area 1 and Area 2 seawalls. Instead, work will be limited to reconstruction of modern additions to the seawalls for stability and long-term protection. Though the two (2) seawalls were originally constructed over 50 years ago, both have been heavily modified through time and the proposed repairs will rehabilitate the modern additions. The proposed project will be non-invasive regarding the ground surface and repair the sections that have eroded through time.

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

   The proposed project will not curtail the range of beneficial uses of the environment. Comprehensive and detailed engineering and architectural plans provide BMPs that will be implemented to minimize any construction-related impacts from the project. These BMPs include containment measures, both on land and in the water to minimize the amount of pollutants that enter the ocean. Upon completion of the improvements, the public would again be able to enjoy the two (2) areas.

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

   The proposed project does not conflict with the State's Environmental Policy and Guidelines such as those established in Chapter 344, HRS. The proposed project is consistent with the property's underlying land use designations, which were

established to guide development patterns, limiting the land uses considered to be compatible with the regional context and suitable for the regional environment.

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

On a short-term basis, the project will support construction and construction-related industries, thereby increasing employment opportunities to result in a beneficial impact on the local economy during the period of construction. The proposed project is considered compatible with surrounding land uses of Lāhainā Town. From a long-term perspective, area businesses and services will benefit from the development as it will provide enhanced amenities to the area.

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

The proposed project will protect or enhance public facilities, streets, and pedestrian walkways. The work within Project Area 1 will consist of repairing the damaged wave deflector that projects over the seawall, replacing the wood rails, reconstructing the damaged concrete sidewalk, repairing and existing stairway, and replacing the planters located along the walkway. The work within Project Area 2 will consist of replenishing the boulder seawall. The proposed project is not anticipated to have impacts on population change.

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

The proposed project is not anticipated to create or contribute to any significant adverse cumulative or long-term environmental effects.

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

An Environmental Survey report was prepared to ensure that any sensitive flora/fauna resources within the project site would be identified and provided adequate protection. Refer to **Appendix "C"**. The survey concluded that the proposed project will not have a significant impact on native biological resources.

In consideration of the foregoing, the proposed project is not anticipated to present significant adverse impacts on rare, threatened, or endangered species of animal or plant, or its habitat.

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

Lands underlying the project site were previously committed for development with the establishment of the State Land Use Commission "Urban" and "Conservation" District designations, inclusion in the UGB of the MIP, "Business/Commercial" and "Open Space" community plan designations in the West Maui Community Plan, and Historic District 2 (Lahaina) zoning designations. As discussed herein, the proposed project is in compliance with underlying land use designations and is not considered to be contrary to the State Plan, the County's General Plan, appropriate community plans, zoning, or subdivision ordinances.

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

Construction activities will result in short-term air quality and noise impacts. In the short-term, noise impacts will occur primarily from construction equipment. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaiʻi, Department of Health Administrative Rules Title 11, Chapter 46, "Community Noise Control." These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46. In the long-term, the proposed streetscape is not anticipated to detrimentally affect ambient noise levels. Work in Area 1 is anticipated to be conducted at night during weekdays to minimize disruptions to the surrounding businesses. Consultation with the affected stakeholders will be done prior to construction. Work in Area 2 is anticipated to be done during daylight hours and on weekdays to limit impacts to the neighboring residents.

As such, with incorporation of the foregoing measures, the proposed project is not anticipated to detrimentally affect air or water quality or ambient noise levels in vicinity of the project site.

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

The proposed project is located in Flood Zones X, XS, and VE, areas of high flood risk. Area1 and Area 2 are both in the Tsunami Evacuation Zone. The proposed project would provide repairs and improvements to existing seawalls, landscaping, lighting, and related improvements.

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

The proposed project has been designed to complement and enhance existing development along Front Street. Careful consideration has been given during the planning process to formulate a site plan that is both sensitive and place appropriate to the area. Work is primarily designed to replace or repair infrastructure to ensure safety and structural integrity of the streetscape. It is not expected to alter natural land forms or existing public views to and along the shoreline.

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

A review of the objectives and policies of Chapter 205A, HRS, is provided in its entirety in the previous part of this section, which addresses the project's relationship to the CZM considerations. Based on the foregoing analysis, the project will appropriately and adequately mitigate impacts to SMA-relevant areas of interest. Accordingly, there are no anticipated significant adverse environmental and ecological impacts attributed to the proposed project.

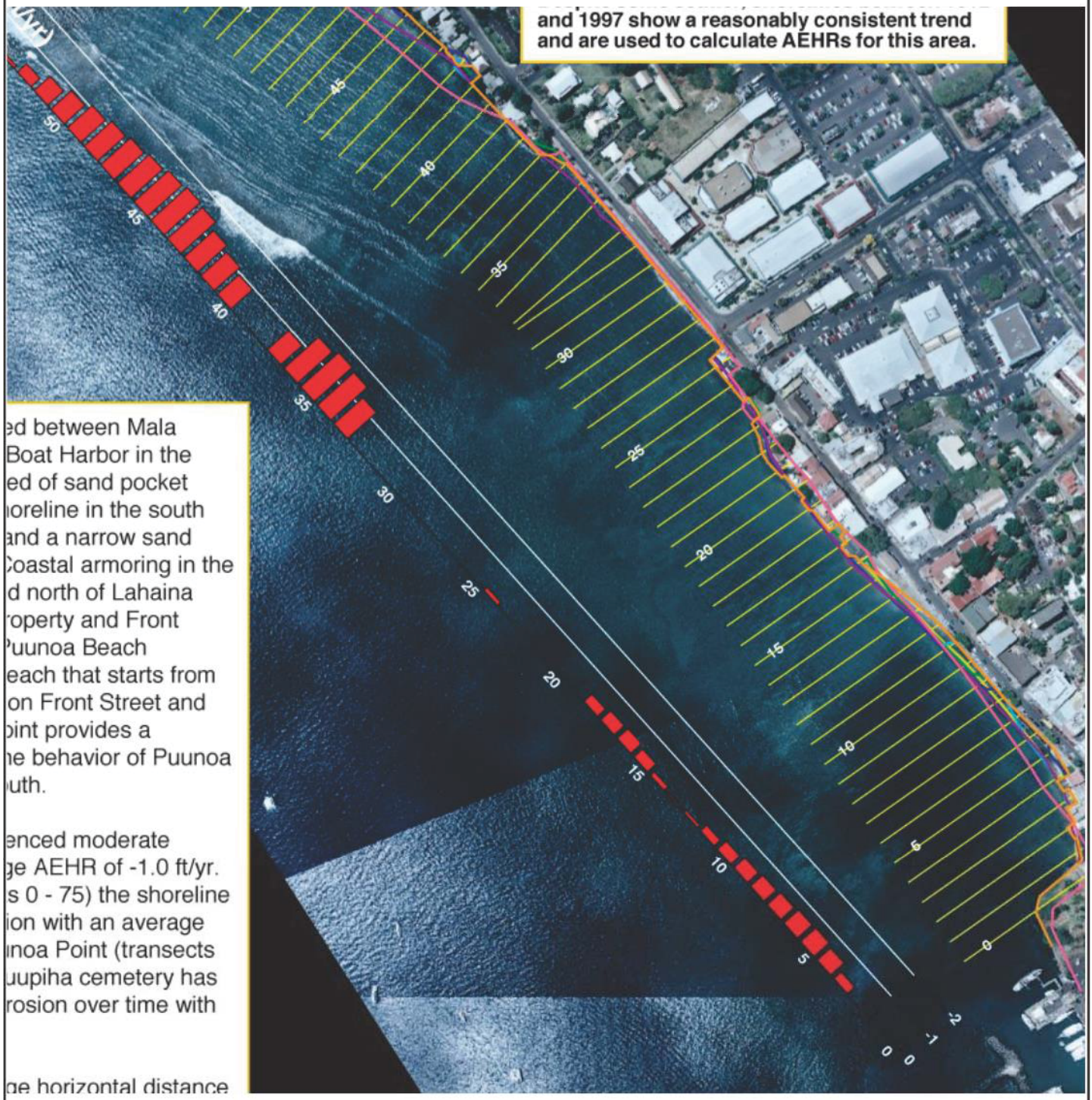
L. SHORELINE ZONE CONSIDERATIONS

As previously noted, DPW filed a Shoreline Setback Variance (SSV) request due to the nature of the proposed replacement activities within the shoreline setback area. Refer to Chapter I, Proposed Action. Work within the shoreline setback area is governed by Chapter 203, Shoreline Rules for the Maui Planning Commission.

The shoreline rules regulate the use and activities of land within the shoreline environment in order to protect the health, safety, and welfare of the public by providing minimum protection from known coastal natural hazards; and to ensure that the public use and enjoyment of the shoreline resources are preserved and protected for future generations in accordance with the Hawaiʻi Coastal Zone Management Law, HRS Chapter 205A.

1. Shoreline Setback Determination

According to the Maui Shoreline Atlas, prepared by the University of Hawaiʻi Coastal Geology Group, the Project Areas correspond to the areas between transects 5 and 14 for Area 1 and 27 and 34 for Area 2 of Lāhainā. Generally, the study noted that the beach at the Project Areas have been relatively stable, experiencing low levels of erosion (less than 1 foot/year in Area 1) and no net erosion in Area 2, likely due to the existing seawall improvements. See **Figure 16**, Annual Erosion Hazard Rate Map for Lahaina.



Source: County of Maui, Coastal Geology Group, Department of Geology and Geophysics

Figure 16

Front Street Sidewalk, Railing, and Seawall Repair

Annual Erosion Hazard Rate Map

NOT TO SCALE

Prepared for: County of Maui, Department of Public Works

MUNEKIYO HIRAGA

Sato\FrontSt Sidewalk PERMITTING\Applications\Figures\Annual Erosion Hazard Rate

Since the shoreline area is hardened in Area 1 and Area 2, the shoreline setback calculated using the Annual Erosion Hazard Rate (AEHR) is shown in **Table 3**. The Average Lot Depth calculation was not utilized for the proposed project as there are no defined "lot" boundaries for the Front Street roadway parcels.

Table 3. Shoreline Calculations

AREA 1			AREA 2		
Transect Number (Lāhainā Erosion Map)	**Annual Erosion Hazard Rate (AEHR)**	**Setback Distance (ft.)**	**Transect Number (Lāhainā Erosion Map)**	**Annual Erosion Hazard Rate (AEHR)**	**Setback Distance (ft.)**
5	0.7	60	27	0	25
6	0.6	55	28	0	25
7	0.6	55	29	0	25
8	0.5	50	30	0	25
9	0.5	50	31	0	25
10	0.4	45	32	0	25
11	0.3	40	33	1.3	90
12	0.1	30	34	1.6	105
13	0.1	30			
14	0.2	35			
Source: UH Coastal Geology Group.					

Based on the above noted calculations, the shoreline setback area in Area 1 ranges from 30 feet to 60 feet, while the setback area for Area 2 ranges from 25 feet to 105 feet. The proposed repair activities within Area 1 and Area 2 will be completed within the Shoreline Setback Areas.

2. Shoreline Processes

As previously noted, the shoreline erosion rate for the shoreline fronting the Project Areas has been relatively stable, experiencing low levels of or no net erosion at all transect locations.

The study area of the Lāhainā (from Mala Wharf in the north to Lāhainā Small Boat Harbor in the south) has experienced moderate erosion since 1912, with an average Annual Erosion Hazard Rate (AEHR) of 1.0 foot/year, The southern portion (transects 0-75) has an annual erosion rate of -0.8 foot/year (UH Coastal Geology Group, 2010).

3. Proposed Improvements

Work within the shoreline setback areas includes the following:

Repair and Replacement Activities:

Area 1: Repair of Pedestrian Elements

The existing streetscape elements have deteriorated due to salt penetration, exposure to moisture, and chloride intrusion. Based on design parameters, consideration of the character of the area, public input at community outreach meetings, and the regulatory requirements for the Project Area, conceptual plans were prepared for the project repairs. The following improvements are proposed:

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new composite fiber and stainless steel railing system
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish
- Removal of existing planters, light fixtures and bollards; replacement of street amenities including bicycle racks, trash receptacles, landscaping and lighting
- Repair of existing beach access stairs and railing

Area 2: Seawall Repair

Boulders have been displaced from the wall along the shoreline. The following improvement is proposed:

- Replenish boulders in the frontal wall that have been dislodged

Some of the proposed improvements within the shoreline area such as landscaping and replacement of street amenities, could fall under the following section of the Shoreline Rules for the Maui Planning Commission which would require review and approval of the Planning Director:

* * *

(9) A structure or activity that has been determined by the director to be a minor structure or minor activity within the shoreline setback area which does not adversely affect beach processes, does not artificially fix the shoreline, and does not interfere with public access or public views to and along the shoreline and which meets the purpose of this chapter, HRS chapter 205A, as amended, and

chapter 19.62, Maui County Code, relating to coastal high hazard districts.

4. Criteria for Approval of Variance

Criteria for approval of a variance can be found in Section 12-203-15 of the shoreline rules. A shoreline variance may be granted for a structure or activity otherwise prohibited by this chapter, if the Commission finds, based on the record presented, that the proposed structure or activity is necessary for or ancillary to private facilities or improvements which will not adversely affect beach processes or artificially fix the shoreline; provided that the applicant can show hardship. A shoreline setback variance *" ... may be granted a variance upon grounds of hardship if: (1) The applicant would be deprived of reasonable use of the land if required to fully comply with the shoreline setback rules; (2) The applicant's proposal is due to unique circumstances and does not draw into question the reasonableness of the shoreline setback rules; and (3) The proposal is the practicable alternative which best conforms to the purpose of the shoreline setback rules."*

Prior to granting a hardship variance, the Commission must determine that the applicant's proposal is a reasonable use of the land. Because of the dynamic nature of the shoreline environment, inappropriate development may pose a risk to individuals or the public health and safety. For this reason, the Commission's determination of reasonableness of the use of land should properly consider factors, such as shoreline conditions, erosion, surf and flood conditions and the geography of the lot.

5. Variance Justification

a. Repair and Replacement Activity

The proposed improvements for Area 1 within the shoreline setback area include:

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new composite fiber and stainless steel railing system
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardfoam finish

- Removal of existing planters, light fixtures and bollards; replacement of street amenities including bicycle racks, trash receptacles, landscaping and lighting

- Repair of existing beach access stairs and railing

It is noted that the existing improvements are similar in nature and seawalls have existed in this area for at least 100 years, based on a review of historical records. The existing improvements include a concrete wave deflector, railing, landscaping and planters and lighting at Area 1. The proposed replacement activities would replace the existing facilities and would not increase the size or use of the area.

The proposed improvements for Area 2 include replenishment of boulders in the seawall that have been dislodged. Similar to Area 1, the improvements are estimated to be over 50 years old. The proposed repair activities would maintain the existing seawall and would not increase the size or service area of the wall.

For the replacement and new construction activities proposed, the following justification is provided:

(1) The applicant would be deprived of reasonable use of the land required to fully comply with the shoreline setback rules.

Response: With the proposed improvements, the DPW would be able to continue to provide a safe pedestrian access route along Front Street and also maintain the protection of Front Street, which includes various utility infrastructure under the road. Further, the pedestrian path provides for scenic views and supports the character of Lāhainā Town. Should the DPW be required to comply with the shoreline rules, the existing walkway and Front Street itself would be vulnerable to further deterioration. At a certain point, the walkway, stairs, and railing in Area 1 would be deemed unsafe and would need to be closed to the public. Additionally, there would be a concern for the undermining of Front Street itself as well as the infrastructure located beneath it. Lastly, protection of the Lāhainā historic area and the existing commercial operations would also be a concern should the seawalls in Area 1 and Area 2 fail.

(2) The applicant's proposal is due to unique circumstances and does not draw into question on the reasonableness of the shoreline setback rules; and

Response: The DPW options to repair and maintain the existing pedestrian access along Front Street are limited due to the existing conditions of development located adjacent to the walkways and the proximity to the ocean. There is no additional land available to move the proposed walkway as the existing Front Street is located directly adjacent to the walkway to the east and the ocean is located to the west. The loss of the pedestrian pathway on the makai side of Front Street would mean that a scenic viewpoint that has existed for over 100 years would be lost. Further, there would be concern for protection of the existing utility infrastructure (water, wastewater) located under Front Street. The further deterioration of Front Street would mean that these vital infrastructure utilities would need to be relocated, which could present a problem for continued services to the existing commercial businesses along Front Street.

The proposed repair and maintenance activities do not question the reasonableness of the shoreline rules. The project seeks to maintain the existing pedestrian pathways, insure that the pathway provides a safe access for the public as well as maintain protection of the existing utilities located in Front Street.

(3) The proposal is the practicable alternative which best conforms to the purpose of the shoreline setback rules.

Response: The proposed repair and maintenance actions for the existing Front Street sidewalk, seawalls and related improvements represent the best alternative to addressing the existing deteriorated conditions. The DPW has an interest in providing a safe pedestrian access along Front Street, as well as continuing to maintain the existing scenic view areas, which are an important part of the character of Lāhainā Town and providing protection to the existing utility infrastructure located within Front Street. A longer term solution to address sea level rise in the area may be developed in the future, however, the proposed project provides a near-term solution to repair the existing infrastructure.

IV

SUMMARY OF ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

IV. SUMMARY OF ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed project may result in unavoidable short-term construction-related impacts which include noise-generated impacts associated with construction of the proposed improvements. Construction of the proposed project will be carried out in compliance with State Department of Health (DOH) Community Noise Control standards. Furthermore, Best Management Practices (BMPs), will be employed to mitigate noise-related impacts.

There may also be impacts to the marine environment from debris that enter the water or are disturbed in the water. BMPs will be utilized to contain, as much as possible, pollutants that may enter the ocean. A silt curtain will be maintained around the entire work areas within the water near Area 2 to control turbidity which may occur when boulders are removed from the foreshore area.

In addition, there may be temporary air quality impacts associated with dust generated from site work and exhaust emissions discharged by construction equipment. These impacts will be mitigated by BMPs for minimizing dust and providing erosion control, as set forth in more detail below.

BMPs will follow the Maui Department of Public Works, Chapter 15-111, Rules for the Design of Storm Water Treatment, Best Management Practices, and the State of Hawai‘i, Construction Best Management Practices Field Manual (January 2008).

In summary, the proposed action is not anticipated to create any significant, long-term adverse environmental effects which cannot be avoided, or require an irreversible and irretrievable commitment of resources.

ALTERNATIVES ANALYSIS

V

V. ALTERNATIVES ANALYSIS

A. PREFERRED ALTERNATIVE

The proposed improvements outlined in Chapter I of this EA document represents the preferred alternative following the review of alternatives for design and phasing, given the problem that currently exists. The DPW determined that the preferred alternative provides the best scenario to repair the existing pedestrian path, railing, seawalls and other related infrastructure in the Lāhainā Town area. Further, the proposed design was reviewed by the public and community stakeholders and the final design incorporates feedback received on the proposed improvements.

B. NO ACTION ALTERNATIVE

A large percentage of both segments of the existing seawalls are dilapidated and in need of repair. Continued degredation will lead to unsafe pedestrian conditions and erosion along Front Street.

C. DELAYED ACTION ALTERNATIVE

A large percentage of both segments is dilapidated and in need of repair. If renovations are delayed, conditions will continue to erode and it will be more difficult and likely more expensive to rehabilitate in the future.

D. REDUCED SCOPE ALTERNATIVE

The DPW may reduce the project scope by moving forward with construction on only one (1) of the two (2) Project Areas. This would save money in the short term since less work will be done in the next few years, but will likely increase costs in the future since the second area would need to independently secure the necessary permitting and construction crews would have to remobilize. Additionally, the neglected area will continue to deteriorate and may be more difficult to repair in the future.

E. DESIGN ALTERNATIVE

Applicant conducted two (2) stakeholder meetings – one (1) was hosted by the DPW and open to the public, and one (1) was hosted by the Lahaina Restoration Foundation which was open to Front Street business owners. Meetings yielded a clear preference for certain design considerations, but there were other design elements that people were indifferent to or the community was split on. Refer to **Appendix "H"** and **Appendix "I"**.

The proposed design incorporates design elements that the community expressed a preference for, to the extent practicable. As an alternative, the project could be redesigned

to include some of the design elements that were excluded for cost or environmental concerns, such as planting new coconut trees along Area 2, or expanding the Project Areas to include the section of Front Street in between Area 1 and Area 2. This would delay the project because it would require site plans to be redone, additional entitlements to be secured, and an increase in funding.

SIGNIFICANCE CRITERIA ASSESSMENT

VI

VI. SIGNIFICANCE CRITERIA ASSESSMENT

The proposed action involves repairs and renovations to sidewalk, railings, and seawalls along Front Street. The use of County lands requires compliance with Chapter 343, Hawai‘i Revised Statutes (HRS), and Chapter 200.1 (Title 11), Hawai‘i Administrative Rules. As defined under Chapter 343, HRS “significant effect” means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State’s environmental policies or long-term environmental goals as established by law, or adversely affect the economic welfare, social welfare, or cultural practices of the community and State. The analysis required to determine whether a proposed action may have a significant effect requires that every aspect of the proposed action, expected primary and secondary consequences, and the cumulative as well as the short-term and long-term effects are evaluated in accordance with the Significance Criteria of Section 11-200.1-13 of the Administrative Rules. Discussion of the proposed project’s conformance to the Significance Criteria is provided below:

1. <u>Irrevocably commit a natural, cultural, or historic resource.</u>

The project site, located in the Lahaina Historic District, is currently developed. The proposed action will complement the surrounding urban environment by enhancing the pedestrian streetscape and fortifying the protective seawalls.

The proposed project does not involve an irrevocable commitment to loss or destruction of any cultural or historic resource. As also discussed previously in Chapter II, appropriate surveys have been conducted to address potential impacts on historic/cultural resources. Refer to **Appendix “B”** and **Appendix “F”**. Consultation with the State Historic Preservation Division (SHPD) was also initiated in December 2019 by the DPW. The 6E Form submittal is provided in **Appendix “E”**.

The proposed project will not involve an irrevocable commitment to loss or destruction of any natural or cultural resources.

2. <u>Curtails the range of beneficial uses of the environment.</u>

The proposed project will not curtail the range of beneficial uses of the environment.

“Environment” means humanity’s surroundings, inclusive of all the physical, economic, cultural, and social conditions that exist within the area affected by a proposed action, including land, human, and animal communities, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

The subject property is located within the Urban Growth Boundary of the Maui Island Plan and has the appropriate land use designations in place (with respect to the West Maui

Community Plan and Maui County Zoning) to allow for the proposed project. The proposed project will repair or replace existing infrastructure. The project will create jobs and encourage spending in the short term for construction contractors and supplies. Through this, the local economy will benefit from job creation and construction related spending.

Further, the proposed project has been designed to complement and enhance existing development along Front Street. Careful consideration has been given to the design elements chosen for the streetscape. The intent is to allow the new development to blend into the area and to create a design that draws upon the region's heritage and responds to the unique climate and setting.

Development of detailed engineering and architectural plans for the project will allow for the identification of a comprehensive program of Best Management Practices (BMPs) to minimize any construction-related impacts.

3. Conflict with the State's environmental policies or long-term environmental goals established by law.

The proposed project does not conflict with the State's Environmental Policy and Guidelines such as those established in Chapter 344, HRS, nor does it conflict with any court decisions or Executive Orders. As discussed in Chapter III, the proposed project is consistent with the property's underlying land use designations, which were established to guide development patterns in the region.

4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.

On a short-term basis, the project will have a beneficial impact on the economic welfare of the community. During development, the project will support construction and construction-related industries, thereby increasing employment opportunities to result in a beneficial impact on the local economy during the period of construction. The proposed development is located within the West Maui Community Plan region, which offers a dry, mild climate and access to ocean-based recreational resources. The proposed project is considered compatible with surrounding commercial land uses; thus, the Front Street area will be complemented by the proposed action.

As indicated previously, the proposed project is not anticipated to result in significant adverse impacts to the ongoing cultural practices in the region.

5. Have a substantial adverse effect on public health.

During the construction period, appropriate BMPs will be implemented to mitigate potential air quality and noise impacts and to ensure that air quality and noise levels stay within the

regulatory limits. Following construction, the proposed project will not substantially affect public health.

6. **Involve adverse secondary impacts, such as population changes or effects on public facilities.**

The proposed project is not a population driver and does not involve substantial secondary impacts. Secondary impacts are effects which are caused by the action and occur later in time or farther removed in distance, but are still reasonably foreseeable. No substantial changes or effects on public facilities are expected with project implementation.

7. **Involves a substantial degradation of environmental quality.**

Construction activities will create temporary short-term nuisances related to noise and dust. Appropriate BMPs, including dust control and noise mitigation measures, will be implemented by the contractor to ensure that potential impacts generated in connection with construction are minimized.

As previously discussed, the proposed project does not involve a substantial degradation of environmental quality.

8. **Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.**

The project is not a phase or increment of a larger total undertaking; a necessary precedent for a larger project; a commitment to some larger project; or one (1) of a series of individual actions planned by the DPW within West Maui in the reasonably foreseeable future. The proposed project will stand on its own and is not reliant upon or a trigger for any other development within West Maui or elsewhere. The cumulative impacts of the proposed project, together with other reasonably foreseeable actions, will not include increased population and infrastructural demands. Given the foregoing, the proposed project is not anticipated to cumulatively have considerable effect upon the environment, nor does it involve a commitment for larger actions.

9. **Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.**

An Environmental Survey report was prepared to ensure that any sensitive terrestrial flora/fauna biological resources within the project site would be identified and provided adequate protection. The survey concluded that the proposed project will not have a significant adverse impact on native botanical resources. The Endangered Hawaiian hoary bat was not encountered either visually or electronically during the survey. As recommended by the U.S. Fish and Wildlife Service (USFWS), the project will incorporate appropriate mitigation measures to avoid and minimize impacts to native species. In regards to fauna, the report provided a recommendation that downward facing lighting be

utilized by the proposed project to avoid potential impacts to migrating seabirds which may fly over the project site. Refer to **Appendix "C"**.

A Marine Water Chemistry and Biotic Community Structure Assessment Report was also prepared to assess and document the characteristics of the nearshore marine environment in the vicinity of the proposed project. Refer to **Appendix "C"**. The study concluded that the sampling of water data collected were within the distribution limits of historic data collected by DOH over an eight (8) year period and with other water quality data for Maui coastal waters. The report also noted that the ammonia values were elevated during the survey compared with historic data and turbidity values were also somewhat elevated. However, the turbidity levels were noted as common for nearshore waters due to wind and wave action.

In consideration of the foregoing, the proposed project is not anticipated to substantially affect a rare, threatened, or endangered species or its habitat.

10. Have a substantial adverse effect on air or water quality or ambient noise levels.

Construction activities will result in short term air quality, marine quality, and noise impacts. BMPs, including erosion control and dust control measures, will be implemented to minimize wind-blown emissions. In the short term, noise impacts will occur primarily from construction equipment. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawai'i, Department of Health (DOH) Administrative Rules Title 11, Chapter 46, "Community Noise Control." These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46. In the long-term, the proposed new streetscape is not anticipated to significantly impact ambient noise levels.

In seeking to protect marine water quality, a number of measures will be implemented during the construction and operational phases of the proposed project. During construction, the project will implement a BMP Plan approved by the DOH under a Section 401 Water Quality Certification.

As a result of implementation of foregoing mitigation measures, the proposed project is not anticipated to detrimentally affect air or water quality or ambient noise levels.

11. Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The project is located in Flood Zone X, areas of minimal flood risk, XS, areas of moderate flood hazard, and VE, also known as coastal high hazard areas. The project is within the Tsunami Zone and Extreme Tsunami Evacuation Zone on the Tsunami Evacuation Zone Map. In addition, the proposed project directly fronts the shoreline and is located within

the 3.2-foot sea level rise exposure area. The structure, however, is greater than 3.2 feet above the area mean sea level and is not likely to be inundated by sea level rise.

The seawalls and streetscape elements are designed to withstand conditions from 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. It is not expected to have any substantial adverse effects or be likely to suffer damage because of its location.

12. Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies.

The proposed project has been designed to complement and enhance existing development along Front Street. Careful consideration has been given during the planning process to formulate a site plan that is both sensitive and place appropriate to the area. In particular, the project provides open space relief, landscaping, and amenities to complement existing developed properties and the surrounding environment.

The project sites are located on the seaward (makai) side of Front Street. The site plan for each area has been designed to integrate with the surrounding environment and perpetuate the historical design character of Front Street.

13. Require substantial energy consumption or emit substantial greenhouse gases.

While the majority of construction-related activities utilize diesel operated construction equipment, there may be short-term electrical energy needs while the project is under construction. Short-term greenhouse gas emissions associated with construction activities are anticipated during the construction phase of the project. Following construction, energy consumption will be limited to street lights in the roject area, but necessary for pedestrian safety in the Project Areas. This project is not anticipated to require substantial energy consumption or emit substantial greenhouse gases.

Based on the foregoing analysis in this Draft EA document, it is anticipated that the proposed project will result in a Finding of No Significant Impact (FONSI).

LIST OF PERMITS AND APPROVALS

VII

VII. LIST OF PERMITS AND APPROVALS

Federal Government

1. Department of Army Permit Section 404 Approval
2. Section 106 National Historic Preservation Act Concurrence
3. Section 7, Endangered Species Act Concurrence

State of Hawai‘i

1. Chapter 343, Hawai‘i Revised Statutes Compliance
2. Department of Health Community Noise Permit, as applicable
3. National Pollutant Discharge Elimination System (NPDES) Permit
4. Section 401 Water Quality Certification Approval
5. Conservation District Permit Approval
6. Right-of-Entry or State Easement approval

County of Maui

1. Special Management Area (SMA) Use Permit, Shoreline Setback Variance
2. Historic District Approval
3. Construction Permits (Building, Grading, Electrical, Plumbing)
4. Work on County Highway Permit

VIII

PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

VIII. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during preparation of the Draft Environmental Assessment (EA). Agency comments and responses to substantive comments received are included herein.

FEDERAL

1. Lt. Furyisa Miller
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Fourteenth Coast Guard District
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2. Kay Zukeran
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3. Linda Speerstra, Chief
Regulatory Branch
U.S. Department of the Army
U.S. Army Engineer District, Honolulu
Regulatory Branch, Building 230
Fort Shafter, Hawai‘i 96858-5440

4. U. S. Fish and Wildlife Service
Department of Interior
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai‘i 96850

STATE OF HAWAII

5. Major General Arthur "Joe" Logan,
Adjutant General
State of Hawai‘i
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6. Scott Glenn, Director
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7. Curt T. Otaguro, Comptroller
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8. Mike McCartney, Director
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9. Bruce Anderson, PhD, Director
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10. Alec Wong, P.E., Chief
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11. Laura McIntyre, AICP
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12. Patti Kitkowski
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13. Suzanne Case, Chairperson
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14. Dr. Alan Downer, Administrator
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15. Jade Butay, Director
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16. Dr. Sylvia Hussey, Interim Chief Executive Officer
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17. Mary Alice Evans, Director
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18. Dan Orodenker, Executive Officer
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19. Kay Fukumoto, Coordinator
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20. Herman Andaya, Emergency Management Officer
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21. Eric Nakagawa, Director
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22. David Thyne, Chief
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23. Karla Peters, Director
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24. Michele Chouteau McLean, Director
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25. Tivoli Faaumu, Chief
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26. Jeff Pearson, Director
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27. Kelly King, Council Chair
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Wailuku, Hawai‘i 96793

28. Tamara Paltin, Councilmember
County of Maui
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29. Hawaiian Telcom
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30. Michael Grider, Manager, Engineering
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31. Spectrum
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32. Theo Morrison, Executive Director
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33. Lahaina Town Action Committee
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34. West Maui Taxpayers Association
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35. Kamaka Bancaco, Lāhainā
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36. Arlene Gerbig, President
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37. Robin Newbold, Chair
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38. West Maui Preservation Association
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39. Mark Deakos, Ph.D.
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40. Lahaina Pizza Company
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41. Penny Wakida
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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Honolulu, Hawaii 96850

Reply Refer To:
01EPIF00-2020-SL-0081

December 3, 2019

Mr. Kauanoe Batangan
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Species List for the Proposed Lahaina Front Street Sidewalk, Railing, and Seawall Repair Project, Maui

Dear Mr. Batangan:

The U.S. Fish and Wildlife Service (Service) received your correspondence on November 25, 2019, requesting early consultation for the proposed Front Street sidewalk, railing, and seawall repair project on Maui. The Service offers the following comments to assist you in the planning process so that impacts to resources can be avoided through site preparation, construction, and operation. Our comments are provided under the authorities of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 *et seq.*), as amended.

Project Description

The County of Maui, Department of Public Works (DPW) is proposing to address the extensive deterioration of the seawall, sidewalk, railing, planters, benches, and bollards in two locations along Front Street in Lahaina, Maui. The first location extends from Dickenson Street to Lahainaluna Street and is approximately 715 feet long. Proposed repairs at this location include removal and reconstruction of deteriorated portion of the concrete wave deflector, replacement of railings, removal and reconstruction of upper portion of the sidewalk, removal of the raised rubble masonry planters, replacement of overgrown trees, and removal of wooden bollards and patching with concrete. The second location is between Papalaua Street and Baker Street and is approximately 730 feet long. Proposed repairs at this location include: replenishment of the frontal wall boulders and removal of coconut trees growing through the wall.

Based on the information you provided in your correspondence and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Project, there are seven federally listed threatened or endangered species that are either in the vicinity of the project area or that may pass through the project area: the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), Hawaiian petrel (*Pterodroma sandwichensis*), Band-rumped storm-petrel (*Oceanodroma castro*), threatened Newell's shearwater (*Puffinus auricularis newlli*), and the

migratory wedge-tailed shearwater (*Ardenna pacificus*) (collectively referred to as Hawaiian seabirds). Additionally, the endangered Hawksbill sea turtle (*Eretmochelys imbricate*) and the threatened Green sea turtle (*Chelonia mydas*) occur in the nearshore waters and nest in the immediate vicinity.

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet (ft.) or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 ft. to higher than 500 ft. above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 ft. tall during the bat birthing and pup-rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

Hawksbill and Green sea turtles

The Service consults on sea turtles and their use of terrestrial habitats (beaches where nesting and/or basking is known to occur), whereas the National Marine Fisheries Service (NMFS) consults on sea turtles and their use of off-shore and open ocean habitats. We recommend that you consult with NMFS regarding the potential impacts from the proposed project to sea turtles in off-shore and open ocean habitats.

Green sea turtles may nest on any sandy beach area in the Pacific Islands. Hawksbill sea turtles exhibit a wide tolerance for nesting substrate (ranging from sandy beach to crushed coral) with nests typically placed under vegetation. Both species exhibit strong nesting site fidelity. Green sea turtle nesting has been documented in recent years in the vicinity of your project. Nesting for the Central North Pacific DPS occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December.

Construction on, or in the vicinity of, beaches can result in sand and sediment compaction, sea turtle nest destruction, beach erosion, contaminant and nutrient runoff, and an increase in direct and ambient light pollution which may disorient hatchlings or deter nesting females. Off-road vehicle traffic may result in direct impacts to sea turtles and nests, and also contributes to habitat degradation through erosion and compaction.

Projects that alter the natural beach profile, such as nourishment and hardening, including the placement of seawalls, jetties, sandbags, and other structures, are known to reduce the suitability of on-shore habitat for sea turtles. These types of projects often result in sand compaction, erosion, and additional sedimentation in nearshore habitats, resulting in adverse effects to the ecological community and future sea turtle nests. The hardening of a shoreline increases the potential for erosion in adjacent areas, resulting in subsequent requests to install stabilization structures or conduct beach nourishment in adjacent areas. Given projected sea level rise

estimates, the likelihood of increase in storm surge intensity, and other factors associated with climate change, we anticipate that beach erosion will continue and likely increase.

Where possible, projects should consider alternatives that avoid the modification or hardening of coastlines. Beach nourishment or beach hardening projects should evaluate the long-term effect to sea turtle nesting habitat and consider the cumulative effects.

To avoid and minimize project impacts to sea turtles and their nests we recommend you incorporate the following applicable measures into your project plan:

- No vehicle or heavy machinery use on or modification of the beach/dune environment during the sea turtle nesting or hatching season (May to December)).
- Do not remove native dune vegetation.
- Incorporate applicable BMPs regarding Work in Aquatic Environments (see attached document) into the project design.
- Have a biologist familiar with sea turtles conduct a visual survey of the project site to ensure no basking sea turtles are present.

If a basking sea turtle is found within the project area, cease all mechanical or construction activities within 100 feet until the animal voluntarily leaves the area.

- Cease all activities between the basking turtle and the ocean.
- Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.
- Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.

Optimal sea turtle nesting habitat is a dark beach, free of barriers that restrict sea turtle movement. Nesting turtles may be deterred from approaching or laying successful nests on lighted or disturbed beaches. They may become disoriented by artificial lighting, leading to exhaustion and placement of a nest in an inappropriate location (such as at or below the high tide line). Hatchlings that emerge from nests may also be disoriented by artificial lighting. Inland areas visible from the beach should be sufficiently dark to allow for successful navigation to the ocean.

To avoid and minimize project impacts to sea turtles from lighting we recommend incorporating the following applicable measures into your project plan:

- Avoid nighttime work during the nesting and hatching season (May to December for Hawaii; throughout the year in the Marianas; October to March for American Samoa).
- Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach.
- If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as tinting or using automatic window shades for exterior windows that face the beach; reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and minimize light

intensity to the lowest level feasible and, when possible, include timers and motion sensors.

Hawaiian sea birds

Newell's shearwaters are found in the highest densities on Kauai with lower densities on all of the other islands, except Lanai. Hawaiian Petrel populations are greatest on Maui, Lanai, and Kauai with lower densities on Hawaii and Molokai. Band-rumped storm-petrels are found in low densities throughout the islands. All islands may experience overflight at night.

For all projects, Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project plan:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Wedge-tailed shearwater

Unlike other Hawaiian seabird species, wedge-tailed shearwaters nest in littoral vegetation along coastlines. Nesting adults, eggs, and chicks are particularly susceptible to impacts from human disturbance and predators.

To avoid and minimize potential project impacts to wedge-tailed shearwaters we recommend you incorporate the following applicable measures into your project plan:

- Conduct surveys throughout the project area during the species' breeding season (March through November) to determine the presence and location of nesting areas.
- If wedge-tailed shearwaters nest within a proposed project area and construction would cause ground disturbance, time project construction to occur outside of the breeding season (March through November).
- If outdoor lighting is used, use light shields that are completely opaque, appropriately sized, and positioned so that the bulb is only visible from below and the light from the shielded source cannot be seen from the beach.
- Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.

Mr. Kauanoe Batangan

This project may require an Army Corps of Engineers (Corps) permit. If so, the Corps should consult with the Service pursuant to section 7 of the ESA of 1973 (16 U.S.C. 1531 *et seq.*), as amended.

Thank you for participating with us in the protection of our endangered species. If you have any further questions or concerns regarding this consultation, please contact Christina Richards, Fish and Wildlife Biologist, 808-792-9450, email: christina_richards@fws.gov. When referring to this project, please include this reference number: 01EPIF00-2020-SL-0081.

Sincerely,

MICHELLE BOGARDUS Digitally signed by MICHELLE BOGARDUS Date: 2019.12.03 10:54:35 -10'00'

Michelle Bogardus
Island Team Manager
Maui Nui and Hawaii Island

Attachment: Sedimentation and Erosion Best Management Practices

Attachment 1: U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service (USFWS) recommends the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.

3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see http://www.haccp-nrm.org/Wizard/default.asp) can help to prevent attraction and introduction of non-native species.

5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.

6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

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

August 12, 2020

Michelle Bogardus
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project; 01EPIF00-2020-SL-0081

Dear Ms. Bogardus:

Thank you for your letter dated December 3, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

Based on the information you provided in your correspondence and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Project, there are seven federally listed threatened or endangered species that are either in the vicinity of the project area or that may pass through the project area: the endangered Hawaiian hoary bat (Lasiurus cinereus semotus), Hawaiian petrel (Pterodroma sandwichensis), Band-rumped storm-petrel (Oceanodroma castro), threatened Newell's shearwater (Puffinus auricularis newlli), and the migratory wedge-tailed shearwater (Ardenna pacificus) (collectively referred to as Hawaiian seabirds). Additionally, the endangered Hawksbill sea turtle (Eretmochelys imbricate) and the threatened Green sea turtle (Chelonia mydas) occur in the nearshore waters and nest in the immediate vicinity.

Hawaiian hoary bat

Comment:

The Hawaiian hoary bat roosts in both exotic and native woody vegetation

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

across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet (ft.) or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 ft. to higher than 500 ft. above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- *Do not disturb, remove, or trim woody plants greater than 15 ft. tall during the bad birthing and pup-rearing season (June 1 through September 15).*
- *Do not use barbed wire for fencing.*

Response:

Site clearing for the project will be scheduled to avoid disturbance to Hawaiian hoary bats in the project area. Woody plants greater than 15 feet in height will not be disturbed, removed, or trimmed during the bat birthing and pup-rearing season (June 1 through September 15).

Hawksbill and Green sea turtles

Comment:

To avoid and minimize project impacts to sea turtles and their nests we recommend you incorporate the following applicable measures into your project plan:

- *No vehicle or heavy machinery use on or modification of the beach/dune environment during the sea turtle nesting or hatching season (May to December)).*
- *Do not remove native dune vegetation.*
- *Incorporate applicable BMPs regarding Work in Aquatic Environments (see attached document) into the project design.*
- *Have a biologist familiar with sea turtles conduct a visual survey of the project site to ensure no basking sea turtles are present.*

If a basking sea turtle is found within the project area, cease all mechanical or construction activities within 100 feet until the animal voluntarily leaves the area.

- *Cease all activities between the basking turtle and the ocean.*
- *Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.*
- *Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.*

To avoid and minimize project impacts to sea turtles from lighting we recommend incorporating the following applicable measures into your project plan:

- *Avoid nighttime work during the nesting and hatching season (May to December for Hawaii; throughout the year in the Marianas; October to March for American Samoa).*
- *Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach.*
- *If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.*
- *Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as tinting or using automatic window shades for exterior windows that face the beach; reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and minimize light intensity to the lowest level feasible and, when possible, include timers and motion sensors.*

Response:

We will consult the National Marine Fisheries Service (NMFS).

To the extent applicable and practicable, the beach environment will not be disturbed during nesting or hatching season; native dune vegetation will not be removed; a biologist will conduct a visual survey of the project site; and BMPs regarding Work in Aquatic Environments will be incorporated.

If a basking sea turtle is found within the project area, all mechanical or construction activities within 100 ft. will cease until the animal voluntarily leaves the area. All project-related debris, trash, and equipment from the beach will be removed if not actively being used. No project-related

materials will be stockpiled in the intertidal zone, reef flats, or stream channels.

To the extent practicable, construction crews will incorporate the recommended lighting measures.

Hawaiian sea birds

Comment:

For all projects, Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project plan:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Response:

Construction activities for Area 1 will occur at night while activities for Area 2 will occur during the day. When construction lighting is used, these features will be positioned low to the ground, be motion-triggered, be shielded and/or full cut-off. Effective light shields will be opaque, sufficiently large, and positioned so the bulb is only visible from below.

Wedge-tailed shearwater

Comment:

Unlike other Hawaiian seabird species, wedge-tailed shearwaters nest in littoral vegetation along coastlines. Nesting adults, eggs, and chicks are particularly susceptible to impacts from human disturbance and predators.

To avoid and minimize potential project impacts to wedge-tailed shearwaters we recommend you incorporate the following applicable measures into your project plan:

- *Conduct surveys throughout the project area during the species' breeding season (March through November) to determine the presence and location of nesting areas.*
- *If wedge-tailed shearwaters nest within a proposed project area and construction would cause ground disturbance, time project construction to occur outside of the breeding season (March through November).*
- *If outdoor lighting is used, use light shields that are completely opaque, appropriately sized, and positioned so that the bulb is only visible from below and the light from the shielded source cannot be seen from the beach.*
- *Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.*

Response:

Construction activities for Area 1 will occur at night while activities for Area 2 will occur during the day. When construction lighting is used, these features will be positioned low to the ground, be motion-triggered, be shielded and/or full cut-off. Effective light shields will be opaque, sufficiently large, and positioned so the bulb is only visible from below.

General

Comment:

This project may require an Army Corps of Engineers (Corps) permit. If so, the Corps should consult with the Service pursuant to section 7 of the ESA of 1973 (16 U.S.C. 1531 et seq.), as amended.

Response:

Should an NPDES Permit be required, it will be secured prior to commencement of the project construction.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
Sina Pruder, Acting EDM Administrator
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DEC 09 2019

DAVID Y. IGE
GOVERNOR

CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

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

(P)19.251

DEC 5 2019

Mr. Kauanoe Batangan
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Batangan:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, Lahaina, Maui, Hawaii
TMK Nos.: (2) 4-55-002:999 and (2) 4-6-009:999

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. Dora Choy of the Public Works Division – Planning Branch at 586-0488.

Sincerely,

CURT T. OTAGURO
Comptroller

DC:jl
c: Mr. Wade Shimabukuro, DAGS-MDO

MUNEKIYO HIRAGA
Planning, Project Management, Sustainable Solutions.

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

August 12, 2020

Curt Otaguro, Comptroller
Department of Accounting and General Services
State of Hawaii
P.O. Box 119
Honolulu, Hawai'i 96810-0119

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, Reference (P)19.251

Dear Mr. Otaguro:

Thank you for your letter dated December 5, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we acknowledge that the Department Accounting and General Services has 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.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:tn
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\DAGS Response.doc

DEC 09 2019

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

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

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, HAWAII 96793-3378

December 5, 2019

Mr. Kauanoe Batangan
Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Batangan:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing and Seawall Repair Project, Lahaina, Maui, Hawaii
TMK Nos. (2) 4-5-002:999 and (2) 4-6-009:999

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

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

2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor & Radiological Health Branch at 808 586-4700.

It is strongly recommended that you review the department's website at https://health.hawaii.gov/epo/files/2018/05/DOHEHA.LandUseContactList.20180502.pdf and contact the appropriate program that concerns your project.

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

Sincerely,

Patti Kitkowski
District Environmental Health Program Chief

c Sina Pruder, Acting EMD Administrator

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

August 12, 2020

Patti Kitkowski, District Environmental Health Program Chief
State of Hawai'i
Department of Health
Maui District Health Office
54 High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. Kitkowski:

Thank you for your letter dated December 5, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

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

Response:

Should an NPDES Permit be required, it will be secured prior to commencement of the project construction.

Comment:

The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor & Radiological Health Branch at 808 686-4700.

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

Response:

Should a noise permit be required, the DPW will require its contractor to secure the permit prior to the commencement of work.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
Sina Pruder, Acting EDM Administrator
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DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 31, 2019

Munekiyo Hiraga
Attn: Mr. Kauanoe Batangan
305 High Street, Suite 104
Wailuku, Hawaii 96793
Ph. No. (808) 244-2015

via email: kauanoe@munekiyohiraga.com

Dear Mr. Batangan:

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed **Front Street Sidewalk, Railing, and Seawall Repair Project** located at Lahaina, Island of Maui; TMK: (2) 4-5-002:999 and (2) 4-6-009:999 on behalf of County of Maui, Department of Public Works

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

At this time, enclosed are comments from the (a) Division of Aquatic Resources, (b) Engineering Division, (c) Office of Conservation & Coastal Lands, and (d) Land Division - Shoreline Disposition Specialist on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2019 DEC 23 AM 11:04
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 17, 2019

RECEIVED
DEC 18 2019
Division of Aquatic Resources
6063

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation (via email: DLNR.Intake.SHPD@hawaii.gov)
X Ian Hirokawa, Cultural Specialist

FROM: Russell Y. Tsuji, Land Administrator

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed **Front Street Sidewalk, Railing, and Seawall Repair Project**

LOCATION: Lahaina, Island of Maui; TMK: (2) 4-5-002:999 and (2) 4-6-009:999

APPLICANT: Munekiyo Hiraga on behalf of County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **December 27, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: David K. Sakoda

Print Name: David K. Sakoda

Date: 12/20/19

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

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

Date: December 19, 2019
DAR # 6063

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Russell Sparks, Aquatic Biologist

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: Lahaina, Maui; TMK (2)4-5-002:999 and (2) 4-6-009:999

Brief Description of Project:

The County of Maui, Department of Public Works is seeking early consultation comments in advance of preparing a draft EA for repairs to the sidewalk, railings and seawall along two sections of Front Street in Lahaina, Maui.

Comments:

☒ No Comments ☐ Comments Attached

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

Comments Approved: Date: 12/20/19
for Brian J. Neilson
DAR Administrator

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
LAND DIVISION
2019 DEC 20 PM 3:37
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

'19 DEC 19 AM 08:53 ENGINEERING

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 17, 2019

MEMORANDUM

TO:

DLNR Agencies:
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__ Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation (via email: DLNR.Intake.SHPD@hawaii.gov)
X Ian Hirokawa, Cal Miyahira

FROM: Russell Y. Tsuji, Land Administrator

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed **Front Street Sidewalk, Railing, and Seawall Repair Project**

LOCATION: Lahaina, Island of Maui; TMK: (2) 4-5-002:999 and (2) 4-6-009:999

APPLICANT: Munekiyo Hiraga on behalf of County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **December 27, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 12/20/19

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project
Location: Lahaina, Island of Maui
TMK(s): (2) 4-5-002:999 and (2) 4-6-009:999
Applicant: Munekiyo Hiraga on behalf of County of Maui, Department of Public Works

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 12/20/14

DAVID Y. IGE
GOVERNOR OF
HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

COR: MA-20-97

DEC 2 6 2019

Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project.
Front Street, Lahaina, Maui
TMK(s): (2) 4-5-002:999 & (2) 4-6-009:999

Dear Ms. Batangan:

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence and attachments regarding the subject matter. According to the information you provided, the Department of Works for the County of Maui is proposing improvements to the west side of Front Street in Lahaina, Maui. The Proposed project involves the County-owned Front Street roadway as well as State-owned land seaward of the certified shoreline.

The proposed project will affect two locations along Front Street and have been identified as Area 1 and Area 2. Area 1 is approximately 715 ft long and extends from Dickenson Street to Lahainaluna Street along the makai side of Front Street. The following improvements are under consideration for Area 1 of Front Street:

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new stainless-steel posts mounted on a low concrete curb with intermediate horizontal stainless-steel tube
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish
- Removal of the raised rubble masonry planters and replace with at-grade planters

CIR: MA 20-27
97

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 17, 2019

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__ Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation (via email: DLNR.Intake.SHPD@hawaii.gov)
X Ian Hirokawa, Cal Miyahira

RECEIVED
LAND DIVISION
2019 DEC 26 AM 10:45
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed **Front Street Sidewalk, Railing, and Seawall Repair Project**
LOCATION: Lahaina, Island of Maui; TMK: (2) 4-5-002:999 and (2) 4-6-009:999
APPLICANT: Munekiyo Hiraga on behalf of County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **December 27, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

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

Signed: _____

Print Name: Trevor Fitzpatrick

Date: 12/24/2019

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII

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

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

COR: MA-20-97

DEC 2 6 2019

Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project.
Front Street, Lahaina, Maui
TMK(s): (2) 4-5-002:999 & (2) 4-6-009:999

Dear Ms. Batangan:

The Office of Conservation and Coastal Lands (OCCL) is in receipt of your correspondence and attachments regarding the subject matter. According to the information you provided, the Department of Works for the County of Maui is proposing improvements to the west side of Front Street in Lahaina, Maui. The Proposed project involves the County-owned Front Street roadway as well as State-owned land seaward of the certified shoreline.

The proposed project will affect two locations along Front Street and have been identified as Area 1 and Area 2. Area 1 is approximately 715 ft long and extends from Dickenson Street to Lahainaluna Street along the makai side of Front Street. The following improvements are under consideration for Area 1 of Front Street:

- Removal and reconstruction of deteriorated portion of the concrete wave deflector
- Replacement of railing with new stainless-steel posts mounted on a low concrete curb with intermediate horizontal stainless-steel tube
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish
- Removal of the raised rubble masonry planters and replace with at-grade planters

- Replace overgrown trees
- Removal of wooden bollards and patching with concrete

Area 2 is approximately 730 ft long between Papalaua Street and Baker Street also along the makai side of Front Street. The following improvements are under consideration for Area 2 of Front Street:

- Replenish boulders in the frontal wall that have been dislodged
- Removal of coconut trees growing through the wall which are leaning seaward

The project areas are located in the Center of Lahaina Town and are within the Lahaina National Landmark Historic District. The use of State and County and County funds for this project are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and Section 11-200.1-8, Hawaii Administrative Rules.

The OCCL notes that the project summary does state that the EA will accompany a Conservation District Use Application (CDUA). We further note that the proposed projects and work that will occur makai (seaward) of the certified shoreline will be located in the Resource Subzone of the State Land Use Conservation District. Any proposed work makai of the certified shoreline will require further information, details, and consultation with our office to determine the appropriate level of permitting. Regarding our comments for the EA, we ask that you provide more detail or discussion regarding the potential impacts caused by sea level rise, the expected timeline of those impacts, and any alternatives that might reduce exposure to sea level rise. We look forward to reviewing the Draft EA.

Should you have any questions, please feel free to contact Trevor Fitzpatrick of the Office of Conservation and Coastal Lands at 587-0373.

Sincerely,

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

CC: Maui District Land Division Office
County of Maui, Planning Department
County of Maui, Department of Public Works

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 17, 2019

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__ Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation (via email: DLNR.Intake.SHPD@hawaii.gov)
X Ian Hirokawa, Cal Miyahara

FROM: Russell Y. Tsuji, Land Administrator

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed **Front Street Sidewalk, Railing, and Seawall Repair Project**

LOCATION: Lahaina, Island of Maui; TMK: (2) 4-5-002:999 and (2) 4-6-009:999

APPLICANT: Munekiyo Hiraga on behalf of County of Maui, Department of Public Works

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **December 27, 2019.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417 or by email at darlene.k.nakamura@hawaii.gov. Thank you.

Any improvements constructed Makai of lands under Maui County jurisdiction may require a disposition from the State.

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

Signed: [signature]

Print Name: CAL MIYAHARA

Date: 12/18/19

Attachments
cc: Central Files

- Replace overgrown trees
- Removal of wooden bollards and patching with concrete

Area 2 is approximately 730 ft long between Papalaua Street and Baker Street also along the makai side of Front Street. The following improvements are under consideration for Area 2 of Front Street:

- Replenish boulders in the frontal wall that have been dislodged
- Removal of coconut trees growing through the wall which are leaning seaward

The project areas are located in the Center of Lahaina Town and are within the Lahaina National Landmark Historic District. The use of State and County and County funds for this project are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and Section 11-200.1-8, Hawaii Administrative Rules.

The OCCL notes that the project summary does state that the EA will accompany a Conservation District Use Application (CDUA). We further note that the proposed projects and work that will occur makai (seaward) of the certified shoreline will be located in the Resource Subzone of the State Land Use Conservation District. Any proposed work makai of the certified shoreline will require further information, details, and consultation with our office to determine the appropriate level of permitting. Regarding our comments for the EA, we ask that you provide more detail or discussion regarding the potential impacts caused by sea level rise, the expected timeline of those impacts, and any alternatives that might reduce exposure to sea level rise. We look forward to reviewing the Draft EA.

Should you have any questions, please feel free to contact Trevor Fitzpatrick of the Office of Conservation and Coastal Lands at 587-0373.

Sincerely,

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

CC: Maui District Land Division Office
County of Maui, Planning Department
County of Maui, Department of Public Works

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

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

August 12, 2020

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

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Mr. Tsuji:

Thank you for your letter dated December 31, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Division of Aquatic Resources

Comment:

We have no objections.

Response:

We acknowledge that the Department of Land and Natural Resources, Division of Aquatic Resources has no objections to offer at this time.

Engineering Division

Comment:

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances

may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

Response:

The proposed repairs to the Front Street sidewalk, railing, and seawall will comply with 44CFR regulations as stipulated in Section 60.12.

The Flood Hazard Zone designation for the project areas are Zone X for the areas that are inland of the shoreline and Zone VE for the areas that are seaward of the shoreline.

Office of Conservation and Coastal Lands (OCCL)

Comment:

The OCCL notes that the project summary does state that the EA will accompany a Conservation District Use Application (CDUA). We further note that the proposed projects and work that will occur makai (seaward) of the certified shoreline will be located in the Resource Subzone of the State Land Use Conservation District. Any proposed work makai of the certified shoreline will require further information, details, and consultation with our office to determine the appropriate level of permitting. Regarding our comments for the EA, we ask that you provide more detail or discussion regarding the potential impacts caused by sea level rise, the expected timeline of those impacts, and any alternatives that might reduce exposure to sea level rise. We look forward to reviewing the Draft EA.

Response:

We will consult with the Department of Land and Natural Resources, Office of Conservation and Coastal Lands to determine the appropriate level of permitting. Effects of sea level rise will be addressed in a manner consistent with the policies of the County and State, however, note that this project seeks to provide maintenance-level reconstruction of existing improvements and is not intended to counter or mitigate sea level rise which may occur in the Lahaina area.

Land Division

Comment:

Any improvements constructed makai of lands under Maui County jurisdiction may require a disposition from the State.

Response:

If a disposition from the State is required, one will be obtained prior to commencement of construction activities. Access easement/right-of-entry will be obtained prior to construction.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\DLNR Response.doc

DEC 06 2019

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

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

IN REPLY REFER TO:
DIR 1208
STP 8.2802

December 5, 2019

Ms. Kauanoe Batangan
Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Batangan:

Subject: Front Street Sidewalk, Railing, and Seawall Repair Project
Early Consultation for Draft Environmental Assessment
Lahaina, Maui, Hawaii
TMK: (2) 4-5-002:999, 4-6-009:999

The Hawaii Department of Transportation (HDOT) understands The County of Maui, Department of Public Works is proposing improvements to the west side of Front Street in Lahaina, Maui. The project involves the County-owned Front Street roadway as well as State-owned land seaward of the certified shoreline.

The project involves roadways and State land that is not under the jurisdiction of HDOT. Due to the proposed action and location, the project does not appear to have any significant impact to HDOT facilities, therefore we have no comments.

If there are any questions, please contact Mr. Blayne Nikaido of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.h.nikaido@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

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

August 12, 2020

Jade Butay, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project. DIR 1208. STP 8.2802

Dear Mr. Butay:

Thank for your letter dated December 5, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we acknowledge that the Hawai'i Department of Transportation (HDOT) has no comments to offer at this time as the project does not appear to have any significant impact to HDOT facilities.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:tn
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\SDOT Response.doc

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

DEC 1 6 2019

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR
OFFICE OF PLANNING

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

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

DTS201912061353LI

December 11, 2019

Mr. Kauanoe Batangan
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Batangan:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, Lahaina, Maui, Hawaii; Tax Map Key: (2) 4-5-002: 999 and (2) 4-6-009: 999

The Office of Planning (OP) is in receipt of your early consultation request, received November 25, 2019, for the preparation of a Draft Environmental Assessment (Draft EA) for the proposed sidewalk, railing and seawall repair project in Lahaina, Maui.

According to the request, the County of Maui Department of Public Works proposes to improve the makai side of Front Street in Lahaina. The project involves the county-owned Front Street roadway as well as state-owned land seaward of the certified shoreline. The proposed improvements will be conducted in the following two areas:

Area 1 - approximately 715 feet long from Dickenson Street to Lahainaluna Street

- Removal and reconstruction of deteriorated portion of the concrete wave deflector.
- Replacement of railing with new stainless steel posts mounted on a low concrete curb with intermediate horizontal stainless steel tube.
- Removal and reconstruction of upper portion of the deteriorated sidewalk surface with boardform finish.
- Removal of the raised rubble masonry planters and replace with at-grade planters.
- Replace overgrown trees.
- Removal of wooden bollards and patching with concrete.

Area 2 - approximately 730 feet long between Papalaua Street and Baker Street

- Replenish boulders in the frontal wall that have been dislodged.
- Removal of coconut trees growing through the wall that are leaning seaward.

The project sites are located within the district designated as "Urban" by the State Land Use Commission, and within the County of Maui's Special Management Area (SMA). The proposed work will involve the shoreline area as defined in Hawaii Revised Statutes (HRS) § 205A-41.

The OP has reviewed the Draft EA early consultation request and has the following comments to offer:

1. The Hawaii Coastal Zone Management (CZM) Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The Draft EA should include an assessment as to how the proposed development conforms to each of CZM objectives and their supporting policies set forth in HRS § 205A-2, as amended.

2. Sea level rise increases the risk of flooding, storm surges, and coastal erosion. To identify and assess any potential impacts of sea level rise on the subject project area, the OP suggests the Draft EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission. The Report, and Hawaii Sea Level Rise Viewer at https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/ particularly identifies a 3.2-foot sea level rise exposure area across the main Hawaiian Islands, including Maui, which may occur in the mid to latter half of the 21st century. The Draft EA should provide a map of 3.2-foot sea level rise exposure area in relation to the project area, and consider site-specific mitigation measures to respond to the potential impacts of sea level rise on the proposed improvements.

3. The subject EA will serve as the primary supporting document for the SMA use permit application and shoreline setback variance. The OP suggests that the Draft EA specifically discuss compliance with the requirements of SMA use and shoreline setbacks according to the county's SMA Rules Chapter 12-202 and Shoreline Rules Chapter 12-203 by consulting with the County Planning Department.

4. In enacting Act 224, Session Laws of Hawaii 2005, the legislature found that:

   [l]Light pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. Light pollution in these areas has been documented as causing the death of hatching sea turtles, fledgling shearwaters, nocturnal flying sea birds, and migratory birds.

   Pursuant to HRS §§ 205A-30.5(b) and 205A-71(b), for artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs, a government agency or its authorized users shall make reasonable efforts to properly position or shield lights to minimize adverse impacts. The Draft EA should assess potential artificial lighting impacts associated with the proposed project, and accordingly discuss reasonable efforts to minimize such impacts.

5. The Draft EA should assess potential impacts of the proposed construction on the existing drainage system and water quality, and discuss site-specific mitigation measures

to prevent any runoff, sediment, soil and debris resulting from the proposed construction, including excavation, grading and staging, from adversely impacting the coastal ecosystem and the State waters as specified in HAR Chapter 11-54.

6. According to the subject consultation request, an U.S. Army Corps of Engineers Permit may be applicable to the project. Pursuant to Code of Federal Regulations (CFR), 15 CFR 930, if an Army Corps of Engineers Permit is required for the proposed project, a federal consistency review may be required from the OP, Hawaii CZM Program.

If you have any questions regarding this comment letter, please contact Shichao Li of our office at (808) 587-2841.

Mahalo,

Mary Alice Evans

Mary Alice Evans
Director

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

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

August 17, 2020

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

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project; DTS201912061353LI

Dear Ms. Evans:

Thank you for your letter dated December 11, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

The Hawaii Coastal Zone Management (CZM) Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The Draft EA should include an assessment as to how the proposed development conforms to each of the CZM objectives and their supporting policies set forth in HRS § 205A-2, as amended.

Response:

The Draft EA will include an assessment as to how the proposed development conforms to each of the CZM objectives and their supporting policies set forth in HRS § 205A-2, as amended.

Comment:

Sea level rise increases the risk of flooding, storm surges, and coastal erosion. To identify and assess any potential impacts of sea level rise on the subject project area, the OP suggests the Draft EA refer to the findings

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

of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission. The Report, and Hawaii Sea Level Rise Viewer at https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/ particularly identifies a 3.2-foot sea level rise exposure area across the main Hawaiian Islands, including Maui, which may occur in the mid to latter half of the 21st century. The Draft EA should provide a map of 3.2-foot sea level rise exposure area in relation to the project area, and consider site-specific mitigation measures to respond to the potential impacts of sea level rise on the proposed improvements.

Response:

The Draft EA will provide a map of 3.2-foot sea level rise exposure area in relation to the project area. This project seeks to provide maintenance-level reconstruction of existing improvements and is not intended to counter or mitigate sea level rise which may occur in the Lahaina area. It is noted that a longer term solution to address sea level rise may be considered by the DPW, but public safety is an immediate concern.

Comment:

The subject EA will serve as the primary supporting document for the SMA use permit application and shoreline setback variance. The OP suggests that the Draft EA specifically discuss compliance with the requirements of SMA use and shoreline setbacks according to the county's SMA Rules Chapter 12-202 and Shoreline Rules Chapter 12-203 by consulting with the County Planning Department.

Response:

The Draft EA will address potential impacts on water quality and both temporary and permanent Best Management Practices implemented to mitigate such impacts to the maximum extent possible. Additionally, the SMA rules and Shoreline Setback rules for the Maui Planning Commission relative to the proposed improvements will also be included in the Draft EA. A meeting was held with representatives from the County Planning Department in August 2019 and an early consultation letter was also sent to the Planning Department for review and comment.

Comment:

In enacting Act 224, Session Laws of Hawaii 2005, the legislature found

that:

[l]Light pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. Light pollution in these areas has been documented as causing the death of hatching sea turtles, fledgling shearwaters, nocturnal flying sea birds, and migratory birds.

Pursuant to HRS §§ 205A-30.5(b) and 205A-71(b), for artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs, a government agency or its authorized users shall make reasonable efforts to properly position or shield lights to minimize adverse impacts. The Draft EA should assess potential artificial lighting impacts associated with the proposed project, and accordingly discuss reasonable efforts to minimize such impacts.

Response:

The Draft EA will assess potential artificial lighting impacts associated with the proposed project, and accordingly discuss reasonable efforts to minimize such impacts. Permanent lighting will be selected in accordance with Hawaiian Electric Company guidelines and HRS 205A to minimize impacts on avian and marine life.

Comment:

The Draft EA should assess potential impacts of the proposed construction on the existing drainage system and water quality, and discuss site-specific mitigation measures to prevent any runoff, sediment, soil and debris resulting from the proposed construction, including excavation, grading and staging, from adversely impacting the coastal ecosystem and the State waters as specified in HAR Chapter 11-54.

Response:

The Draft EA will assess potential impacts of the proposed construction on the existing drainage system and water quality, and discuss site-specific mitigation measures to prevent any runoff, sediment, soil and debris resulting from the proposed construction, including excavation, grading and staging, from adversely impacting the coastal ecosystem and the State waters as specified in HAR Chapter 11-54.

Comment:

According to the subject consultation request, an U.S. Army Corps of Engineers Permit may be applicable to the project. Pursuant to Code of Federal Regulations (CFR), 15 CFR 930, if an Army Corps of Engineers Permit is required for the proposed project, a federal consistency review may be required from the OP, Hawaii CZM Program.

Response:

A Department of the Army, Section 404 permit will be sought from the Corps of Engineers. The project work is anticipated to be granted a Verification letter under Nationwide Permit 3, Maintenance. It is our understanding that a Nationwide Permit 3 was previously approved by the Hawaii CZM Program for federal consistency on February 22, 2017 for similar improvements to the area, and no review by the Hawaii CZM Program is anticipated to be required.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
Mark Unemori, ECM Inc.
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DEC 0 1 2019

COUNTY OF MAUI
EMERGENCY MANAGEMENT AGENCY
200 South High Street Wailuku, HI 96793
phone: 808.270.7285; fax: 808.270.7275
e-mail: emergency.management@mauicounty.gov

Michael Victorino
Mayor

Herman Andaya
Administrator

November 26, 2019

MEMO TO: Attn: Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'i 96793

FROM: Anthony Joyce, Hazard Mitigation Specialist, Maui Emergency Management Agency (MEMA)

VIA: Herman Andaya, Administrator, Maui Emergency Management Agency (MEMA)

SUBJECT: Re: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, TMK Nos: (2)4-5-002:999 and (2)4-6-009:999, Lahaina, Maui, Hawaii

Dear Mr. Batangan,

Thank you for your proposal and the opportunity for us to submit suggestions and comments on the proposed Front Street Sidewalk, Railing and Sewall repair project. We have no comments at this time.

Thank you for providing information at your project. Should you have any questions, please feel free to contact Anthony Joyce at (808) 270-7286, or via email at Herman.Andaya@co.maui.hi.us.

Sincerely,

Herman Andaya
MEMA Administrator

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

August 12, 2020

Herman Andaya, Administrator
Emergency Management Agency
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Mr. Andaya:

Thank for your Department's letter dated November 26, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we acknowledge that the Maui Emergency Management Agency has no comments to offer at this time.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:tn
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\EMA Response.doc

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DEC 13 2019

MICHAEL P. VICTORINO
Mayor

ERIC A. NAKAGAWA, P.E.
Director

SHAYNE R. AGAWA, P.E.
Deputy Director

MICHAEL P. RATTE
Solid Waste Division

SCOTT R. ROLLINS, P.E.
Wastewater Reclamation Division

TAMARA L. FARNSWORTH
Environmental Protection &
Sustainability Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

December 9, 2019

Mr. Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'I 96793

SUBJECT: EARLY CONSULTATION REQUEST FOR THE PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR PROJECT TMK NOS.: (2)4-5-002:999 AND (2)4-6-009:999 LAHAINA, MAUI, HAWAI'I

We have reviewed the subject project and have the following comments:

1. Solid Waste Division comments:

   a. Provide information on how the demolition waste will be managed: concrete, railing, rubble masonry, wooden bollards, and trees.

   b. The applicant is requested to divert all usable materials from the landfill.

2. Wastewater Reclamation Division (WWRD) comments:

   a. WWRD is in favor of the proposed improvements as they will enhance the structural integrity of the street right of way and protect existing sewer and other underground infrastructure assess.

If you have any questions regarding this letter, please contact Shayne Agawa at 270-8230.

Sincerely,

Shayne R. Agawa

for ERIC A. NAKAGAWA, P.E.
Director of Environmental Management

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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
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VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

August 12, 2020

Eric Nakagawa, Director
County of Maui
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Mr. Nakagawa:

Thank you for your letter dated December 9, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

Solid Waste Division comments:

a. *Provide information on how the demolition waste will be managed: concrete, railing, rubble masonry, wooden bollards, and trees.*
b. *The applicant is requested to divert all usable materials from the landfill.*

Response:

Nonhazardous, solid non-recyclable construction and demolition waste (concrete, rubble, treated wood, soil, metal, asphalt concrete), and greenwaste will be disposed to the Central Maui Landfill. Prohibited items will be collected, packaged, and disposed by a licensed hauler to a permitted facility.

Project plans will direct the contractor to divert recyclable materials from landfill disposal.

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Comment:

Wastewater Reclamation Division (WWRD) comment:

a. *WWRD is in favor of the proposed improvements as they will enhance the structural integrity of the street right of way and protect existing sewer and other underground infrastructure assets.*

Response:

We thank the WWRD for their support of the proposed project.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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DEC 1 1 2019

MICHAEL P. VICTORINO
Mayor

DAVID C. THYNE
Fire Chief

BRADFORD K. VENTURA
Deputy Fire Chief

DEPARTMENT OF FIRE & PUBLIC SAFETY
COUNTY OF MAUI
200 DAIRY ROAD
KAHULUI, HI 96732

December 9, 2019

Munekiyo Hiraga
Attn: Kauanoe Batangan, Senior Associate
305 High St. Suite 104
Wailuku, HI 96793

SUBJECT: Front Street Sidewalk, Railing & Seawall – Early Consultation Request
Lahaina, HI

Dear Kauanoe,

Thank you for allowing our office to provide comment on the subject proposed project. As per your request, comments are provided below:

- Our department has no comment in regards to this proposed project at this time.
- Our office also reserves the right to comment on the proposed project during the permit review process if detailed plans for this project are routed to our office for review. At that time, fire department access and fire and life safety requirements will be addressed.

If there are any questions or comments, please feel free to contact me at (808) 876-4693 or by email at paul.haake@mauicounty.gov.

Sincerely,

Paul Haake

Paul Haake

Captain - Fire Prevention Bureau

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VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

August 12, 2020

Paul Haake, Captain – Fire Prevention Bureau
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Captain Haake:

Thank for your letter dated December 9, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we acknowledge that the Department of Fire and Public Safety has no comments to offer at this time related to the proposed project. We also acknowledge that the Department reserves the right to comment on the proposed project during the permit review process if detailed plans are routed to your office for review.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:tn
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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DEC 13 2019

MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

JOHN L. BUCK III
Deputy Director

DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

December 9, 2019

Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Batangan:

SUBJECT: EARLY CONSULTATION REQUEST FOR THE PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR PROJECT, TMK NOS.: (2) 4-5-002:999 AND (2) 4-6-009:999, LAHAINA, MAUI, HAWAII

The Department of Parks and Recreation has reviewed the early consultation request for the preparation of a draft environmental assessment for the subject project and has no comments at this time.

Thank you for providing us the opportunity to review the subject project. Should you have any questions or concerns, please feel free to call me or Robert Halvorson, Chief of Parks Planning and Development, at (808) 270-7931.

Sincerely,

KARLA H. PETERS
Director of Parks and Recreation

c: Robert Halvorson, Chief of Planning and Development

KHP:RH:kb

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VICE PRESIDENT

August 12, 2020

Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. Peters:

Thank you for your letter dated December 9, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we acknowledge that the Department of Parks and Recreation has no comments to offer at this time.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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MICHAEL P. VICTORINO
Mayor

MICHELE CHOUTEAU MCLEAN, AICP
Director

JORDAN E. HART
Deputy Director

JAN 28 2020

DEPARTMENT OF PLANNING
COUNTY OF MAUI
ONE MAIN PLAZA
2200 MAIN STREET, SUITE 315
WAILUKU, MAUI, HAWAII 96793

January 27, 2020

Mr. Kauanoe Batangan
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Batangan:

SUBJECT: EARLY CONSULTATION FOR THE PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR, LOCATED AT FRONT STREET, LAHAINA, ISLAND OF MAUI, HAWAII; TMKS: (2) 2-4-5-002:999 AND (2) 4-6-009:999 (RFC 2019/0123)

Thank you for meeting with the Department of Planning (Department) on August 13, 2019 regarding the proposed Front Street sidewalk, railing and seawall repair project in Lahaina. The Applicant (Department of Public Works) seeks to repair approximately 1,445 feet of the seawall and sidewalk in an effort to protect critical infrastructure and improve pedestrian safety.

The project is located within the Special Management Area (SMA) and is subject to both the Maui Planning Commission's SMA Rules and the Shoreline Rules. Based on our meeting and information provided to the Department, we offer the following considerations:

- The Department recommends that the Applicant perform an engineering analysis of the structural integrity of the seawall. Such analysis may include geotechnical core samplings behind Area 2 seawall to identify areas of intrusions that may be evidenced by sinkholes or caverns (a common problem impacting ageing shoreline structures) to determine if the scope of the proprosed project should include addressing possible structural remedation.

- Lahaina is a National Historic Landmark District and the County of Maui is committed to its preservation. In light of projected rising sea levels it is prudent that the envrionmenal assessment include an analysis for at least 3.2 feet of sea level rise and possibly evaluate for thresholds up to six feet of sea level rise.

- Indicate if the proposed project will impact any historic properties.

MAIN LINE (808) 270-7735
CURRENT DIVISION (808) 270-8205 / LONG RANGE DIVISION (808) 270-7214 / ZONING DIVISION (808) 270-7253

- The proposed project has the potential to improve drainage and reduce impacts on the nearshore waters from runoff. Please incorporate green infrastructre design to include runoff and drainage inproving features in the lanscape design elements.

- The proposed project involves the use of State lands and will require a shoreline setback variance, triggering compliance with Chapter 343, Hawaii Revised Statutes. Please identify who the accepting authority is on the Environmental Assessment.

- The West Maui Community Plan supports improvements to Front Street and many pedestrians and visitors utilize the existing raised planters in Area 1 for seating. Please identify if the proposed project will have an impact to seating in Area 1.

In closing, we look forward to further analyzing the project upon submission of the SMA Use Permit, Shoreline Setback Variance and Flood Development Permit Applications.

If additional clarification is required, please contact Staff Planner Keanu Lau Hee by email at keanu.lauhee@mauicounty.gov or by phone at (808) 463-3867. The Department looks forward to your continued coordination as this project advances.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for MICHELE MCLEAN, AICP
Planning Director

xc: Clayton I. Yoshida, AICP, Planning Program Administrator (PDF)
Keanu Lau Hee, Staff Planner (PDF)
Tara Owens (PDF)
James Buika (PDF)
Scott Forsythe, Staff Planner (PDF)
Diego Sanchez-Gomez, Staff Planner (PDF)
Project File

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VICE PRESIDENT

August 12, 2020

Michele Chouteau McLean, AICP, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. McLean:

Thank you for your letter dated January 27, 2020, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

The Department recommends that the Applicant perform an engineering analysis of the structural integrity of the seawall. Such analysis may include geotechnical core samplings behind Area 2 seawall to identify areas of intrusions that may be evidenced by sinkholes or caverns (a common problem impacting ageing shoreline structures) to determine if the scope of the proposed project should include addressing possible structural remediation.

Response:

The Preliminary Engineering Report prepared by Sato and Associates, Inc. in September 2019 indicates that the shoreline is protected by a Concrete Rubble Masonry (CRM) that extends approximately 2 feet above the adjacent concrete sidewalk. In front of the CRM wall there is a stacked boulder wall which protects the CRM from wave action. The stacked boulder wall has stretches of displaced boulders which allows for some undermining of the CRM wall.

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Since the CRM wall is in fair condition, it was decided to rehabilitate the protective boulder wall rather than reconstructing a new wall. Work will involve replacing displaced basalt boulders to deteriorated sections of the outer wall. Undermined portions of the CRM wall will be filled in with smaller sized rocks. The DPW will consider the Planning Department's suggestion to conduct further analysis in Area 2 in the future.

Comment:

Lahaina is a National Historic Landmark District and the County of Maui is committed to its preservation. In light of projected rising sea levels it is prudent that the environmental assessment include an analysis for at least 3.2 feet of sea level rise and possibly evaluate for thresholds up to six feet of sea level rise.

Response:

The Draft Environmental Assessment will include an analysis of 3.2 feet of sea level rise in the project area. The purpose of the proposed project is to protect the existing pedestrian sidewalks and railing and the protection of the existing utilities located in Front Street. A longer term solution may be considered in the future by the DPW, but the immediate concern is the pedestrian safety and protection of existing utilities. Repairs to the wave deflectors and sea walls will provide the short term solution.

Comment:

Indicate if the proposed project will impact any historic properties.

Response:

The seawalls in both Area 1 and Area 2 are historic since they were originally constructed over 50 years ago. There were, however, recent modifications of areas on and adjacent to the two (2) seawalls. The planned repairs and modifications will not impact the historic sections of the Area 1 or Area 2 seawalls. The proposed work is limited to re-construction of modern elements of the seawalls for stability and long-term protection.

No historic properties surrounding the project area will be impacted.

Comment:

The proposed project has the potential to improve drainage and reduce impacts on the nearshore waters from runoff. Please incorporate green infrastructure design to include runoff and drainage improving (sic) features in the landscape design elements.

Response:

In Area 1, the project scope is limited to repair of the spalling concrete walkway, deteriorating wave deflector of the seawall, and redesign of landscaped areas fronting the seawall. There will be a small increase in landscaped areas which will slightly lower runoff in the area.

In Area 2, there will be no increase in runoff caused by repairs to the stacked boulder seawall.

Comment:

The proposed project involves the use of State lands and will require a shoreline setback variance, triggering compliance with Chapter 343, Hawaii Revised Statues. Please identify who the accepting authority is on the Environmental Assessment

Response:

The Approving Agency for the Environmental Assessment (EA) will be the Department of Public Works. The Approving Agency will be identified in the EA.

Comment:

The West Maui Community Plan supports improvements to Front Street and many pedestrians and visitors utilize the existing raised planters in Area 1 for seating. Please identify if the proposed project will have an impact to seating in Area 1.

Response:

The existing raised planter seating in Area 1 will be replaced with freestanding benches. This decision was made after consultation with community members at two (2) outreach meetings. Members of the public expressed a desire for increased sight lines to discourage the illicit activity

that is enabled by the existing raised planter seating.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft EA. A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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DEC 09 2019

POLICE DEPARTMENT

COUNTY OF MAUI

MICHAEL P. VICTORINO
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

December 4, 2019

Mr. Kauanoe Batangan
Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Re: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, TMK Nos.: (2) 4-5-002:999 and (2) 4-6-009:999, Lahaina, Maui, Hawaii

Dear Mr. Batangan:

This is in response to your letter dated November 21, 2019 requesting comments on the early consultation request for the preparation of a draft environmental assessment for the proposed Front Street sideway, railing, and seawall repair project.

In review of the submitted documents, we would like to recommend in Phase I while construction/repair is being made to the wood railing along Front Street between Dickenson Street and Lahainaluna Road, the entire Makai sidewalk area be closed off to pedestrian traffic and barricades be placed to keep the public out. In Phase II, we would like to recommend the south bound lane of travel along Front Street between Baker Street and Papalaua Street be closed off and contraflow be conducted during the repair/replacement times.

Thank you for giving us the opportunity to comment on this project.

Sincerely,

Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

MUNEKIYO HIRAGA
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Michael T. Munekiyo
CHAIRMAN
Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy
VICE PRESIDENT
Tessa Munekiyo Ng
VICE PRESIDENT

August 12, 2020

Tivoli Faaumu, Chief of Police
County of Maui
Maui Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Chief Faaumu:

Thank you for your letter dated December 4, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

We would like to recommend in Phase 1 while construction/repair is being made to the wood railing along Front Street between Dickenson Street and Lahainaluna Road, the entire Makai sidewalk area be closed off to pedestrian traffic and barricades be placed to keep the public out.

Response:

Public access to the contractor's work area will be restricted. Should the contractor not require the entire extent of either work area at one time, the area not being worked on will remain publicly accessible.

Comment:

In Phase II, we would like to recommend the south bound lane of travel along Front Street between Baker Street and Papalaua Street be closed off and contraflow be conducted during the repair/replacement times.

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Response:

To the extent practicable, the south bound lane of travel along Front Street between Baker Street and Papalaua Street will be closed off and contraflow will be conducted during the repair/replacement times. Please note, however, that should the contractor's means and methods reduce the safe passable area too severely, the affected portion of Front Street will need to be closed off completely. The DPW and its contractor will coordinate any potential road closures with emergency personnel.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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MICHAEL P. VICTORINO
Mayor

JEFFREY T. PEARSON, P.E.
Director

HELENE KAU
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAI'I 96793
www.mauiwater.org

December 10, 2019

Mr. Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

RE: Proposed Front Street Sidewalk, Railing, and Seawall Repair Project
Early Consultation Request
TMKs: (2) 4-6-002:999 and (2) 4-6-009:999

Dear Mr. Batangan,

The Department of Water Supply (DWS) thanks you for the opportunity to offer the following comments on the proposed Lahaina Sidewalk, Railing, and Seawall Repair Project.

Infrastructure
The DWS has a 12-inch water main located adjacent to project areas one and two along Front Street in Lahaina and is in the coastal hazard sea level rise exposure area. Coordination with DWS Engineering Division can be accomplished by contacting the division at 270-7835 before construction takes place.

Should you have any questions, please contact staff planner Audrey Dack at (808) 463-3109 or audrey.dack@co.maui.hi.us.

Sincerely,

Jeffrey T. Pearson, P.E.
Director
apd
cc: DWS engineering division

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CHAIRMAN
Karlynn K. Fukuda
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Tessa Munekiyo Ng
VICE PRESIDENT

August 12, 2020

Jeffrey Pearson, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Mr. Pearson:

Thank you for your letter dated December 10, 2019, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following response to your comment.

Comment:

The DWS has a 12-inch water main located adjacent to project areas one and two along Front Street in Lahaina and is in the coastal hazard sea level rise exposure area. Coordination with DWS Engineering Division can be accomplished by contacting the division at 270-7835 before construction takes place.

Response:

Thank you for alerting us of the existing water main located adjacent to project areas one and two along Front Street. Coordination with Department of Water Supply, Engineering Division will be done prior to the commencement of construction activities.

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Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233
www.munekiyohiraga.com

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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DEC 16 2019

Council Chair
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Vice-Chair
Keani N.W. Rawlins-Fernandez

Presiding Officer Pro Tempore
Tasha Kama

Councilmembers
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Michael J. Molina
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Shane M. Sinenci
Yuki Lei K. Sugimura

Director of Council Services
Traci N. T. Fujita, Esq.

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

December 16, 2019

Mr. Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Kauanoe:

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project, TMK Nos.: (2)4-5-002:999 and (2)4-6-009:999, Lahaina, Maui, Hawai`i

Mahalo for the opportunity to provide comments during the early consultation period for this proposed project. Following are my questions, cursory thoughts and comments:

Community Input

As you well know, early consultation with organizations and community leaders is a critical part of this process. Following are some entities and individuals that come to mind:

- ✓ Lahaina Town Action Committee (Sne Patel)
- ✓ Lahaina Restoration Foundation (Theo Morrison)
- ✓ Aha Moku (Keeaumoku Kapu)
- ✓ Maui Nui Marine Resource Council
- Mark Deakos and Kai Nishiki.
  Kai via Maui Nui Marine Resource Council

Sea Level Rise

Has the sea level rise exposure area (SLRXA) been super imposed on the area? What are long term plans to address Sea Level Rise in this area?

Area 1 – Repair of Pedestrian Elements

For good or bad, folks like to sit on the planter area. If raised planters are removed would there still be a bench seating area?

Area 2, Fig. 4 Seawall Repair

Is there policy and criteria applied as to if, and under what circumstances seawalls are okay or not okay?

How will competing impacts to public and/or safety vs. financial impacts to private property be addressed?

Is it okay to tell private citizens no seawalls, but allowable for the County/State?

As a side note, this area is prone to drug dealing activity per community watchdog Kanani Higbee.

Mahalo for the opportunity to provide these comments.

Sincerely,

Tamara A. M. Paltin

Tamara Paltin
Councilmember

cc: Richard Sato, Sato & Associates, Inc.
Kristi Ono, Department of Public Works

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August 12, 2020

Councilmember Tamara Paltin
County of Maui
Department of Council Services
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Councilmember Paltin:

Thank you for your letter dated December 16, 2019 and for the meeting with you and the project team on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Community Input

Comment:

As you well know, early consultation with organizations and community leaders is a critical part of this process. Following are some entities and individuals that come to mind:

- *Lahaina Town Action Committee (Sne Patel)*
- *Lahaina Restoration Foundation (Theo Morrison)*
- *Aha Moku (Keeaumoku Kapu)*
- *Maui Nui Marine Resource Council*
- *Mark Deakos and Kai Nishiki*

Response:

Early consultation letters were sent to the Lahaina Town Action Committee, Lahaina Restoration Foundation, Aha Moku o Maui, Maui Nui Marine Resource Council, and Dr. Mark Deakos. Kai Nishiki received an early consultation letter as chair of the Maui Nui Marine Resource Council.

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Sea Level Rise

Comment:

Has the sea level rise exposure area (SLRXA) been super imposed on the area? What are long term plans to address Sea Level Rise in this area?

Response:

The SLRXA projection has been superimposed on the project area. See **Exhibit "A"**. The projections show that the project sites are in the 3'2" exposure area. As discussed during your consultation meeting with Department of Public Works personnel on 12/16/19, the projection is probably faulty since the existing seawall is greater than 3'2" above the area mean sea level.

Effects of sea level rise will be addressed in a manner consistent with the policies of Maui County and the State of Hawai'i. The proposed project seeks to provide maintenance-level reconstruction of existing improvements and is not intended to counter or mitigate sea level rise which may occur in the Lahaina area.

Long term plans to address Sea Level Rise in this area are still being developed. We welcome your input on this matter.

Area 1 – Repair of Pedestrian Elements

Comment:

For good or bad, folks like to sit on the planter area. If raised planters are removed would there still be a bench seating area?

Response:

The proposed project calls for replacing the existing planter benches Material section for new benches has not been finalized. Recycled plastic on a metal frame will be considered.

Area 2, Fig. 4 Seawall Repair

Comment:

Is there policy and criteria applied as to if, and under what circumstances seawalls are okay or not okay? How will competing impacts to public and/or safety vs. financial impacts to private property be addressed? Is it okay to tell private citizens no seawalls, but allowable for the County/State? As a side note, this area is prone to drug dealing activity per community watchdog Kanani Higbee.

Response:

There is no County policy that outlines the circumstances under which seawalls are allowed. The proposed project seeks to perform maintenance-level reconstruction of deteriorated existing improvements which are a public safety concern. In the future, the DPW may consider a longer term solution to address sea level rise in the area. To build or repair a seawall, one must obtain the proper permits from the Planning Commission. This process applies equally to both private and public entities, so each seawall project will undergo the same scrutiny regardless of who proposes it. The safety and financial impact of each seawall project will be weighed during the permitting process.

The Maui Police Department has been asked to comment on this proposed project and will evaluate the proposed design with public safety and law enforcement considerations.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment for the project. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\TPaltin Response.doc

From: Theo Morrison <theo@lahainarestoration.org>
Sent: Tuesday, February 25, 2020 2:14 PM
To: General eMail <planning@munekiyohiraga.com>
Cc: Kristi Ono <Kristi.Ono@co.maui.hi.us>; tsdaveed@aol.com
Subject: Comments

COMMENT FORM
COUNTY OF MAUI DEPT. OF PUBLI WORKS
FRONT STREET RAILING, SIDEWALK AND SEAWALL REPAIR PROJECT
Community Meeting at Lahaina Civic Center
February 13, 2020

Comments from Lahaina Restoration Foundation

Thank you very much for addressing the deteriorating Front St. seawall, sidewalk etc. Through a grant with the Parks Dept. LRF maintains this area six days a week and we are very familiar with its poor condition. We also appreciate that you are reaching out to the community for input on the project. Over my 29 years working in the community, a smooth running project that is beneficial to all, always starts with the community. Thank you. We will assist in community outreach throughout the project.

1. Light posts – we support the aluminum lamp posts and encourage the county to use the same design/company that we used at the Lahaina Harbor Front Project. I will provide the info. on those poles before the next meeting.
2. Big planters with kou trees. It is our understanding that the county has decided to pull out the big planters with kou trees and the benches. We are in support of replacing these planters with a smaller, native shade tree with benches that are free standing and not hidden from view of the street or other pedestrians. The metal bench design presented at the meeting was too generic for Front Street. We have a very nice wooden bench which is built in Lahaina. We place these benches under the banyan tree. We also have a simpler bench design which is at the harbor front and also at the new park across from the Baldwin Home Museum. We would like you to consider both these designs for the Front Street benches.
3. Any trees planted on Front Street should not grow tall enough to block the view of second floor businesses located across the street.
4. Bike racks. These need to be replaced. The "post" design presented at the meeting was most appropriate for the historic district, however, what is

MOST important is how well bike riders like this design. The current rack across from Fleetwoods is not used much but the one at Cheeseburger is very busy. I am not sure how many bikes the post type of rack can accommodate. It is mostly young restaurant workers who ride bikes to work and park them on Front Street. They are the people who should be asked what type of design they prefer. If bike riders do not think the rack is safe, they will not park their bikes there. We absolutely want to encourage people to ride bikes to work, and parkin them in racks not attached to light posts, so please make sure you ask bike riders what type of rack they prefer.

5. Generally speaking, we support preferred Option #1. However, we are concerned about the horizontal railings instead of vertical railings. It seems like kids could climb on the horizontal railings.
6. Addition to Project: We would like to see a railing similar to what is proposed for the 700 block installed on the existing short rock wall in the 800 block between Bubba Gumps and Paradise Lahaina. We know this is not in the scope of work, but it would add continuity to the project as well as solve a big problem of people hanging out on that wall.
7. Coconuts along the 900 block. PLEASE replant mature coconuts along this seawall. This is such an important scenic view in Lahaina. We **strongly** support the replanting of coconuts along this section of Front Street. If this is a money issue – let me know and we will do a fundraiser. This is VERRY important to everyone who lives, and works in Lahaina.

Thank you again for doing this improvement project on Front Street. We look forward to working together with the County, contractors etc. as the plans develop.

mahalo

Theo Morrison
Executive Director
Lahaina Restoration Foundation
120 Dickenson Street
Lahaina, HI 96761
808-661-3262
theo@lahainarestoration.org

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VICE PRESIDENT

August 12, 2020

Via email: theo@lahainarestoration.org

Theo Morrison, Executive Director
Lahaina Restoration Foundation
120 Dickenson Street
Lahaina, Hawai'i 96761

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. Morrison:

Thank you for your email dated February 25, 2020, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

Light posts – we support the aluminum lamp posts and encourage the county to use the same design/company that we used at the Lahaina Harbor Front Project. I will provide the info. on those poles before the next meeting.

Response:

Thank you for your comment. DPW has narrowed its lighting options down to three (3) light post models, including the large aluminum lamp posts you support.

Comment:

Big planters with kou trees. It is our understanding that the county has decided to pull out the big planters with kou trees and the benches. We are in support of replacing these planters with a smaller, native shade tree with benches that are free standing and not hidden from view of the street or other pedestrians. The metal bench design presented at the meeting was too generic for Front Street. We have a very nice wooden bench

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which is built in Lahaina. We place these benches under the banyan tree. We also have a simpler bench design which is at the harbor front and also at the new park across from the Baldwin Home Museum. We would like you to consider both these designs for the Front Street benches.

Response:

The County has decided to remove the large, concrete planters with the kou trees and built in benches. This decision was made after members of the public noted that the planters provide visual barriers which enable illicit activity to occur undetected along the walkway. DPW has decided to replace the large, concrete planters with ground level planters and free-standing benches to maintain sight lines from the street. The ground level planters will contain a native, salt-tolerant shade tree and ground covering. The design for the free-standing bench has not yet been decided.

Comment:

Any trees planted on Front Street should not grow tall enough to block the view of second floor businesses located across the street.

Response:

The shade trees that will replace the existing Kou trees have not yet been decided. DPW will incorporate your concerns regarding visual impacts for second floor businesses into its decision making. Criteria for selection includes indigenous status, salt-tolerance, historical connection to the area, droppings produced, upkeep costs, and height.

Comment:

Bike racks. These need to be replaced. The "post" design presented at the meeting was most appropriate for the historic district, however, what is MOST important is how well bike riders like this design. The current rack across from Fleetwoods is not used much but the one at Cheeseburger is very busy. I am not sure how many bikes the post type of rack can accommodate. It is mostly young restaurant workers who ride bikes to work and park them on Front Street. They are the people who should be asked what type of design they prefer. If bike riders do not think the rack is safe, they will not park their bikes there. We absolutely want to encourage people to ride bikes to work, and parkin them in racks not attached to light posts, so please make sure you ask bike riders what type of rack they prefer.

Response:

DPW intends to replace the existing bike racks. Two (2) public meetings were held to solicit public comments on the project, including preferred design elements. Two (2) bike rack options were presented for consideration and the "post" design was the favorite amongst those who expressed a preference. DPW has not yet decided on the bike rack designs, and will take public preference into consideration as it makes its selection.

Comment:

Generally speaking, we support preferred Option #1. However, we are concerned about the horizontal railings instead of vertical railings. It seems like kids could climb on the horizontal railings.

Response:

DPW will utilize vertical railings due to the safety concerns caused by the horizontal railings and the overwhelming support for this design expressed by participants at our two (2) public meetings.

Comment:

Addition to Project: We would like to see a railing similar to what is proposed for the 700 block installed on the existing short rock wall in the 800 block between Bubba Gumps and Paradise Lahaina. We know this is not in the scope of work, but it would add continuity to the project as well as solve a big problem of people hanging out on that wall.

Response:

DPW has considered the request to install a railing between the Bubba Gump and Paradise Lahaina store. It was determined that installing a railing is not feasible at this time due to cost, the required removal of a possibly historic wall and large tree, and because a railing will not preclude loitering or adequately address the described situation.

Comment:

Coconuts along the 900 block. PLEASE replant mature coconuts along this seawall. This is such an important scenic view in Lahaina. We ***strongly*** *support the replanting of coconuts along this section of Front*

Street. If this is a money issue – let me know and we will do a fundraiser. This is VERRY important to everyone who lives, and works in Lahaina.

Response:

DPW has considered replanting coconut trees along the 900 block seawall and determined that is it not feasible to do so. The coconut trees were planted before expansion of the Concrete Rubble Masonry seawall, which is why the seawall was built around the existing tree trunks. Replanting trees would require demolishing portions of the historic seawall or building planters and encroaching further into the shoreline.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at (808) 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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NOV 27 2019

LAHAINA-HONOLUA SENIOR CITIZENS CLUB

6 Tulip Place

Lahaina, HI 96761-8322

November 22, 2019

SUBJECT: Draft Environmental Assessment for Proposed Lahaina Front Street Sidewalk, Railing, and Seawall Repair Project

Kauanoe Batangan, Senior Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Kauanoe:

Thank you for providing me the data on the Front Street Project. I feel that this is an extremely necessary project and I will provide you all the support that I can.

Sincerely,

Arleen Gerbig

Arleen Gerbig, President

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VICE PRESIDENT

August 12, 2020

Arleen Gerbig, President
Lahaina-Honolua Senior Citizens Club
6 Tulip Place
Lahaina, Hawai'i 96761-8322

SUBJECT: Early Consultation Letter Request for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. Gerbig:

Thank for your letter dated November 22, 2019 on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we thank the Lahaina-Honolua Senior Citizens Club for their support of the proposed project.

We appreciate your input and will include a copy of your comment letter and this response in the Draft Environmental Assessment (EA). A copy of the Draft EA will be sent to your office for review and comment. Should you have any questions or require further information regarding the proposed action, please contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:tn
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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www.munekiyohiraga.com

From: ! <jkunitomo@aol.com>
Sent: Friday, March 6, 2020 9:54 AM
To: General eMail <planning@munekiyohiraga.com>; KristiOno@co.maui.hi.us; theo@lahainarestoration.org
Subject: Public Works Front Street Railing, Sidewalk, and Seawall Repair Project

Aloha,
Thank you for soliciting input for this long awaited repair.
My restaurant is on the second floor of the 700 block directly across the planter and seating area at the south end of the seawall- area one. We have been here since 1994. I've also been involved with many Lahaina committees and organizations for those 25 years so my comments will be primarily around those two perspectives.
*Our restaurant closes at 9:00pm so we would appreciate a start time that will accommodate easy vehicular and pedestrian traffic until that point. After that time most of our staff will exit Luakini side of the building.
*I would also appreciate you considering we are on the second floor and the current tree needs to be trimmed a couple times/ year as it blocks our view of the ocean. Shorter trees or none at all might be better.
*Although I really like the look of the horizontal railings I have seen children do dangerous things at the wall. Also currently birds will sit on the railings and tourist will feed them and their droppings will be an issue. This occurs pretty frequently at the planter box fronting my restaurant.
*Strongly support LRF split bench design that discourages lying down on the bench. I can provide you with photos of people sleeping overnight on the bench in front of us. Unfortunately, the longer they are allowed to stay there, the more entitled they become. Eventually bringing sleeping bags, things to sell, and even deciding who gets to sit and who doesn't.
*Current planter box design also encourages transients taking residence. I would really like to see lower and/or pokier planter box/framing that discourages bad element. They also stash things in the planters like they are their locker.
Couple of design considerations
Does the top horizontal rail have to be flat. Can they have a slight arch to them that reflects some of the architecture of the monarchy period. Can some of the stone work around the planter boxes also use stonework to match from that period?
There are not many pre-contact cultural elements that incorporate well with plantation/ whaling era design. But can some ahu pohaku be incorporated? Maybe along or in place of planter boxes. If shade became an important design requirement then the stone pillars can integrate thatch for small shade areas.

I would also support a railing on that Bubba Gump south wall. Makai side of the sidewalk should encourage pedestrian flow. If they want to sit makai then that should start north of Bubba Gump.

Mahalo for giving me an opportunity to share these thoughts.
Aloha,
Jerry Kunitomo
Lahaina Pizza Company
808-283-7082

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VICE PRESIDENT

August 17, 2020

Via email: jkunitomo@aol.com

Mr. Jerry Kunitomo
Lahaina Pizza Company

SUBJECT: Early Consultation Comments for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Mr. Kunitomo:

Thank you for your email dated March 6, 2020, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

Our restaurant closes at 9:00pm so we would appreciate a start time that will accommodate easy vehicular and pedestrian traffic until that point. After that time most of our staff will exit Luakini side of the building.

Response:

Night work is expected to occur in Area 1, though details have not yet been finalized and DPW will incorporate impacts to nearby businesses into its decision. Prior to construction, a community meeting will be held to solicit input and coordinate construction activities with affected stakeholders.

Comment:

I would also appreciate you considering we are on the second floor and the current tree needs to be trimmed a couple times/ year as it blocks our view of the ocean. Shorter trees or none at all might be better.

Response:

The existing Kou trees will be replaced with a native, salt-tolerant shade tree to comply with County requirements. The shade trees that will replace the existing Kou trees have not yet been decided. DPW will incorporate your concerns regarding visual impacts for second floor businesses into its decision making. Criteria for selection includes indigenous status, salt-tolerance, historical connection to the area, droppings produced, upkeep costs, and height.

Comment:

Although I really like the look of the horizontal railings I have seen children do dangerous things at the wall. Also currently birds will sit on the railings and tourist will feed them and their droppings will be an issue. This occurs pretty frequently at the planter box fronting my restaurant.

Response:

DPW will utilize vertical railings due to the safety concerns caused by the horizontal railings and the overwhelming support for this design expressed by participants at our two (2) public meetings.

Comment:

Strongly support LRF split bench design that discourages lying down on the bench. I can provide you with photos of people sleeping overnight on the bench in front of us. Unfortunately, the longer they are allowed to stay there, the more entitled they become. Eventually bringing sleeping bags, things to sell, and even deciding who gets to sit and who doesn't.

Current planter box design also encourages transients taking residence. I would really like to see lower and/or pokier planter box/framing that discourages bad element. They also stash things in the planters like they are their locker.

Response:

The County has decided to remove the large, concrete planters and built in benches. This decision was made after members of the public noted that the planters provide visual barriers which enable illicit activity to occur undetected along the walkway. DPW has decided to replace the large, concrete planters and its built-in benches with ground level planters and

free-standing benches to maintain sight lines from the street. The ground level planters will contain a native, salt-tolerant shade tree and ground covering. The design for the free-standing bench has not yet been decided.

Comment:

Couple of design considerations
Does the top horizontal rail have to be flat. Can they have a slight arch to them that reflects some of the architecture of the monarchy period. Can some of the stone work around the planter boxes also use stonework to match from that period?
There are not many pre-contact cultural elements that incorporate well with plantation/ whaling era design. But can some ahu pohaku be incorporated? Maybe along or in place of planter boxes. If shade became an important design requirement then the stone pillars can integrate thatch for small shade areas.

Response:

The project design strives to maintain the historic character of Front Street. The railing designs, including the flat top, preserve the existing architecture as much as possible. Options on the use of ahu pohaku in the project improvements will be reviewed by the project team.

Comment:

I would also support a railing on that Bubba Gump south wall. Makai side of the sidewalk should encourage pedestrian flow. If they want to sit makai then that should start north of Bubba Gump.

Response:

DPW has considered the request to install a railing between the Bubba Gump and Paradise Lahaina store and has determined that installing a railing is not feasible at this time. Installing a railing will require removal of the possibly historic wall and large tree.

Records show that the existing sidewalk is between four (4) to eight (8) feet wide, which meets accessibility width requirements.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment (EA). Please let us know if you

would like to be notified via email when the Draft EA is published for public comment. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
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From: Penny <pwakida@hawaii.rr.com>
Date: March 12, 2020 at 8:42:31 AM HST
To: General eMail <planning@munekiyohiraga.com>
Subject: Front Street Project

I am a long-term resident of Lahaina (49 yrs.), a retired teacher, former Maui planning commissioner and director on the Lahaina Restoration Foundation Board. I have read with interest the Public Works proposal for Front Street.

I support the recommendation by Mr. Rezents to maintain the existing trees. The trees are over 20 years old and provide critical shade, offset carbon and provide ambience to Front Street. Of course, trees need constant maintenance and funds need to be budgeted for their care. However, what trees provide for us is well worth the price of their upkeep.

I urge caution in using metal on the railings. The Lahaina sun turns any metal into a burning hot surface. Any exposed metal should be faced with wood or other material to shield people from burns. The obvious concern is damage by surf. It should be noted that any construction along a sea front is going to deteriorate in time and will need repair or replacing. Long range planning should figure a life span for railings and expect to do replacements.

Many of us in Lahaina love the historic, iconic look of Front Street. I particularly love the old rock wall work on the benches and walls and hope most of that can be preserved. The flat surfaces in the 900 block have been a favorite sunset viewing location for both visitors and locals.

We are aware of the ongoing problem of street vendors and various miscreants along the seawall and other parts of the historic district. However I urge Public Works not to sacrifice in this renovation the ambience and feel of old Lahaina and lose what makes our town unique. The historic district needs assigned personnel to enforce the current laws and prevent illegal activity and this, in my mind, is a separate issue from the renovations.

I look forward to the next draft of this project,

Penny Wakida

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VICE PRESIDENT

August 12, 2020

Via email: pwakida@hawaii.rr.com

Ms. Penny Wakida

SUBJECT: Early Consultation Comments for the Proposed Front Street Sidewalk, Railing, and Seawall Repair Project

Dear Ms. Wakida:

Thank you for your email dated March 12, 2020, on the subject project. On behalf of the County of Maui, Department of Public Works (DPW), we provide the following responses in the order of the comments in your letter.

Comment:

I support the recommendation by Mr. Rezents to maintain the existing trees. The trees are over 20 years old and provide critical shade, offset carbon and provide ambience to Front Street. Of course, trees need constant maintenance and funds need to be budgeted for their care. However, what trees provide for us is well worth the price of their upkeep.

Response:

The existing Kou trees produce seed pods that cause damage to cars and are expensive to maintain. They will be replaced with a native, salt-tolerant shade tree to comply with County requirements. The type of shade trees that will replace the existing Kou trees have not yet been decided. Criteria for selection includes indigenous status, salt-tolerance, historical connection to the area, droppings produced, upkeep costs, and height.

Comment:

I urge caution in using metal on the railings. The Lahaina sun turns any metal into a burning hot surface. Any exposed metal should be faced with wood or other material to shield people from burns. The obvious concern is damage by surf. It should be noted that any construction along a sea

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www.munekiyohiraga.com

front is going to deteriorate in time and will need repair or replacing. Long range planning should figure a life span for railings and expect to do replacements.

Response:

Metal elements of the railings will be entirely coated to mitigate corrosion and the conduction of heat.

Comment:

Many of us in Lahaina love the historic, iconic look of Front Street. I particularly love the old rock wall work on the benches and walls and hope most of that can be preserved. The flat surfaces in the 900 block have been a favorite sunset viewing location for both visitors and locals.

We are aware of the ongoing problem of street vendors and various miscreants along the seawall and other parts of the historic district. However I urge Public Works not to sacrifice in this renovation the ambience and feel of old Lahaina and lose what makes our town unique. The historic district needs assigned personnel to enforce the current laws and prevent illegal activity and this, in my mind, is a separate issue from the renovations.

Response:

The project design strives to maintain the historic character of Front Street as much as possible. However, due to safety concerns, DPW has decided to remove the large, concrete planters and built in benches. This decision was made after members of the public noted that the planters provide visual barriers which enable illicit activity to occur undetected along the walkway. The large, concrete planters and its built-in benches will be replaced with ground level planters and free-standing benches to maintain sight lines from the street. This will assist law enforcement officers in their efforts to prevent illegal activity.

We appreciate your input and will include a copy of your comment letter and this response letter in the Draft Environmental Assessment (EA). Please let us know if you would like to be notified via email when the Draft EA is published for public comment. Should you have any questions or require additional information, please feel free to contact me at 244-2015.

Very truly yours,

Kauanoe Batangan
Senior Associate

KB:lh
cc: Kristi Ono, County of Maui, Department of Public Works
Richard Sato, Sato & Associates
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Applications\EC\Response Letters\PWakida Response.doc

REFERENCES IX

IX. REFERENCES

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APPENDIX A

PRELIMINARY PROJECT PLANS

PLANS FOR

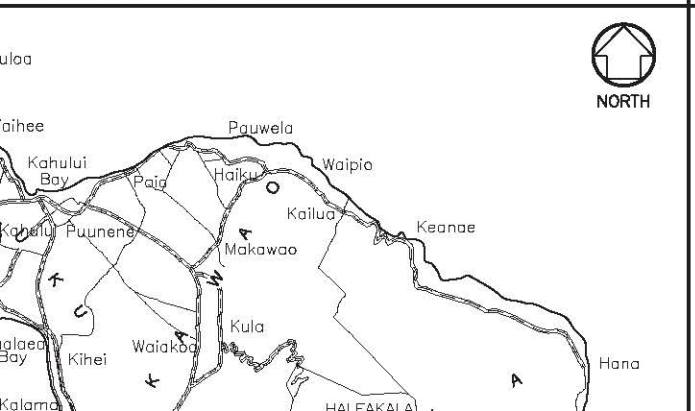
T STREET SIDEWALK, RAILING AND SEAWALL

JOB NO. 19-28
LAHAINA, MAUI, HAWAII

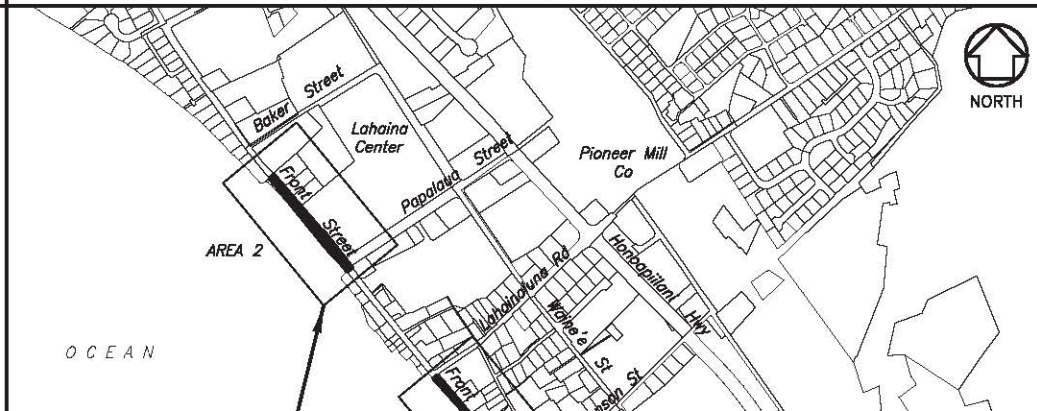
INDEX TO DRAWINGS

DWG. NO.	DESCRIPTION
T–0.01	TITLE SHEET
C–0.01	GENERAL NOTES FOR CONSTRUCTION
C–0.02	WATER AND WASTEWATER NOTES
C–0.03	WATER POLLUTION AND EROSION CONTROL NOTES – 1
C–0.04	WATER POLLUTION AND EROSION CONTROL NOTES – 2
C–0.05	SITE–SPECIFIC BMP REQUIREMENTS
C–0.06	TRAFFIC CONTROL NOTES
C–1.00	OVERALL SITE PLAN
C–1.01	AREA 1 DEMOLITION PLAN
C–1.02	AREA 1 NEW SIDEWALK AND SEAWALL PLAN
C–1.03	AREA 1 BMPS PLAN
C–1.04	AREA 2 SEAWALL RECONSTRUCTION AND BMPS PLAN
C–2.01	DEMOLITION DETAILS
C–2.02	SITE DETAILS
C–3.01	TRAFFIC CONTROL PLAN 1
C–3.02	TRAFFIC CONTROL PLAN 2
C–3.03	TRAFFIC CONTROL PLAN 3
C–3.04	TRAFFIC CONTROL PLAN 4
C–3.05	TRAFFIC CONTROL PLAN 5
A–101	SEAWALL AND STAIR RAILINGS ELEVATIONS, SECTION, AND DETAILS
S0.1	STRUCTURAL GENERAL NOTES
S0.2	TYPICAL DETAILS
S1.1	AREA 1 DEMOLITION PLAN
S1.2	AREA 1 NEW PLAN
S2.1	AREA 1 – SEAWALL DEMOLITION SECTION
S2.2	STAIR DEMO PLAN AND SECTIONS
S3.1	AREA 1 – SEAWALL DEMO SECTION
S3.2	STAIR REPAIR PLAN AND SECTIONS
L–1.00	LANDSCAPE NOTES
L–2.01	LANDSCAPE CONSTRUCTION PLAN
L–2.02	LANDSCAPE IRRIGATION PLANS
L–2.03	LANDSCAPE PLANTING PLANS
L–3.00	LANDSCAPE DETAILS
E–1	NOTES AN
E–2	STREET L
E–3	EXISTING
E–4	NEW ELEC

ISLAND OF MAUI



LOCATION MAP



APPROV

DIRECTOR,
COUNTY O

L STRICTLY CONFORM TO THE THE APPLICABLE SECTIONS OF THE 2005 HAWAII
ROAD AND BRIDGE CONSTRUCTION, AND THE 2008 "STANDARD PLANS" OF
ENT OF TRANSPORTATION, HIGHWAYS DIVISION.

Y WITH THE DIRECTIVES OF THE STATE OF HAWAII OCCUPATIONAL SAFETY AND

SPONSIBLE FOR OBTAINING MATERIAL, EQUIPMENT STORAGE, STAGING AREA
FOUND NECESSARY FOR HIS OPERATIONS, AND SHALL SUBMIT BEST
FOR SUCH SITES TO THE ENGINEER FOR APPROVAL, PRIOR TO OCCUPYING

OF SURFACE AND UNDERGROUND UTILITIES, MANHOLES, MONUMENTS, TRAFFIC
OWN ON THE PLANS ARE FROM A GROUND TOPOGRAPHIC SURVEY AND LATEST
RACY THEREOF IS NOT GUARANTEED. ENCOUNTERING OTHER OBSTACLES
IS POSSIBLE. THE CONTRACTOR SHALL MAKE AN INDEPENDENT CHECK ON
/OR CONTACTING THE VARIOUS UTILITY COMPANIES AND GOVERNMENTAL
T LOCATIONS AND DEPTHS OF THE EXISTING UTILITIES. IF EXISTING UTILITIES,
PLANS, ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL AT HIS
TILITIES.

ALL DIMENSIONS AND DETAILS ON THE DRAWINGS BEFORE PROCEEDING WITH
ICY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR
HICH WILL AVOID SUCH CONFLICTS. THE CONTRACTOR SHALL IDENTIFY ANY
OF CONSTRUCTION TO ALLOW THE ENGINEER TO MAKE REVISIONS WHICH WILL
RACTOR SHALL BE RESPONSIBLE FOR PRECISELY LAYING OUT THE VARIOUS
DRAWINGS.

SPONSIBLE TO VERIFY ALL CONDITIONS WHEN PREPARING HIS BID AND MAKE
RDINGLY. ANY DISCREPANCIES SHALL ALSO BE BROUGHT TO THE ATTENTION

TO BE ENCOUNTERED AT ELEVATION +2 FT. MSL. CONTRACTOR SHALL BE
TIVITIES MAY BE AFFECTED BY TIDALLY INFLUENCED GROUNDWATER.

ES PRIOR TO CONSTRUCTION:
CTION MEETING WITH THE COUNTY OF MAUI–DEPARTMENT OF PUBLIC WORKS,
AST FIVE (5) DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
TRAFFIC CONTROL PLANS PROVIDED IN THESE PLANS REQUIRING A DETOURS
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION'S TRAFFIC SECTION.
15 WORKING DAYS OR SOONER AND APPROVED PRIOR TO THE

NTACT THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, WASTEWATER
CTOR AT 1–808–270–7417 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE

I–DEPARTMENT OF WATER SUPPLY (DWS) INSPECTOR ONE (1) WEEK PRIOR
K.
OR DIGGING, THE CONTRACTOR SHALL CALL THE HAWAII ONE–CALL CENTER AT
VIDE ANY NECESSARY PROJECT INFORMATION.

BECOME THE PROPERTY OF THE CONTRACTOR AND HE SHALL BE
DISPOSAL AT AN APPROVED SITE. THE CONTRACTOR SHALL INFORM THE
OF THE LOCATION OF THE DISPOSAL SITE(S) AND SUCH SITE(S) MUST
THE GRADING ORDINANCE. THE COUNTY WILL NOT COORDINATE ANY
OF MATERIAL.

ERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING,
UTILITY AND HIGHWAY FACILITIES THAT WILL REQUIRE ADJUSTMENTS TO THE
.

ORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND OTHER
AND SAFE PASSAGE OF PUBLIC TRAFFIC IN BOTH DIRECTIONS ALONG FRONT
S MAY REMAIN INACCESSIBLE TO THE PUBLIC WHILE THEY ARE UNDER

IALL BE FROM 8:30 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY AND FROM
TURDAY AND SUNDAY. NO NIGHT WORK, OR WORK ON HOLIDAYS WILL BE
Y THE ENGINEER.

OF THE REQUIREMENTS OF SUBSECTION 105.16 – SUBCONTRACTS, WHICH
RK AMOUNTING TO NOT LESS THAN 30 PERCENT OF THE TOTAL CONTRACT
NON–COMPLIANCE WITH THIS SUBSECTION MAY BE GROUNDS FOR REJECTION

S DIRECTED TO SUBSECTION 107.06 – CONTRACTOR DUTY REGARDING PUBLIC
.09 – MAINTENANCE OF TRAFFIC AND SECTION 645 – WORK ZONE TRAFFIC
.11 – UTILITIES AND SERVICES.

PERMIT TO PERFORM WORK ON COUNTY HIGHWAYS FROM THE DEVELOPMENT
WEEKS PRIOR TO THE COMMENCEMENT OF WORK.

AND/OR THE DEPARTMENT OF WATER SUPPLY DIRECTOR HAS THE RIGHT TO
NY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLANS OR
TEREST.

OWN ARRANGEMENTS FOR UTILITIES SUCH AS ELECTRICITY, WATER, ETC.
AND PAY FOR ALL COST THEREOF.

IALL BE KEPT FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION. THE
ATERIALS, EQUIPMENT, LABOR, TOOLS AND INCIDENTALS NECESSARY TO
ALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.

S OWN EXPENSE. KEEP THE PROJECT AREA AND SURROUNDING AREA FREE

EXISTING FACILITIES NOT INDICATED TO BE DISTURBED, AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE–INS, AND SETTLEMENT. STRUCTURES SHALL BE ADEQUATELY BRACED AND SUPPORTED WITH BEAMS, STRUTS, OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE. WHEN EXCAVATION AND CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND TELEPHONE AND SIGNAL CABLE FACILITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND MAINTAIN ADEQUATE CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER OVERHEAD FACILITIES. DAMAGES TO THE EXISTING FACILITIES SHALL BE IMMEDIATELY REPORTED TO THE RESPECTIVE UTILITY COMPANIES, COUNTY OR STATE AGENCY. THE REPAIR WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. ALL DAMAGED PORTIONS SHALL BE REPLACED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE AFFECTED UTILITY COMPANY.

26. THE CONTRACTOR SHALL LOCATE AND MARK PROPERTY PINS SO THAT THEY WILL NOT BE DISTURBED BY CONSTRUCTION ACTIVITIES.

27. SMOOTH RIDING CONNECTIONS SHALL BE CONSTRUCTED AT ALL CONNECTIONS TO APPROACHES, SIDE ROADS AND DRIVEWAYS AND AS DIRECTED BY THE ENGINEER.

28. ALL CONSTRUCTION SIGNS SHALL BE LEFT IN PLACE UNTIL ALL CONSTRUCTION WORK HAS BEEN COMPLETED. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE ENGINEER TO REMOVE CONSTRUCTION SIGNS. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.

29. CONTRACTOR SHALL HAVE A SITE SPECIFIC SPILL PREVENTION PLAN APPROVED BY WASTEWATER RECLAMATION DIVISION PRIOR TO TRENCHING FOR UTILITIES WITHIN FIVE (5) FEET HORIZONTALLY OR VERTICALLY FROM EXISTING SEWER LINES OR SEWER FORCE MAINS. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS AND WILL NOT BE PAID FOR SEPARATELY.

30. CONTRACTOR SHALL MAINTAIN AN ACCURATELY MARKED SET OF PRINTS SHOWING ALL CHANGES OR DEVIATIONS FROM THE ORIGINAL DRAWINGS. PRIOR TO THE FINAL APPROVAL OF THE IMPROVEMENTS HE SHALL SUBMIT FIVE (5) COPIES OF MARKED SET OF DRAWINGS TO THE ENGINEER. FOLLOWING APPROVAL OF THOSE SETS, HE SHALL SUBMIT ONE (1) COMPLETE SET OF REPRODUCIBLE QUALITY TRACINGS SHOWING ALL CHANGES. ALL SETS SHALL BE SIGNED BY THE CONTRACTOR AND MARKED "AS–BUILT".

PUBLIC HEALTH, SAFETY AND CONVENIENCE NOTES

1. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.

2. AS REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL HIRE SPECIAL DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.

3. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC, ACCORDING TO THE 2009 OR LATEST APPROVED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," AND TO THE LATEST RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON/OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND THE U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".

4. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHTS–OF–WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.

5. THE CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE COUNTY OF MAUI FOR ROAD CLOSURE DATES.

6. THE COUNTY OF MAUI IS NOT RESPONSIBLE FOR ANY PARK, ROADWAY, EASEMENT (INCLUDING BUT NOT LIMITED TO DRAINAGE, SEWER, ACCESS, RECLAIMED WATER, OR AVIGATION EASEMENT), OR ANY OTHER INTEREST IN REAL PROPERTY SHOWN ON THIS MAP OR SHOWN ON THESE PLANS, UNLESS THE MAUI COUNTY COUNCIL HAS ACCEPTED ITS DEDICATION BY A RESOLUTION APPROVED BY A MAJORITY OF COUNCIL MEMBERS AT A REGULAR OR SPECIAL MEETING OF THE MAUI COUNTY COUNCIL OR THE COUNTY OF MAUI HAS SIGNED ITS ACCEPTANCE VIA A CONVEYANCE DOCUMENT RECORDED IN THE BUREAU OF CONVEYANCES OF THE STATE OF HAWAII IN COMPLIANCE WITH MAUI COUNTY CODE SECTION 3.44.015.

CONFIRMATION OF THE DISCOVERY AS SOON AS POSSIBLE. THE
PUBLIC WORKS SHALL IMMEDIATELY CONTACT THE STATE HISTORIC
WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMM
IF NECESSARY. RESOURCES COVERED INCLUDE, BUT ARE NOT LI
MOUNDS, ROCK OR CORAL ALIGNMENTS, STONE PAVING OR OTHER
CONCENTRATION OF SHELL OR CHARCOAL, HUMAN BURIALS OR SK
BONE, ANY INDICATION OF HABITATION, AGRICULTURE, OR OTHER H
NOT ALTER OR DISTURB ANY DISCOVERY AND SHALL CEASE ALL A
OR THE DESTRUCTION OF DISCOVERED RESOURCES. THE CONTRA
PREVENT EMPLOYEES OR OTHER PERSONS FROM TRESPASSING ON
SUCH RESOURCES.

REVISION OF DWS WATER SYSTEM STANDARDS. CONTRACTOR SHALL OBTAIN
DWS STANDARDS BEFORE COMMENCING CONSTRUCTION.

L BE PERFORMED BY CONTRACTORS POSSESSING VALID STATE OF HAWAII
RDLESS OF THE VALUE OF THE WORK.

LOCAL, STATE, FEDERAL LAWS, RULES AND REGULATIONS REGARDING THE
SAL OF ASBESTOS PIPE.

XISTING WATERLINE DURING COURSE OF CONSTRUCTION AND SUPPORT
NT ANY MOVEMENT.

N OF EXISTING WATERLINES, SERVICE LATERALS AND OTHER UTILITIES ARE
CONTRACTOR'S RESPONSIBILITY TO LOCATE SAME PRIOR TO TRENCHING FOR
OF LOWERING, RELOCATING OR ADJUSTING EXISTING WATERLINES, SERVICE
WHETHER SHOWN OR NOT SHOWN ON THE CONSTRUCTION PLANS AT THE

RATION:

LOCATION OF EXISTING DWS VALVES AND MANHOLES, WHEN AFFECTED BY THE
CONSTRUCTION.

R MANHOLE CONCRETE COLLARS WITHIN THE PROJECT LIMITS SHALL BE
UCTED PER DWS STANDARD DETAIL V12 AND V23, RESPECTIVELY, AT THE

COVER OF ALL WATER VALVES WITHIN THE PROJECT LIMITS SHALL BE
OR'S EXPENSE.

DWS SLIDING VALVE BOX ASSEMBLY AND MANHOLE FRAME AND COVER TO

ACING/RESTORATION WORK, THE CONTRACTOR SHALL SCHEDULE INSPECTION

BLY, MANHOLE COVER, OR CONCRETE COLLAR, WHETHER DAMAGED OR IN
PLACED TO FINISHED GRADE. FURTHER, ANY SLIDING VALVE BOX ASSEMBLY,
COLLAR NOT SHOWN ON THE PLANS BUT UNCOVERED DURING
ACED TO FINISHED GRADE. IF CONTRACTOR DAMAGES EXISTING VALVE OR
NHOLE VAULTS, CONTRACTOR SHALL CONSTRUCT NEW VAULT AT CONTRACTOR'S

FINISHED GRADES, ALL UTILITIES (I.E., WATER, SEWER, DRAIN, ETC.) AFFECTED
OR NOT SHOWN ON THE CONSTRUCTION PLANS AT THE CONTRACTOR'S

LL ROAD IMPROVEMENTS DISTURBED OR DAMAGED DURING CONSTRUCTION IN
HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS
OF THE DEPARTMENT OF PUBLIC WORKS AT THE CONTRACTOR'S EXPENSE.
BUT AT NOT LIMITED TO, PAVEMENT, PAVEMENT MARKERS, SHOULDER
D HUMPS.

KS AND ANCHOR BLOCKS SHALL BE DWS CLASS 2500.

EN VALVE NUT AND TOP OF MANHOLE COVER SHALL BE THREE (3) FEET.

MATERIALS LIST TO DWS FOR APPROVAL PRIOR TO CONSTRUCTION.

PONSIBLE FOR FURNISHING ALL NECESSARY FITTINGS AND OTHER MATERIALS
OR THE HOOK-UP. CONTRACTOR SHALL VERIFY THE EXACT LOCATION, DEPTH,
E EXISTING LINE BEFORE ORDERING MATERIALS FOR THE HOOK-UP.
R, CHECK WITH DWS BEFORE EXCAVATING FOR VERIFICATION PURPOSES.

NICAL JOINT FITTINGS SHALL BE USED FOR BURIED APPLICATIONS AND
LL BE USED FOR EXPOSED APPLICATIONS.

QUIRED TO BE PRESENT OR ASSIST WITH CONNECTIONS TO THE EXISTING
CTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY DWS FOR SAID

RESPONSIBLE FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR FOR
LLING, CLEANING AND CHLORINATION, PAVING, AND OTHER WORK NECESSARY
, AS DIRECTED BY AND TO THE SATISFACTION OF DWS.

AIN, 6" DIAMETER OR LARGER, SHALL BE 3'-0". MINIMUM COVER FOR 4"
NIMUM COVER FOR DIAMETERS LESS THAN 4" SHALL BE 1'-6".

STALLATION OF WATERLINES, SERVICE LATERALS AND APPURTENANCES HAVE
STING TREES, WALLS, FENCES, ETC. IN ACCORDANCE WITH CURRENT DWS

MAINTAIN 18" MINIMUM CLEARANCE WITH WATERLINE OR SERVICE LATERAL
RLINE OR SERVICE LATERAL. INSTALL REINFORCED CONCRETE JACKET AROUND
BOVE WATERLINE OR LESS THAN 18" BELOW WATERLINE. THE LENGTH OF
SPECIFIED IN TABLE 100-5 OF THE DWS STANDARDS. PROVIDE 6" MINIMUM
KET TO WATERLINE OR SERVICE LATERAL. STANDARD CONCRETE JACKET

STEEL BOLTS ARE REQUIRED TO BE PASSIVATED PER ASTM A380. MANUFACTURER CERTIFICATES ARE REQUIRED FOR PROOF WITH EACH SHIPMENT.

b. COR-TEN T-BOLTS AND NUTS WITH HIGH GRADE ZINC SACRIFICIAL ANODES, EQUIVALENT TO "DURATRON" SACRIFICIAL "SAC-NUT" MODULES, INSTALLED ON THE NUTS FOR ALL STANDARD COR-TEN T-BOLTS.

c. COR-TEN T-BOLTS AND NUTS BOTH FACTORY-COATED WITH TRIPAC 2000 BLUE COATING SYSTEM BY "TRIPAC FASTENERS".

21. CONTRACTOR SHALL FURNISH AND INSTALL DUCTILE IRON NIPPLES FOR COMPLETE INSTALLATION OF THE WATERLINE, WHETHER SHOWN OR NOT SHOWN ON THE CONSTRUCTION PLANS, AT THE CONTRACTOR'S EXPENSE.

22. CONTRACTOR SHALL FURNISH TEMPORARY CLEANOUTS WHEN NECESSARY TO TEST, FLUSH, AND CHLORINATE THE WATERLINE AT THE CONTRACTOR'S EXPENSE.

23. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PORTIONS OF ABANDONED WATERLINES THAT ARE EXPOSED OR WITHIN 12 INCHES BELOW THE GROUND SURFACE AT THE CONTRACTOR'S EXPENSE.

24. ALL BURIED METALS, INCLUDING COPPER PIPES, SHALL BE WRAPPED WITH POLY WRAP. FOR ALL BURIED INSTALLATIONS OF DUCTILE IRON PIPE AND FITTINGS, POLY WRAP IS REQUIRED EXCEPT WITHIN CONCRETE JACKETS.

25. LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.

26. CONTRACTOR SHALL PAINT AND NUMBER FIRE HYDRANT(S). NUMBERING TO BE FURNISHED BY DWS.

27. WATER MAINS AND APPURTENANCES SHALL BE SUBJECT TO HYDROSTATIC TESTING IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C600, UNDER THE "HYDROSTATIC TESTING" SECTION, TO A PRESSURE OF AT LEAST 1.5 TIMES THE WORKING PRESSURE. UNLESS OTHERWISE STATED IN THE CONSTRUCTION DOCUMENTS OR LIMITED BY THE PRESSURE RATING OF EQUIPMENT, THE PRESSURE TEST AND LEAKAGE TEST SHALL BE PERFORMED AT 225 POUNDS PER SQUARE INCH PRESSURE.

28. DEVELOPER SHALL SUBMIT A COST LIST ALONG WITH AN AFFIDAVIT FOR THE WATER SYSTEM PRIOR TO ACCEPTANCE.

29. CONTRACTOR SHALL SUBMIT ONE (1) SET OF RECORD DRAWINGS VIA A CONSULTANT PRIOR TO ACCEPTANCE OF THE WATER SYSTEM. AN ELECTRONIC IMAGE FILE IN PDF FORMAT AT FULL PAGE SIZE (24"X36") SHALL BE PROVIDED TO THE DWS FOR ALL PROJECTS.

WASTEWATER CONSTRUCTION NOTES

1. ALL WASTEWATER LINES AND APPURTENANCES SHALL CONFORM TO STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1984, OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF MAUI.

2. ALL SEWERLINE AND APPURTENANCES SHALL FOLLOW THE DESIGN STANDARDS OF THE WASTEWATER RECLAMATION DIVISION, CITY AND COUNTY OF HONOLULU, VOLUMES 1 & 2, DATED JULY 1993 AND JULY 1984 RESPECTIVELY, UNLESS OTHERWISE NOTED.

3. ALL WASTEWATER LINES AND APPURTENANCES INSTALLATIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1986. IF ANY CONFLICTS ARISE BETWEEN THE STANDARD DETAILS, DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS, THE STRICTEST STANDARD SHALL APPLY, UNLESS APPROVED OTHERWISE.

4. BEFORE CONSTRUCTION COMMENCES, THE CONTRACTOR SHALL SCHEDULE AND DOCUMENT A PRECONSTRUCTION MEETING WITH ALL AGENCIES HAVING UTILITIES AFFECTED BY THE WORK.

5. CONTRACTOR MUST HAVE A SITE SPECIFIC SPILL PREVENTION PLAN (SSSPP) APPROVED BY WWRD PRIOR TO SEWER LINE CONSTRUCTION AND/OR SEWER LATERAL CONNECTION TO EXISTING FACILITIES, OR ANY WORK WITHIN FIVE (5) FEET OF WASTEWATER SYSTEM IMPROVEMENTS.

6. THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, WASTEWATER RECLAMATION DIVISION, HAS THE RIGHT TO STOP CONSTRUCTION, SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED PLANS AND SPECIFICATIONS, OR DETRIMENTAL TO THE PUBLIC INTEREST.

7. ALL EXISTING WASTEWATER LINES, WHETHER OR NOT SHOWN ON THE PLANS, IF DAMAGED DURING CONSTRUCTION, SHALL BE REPAIRED BY THE CONTRACTOR AND THE CONTRACTOR SHALL PAY ALL EXPENSES.

8. THE CONTRACTOR SHALL NOTIFY THE WASTEWATER RECLAMATION DIVISION FIVE (5) WORKING DAYS PRIOR TO CONNECTION TO ANY EXISTING WASTEWATER LINES WITHIN THE COUNTY OF MAUI.

9. SHOULD THE CONTRACTOR EXCAVATE BEYOND THE TRENCH PAYWIDTH, AS SPECIFIED IN THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1984, AND SUCH ACTION RESULTS IN A GREATER LOAD TO THE PIPE, THE CONTRACTOR SHALL PROVIDE, AT THE CONTRACTOR'S EXPENSE, A HIGHER CLASS OF BEDDING MATERIAL THAT WILL WITHSTAND THE ADDED LOAD.

10. WASTEWATER LATERALS SHALL BE SIX (6) INCHES IN DIAMETER AT A 2% SLOPE, UNLESS APPROVED OTHERWISE.

11. AN ADVANCE RISER CONNECTION SHALL BE INSTALLED AT EACH NEW WASTEWATER LATERAL.

12. WHERE THE CLEARANCE BETWEEN A WASTEWATER LINE AND A NEW OR EXISTING UTILITY LINE IS LESS THAN EIGHTEEN (18) INCHES, THE WASTEWATER LINE SHALL BE PROTECTED WITH A REINFORCED CONCRETE JACKET IN ACCORDANCE WITH THE STANDARD DETAILS OF PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1984.

13. WHEN THE WASTEWATER MAINS ARE OF A DIFFERENT MATERIAL THAN THE LATERALS, THE CONTRACTOR SHALL INSTALL APPROVED ADAPTERS.

2001. FINAL ACCEPTANCE OF THE SYSTEM SHALL BE CONTINGEN
REQUIREMENTS OF THIS POLICY. CCTV RESULTS SHOULD BE SUBM
22, 2015. SHOULD ANY OF THE SEWER LATERALS FAIL TO PASS
ALL LATERALS WILL ALSO BE REQUIRED.

20. ANY CONNECTION MADE UNDER THE WATER TABLE WILL REQUIRE
TIGHTNESS IN ACCORDANCE WITH DEPARTMENT OF PUBLIC WORKS
2001. FINAL ACCEPTANCE OF THE SYSTEM SHALL BE CONTINGEN
REQUIREMENTS OF THIS POLICY.

21. CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE GPS
CONCEALED WORK TO BE DEDICATED TO THE COUNTY, AND PROVI
TO THE PROJECT'S FINAL ACCEPTANCE. AN ACCURATE GPS POINT
AT UTILITY CROSSINGS, AND AT ANY INSTALLED APPURTENANCE (I
BENDS, CONCRETE JACKET, CLEANOUT, PIPE DEVIATIONS, CHANGE
GPS DATA SHALL BE IN NAD 1983 STATE PLANE HAWAII ZONE 2
TO WITHIN ONE (1) FOOT. ACQUIRED GPS SURVEY DATA SHALL
PRIOR TO SUBMISSION IN SHAPEFILE (.SHP) FORMAT, FOR COMPA
SUCH AS ESRI ARCMAP.

NAME(S) OF THE INDIVIDUAL DESIGNATED RESPONSIBLE FOR
) REPAIR ACTIVITIES AND FOR FILLING OUT AND SUBMITTING THE
REPORT. PERSONNEL SELECTED FOR THE INSPECTION AND
SHALL RECEIVE TRAINING FROM THE CONTRACTOR. THEY SHALL BE
N AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE
OLS USED ONSITE IN GOOD WORKING ORDER.

. MEASURES AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS
5 INCHES OR GREATER AND MAKE A MAINTENANCE INSPECTION
INSPECTION. SUBMIT A COPY TO THE ENGINEER NO LATER THAN
THE INSPECTION.

DIMENT CONTROL MEASURES IN GOOD WORKING ORDER. IF REPAIR
MMEDIATELY AND COMPLETE BY THE CLOSE OF THE NEXT WORK DAY IF
SIGNIFICANT REPAIR OR REPLACEMENT, OR IF THE PROBLEM CAN BE
INTENANCE. WHEN INSTALLATION OF A NEW EROSION OR SEDIMENT
NEW OR MODIFIED CONTROL OR COMPLETE THE REPAIR NO LATER THAN 7
OF DISCOVERY. "IMMEDIATELY" MEANS THE CONTRACTOR SHALL TAKE ALL
ZE OR PREVENT DISCHARGE OF POLLUTANTS UNTIL A PERMANENT SOLUTION
NAL. THE ENGINEER OR HIS REPRESENTATIVE SHALL DETERMINE AS
ETHER ADDITIONAL PROTECTIVE MEASURES NOT SPECIFIED BY THE
D TO BE EMPLACED TO CONTROL SOIL AND SEDIMENT MIGRATION.

E WASHOUT AREA(S) IN THE WATER POLLUTION, DUST, AND EROSION

ALL DRAIN INLETS AND OUTFALLS TO THE OCEAN WHICH MAY RECEIVE
AREA.

AN AND FREE OF DELETERIOUS OR TOXIC MATERIALS.

E LIMITED TO THE MINIMUM AREA NECESSARY TO COMPLETE THE PROJECT.

ORK DURING PERIODS OF HIGH SURF, HIGH TIDE OR HEAVY
PRESENT A POTENTIAL TO CAUSE A RELEASE OF POLLUTANTS
SHALL BE IMMEDIATELY SUSPENDED IF A TURBIDITY PLUME IS
E WORK AREA EXCEPT FOR ACTIONS TAKEN TO MITIGATE THE
SUME UNTIL THE CAUSE OF THE PLUME IS DETERMINED AND
TED. NO COMPENSATION SHALL BE DUE OR PAID TO THE
IATED WITH RELEASE OF CONTAMINATION TO NEARSHORE WATERS.

MATERIALS SHALL BE STORED AT THE PROJECT SITE. FUELING AND
LEAST 50 FEET AWAY FROM THE WATER AND WITHIN A CONTAINMENT
SURFACE. MECHANIZED EQUIPMENT AND CONSTRUCTION MATERIALS WILL BE
E OF DELETERIOUS SUBSTANCES, INCLUDING TOXIC CHEMICALS AND
NIZED EQUIPMENT STORED AT THE PROJECT SITE WILL BE PARKED OVER
R PLASTIC SHEETING, AND SURROUNDED BY FILTER SOCKS. A
PETROLEUM PRODUCTS ACCIDENTALLY SPILLED SHALL BE DEVELOPED.
NT BOOMS SHALL BE STORED ONSITE, IF APPROPRIATE, TO FACILITATE THE
EUM RELEASES.

S SHALL BE UTILIZED AT ALL TIMES TO ENSURE PROTECTION OF
DIRT AND DEBRIS. PREVENT SAND AND SEDIMENT TRACK OUT
EEPING DAILY AND AS NEEDED.

WN ON THESE PLANS ARE FOR BIDDING PURPOSES AND MAY ONLY BE
ROVAL OF THE CONTRACTING OFFICER. REVISION OF BMPS MAY REQUIRE
F HEALTH, CLEAN WATER BRANCH, AND/OR THE CORPS OF ENGINEERS,
OF THE CONTRACT TIME.

TIL ALL PERMANENT EROSION AND POLLUTION CONTROLS ARE IN PLACE

SUBGRADE PREPARATION, FORMWORK, CONCRETE POURING, CONSOLIDATION
DRY CONDITIONS. FRESH CONCRETE, GROUT AND MORTAR SHALL BE
VATER AT ALL TIMES. FORMWORK AND JOINTS SHALL BE SEALED AGAINST
TREATED MATERIAL SHALL NOT BE USED FOR CONSTRUCTING THE
BE PERMITTED ON SITE.

GE PRIOR TO ANY FIELD WORK INCLUDING THE INSTALLATION OF ANY
PRACTICES. THE RAIN GAGE SHALL HAVE A TOLERANCE OF AT LEAST 0.05
RAIN GAGE ON THE PROJECT SITE IN AN AREA THAT WILL NOT DETER
GE OPENING. DO NOT INSTALL IN A LOCATION WHERE RAIN WATER MAY
AIN GAGE INSTALLATION SHALL BE STABLE AND PLUMBED. DO NOT BEGIN
IS INSTALLED AND SITE-SPECIFIC BEST MANAGEMENT PRACTICES ARE

TO THE ENGINEER ALONG WITH A COMPLETED SITE-SPECIFIC BMP REVIEW
DAYS OF CONTRACT EXECUTION. THE SITE-SPECIFIC BMP REVIEW
M HTTP://WWW.STORMWATERHAWAII.COM.

M THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK OR AS
CILITIES WHERE THEY ARE SECURE AND WILL NOT BE TIPPED OVER OR

AMAGES OF UP TO $27,500 FOR NON-COMPLIANCE OF EACH BMP
REMENT STATED IN SECTION 209, FOR EVERY DAY OF
D MAXIMUM LIMIT ON THE AMOUNT ASSESSED PER DAY. THE

SUBMITTED AT THE COMPLETION OF WORK.

3. THE CONTRACTOR'S PROJECT SUPERVISOR SHALL DESIGNATE A COMPETENT OBSERVER TO MONITOR THE WORK AREA AND NEARBY WATERS FOR THE PRESENCE OF LISTED SPECIES. THE OBSERVER SHALL ENSURE THAT PROTOCOLS TO AVOID THE POTENTIAL CONTACT OR HARASSMENT OF LISTED SPECIES ARE FOLLOWED AT ALL TIMES.

4. THE COMPETENT OBSERVER SHALL ENSURE THERE ARE NO PROTECTED SPECIES ARE IN THE PROJECT AREA (TYPICALLY WITHIN 50 YARDS OF THE WORK ACTIVITY) BY CONDUCTING A VISUAL SURVEY OF THE WORK AREA PRIOR TO INITIATING ACTIVITIES THAT MAY ADVERSELY AFFECT PROTECTED SPECIES (I.E., LOUD NOISE, DEBRIS). SURVEYS OF THE WORK AREA AND IMMEDIATE SURROUNDINGS SHALL BE MADE PRIOR TO THE START OF WORK EACH DAY, AND PERIODICALLY DURING THE DAY, INCLUDING PRIOR TO RESUMPTION OF WORK FOLLOWING ANY BREAK OF MORE THAN ONE HALF HOUR. CONSTANT VIGILANCE SHALL BE KEPT FOR THE PRESENCE OF LISTED MARINE SPECIES (SEA TURTLES, MARINE MAMMALS, SHARKS) DURING ALL ASPECTS OF THE PERMITTED ACTION.

5. ANY WORK ADVERSELY AFFECTING PROTECTED SPECIES SHALL BE POSTPONED OR HALTED WHEN LISTED MARINE SPECIES ARE WITHIN 50 YARDS OF THE PROPOSED WORK AND SHALL ONLY RESUMED AFTER THE ANIMALS HAVE VOLUNTARILY DEPARTED THE AREA, WITH THE FOLLOWING EXCEPTION: IF LISTED MARINE SPECIES ARE NOTICED WITHIN 50 YARDS AFTER WORK HAS ALREADY BEGUN, THAT WORK MAY CONTINUE ONLY IF, IN THE BEST JUDGMENT OF A BIOLOGIST, THE ACTIVITY IS UNLIKELY DISTURB OR HARM THE ANIMAL(S).

6. IF AN ONSITE PROTECTED SPECIES DOES NOT RELOCATE TO GREATER THAN 50 YARDS FROM THE WORK AREA ON ITS OWN FOR THREE DAYS OR MORE, CONTACT THE PACIFIC ISLANDS FISH AND WILDLIFE OFFICE AT TELEPHONE 808-792-9400 FOR TECHNICAL ASSISTANCE AND GUIDANCE.

7. DO NOT DISTURB LISTED SPECIES. DIRECT CONTACT WITH LISTED SPECIES MAY CONSTITUTE A FEDERAL OFFENSE. WORK SHALL BE DISCONTINUED IN THE IMMEDIATE AREA (WITHIN 100 FEET) OF ENDANGERED ANIMAL. WORK MAY RESUME WHEN THE ANIMAL VOLUNTARILY DEPARTS THE AREA.

8. PHYSICAL INTERACTION WITH PROTECTED SPECIES SHALL BE IMMEDIATELY REPORTED TO THE CONTRACTING OFFICER AND TO MR. ROBERT SCHROEDER, ROBERT.SCHROEDER@NOAA.GOV, PROTECTED RESOURCES DIVISION, NMFS PIRO, SHALL OCCUR IF: A TAKE OCCURS; NEW INFORMATION REVEALS EFFECTS OF THE ACTION HAVE AFFECTED SEALS OR TURTLES IN A MANNER OR TO AN EXTENT NOT PREVIOUSLY EVALUATED; IF THE ACTION IS SUBSEQUENTLY MODIFIED AND CAUSES EFFECTS TO LISTED SPECIES IN A MANNER OR TO AN EXTENT NOT PREVIOUSLY CONSIDERED OR EVALUATED; OR A NEW SPECIES IS LISTED OR CRITICAL HABITAT IS DESIGNATED THAT MAY BE AFFECTED BY THE AUTHORIZED WORK.

9. ELEVATED NOISE LEVELS (GREATER THAN 100 dB(RMS) AT 50 YARDS) SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.

10. WORK SEAWARD OF THE MEAN HIGHER HIGH TIDE LINE WILL BE TIMED TO MINIMIZE POTENTIAL EFFECTS ON LISTED SPECIES AND THEIR HABITATS.

11. CONSTRUCTION-RELATED DEBRIS MAY POSE A HAZARD TO PROTECTED SPECIES AND SHALL BE REMOVED DAILY FROM THE PROJECT AREA AND AT THE CONCLUSION OF THE WORK.

BEST MANAGEMENT PRACTICES FOR AQUATIC RESOURCES

1. TURBIDITY AND SILTATION FROM PROJECT-RELATED WORK SHALL BE MINIMIZED AND CONTAINED WITHIN THE VICINITY OF THE SITE THROUGH THE APPROPRIATE USE OF EFFECTIVE SILT CONTAINMENT DEVICES AND THE CURTAILMENT OF WORK DURING ADVERSE TIDAL AND WEATHER CONDITIONS.

2. NO PROJECT-RELATED MATERIALS SHALL BE STOCKPILED SEAWARD OF THE SEAWALL.

3. ALL DEBRIS REMOVED SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE.

4. NO CONTAMINATION (TRASH OR DEBRIS DISPOSAL, NON-NATIVE SPECIES INTRODUCTIONS, ATTRACTION OF NON-NATIVE PESTS, ETC.) OF ADJACENT BEACH OR NEARSHORE HABITATS SHALL RESULT FROM PROJECT-RELATED ACTIVITIES. THIS SHALL BE ACCOMPLISHED BY DEVELOPING AND DAILY IMPLEMENTING A LITTER CONTROL PLAN.

5. ANY SOIL EXPOSED NEAR WATER AS PART OF THE PROJECT SHALL BE PROTECTED FROM EROSION (WITH PLASTIC SHEETING, FILTER FABRIC, COMPOST FILTER SOCKS, ETC.) AFTER EXPOSURE AND STABILIZED AS SOON AS PRACTICABLE (WITH NATIVE OR NON-INVASIVE VEGETATION MATTING, HYDROSEEDING, ETC.).

LOCATION-SPECIFIC BMPS - AREA 1

1. CONTRACTOR SHALL EMPLACE A CONTAINMENT UNDER THE OVERHANGING SEAWALL IN AREA 1 TO CATCH AND CONTAIN DEBRIS PRODUCED DURING DEMOLITION, AND TO PREVENT CONCRETE FROM SPILLING ONTO THE BEACH DURING RECONSTRUCTION OF THE SEAWALL. THE CONTAINMENT SHALL BE SUPPORTED ENTIRELY BY EXISTING SIDEWALK AND SEAWALL ABOVE THE MEAN HIGH TIDE LINE. THE CONTAINMENT SHALL BE SECURED AT ALL TIMES SO AS NOT TO BE DISTURBED BY HIGH SURF, OR REMOVED FROM EXPOSURE TO WAVE ACTION IF SUCH IS ANTICIPATED. THE CONTAINMENT WILL BE COMPLETELY REMOVED FOLLOWING RECONSTRUCTION OF THE SEAWALL LIP.

2. DEMOLITION OF THE CONCRETE STAIR AT THE NORTH END OF AREA 1 WILL BE PERFORMED WITHIN AN ENCLOSURE SUFFICIENT TO CONTAIN DEBRIS FROM DEMOLITION AS WELL AS PREVENT WAVE WASH FROM MIXING WITH FRESHLY PLACED CONCRETE DURING STAIR RECONSTRUCTION. THE CONTAINMENT WILL BE COMPLETELY REMOVED FOLLOWING STAIR RECONSTRUCTION.

LOCATION-SPECIFIC BMPS - AREA 2

1. POWERED EQUIPMENT USED TO RECONSTRUCT THE AREA 2 SEAWALL SHALL BE OPERATED FROM THE FRONT STREET SIDEWALK, AND HAND LABOR USED TO ASSIST SETTING THE STONES.

2. ALL ROCKS USED IN THE SEAWALL RECONSTRUCTION SHALL BE FREE OF DEBRIS AND POTENTIAL

MMEDIATELY AND COMPLETE BY THE CLOSE OF THE NEXT WORK DAY IF THE
SIGNIFICANT REPAIR OR REPLACEMENT, OR IF THE PROBLEM CAN BE CORRECTED
CE. WHEN INSTALLATION OF A NEW EROSION OR SEDIMENT CONTROL OR A
), INSTALL THE NEW OR MODIFIED CONTROL OR COMPLETE THE REPAIR NO LATER
I THE TIME OF DISCOVERY. "IMMEDIATELY" MEANS THE CONTRACTOR SHALL TAKE
O MINIMIZE OR PREVENT DISCHARGE OF POLLUTANTS UNTIL A PERMANENT
MADE OPERATIONAL. IF A PROBLEM IS IDENTIFIED AT A TIME IN THE DAY IN
IATE REPAIR, INITIATION OF REPAIR SHALL BEGIN ON THE FOLLOWING WORK DAY.

ROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
R PERIMETER SEDIMENT CONTROL DEVICES WHEN IT HAS REACHED ONE-HALF

CE FOR DEPTH OF SEDIMENT, TEARS, TO VERIFY THAT THE FABRIC IS SECURELY
TS OR CONCRETE SLAB AND TO VERIFY THAT THE FENCE POSTS ARE FIRMLY IN
VERIFY THE BOTTOM OF THE SILT SCREEN IS BURIED A MINIMUM OF 6 INCHES

MANENT SEEDING AND PLANTING FOR BARE SPOTS, WASHOUTS AND HEALTHY

E ENGINEER A MAINTENANCE INSPECTION REPORT WITHIN 24 HOURS AFTER EACH

RUCTION ENTRANCE AT ALL POINTS OF EXIT ONTO PAVED ROADS TO REDUCE
NTS. INCLUDE STABILIZED CONSTRUCTION ENTRANCE IN THE WATER POLLUTION,
SUBMITTALS. MINIMUM LENGTH SHOULD BE 50 FEET. MINIMUM WIDTH SHOULD BE
HOULD BE 12 INCHES OR AS RECOMMENDED BY THE SOILS ENGINEER AND
FABRIC. IF MINIMUM DIMENSIONS CANNOT BE MET, PROVIDE OTHER STABILIZATION
DIMENT PRIOR TO EXIT. CLEAN THE PAVED STREET ADJACENT TO THE SITE
RED TO REMOVE ANY EXCESS MUD, COLD -PLANED MATERIALS, DIRT OR ROCK
NOT HOSE DOWN THE STREET WITHOUT CONTAINING OR VACUUMING WASH
HAULING MATERIAL FROM THE CONSTRUCTION SITE WITH A TARPAULIN. REMOVE
STREET, SIDEWALK, OR OTHER PAVED AREA BY THE END OF THE DAY IN WHICH

E WASHOUT AREA(S) IN THE WATER POLLUTION, DUST, AND EROSION CONTROL

FIC INDIVIDUAL DESIGNATED RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND
OUT THE INSPECTION AND MAINTENANCE REPORT.

E INSPECTION AND MAINTENANCE RESPONSIBILITIES SHALL RECEIVE TRAINING FROM
BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY
ND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

GE SLURRY GENERATED FROM SAW CUTTING OF PAVEMENT IN ACCORDANCE WITH
DO NOT ALLOW DISCHARGE INTO THE DRAINAGE SYSTEM OR STATE WATERS.

S PERMIT FOR CONSTRUCTION ACTIVITIES, IMMEDIATELY INITIATE STABILIZING
OMPLETION OF EARTH-DISTURBING ACTIVITIES FOR AREAS WHERE
HAVE PERMANENTLY OR TEMPORARILY CEASED. EARTH-DISTURBING ACTIVITIES HAVE
CLEARING AND EXCAVATION WITHIN ANY AREA OF THE CONSTRUCTION SITE THAT
STRUCTURES HAS BEEN COMPLETED. EARTH-DISTURBING ACTIVITIES HAVET
LEARING, GRADING, AND EXCAVATION WITHIN ANY AREA OF THE SITE THAT WILL
UCTURES WILL NOT RESUME (I.E., THE LAND WILL BE IDLE) FOR A PERIOD OF 14
T SUCH ACTIVITIES WILL RESUME IN THE FUTURE.

CHARGING INTO WATERS NOT IMPAIRED FOR NUTRIENTS SEDIMENTS, COMPLETE
4 CALENDAR DAYS AFTER THE TEMPORARY OR PERMANENT CESSATION OF
FOR CONSTRUCTION AREAS DISCHARGING INTO NUTRIENT OR SEDIMENT IMPAIRED
BILIZATION WITHIN 7 CALENDAR DAYS AFTER THE TEMPORARY OR PERMANENT
ING ACTIVITIES. CLASSIFICATION OF WATER AT THE DISCHARGE POINT MAY BE

PDES PERMIT FOR CONSTRUCTION ACTIVITIES, COMPLETE INITIAL STABILIZATION
TER THE TEMPORARY OR PERMANENT CESSATION OF EARTH-DISTURBING

BSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING
ALS AND SUBSTANCES NOT LISTED BELOW SHALL BE ADDED TO THE INVENTORY.

RETE	CEMENT	CURING COMPOUNDS	CLEANING SOLVENTS
CIDES	PESTICIDES	PETROLEUM BASED PRODUCTS	
	FERTILIZERS	SEALANTS	WOOD

RACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF
O STORM WATER RUNOFF. MAKE AN EFFORT TO STORE ONLY ENOUGH PRODUCT
OB.

ONSITE IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND IF
OTHER ENCLOSURE, IN THEIR ORIGINAL AND IF POSSIBLE UNOPENED
INAL MANUFACTURER'S LABEL.

GINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.

L ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED. SUBMIT THE SOLID WASTE DISCLOSURE FORM FOR CONSTRUCTION SITES TO THE ENGINEER WITHIN 30 CALENDAR DAYS OF CONTRACT EXECUTION. PROVIDE A COPY OF ALL THE DISPOSAL RECEIPTS FROM THE FACILITY PERMITTED BY THE DEPARTMENT OF HEALTH TO RECEIVE SOLID WASTE TO THE ENGINEER MONTHLY. THIS SHOULD ALSO INCLUDE DOCUMENTATION FROM ANY INTERMEDIARY FACILITY WHERE SOLID WASTE IS HANDLED OR PROCESSED.

10. MONITOR ALL ONSITE VEHICLES FOR LEAKS AND PERFORM REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. STORE PETROLEUM PRODUCTS IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. APPLY ASPHALT SUBSTANCES USED ONSITE ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

11. APPLY FERTILIZERS USED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER AND FEDERAL, STATE, AND LOCAL REQUIREMENTS. AVOID APPLYING JUST BEFORE A HEAVY RAIN EVENT. APPLY AT THE APPROPRIATE TIME OF YEAR FOR THE LOCATION, AND PREFERABLY TIMED TO COINCIDE AS CLOSELY AS POSSIBLE TO THE PERIOD OF MAXIMUM VEGETATION UPTAKE AND GROWTH. ONCE APPLIED, WORK FERTILIZER INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. DO NOT APPLY TO STORM CONVEYANCE CHANNELS WITH FLOWING WATER. STORAGE SHALL BE IN A COVERED SHED OR IN AN AREA WHERE FERTILIZER WILL NOT COME INTO CONTACT WITH PRECIPITATION OR STORMWATER. TRANSFER THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

12. SEAL AND STORE ALL CONTAINERS WHEN NOT REQUIRED FOR USE. DO NOT DISCHARGE EXCESS PAINT TO THE DRAINAGE SYSTEM, SANITARY SEWER SYSTEM, OR STATE WATERS. DISPOSE PROPERLY ACCORDING TO MANUFACTURERS' INSTRUCTIONS AND STATE AND LOCAL REGULATIONS.

13. WASHOUT OR DISCHARGE CONCRETE TRUCK DRUM WASH WATER ONLY AT A DESIGNATED SITE AS FAR AS PRACTICABLE FROM STORM DRAIN INLETS OR STATE WATERS. DO NOT DISCHARGE WATER IN THE DRAINAGE SYSTEM OR STATE WATERS. DISPOSAL BY PERCOLATION IS PROHIBITED. CLEAN DISPOSAL SITE AS REQUIRED OR AS REQUESTED BY THE ENGINEER.

14. NO PROJECT-RELATED MATERIALS SHALL BE STOCKPILED ON THE BEACH, IN THE OCEAN OR IN ANY LOCATION SUCH THAT THOSE MATERIALS COULD BE CARRIED INTO OCEAN WATERS BY WIND, RAINFALL RUNOFF OR HIGH SURF.

HAZARDOUS MATERIALS POLLUTION PREVENTION

1. KEEP PRODUCTS IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE.

2. RETAIN ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS (MSDS).

3. DISPOSE OF ALL HAZARDOUS WASTE MATERIALS AND SURPLUS PRODUCTS ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND LOCAL AND STATE REGULATIONS. THE CONTRACTOR'S SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND SHALL BE RESPONSIBLE FOR ENSURING THAT THESE PRACTICES ARE FOLLOWED.

SPILL CONTROL AND RESPONSE

1. PREPARE AND SUBMIT A SPILL CONTROL AND RESPONSE PLAN INCLUDING MEASURES TO PREVENT, CONTROL, CONTAIN AND CLEAN UP SPILLS. THE PLAN AND NAMES OF RESPONSIBLE SPILL PERSONNEL SHALL BE POSTED IN THE MATERIAL STORAGE AREA ON A WEATHERPROOF BULLETIN BOARD OR OTHER ACCESSIBLE LOCATION ACCEPTABLE TO THE CONTRACTING OFFICER AND IN THE OFFICE TRAILER ONSITE.

2. THE CONTRACTOR SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. DESIGNATE AT LEAST THREE ONSITE PERSONNEL WHO SHALL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS SHALL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. POST THE NAMES OF RESPONSIBLE SPILL PERSONNEL IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

3. CLEARLY POST MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP. MAKE SITE PERSONNEL AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

4. KEEP AMPLE MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP IN THE MATERIAL STORAGE AREA ONSITE.

5. FUELING OF EQUIPMENT AND VEHICLES SHALL TAKE PLACE AWAY FROM THE BEACH AND WATER.

6. MAKE SITE PERSONNEL AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

7. CLEAN UP ALL SPILLS IMMEDIATELY AFTER DISCOVERY.

8. KEEP THE SPILL AREA WELL VENTILATED. PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

9. REPORT SPILLS OF TOXIC HAZARDOUS MATERIAL TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. WHERE A LEAK, SPILL, OR OTHER RELEASE CONTAINING A HAZARDOUS SUBSTANCE OR OIL IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR PART 110, 40 CFR PART 117, OR 40 CFR PART 302 OCCURS DURING A 24-HOUR PERIOD, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS THE CONTRACTOR HAS KNOWLEDGE OF THE DISCHARGE. THE ENGINEER WILL NOTIFY THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802, THE CLEAN WATER BRANCH DURING REGULAR BUSINESS HOURS AT 586-4309, AND THE HAWAII STATE HOSPITAL OPERATOR AT 247-2191 AND THE CLEAN WATER BRANCH (DOH-CWB) VIA EMAIL AT CLEANWATERBRANCH@DOH.HAWAII.GOV DURING NON-BUSINESS HOURS IMMEDIATELY. THE CONTRACTOR SHALL ALSO PROVIDE TO THE ENGINEER, WITHIN 7 CALENDAR DAYS OF KNOWLEDGE OF THE RELEASE, A DESCRIPTION OF THE RELEASE, THE CIRCUMSTANCES LEADING TO THE RELEASE, AND THE DATE OF THE RELEASE. THE ENGINEER WILL PROVIDE THIS INFORMATION TO THE DOH-CWB. THE ENGINEER WILL PROVIDE INFORMATION TO THE NRC IF REQUESTED.

2. CONTRACTOR SHALL PREPARE, SUBMIT TO THE ENGINEER AND PREVENTION PLAN (SWPPP).

3. COMPLY WITH ALL APPLICABLE CONDITIONS OF THE NPD
STANDARD GENERAL PERMIT CONDITIONS, THE PERMIT G
SUBMIT AND COMPLY WITH THE STORMWATER POLLUTION

4. THE CONTRACTOR SHALL SUBMIT HIS CONTACT INFORMAT
TO DOH NO LATER THAN 30 CALENDAR DAYS PRIOR TO

5. THE APPLICABLE TRAINING LOG, INSPECTION FORMS, AND
COMPLETED BY THE CONTRACTOR IN THE SWPPP. THE
COPY OF THE SWPPP SHALL BE LOCATED AT THE JOBS

6. IF ANOTHER NPDES PERMIT IS REQUIRED, THE CONTRAC
FROM THE STATE DEPARTMENT OF HEALTH CLEAN WATER

7. THE CONTRACTOR SHALL NOT DISCHARGE ANY TREATED
DEWATERING OR HYDROTESTING EFFLUENT) INTO STATE W
SUCH FROM THE DEPARTMENT OF HEALTH.

8. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY ALL
REQUIREMENTS OF THE NPDES PERMIT(S) AND SHALL IM
NON-CONFORMANCE AT HIS EXPENSE.

9. THE OWNER WILL DEDUCT THE COST OF CITATIONS ISSU
PAYMENT. THERE IS NO MAXIMUM LIMIT ON THE AMOUNT

SECTION 404 AND SECTION 401 WATER QUALITY CERTIFICATIO

1. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS
CORPS OF ENGINEERS GENERAL CONDITIONS AND HONO
OBTAINED FOR THIS PROJECT.

2. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS O
WQC0901 ISSUED BY THE HAWAII STATE DEPARTMENT OF
MONITORING AND REPORTING DESCRIBED IN THE APPLICA
RESULTS SHALL BE SUBMITTED TO THE CONTRACTING OF

CIFIC BEST MANAGEMENT PRACTICES PLAN (SSBMP PLAN) WAS PREPARED IN
ARTMENT OF HEALTH WATER QUALITY CERTIFICATION REQUIREMENTS. (ENTER
LY WITH ALL TERMS, CONDITIONS, AND REQUIREMENTS IN THE WATER QUALITY
CTOR NAME) WILL IMPLEMENT, OPERATE, AND MAINTAIN THE SSBMP PLAN TO
OCIATED WITH CONSTRUCTION ACTIVITIES WILL NOT VIOLATE HAWAII
1-54. 11. THE ACCEPTED SSBMP PLAN MUST BE SIGNED AND A COPY
E DURATION OF THE PROJECT. ANY REVISIONS TO THE BMP SHALL BE
SSBMP PLAN.

RESS MEASURES RELATED TO WASTE COLLECTION AND DISPOSAL INCLUDING
OWING:

ALL PROJECT WASTES IN A SECURELY COVERED METAL DUMPSTER OR ROLL
IT ENTRY OF RAIN OR LOSS OF WASTE DURING WINDY OR RAINY CONDITIONS.
T ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. EMPTY
R WHEN THE CONTAINER IS TWO-THIRDS FULL, WHICHEVER IS SOONER. DO
WASTE MATERIALS ONSITE. THE CONTRACTOR'S SUPERVISORY PERSONNEL
ARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. POST NOTICES
IN THE OFFICE TRAILER, ON A WEATHERPROOF BULLETIN BOARD OR OTHER
WORKERS AND THE CONTRACTING OFFICER. THE CONTRACTOR SHALL BE
COMPLIANCE WITH THESE PROCEDURES. SUBMIT THE SOLID WASTE
NSTRUCTION SITES TO THE CONTRACTING OFFICER WITHIN 30 CALENDAR DAYS
PROVIDE A COPY OF ALL THE DISPOSAL RECEIPTS FROM THE FACILITY
MENT OF HEALTH TO RECEIVE SOLID WASTE TO THE CONTRACTING OFFICER
MENTATION FROM ANY INTERMEDIARY FACILITY WHERE SOLID WASTE IS

ROM CONCRETE TRUCK CHUTES, HAND MIXERS, HAND TOOLS OR OTHER
LECTED AND RETAINED IN A LEAKPROOF WASHOUT CONTAINER. WASHWATER
CONTAINER AND ALLOWED TO EVAPORATE WITH THE REMAINING HARDENED
CLED OR DISPOSED OF PROPERLY.

ASH, DEBRIS, SEDIMENT, NON-NATIVE SPECIES INTRODUCTIONS, ATTRACTIONS
C.) OF ADJACENT WATERS, INCLUDING SPECIAL AQUATIC SITES, SHALL RESULT
CTIVITIES.

STE FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK, OR AS
TARY FACILITIES WHERE THEY ARE SECURE AND WILL NOT BE TIPPED OVER OR

ADDRESS MEASURES FOR EROSION AND SEDIMENT CONTROL, INCLUDING BUT
OWING:

CONTROL MEASURES SHALL BE IN PLACE BEFORE ANY DEMOLITION WORK IS
STOCKPILED MATERIALS, DEBRIS AND DUST FROM BEING CARRIED INTO THE
BEACH BY WIND, RAIN OR HIGH SURF. EROSION AND DEBRIS CONTROL
BUT ARE NOT LIMITED TO, DUST SCREEN AND DUST CONTROL.

LL PREVENT DUST RESULTING FROM HIS WORK BECOMING AIRBORNE AT ALL
-WORKING HOURS, WEEKENDS AND HOLIDAYS, IN CONFORMANCE WITH STATE
H ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60 – AIR POLLUTION. WATER
ZZLES SHALL BE USED TO CONTROL DUST.

SO ENSURE DRAINAGE IS MAINTAINED.

EKLY, ESPECIALLY DURING HEAVY RAINFALL, FOR DEPTH OF SEDIMENT OR
ONTROLS. ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND AT THE END OF
PERATIONS AND AT THE COMPLETION OF THE PROJECT SHALL BE REMOVED
SED.

ILOCKAGE AND DEBRIS FROM EROSION AND DEBRIS CONTROL MEASURES AS
HEAVY RAIN STORMS.

ALLOWED TO ENTER THE BEACH OR SHORELINE WATERS. PROVIDE
OTHER SUITABLE POSITIVE MEANS OF CAPTURING DEBRIS FROM DEMOLITION
ACILITIES SHALL BE IN PLACE AND APPROVED BY THE CONTRACTING OFFICER
OLITION WORK.

WITHIN THE STORAGE/STAGING AREA WITH APPROPRIATE PERIMETER SEDIMENT
BMPS. EROSION CONTROL MATERIALS SHALL BE IN PLACE BEFORE ANY
STARTED AND MAY INCLUDE, BUT ARE NOT LIMITED TO, SILT FENCE, SANDBAGS
EASURES.

CED TO THE CORRESPONDING SECTION OF THE CURRENT HDOT CONSTRUCTION
FIELD MANUAL AND APPROPRIATE SUPPLEMENTAL SHEETS. THE MANUAL MAY
STATEWIDE STORMWATER MANAGEMENT PROGRAM WEBSITE AT
.COM/RESOURCES/
TS/ UNDER CONSTRUCTION BEST MANAGEMENT PRACTICES FIELD MANUAL.
RE LOCATED AT HTTP://STORMWATERHAWAII.COM/
-CONSULTANTS/STORM-WATER-POLLUTION-PREVENTION-PLAN-SWPPP/ UNDER
ION WATER.

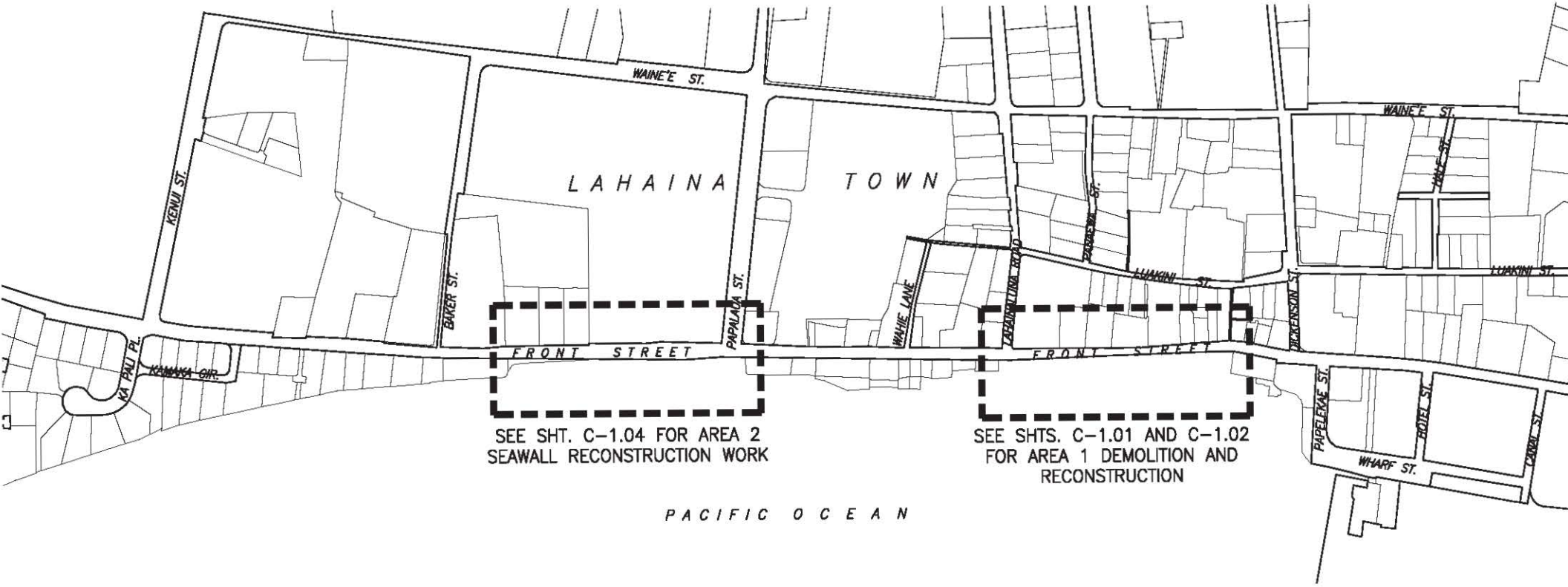
POLLUTION, DUST, AND EROSION CONTROL SUBMITTALS ARE INCLUDED IN
TANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2005
MISIONS. A LIST OF POLLUTANT SOURCES AND CORRESPONDING BMP USED TO
INCLUDED IN SECTION 209 OF THE SPECIAL PROVISIONS UNDER APPENDIX A.

4. SM-4 PROTECTION OF STOCKPILES
5. SM-6 SOLID WASTE MANAGEMENT
6. SM-7 SANITARY/SEPTIC WASTE MANAGEMENT
7. SM-9 HAZARDOUS WASTE MANAGEMENT
8. SM-10 SPILL PREVENTION AND CONTROL
9. SM-11 VEHICLE AND EQUIPMENT CLEANING
10. SM-12 VEHICLE AND EQUIPMENT MAINTENANCE
11. SM-13 VEHICLE AND EQUIPMENT REFUELING
12. SM-14 SCHEDULING
13. SM-15 LOCATION OF POTENTIAL SOURCES OF SEDIMENT
14. SM-16 PRESERVATION OF EXISTING VEGETATION
15. SM-18 DUST CONTROL

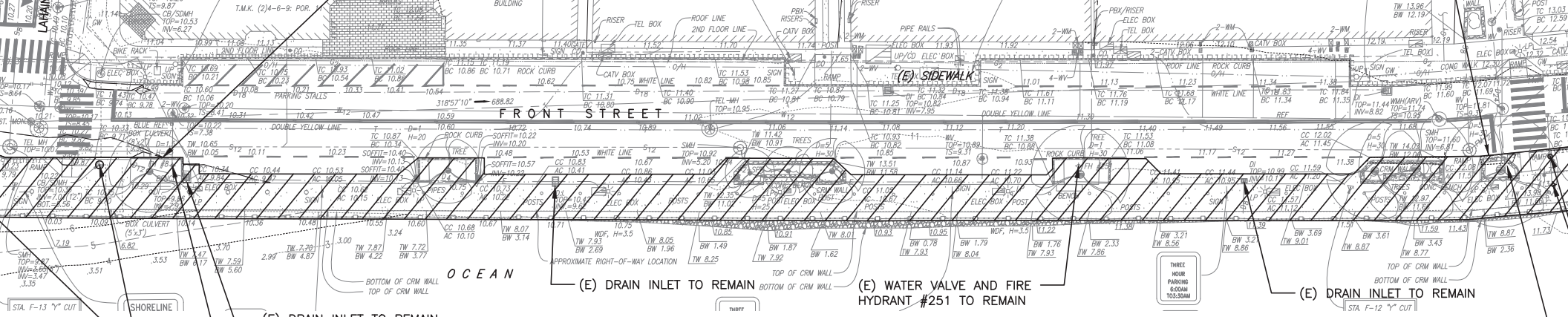
E. CONTAIN POLLUTANTS WITHIN THE CONSTRUCTION STAGING/STORAGE AREA BMP WITH APPLICABLE PERIMETER SEDIMENT CONTROLS AND SITE MANAGEMENT BMP. INCLUDE A STABILIZED CONSTRUCTION ENTRANCE/EXIT (EC-2) FOR ALL AREAS WHICH EXIT ONTO A PAVED STREET. RESTRICT VEHICLE ACCESS TO THESE POINTS.

F. MANAGE CONCRETE WASTE INCLUDING INSTALLING A CONCRETE WASHOUT AREA (SM-5) AND PROPERLY DISPOSING OF CONCRETE CURING WATER (CALIFORNIA STORMWATER BMP HANDBOOK NS-12 CONCRETE CURING).

G. REMOVE SAW CUT SLURRY AND HYDRODEMOLITION WATER FROM THE SITE BY VACUUMING. PROVIDE STORM DRAIN PROTECTION AND/OR PERIMETER SEDIMENT CONTROLS DURING SAW CUTTING AND HYDRODEMOLITION WORK.



OVERALL SITE PLAN



EACH ACCESS STAIR AND RAILING TO BE RECONSTRUCTED, SEE STRUCTURAL PLANS

NOTE: MEAN HIGHER HIGH WATER OCCURS AT ELEVATION 1.14 FT (MSL DATUM) ON THE SAND BEACH AT THE NORTH END OF AREA 1; ON THE FACE OF THE EXISTING CRM SEAWALL THROUGH THE MIDDLE OF AREA 1, AND ALONG THE ROCKY BEACH AT THE SOUTH END OF AREA 1. THE OVERHANGING LIP OF THE SEAWALL SHALL BE CONSIDERED TO LIE WITHIN CORPS OF ENGINEERS JURISDICTION THROUGHOUT THE PROJECT EXCEPT ABOVE THE BEACH ACCESS STAIR AT THE NORTH END OF AREA 1. THE BEACH STAIR IS LOCATED ABOVE MHHW AND IS IS NON–JURISDICTIONAL.

1 NORTH LIMIT OF WORK: IN LINE WITH BOUNDARY OF TMK PARCEL
001:001. LIMIT OF SIDEWALK DEMOLITION AND RECONSTRUCTION SHALL
ALONG EDGE OF GREASE TRAP.

AREA 1 DEMOLITION PLAN

SCALE: 1" = 20'

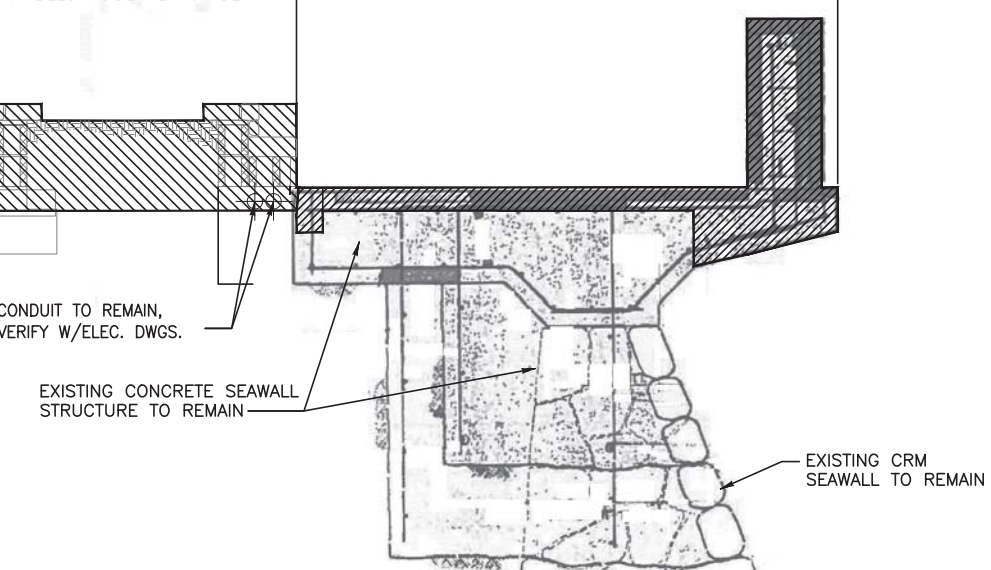
NORTH

AND REMOVE ±11,720 SQ. FT. OF ASPHALT PAVEMENT, CONCRETE SIDEWALK,
AND VEGETATION, PLANTER WALLS, IRRIGATION SYSTEM, BENCHES, BOLLARDS, RAILING,
AND LIGHT STANDARDS (SALVAGE LUMINAIRES) AND OVERHANGING LIP OF CONCRETE
HOWN HATCHED, SEE TYPICAL SECTION THIS SHT.

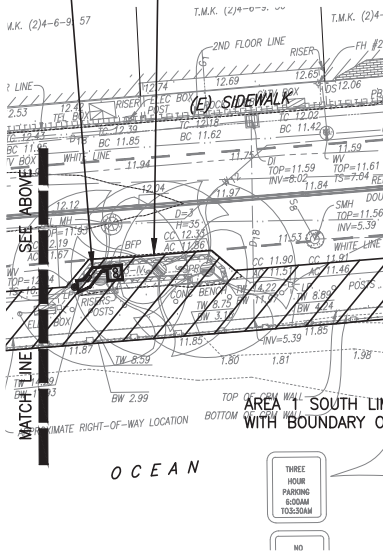
AND REMOVE PAV'T. TO 12" DEEP

H AND REMOVE PLANTERS, BENCHES,
SOIL AND CURB SHOWN HATCHED
6" BELOW SIDEWALK GRADE.

DEMOLISH AND REMOVE WOOD RAILINGS, CONCRETE PILASTERS, SIDEWALK AND OVERHANGING SEAWALL LIP FROM EDGE OF LIP TO FACE CURB WHERE NO PLANTER EXISTS, SEE STRUCTURAL PLANS



DEMOLISH AND REMOVE
VEGETATION, IRRIGATION
STANDARDS (SALVAGE LU
SHOWN HATCHED, SEE T



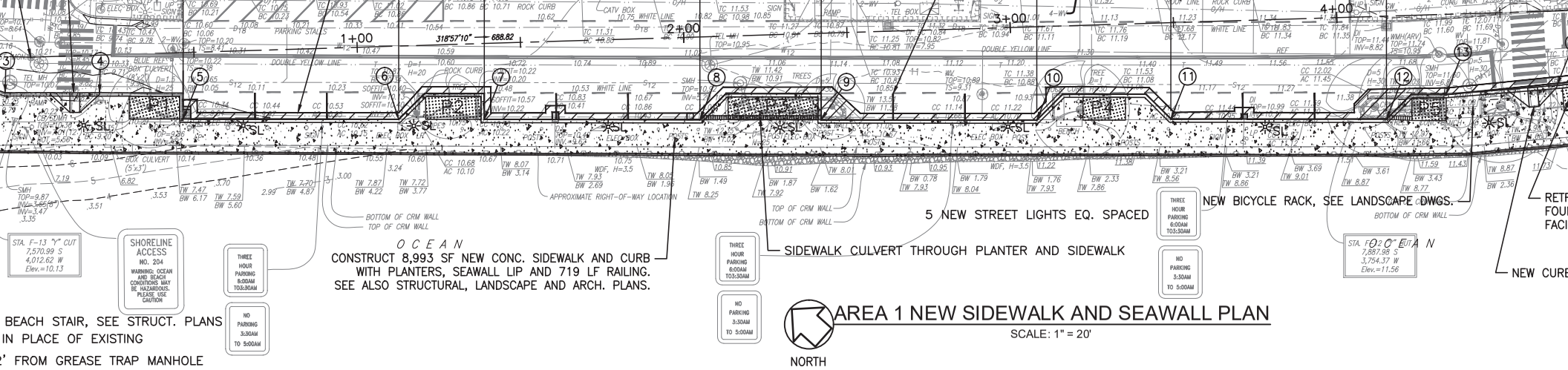
AREA 1 SOUTH LI
WITH BOUNDARY C

NORTH

AREA 1 DEMOLIT
S

DEMOLITION PLAN NOTES

1. EXISTING CONDITION SHOWN FROM GROUND TOPO SURVEY DATED AUGUST 19, 2019. ACTUAL CONDITIONS MAY VARY. CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS.
2. BENCH MARK REFERRED TO BRONZE TABLET LOCATED ON THE NW SIDE OF LARGE CONCRETE BASE FOR FLAG POLE AT LAHAINA WHARF. ELEVATION = 7.74 MSL.
3. DEMOLISH AND REMOVE ASPHALT PAVEMENT, CONCRETE SIDEWALK, PLANTERS AND VEGETATION, IRRIGATION SYSTEM, BENCHES, BOLLARDS, RAILING, PILASTERS AND LIGHT STANDARDS (SALVAGE LUMINAIRES) AND OVERHANGING LIP OF CONCRETE SEAWALL SHOWN HATCHED, SEE TYPICAL SECTION THIS SHT.
4. CONTRACTOR SHALL SUBMIT HIS WORK PHASING, BMPS AND TRAFFIC CONTROL PLANS TO THE ENGINEER FOR APPROVAL. WORK SHALL NOT COMMENCE UNTIL THOSE PLANS ARE APPROVED BY THE ENGINEER.
5. EXISTING ELECTRICAL BOXES, FIRE HYDRANTS, SEWER AND DRAINAGE STRUCTURES WITHIN THE DEMOLITION AREA SHALL REMAIN AND SHALL BE ADJUSTED TO NEW SIDEWALK GRADE.
6. PROVIDE WATER FILLED TRAFFIC BARRIERS ALONG FRONT STREET TO DELINEATE THE WORK AREA, SEE TRAFFIC CONTROL PLANS.
7. FOR BEST MANAGEMENT PRACTICES SEE SHT. C–1.03.
8. WHERE THE EDGE OF THE DEMOLITION AREA OCCURS ON EXISTING AC PAVEMENT AND AT THE BEACH ACCESS STAIR, PAVEMENT AND CONCRETE SHALL BE NEATLY SAW CUT.
9. DEMOLISH AND REMOVE SEVEN PLANTERS INCLUDING SURROUNDING CRM WALLS, PLANTER SOIL AND VEGETATION INCLUDING TREES, TO 6" BELOW SIDEWALK LEVEL. WHERE NEW PLANTERS (SHT. C–1.02) OCCUR OVER EXISTING PAVED AREAS, EXCAVATE AND REMOVE MATERIAL TO ONE FOOT BELOW AC GRADE.
10. DEMOLISH AND REMOVE 53 WOOD BOLLARDS AND BACKFILL WITH CONCRETE TO SIX INCHES BELOW EXISTING SIDEWALK LEVEL.
11. WHERE ENCOUNTERED IN THE INDICATED DEMOLITION AREA, IRRIGATION LINES (NOT SHOWN) SHALL BE DEMOLISHED AND REMOVED.



BEACH STAIR, SEE STRUCT. PLANS
IN PLACE OF EXISTING
2' FROM GREASE TRAP MANHOLE

NEW CURE

AREA 1 NEW SIDEWALK AND SEAWALL PLAN

SCALE: 1" = 20'

NORTH

ONCRETE SIDEWALK, CURB,
WALL LIP, SEE DETAILS

MENT, PROVIDE NEW 2" THK.
, 6" AGGREGATE BASE COURSE,
W SUBBASE COURSE

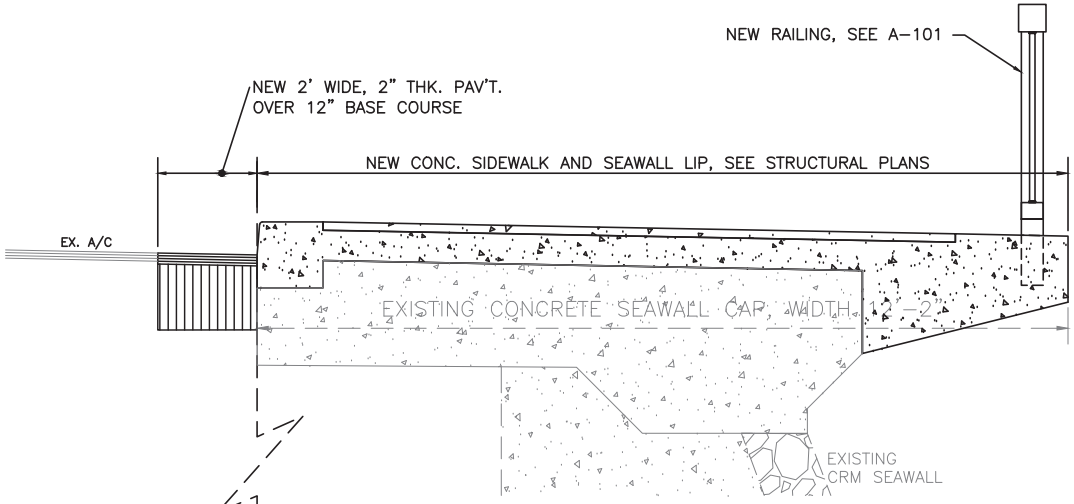
NTER NUMBER AND VEGETATION,
RAWINGS

TION, SEE TABLE BELOW.

T, SEE ELECTRICAL DWGS.

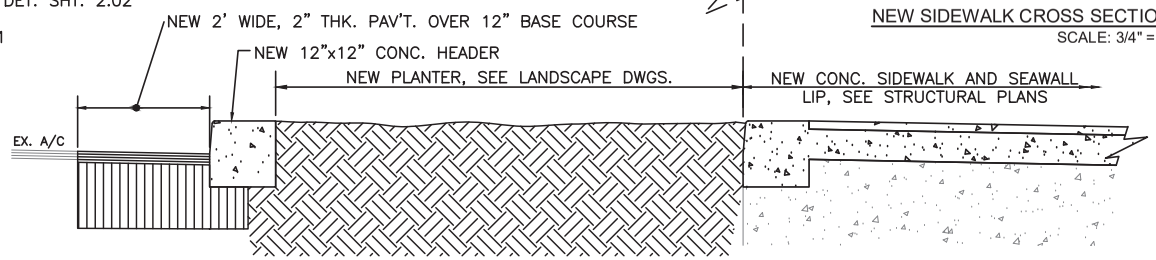
ULVERT, SEE DET. SHT. 2.02

SHT. A-101



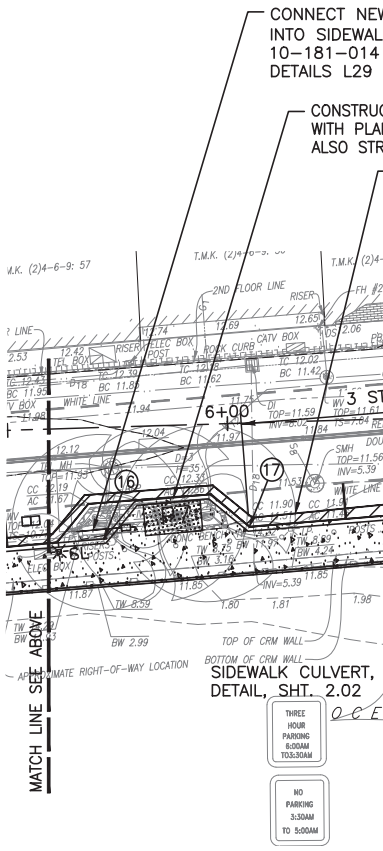
NEW SIDEWALK CROSS SECTION (NO NEW PLANTER)

SCALE: 3/4" = 1'



NEW SIDEWALK CROSS SECTION (WITH NEW PLANTER)

SCALE: 3/4" = 1'



AREA 1 NEW SIDEWALK

NORTH

ET

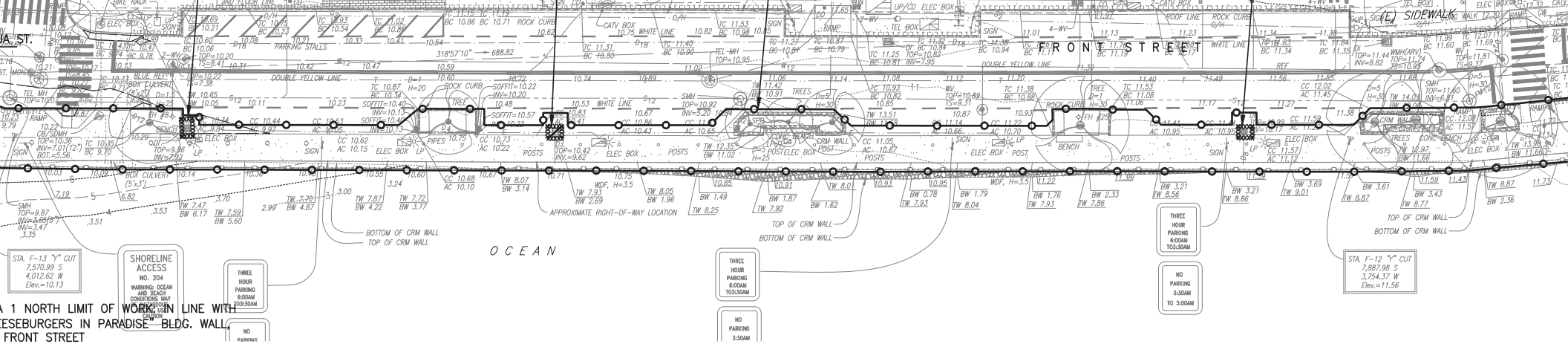
FT.	BC ELEV.	COMMENT
21	9.64	BEGIN NEW CURB
71	9.79	CR. CURB, END CURB RAMP #1
8	9.80	CR. CURB
7	9.71	END CURB RAMP #2
7	9.86	CR. CURB
5	10.11	CR. CURB
8	10.53	CR. CURB
5	10.62	CR. CURB
2	10.67	CR. CURB
0	10.83	CR. CURB

PLANTER SIZE DATA (ALL PLANTERS 7' WIDE)

PLANTER NUMBER	LENGTH	PLANTER NUMBER	LENGTH
1	16'	5	10.5'
2	17.5	6	14'
3	28.5'	7	16'
4	13'	8	9'

NOTES

1. BENCH MARK REFERRED TO BRONZE TABLET ON NW SIDE OF LARGE CONCRETE BASE FOR FLAG POLE AT LAHAINA WHARF, ELEVATION = 7.74 FT. MSL.
2. TOPO BY CONTROLPOINT SURVEYING AND ENGINEERING, SEPTEMBER 3, 2019. CONTRACTOR SHALL REPORT CHANGES TO EXISTING CONDITIONS TO THE ENGINEER IN WRITING.
3. MEAN HIGHER HIGH WATER OCCURS AT ELEVATION 1.14 FT (MSL DATUM). THAT AREA WAS INUNDATED AT THE TIME OF THE TOPOGRAPHIC SURVEY AND CONTOURS BELOW THOSE SHOWN COULD NOT BE ASSESSED. THE MHHW CONTOUR OCCURS ON THE SAND BEACH AT THE NORTH END OF AREA 1; ON THE FACE OF THE EXISTING CRM SEAWALL THROUGH THE MIDDLE OF AREA 1, AND ALONG THE ROCKY BEACH AT THE SOUTH END OF AREA 1. THE SEAWALL LIP OVERHANGS THE OHWM AND IS CONSIDERED TO LIE WITHIN CORPS OF ENGINEERS JURISDICTION.
4. ADJUST TOPS OF EXISTING UTILITY STRUCTURES WITHIN THE NEW SIDEWALK TO MATCH NEW SIDEWALK GRADES.
5. ALL NEW PARKING STALLS 22 FT. LONG.
6. NEW CURB RAMP GRADES, SEE SHT. C-2.02.
7. REPLACE ALL TRAFFIC CONTROL SIGNS, SEE SHT. C-2.03



A 1 NORTH LIMIT OF WORK – IN LINE WITH
ESEBURGERS IN PARADISE BLDG. WALL,
FRONT STREET

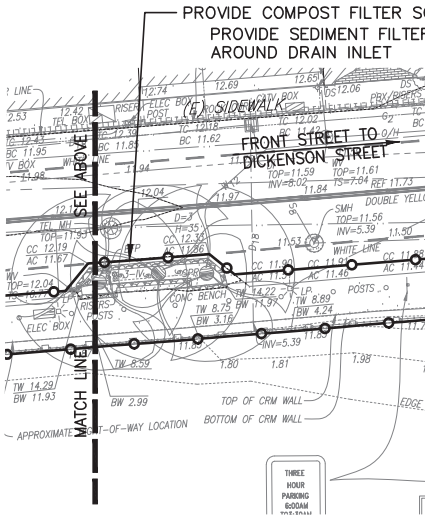
WORK AREA 1 BMP

SCALE: 1" = 20'

NORTH

E COMPOST FILTER SOCK AT
TER OF WORK AREA

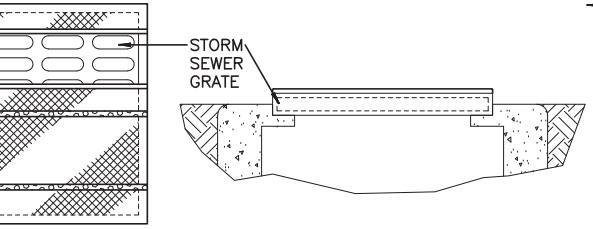
E SEDIMENT FILTER AT DRAIN INLETS



AREA 1 SOUTH LIMIT OF WORK – IN LINE WI
"OCEANSIDE JEWELERS" STORE WALL, 715 FR

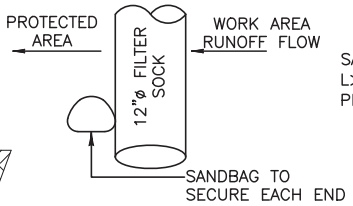
WORK ARE

NORTH

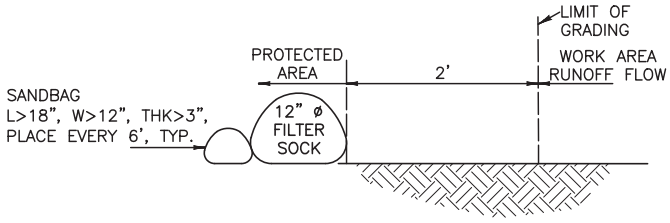


PLAN

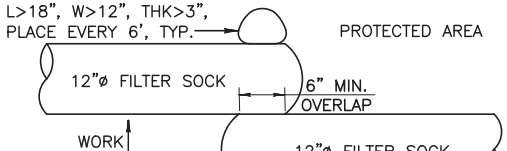
SECTION



PLAN



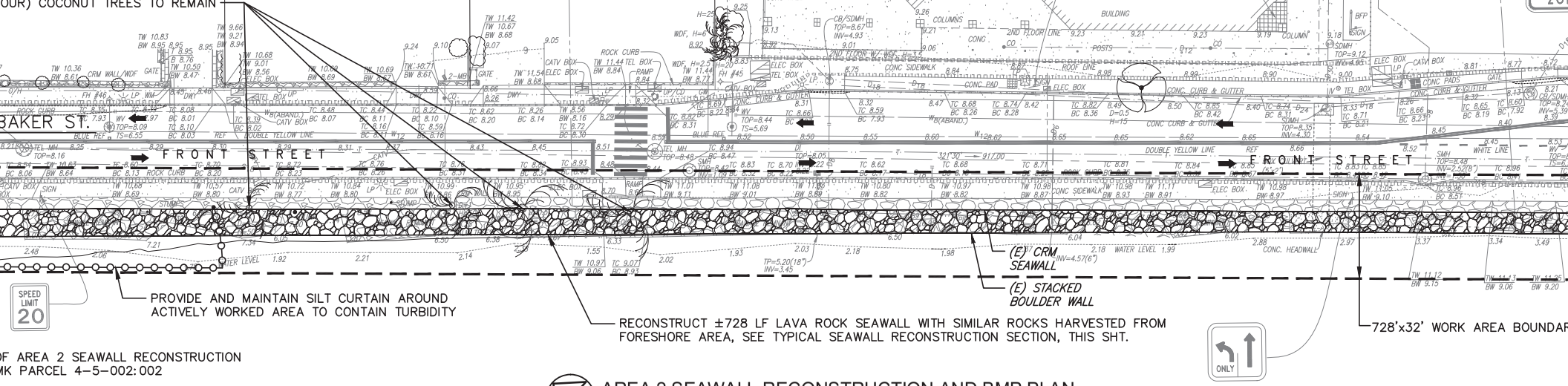
SECTION



ES	TEST METHOD	UNITS	MARV
TH	ASTM D4632	kN (LBS)	1.62 (365) x 0.98 (200)
TION	ASTM D4632	%	24x10
	ASTM D4833	kN (LB)	0.40 (90)
GTH	ASTM D3786	kPa (PSI)	3097 (450)

GENERAL BMP NOTES

1. REFERENCE ADDITIONAL CONSTRUCTION AND BMP
2. BMPS SHOWN HEREON ARE SCHEMATIC ONLY. (
HEREON WITH THE WRITTEN PERMISSION OF THE
3. CONTRACTOR SHALL MAINTAIN A COPY OF THE A
ACCESSIBLE LOCATION SO THAT IT CAN BE MADE
REQUESTED BY THE DOH, EPA OR USACE.
4. BMPS SHALL BE IN PLACE AND FUNCTIONAL PRI
SHALL INSPECT AND MAINTAIN BMPS DAILY.
5. CONTRACTOR SHALL CONDUCT AND PROVIDE RES
WRITING TO THE DPW IN ACCORDANCE WITH THE
PLAN".
6. CONTRACTOR SHALL TIMELY PROVIDE DPW WITH
SUBMITTALS IN ACCORDANCE WITH THE APPLICAB

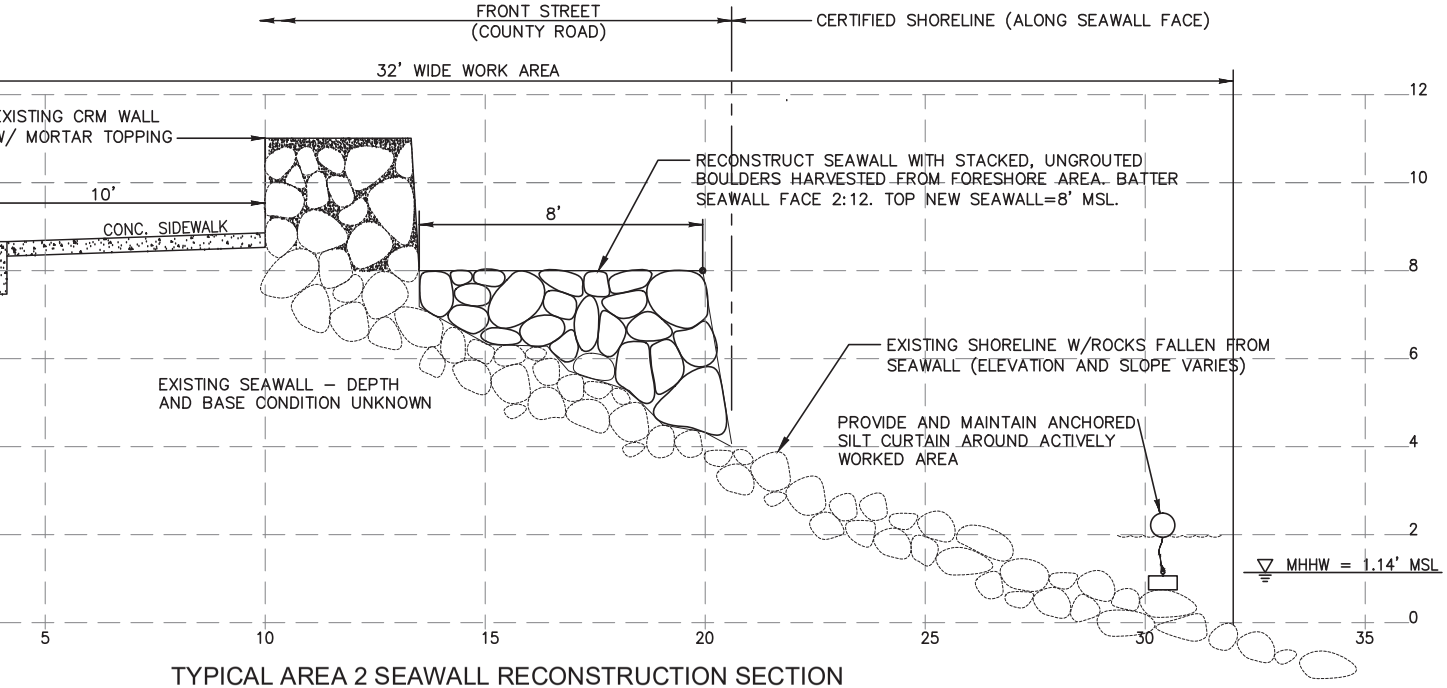


OF AREA 2 SEAWALL RECONSTRUCTION
MK PARCEL 4-5-002:002

AREA 2 SEAWALL RECONSTRUCTION AND BMP PLAN

SCALE: 1" = 20'

NORTH



TYPICAL AREA 2 SEAWALL RECONSTRUCTION SECTION

SCALE: 1" = 2'

OTES

TO BRONZE TABLET ON NW SIDE OF LARGE CONCRETE BASE FOR FLAG POLE AT LAHAINA WHARF, SL.

H WATER (MHHW) CONTOUR OCCURS AT ELEVATION 1.14 FT (MSL DATUM), THROUGHOUT WAS INUNDATED AT THE TIME OF THE TOPOGRAPHIC SURVEY AND CONTOURS BELOW THOSE E DETERMINED. THE PROJECT WORK AREA FROM WHICH LAVA ROCKS WILL BE HARVESTED, MHHW CONTOUR.

N SHALL BE TO TYPICAL SECTION ON THIS SHEET.

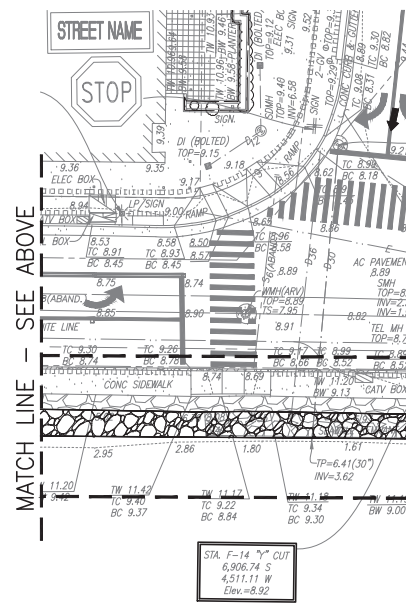
WITH ROCKS OF SIMILAR SHAPE AND COLOR, HARVESTED FROM FORESHORE AREA. IF THE VOLUME ROCKS IS INSUFFICIENT TO RECONSTRUCT THE SEAWALL, ADDITIONAL ROCKS OF SIMILAR SIZE, RE IMPORTED AND USED.

LEGEND:

RECONSTRUCTED BOULDE

SILT FENCE (TYPICAL) A WORKED AREA

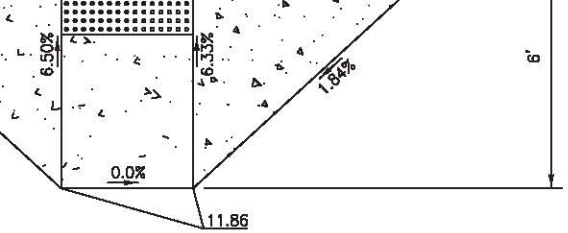
WORK AREA LIMIT



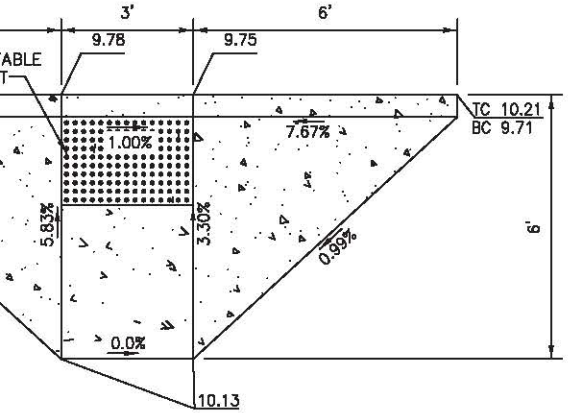
SOUTH LIMIT OF AREA 2 SEAWALL RECONSTR
= NORTH EDGE OF TMK PARCEL 4-5-001:0

AREA 2 SEAWALL RECONSTI

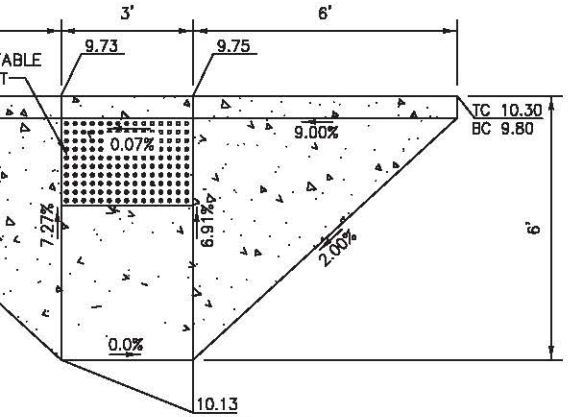
NORTH



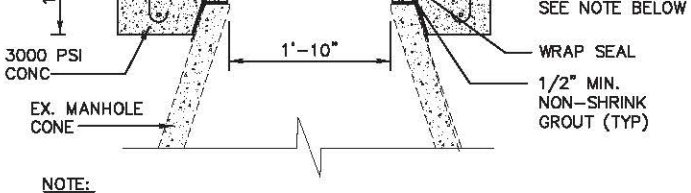
NEW CURB RAMP #3
SCALE: 1" = 2'



NEW CURB RAMP #2
SCALE: 1" = 2'



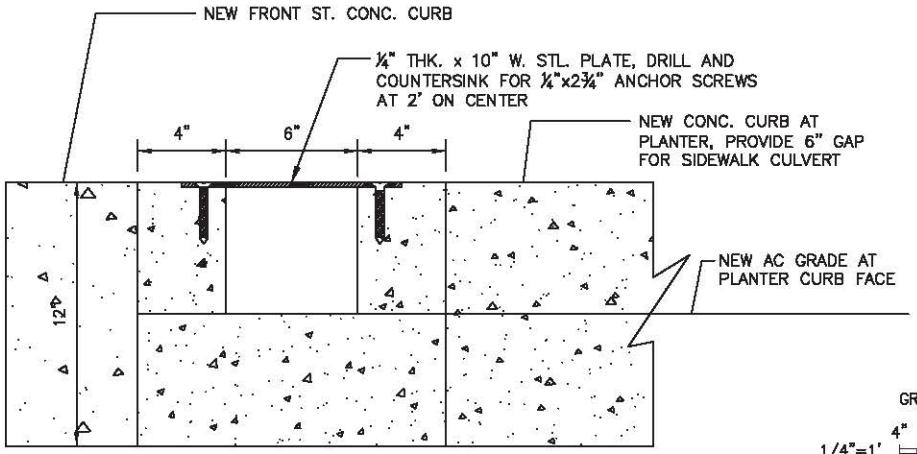
NEW CURB RAMP #1
SCALE: 1" = 2'



NOTE:

APPLY GROUT TO INSIDE AND OUTSIDE OF BRICKS TO FORM CONTINUOUS CYLINDRICAL SURFACE.

SEWER MANHOLE FRAME AND COVER ADJUSTMENT
N.T.S.



GRAPHIC SCALES
1/4"=1'
4" 0 4" 8" 12"

NEW SIDEWAL

EX. SIDEWALK

CON
A

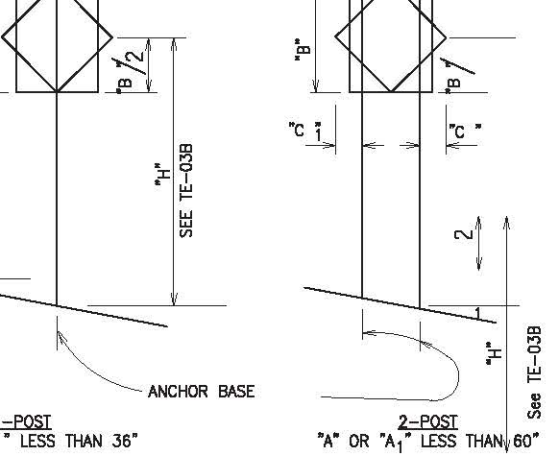
N

PAV'T GRADE

DRILL 1" ø
EMBED 12"
DOWELS W/

DOWELS SHALL
PRIOR TO POU
THAN ½" FRON

C



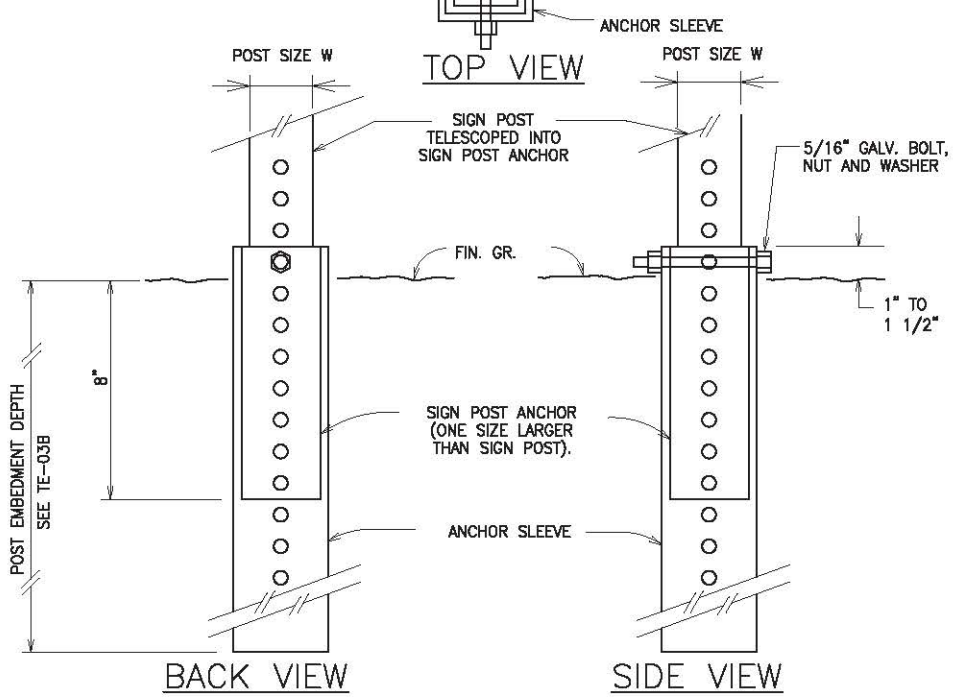
"C"	"C 1"
6"	–
9"	19"
12"	24"

NOTE:

FRAME STIFFENERS ARE REQUIRED WHEN D IS GREATER THAN 24" SEE NOTES.

AL SIGN INSTALLATION

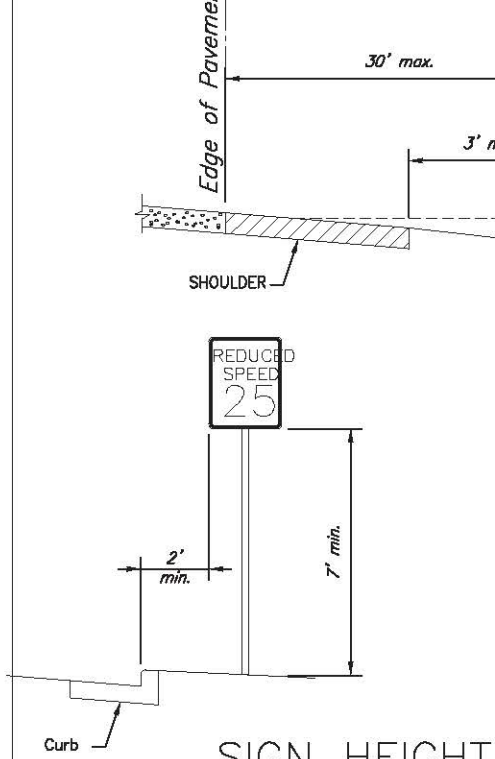
NOT TO SCALE



SIGN POST INSTALLATION

ANCHOR BASE DETAIL

NOT TO SCALE



SIGN HEIGHT

Not

ONFORMANCE WITH THE LATEST ADDITION OF FEDERAL HIGHWAY DMINISTRATION
ONTROL DEVICES (MUTCD), AS AMENDED OR SUPPLEMENTED BY THE CONTRACT

TICAL CLEARANCES ARE GUIDELINES AND SHALL BE EXCEEDED WHENEVER
ALLED AS CONSISTENT AS POSSIBLE WITH OTHER EXISTING AND NEW SIGNS TO
ED APPEARANCE THAT BEST COMMAND ROAD USERS' ATTENTION AND RESPECT.

N SHALL BE VERTICALLY MOUNTED AT RIGHT ANGLES TO THE DIRECTION OF AND
ARE INTENDED TO SERVE. ON CURVED ALIGNMENT, THE ANGLE OF PLACEMENT
DIRECTION OF APPROACHING TRAFFIC RATHER THAN BY THE ROADWAY EDGE AT
LOCATED.

TENT OF RESTRICTIVE ZONE, SUCH AS PARKING, SHALL BE MOUNTED 45
FIC FLOW.

BE MOVED IN EITHER DIRECTION AS MUCH 50 FEET WHEN APPROVED BY THE

W/ THE LATEST AASHTO STANDARD SPECIFICATIONS FOR THE
OR HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS AND ITS INTERIM
IFICATIONS BY THE HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION

UM WITH SUBJECT TITLE "DESIGN CRITERIA FOR BRIDGES AND STRUCTURES."

5 MPH.
OF 10 YEARS.

TO THE STANDARD SPECIFICATIONS.
SHALL BE AASHTO M164 BOLTS AND ANCHOR BOLTS SHALL BE AASHTO

BOLTS SHALL BE M180, WITH AN ULTIMATE TENSILE STRENGTH OF 180 KSI, MIN.
D SURFACES IN CONTACT WITH STRUCTURAL STEEL SHALL BE ISOLATED WITH

(C) SQUARE TUBE POSTS SHALL BE PERFORATED WITH 7/16"~ HOLES, 1" O.C., 4 SIDES, ALONG ENTIRE LENGTH OF POST.

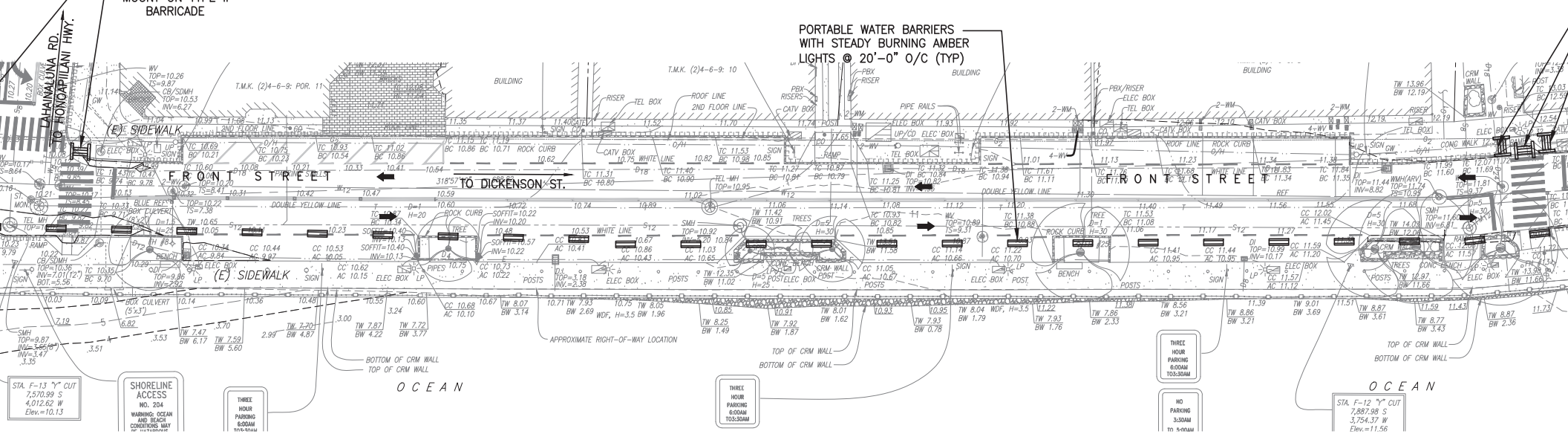
(D) ALL ACCESSORIES, FITTINGS AND STIFFENER DETAILS (AS REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL 20 DAYS PRIOR TO INSTALLATION.

(E) ALTERNATE DESIGNS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SHALL USE THE SERVICE LOAD DESIGN METHOD AND SHALL BE STAMPED BY A REGISTERED STRUCTURAL ENGINEER OF THE STATE OF HAWAII AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

(F) ALL SIGN SUPPORT POSTS SHALL BE OUTSIDE OF THE CLEAR ZONE OR SHIELDED BY AN APPROPRIATE TRAFFIC BARRIER SYSTEM. THE TRAFFIC BARRIER SYSTEM SHALL BE SUBMITTED TO THE ENGINEER FOR HIS APPROVAL.

(G) THE CONTRACTOR SHALL USE TEMPLATES WHILE INSTALLING THE ANCHOR BOLTS. ANCHOR BOLTS SHALL BE VERTICAL.

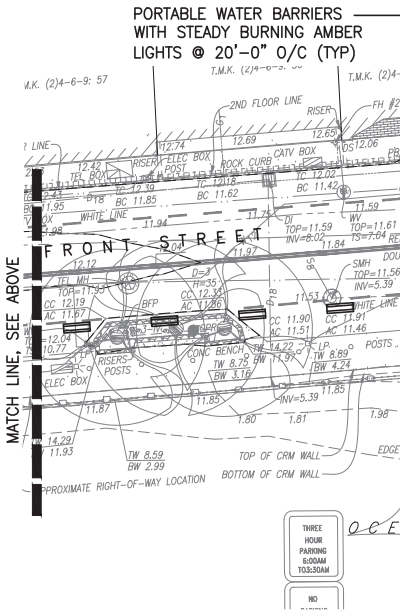
(H) EXCAVATION AND BACKFILL SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE SIGN FOUNDATION.



AREA 1 TRAFFIC CONTROL PLAN, NON-WORKING HOURS

SCALE: 1" = 20'

NORTH

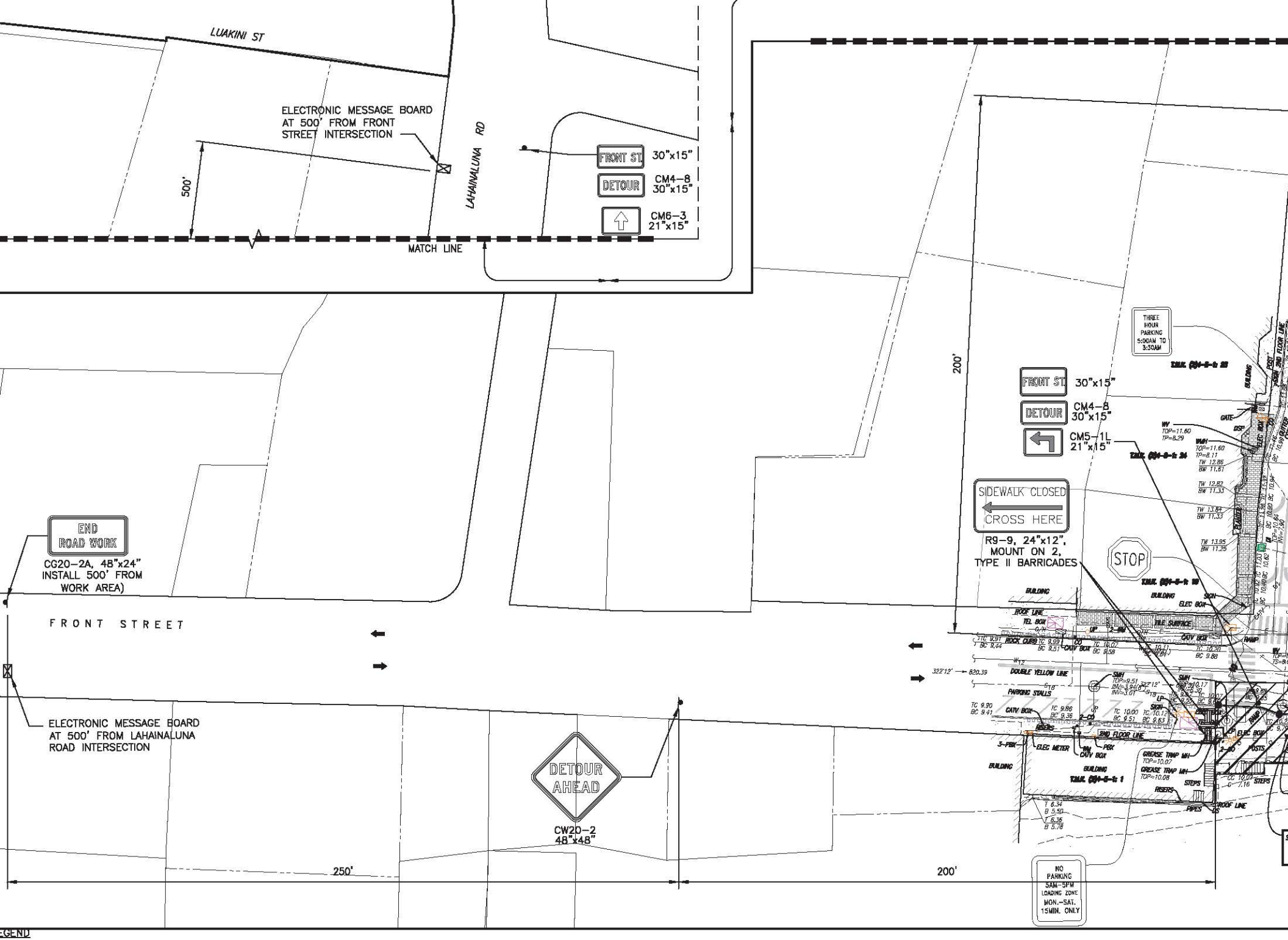


C CONTROL PLAN LEGEND

- WATER FILLED TRAFFIC BARRIER, 20' O/C
- TEMPORARY TRAFFIC CONTROL SIGN
- NEW SIDEWALK AND SEAWALL WORK AREA
- TYPE II TRAFFIC BARRIER
- TYPE III TRAFFIC BARRIER

NORTH

AREA 1 TRAFF
WORKING



EGEND

ATER FILLED TRAFFIC BARRIER, 20' O/C

EMPORARY TRAFFIC CONTROL SIGN

TRAFFIC CONTROL PLAN 2, AREA 1 SOUTH LANE CLOSURE, WORKING HOURS ONLY

NOTE: SIGNS MOUNTED ON TYPE III BARRICADES SHALL COMPLY WITH MUTCD SUBSECTION 6F.03 WITH ATTENTION PAID TO PARAGRAPHS 14 AND 16.

LEGEND

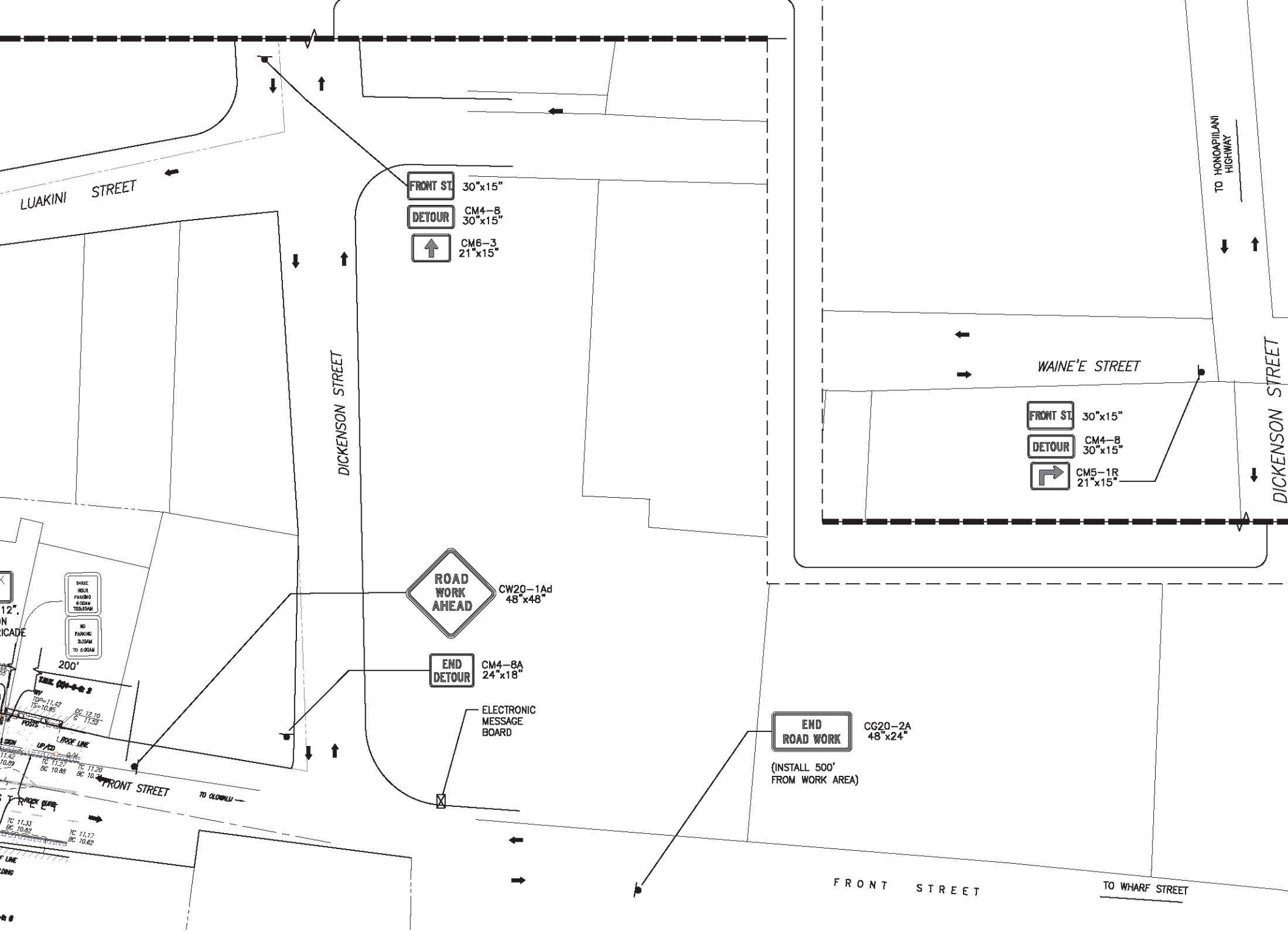
WATER FILLED TRAFFIC BARRIER, 20' O/C

TEMPORARY TRAFFIC CONTROL SIGN

AN LEGEND

WATER FILLED TRAFFIC BARRIER, 20' O/C

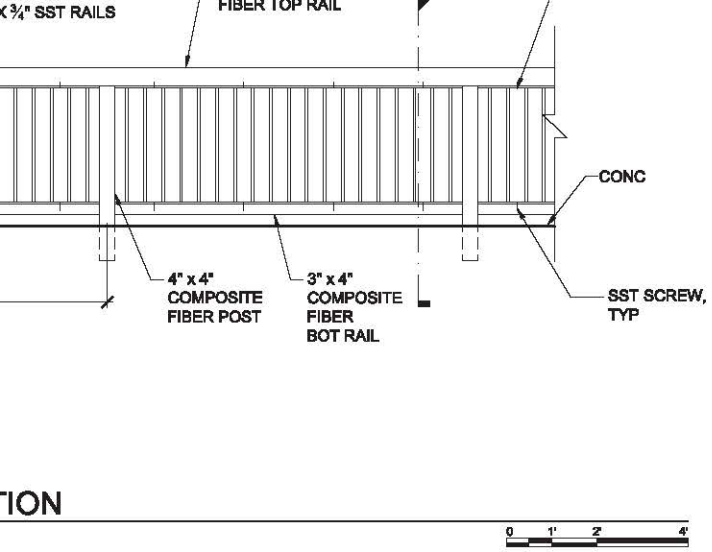
TEMPORARY TRAFFIC CONTROL SIGN

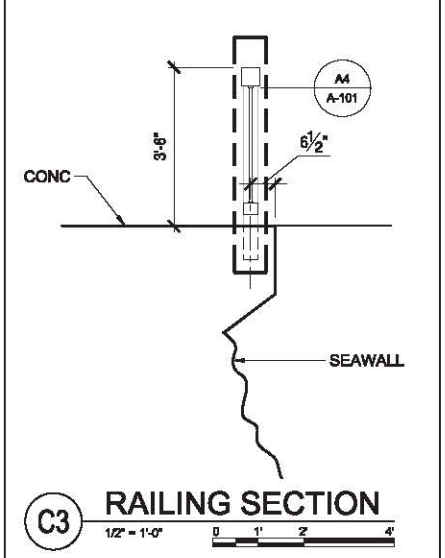


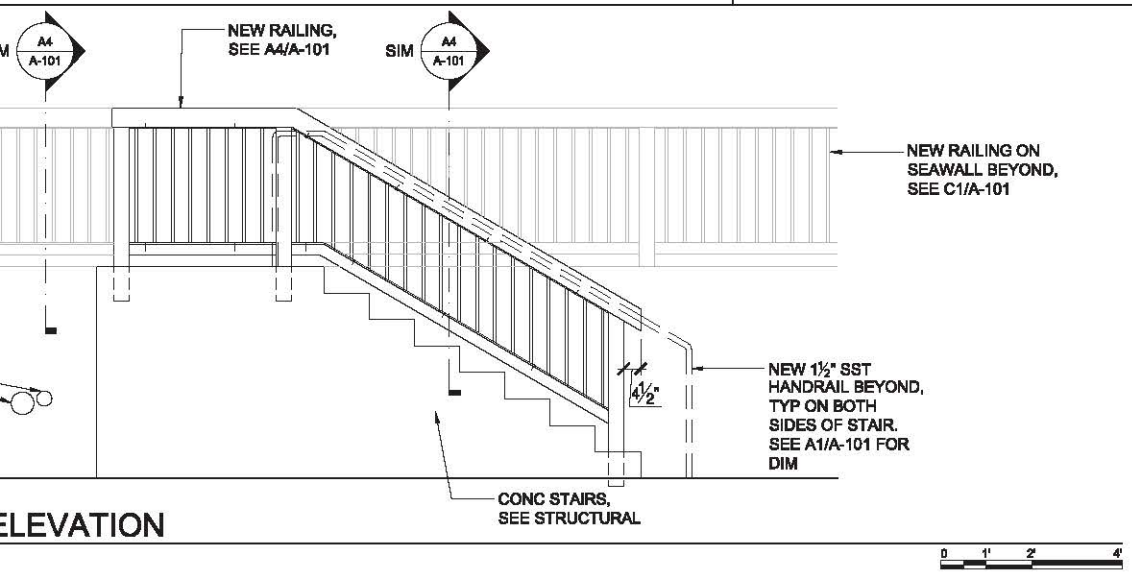
END

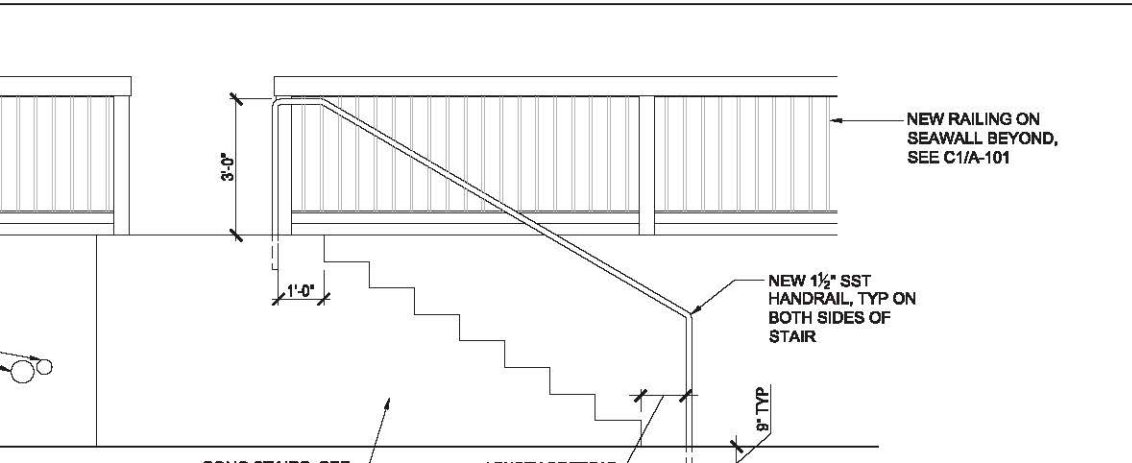
ER FILLED TRAFFIC BARRIER, 20' O/C

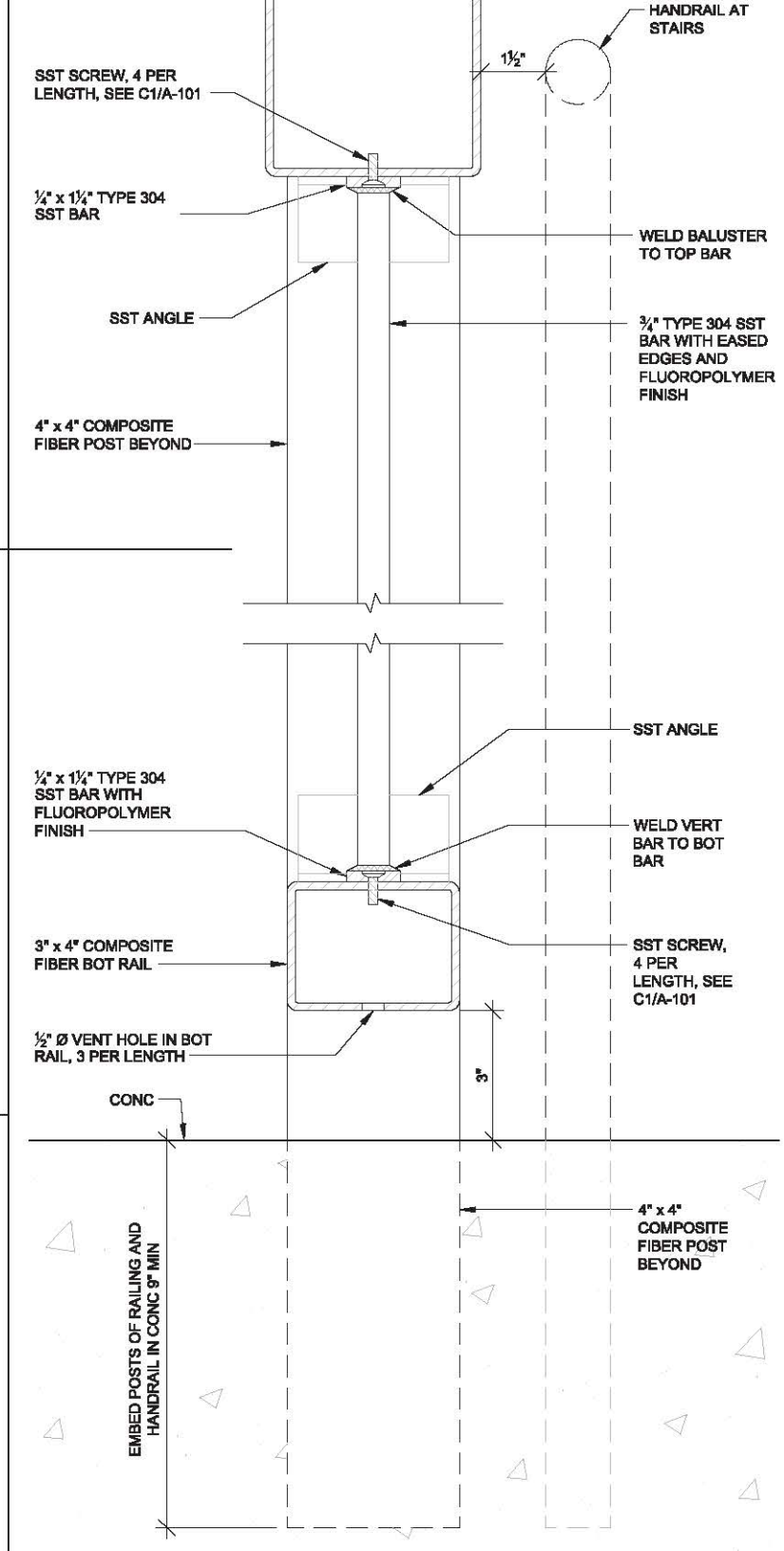
PORARY TRAFFIC CONTROL SIGN

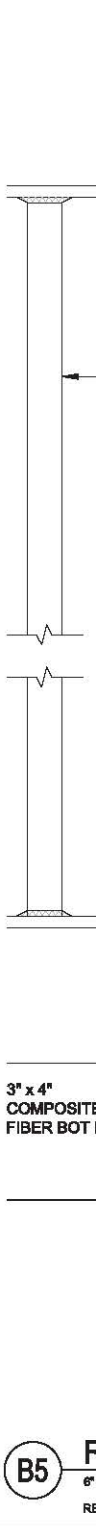

x ¾" SST RAILS
FIBER TOP RAIL
CONC
4" x 4" COMPOSITE FIBER POST
3" x 4" COMPOSITE FIBER BOT RAIL
SST SCREW, TYP
TION
0 1' 2' 4'


A4
A-101
3'-6"
6½"
CONC
SEAWALL
C3
RAILING SECTION
1/2" = 1'-0"
0 1' 2' 4'


M
A4
A-101
NEW RAILING, SEE A4/A-101
SIM
A4
A-101
NEW RAILING ON SEAWALL BEYOND, SEE C1/A-101
4½"
NEW 1½" SST HANDRAIL BEYOND, TYP ON BOTH SIDES OF STAIR. SEE A1/A-101 FOR DIM
CONC STAIRS, SEE STRUCTURAL
ELEVATION
0 1' 2' 4'


3'-0"
NEW RAILING ON SEAWALL BEYOND, SEE C1/A-101
1'-0"
NEW 1½" SST HANDRAIL, TYP ON BOTH SIDES OF STAIR
8" TYP


HANDRAIL AT STAIRS
1½"
SST SCREW, 4 PER LENGTH, SEE C1/A-101
¼" x 1¼" TYPE 304 SST BAR
WELD BALUSTER TO TOP BAR
SST ANGLE
¾" TYPE 304 SST BAR WITH EASED EDGES AND FLUOROPOLYMER FINISH
4" x 4" COMPOSITE FIBER POST BEYOND
SST ANGLE
¼" x 1¼" TYPE 304 SST BAR WITH FLUOROPOLYMER FINISH
WELD VERT BAR TO BOT BAR
3" x 4" COMPOSITE FIBER BOT RAIL
SST SCREW, 4 PER LENGTH, SEE C1/A-101
½" Ø VENT HOLE IN BOT RAIL, 3 PER LENGTH
3"
CONC
4" x 4" COMPOSITE FIBER POST BEYOND
EMBED POSTS OF RAILING AND HANDRAIL IN CONC 9" MIN


3" x 4"
COMPOSITE
FIBER BOT
B5

NG CODE (IBC), 2006.

	MINIMUM COMPRESSIVE STRENGTH f'c (28 DAYS)	MAXIMUM WATER-TO-CEMENT RATIO	INCLUDED ADMIXTURES
	4000 PSI	0.45	b, c
ORTION RETE	5000 PSI	0.40	a, b, c

RROSION INHIBITOR AMINE CARBOXYLATE WATER-BASED ADMIXTURE, SUCH 2005 NS OR APPROVED EQUAL SHALL BE ADDED AT A DOSAGE OF 24 FL. YARD OF CONCRETE.

DUCING ADMIXTURE SUCH AS BASF 35 OR APPROVED EQUAL SHALL BE SAGE OF 128 OUNCES PER CUBIC YARD.

MACRO SYNTHETIC FIBER SUCH AS FORTA FERRO OR APPROVED EQUAL TO THE CONCRETE MIX. THE DOSAGE SHALL BE 7.5 LBS PER CUBIC QUIVALENT AMOUNT OF APPROVED EQUAL TO ACHIEVE SIMILAR PROPERTIES.

NG SHALL CONSIST OF FASTRAC 6K CONCRETE, A READY-TO-USE FASTRAC F70, 3/4" LONG FIBERS DOSED AT 1.5 LBS PER CUBIC YARD, AND CING ADMIXTURE SUCH AS DENKA CSA 20 OR APPROVED EQUAL. ALL FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR MIXING AND PLACING

EL SHALL BE ASTM A 615 GRADE 60, DEFORMED BARS, UNLESS

RWISE, THE CLEAR COVERING MEASURED FROM THE SURFACE OF THE ACE OF ANY REINFORCING STEEL BARS SHALL BE AS FOLLOWS:

AND TIES = 2"

G IN CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH

S = 2"

ING BETWEEN PARALLEL BARS SHALL BE 1 1/2 TIMES THE DIAMETER BUNDLED BARS). IN NO CASE SHALL THE CLEAR DISTANCE BETWEEN THAN 1 1/2 TIMES THE MAXIMUM SIZE OF THE COARSE AGGREGATE

HALL BE PLACED AND INSTALLED IN ACCORDANCE WITH THE CRSI) PRACTICE AND CRSI PLACING REINFORCING BARS, UNLESS

HALL BE SECURELY TIED AT ALL INTERSECTIONS AND LAP SPLICES SPACING OF INTERSECTIONS IS LESS THAN ONE FOOT IN EACH CASE ALTERNATE INTERSECTIONS SHALL BE TIED.

TERMINATING IN 90° BENDS SHALL BE ACI 318-05 STANDARD T/SKEW) FREE END OF HOOK TO MAINTAIN CLEAR COVER.

FOR REINFORCING STEEL SHALL BE 42 BAR DIAMETERS OR 2'-6", ER, UNLESS OTHERWISE NOTED.

ATING TO REINFORCING BARS ARE TO CENTERS OF BARS UNLESS

NOTED, REINFORCING SPLICES SHALL BE STAGGERED. MINIMUM TAGGERED LAP SPLICE SHALL BE EQUAL TO THE LENGTH REQUIRED NUMBER OF BARS SPLICED AT SECTIONS NORMAL TO AXIS OF EXCEED 50 PERCENT OF THE TOTAL MAIN REINFORCING IN THE

WITH THE FOLLOWING:

SIZE	F*FU (KSI)
4	110
5	105

2. THE MODULUS OF ELASTICITY OF THE GFRP BAR SHALL BE A MINIMUM OF 6,500,000 PSI.

3. GFRP BAR SHALL BE SAND COATED.

4. MINIMUM COVER FOR THE GFRP BARS IN THE MORTAR JOINTS SHALL BE 3/4" UNLESS OTHERWISE NOTED.

5. MINIMUM LAP SPLICE LENGTHS FOR THE GFRP BARS SHALL BE 42 BAR DIAMETERS OR 2'-6", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED.

6. ALL GFRP BARS SHALL BE SECURELY TIED IN PLACE USING EITHER PLASTIC COATED TIE WIRE OR NYLON ZIP TIES.

7. GFRP BARS MAY BE CUT IN THE FIELD WITH A MASONRY OR DIAMOND BLADE, GRINDER, OR FINE BLADE SAW.

8. ALL WORK, INCLUDING MATERIALS AND BENDS, SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.

G. MATERIALS SHOP DRAWINGS:

1. UNLESS OTHERWISE NOTED, SUBMIT MATERIALS SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH THE WORK.

H. GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS AND SHALL REPORT ANY DISCREPANCIES IN WRITING TO THE ENGINEER BEFORE COMMENCING WORK OR ORDERING MATERIALS.

2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES, UTILITIES AND EXISTING AND NEW STRUCTURES FROM DAMAGE DUE TO CONSTRUCTION. REPAIRING ANY DAMAGE SHALL BE AT THE CONTRACTOR'S OWN EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY LINES AND NOTIFY THE RESPECTIVE OWNERS BEFORE COMMENCING WITH EXCAVATION, AND ANY TEMPORARY PILING OR SHEETING.

4. EXCEPT AS OTHERWISE NOTED, ALL VERTICAL DIMENSIONS ARE MEASURED PLUMB.

5. CONSTRUCTION JOINTS MAY BE RELOCATED OR ADDITIONAL ONES ADDED SUBJECT TO THE APPROVAL OF THE ENGINEER.

6. UNLESS OTHERWISE NOTED, ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4"x3/4".

7. LOCATION OF DRILLED HOLES SHOWN IN PLANS ARE APPROXIMATE. PRIOR TO PLACING HOLES IN CONCRETE, THE CONTRACTOR SHALL LOCATE ALL REINFORCING STEEL AND ADJUST THE LOCATION OF THE HOLES TO CLEAR ALL REINFORCING BARS. FINAL HOLE LOCATIONS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

8. THE CONTRACTOR SHALL VERIFY THE LOCATION AND SIZE OF ALL EXISTING REINFORCING BARS PRIOR TO DRILLING.

9. DRILLED HOLES IN EXISTING CONCRETE FOR REINFORCING STEEL DOWELS SHALL NOT BE LEFT UNFILLED FOR MORE THAN 8 HOURS. EPOXY IN DRILLED HOLES SHALL BE ABLE TO DEVELOP THE FULL STRENGTH OF THE DOWELS PRIOR TO POURING CONCRETE AROUND REINFORCING STEEL DOWELS.

RAL REPAIR AREAS AS TO IDENTIFY ANY ADDITIONAL REPAIR AREA
E PLANS.

LL BE COMPLETELY REMOVED TO SOUND SUBSTRATE AND BEYOND
REINFORCING. THE CONTRACTOR SHALL TAKE NECESSARY
ING THE UNDERLYING SOUND CONCRETE.

LL BE SQUARED BY SAW-CUTTING AND CHIPPING THE CONCRETE AT
EMOVAL AREA A MINIMUM OF 1 INCH TO ATTAIN A 3/4 INCH
NT FEATHER EDGE CONDITIONS. EXERCISE GREAT CARE TO AVOID
STING EMBEDDED STEEL REINFORCING. ANGLES BETWEEN ADJACENT
ETER SHALL NOT BE LESS THAN 90 DEGREES AND THE SHAPE OF
REGULAR.

MENT WITHIN THE REPAIR AREA, ADDITIONAL CONCRETE SHALL BE
UM CLEAR SPACE MEASURED RADIALLY AROUND THE BARS.

WITHIN THE REPAIR AREAS SHALL BE ROUGHENED TO ENSURE
MATERIAL.

CES AND REINFORCING BARS IN THE REPAIR AREA SHALL BE NEEDLE
, LOOSE RUST, DEBRIS AND DETERIORATED CONCRETE. ANY AREAS
HOURS AFTER NEEDLE GUNNING SHALL BE RECLEANED.

AREA WHICH HAS LOST MORE THAN 25 PERCENT OF ITS
BE CALLED TO THE ATTENTION OF THE ENGINEER.

EANED OF ALL DUST AND DEBRIS JUST PRIOR TO PATCHING WITH
PRESSED AIR AT A MINIMUM OF 100 PSI.

AIR MATERIALS:

IR MATERIAL, BONDING AGENT AND ANTI-CORROSION COATING, ALL
HALL BE WASHED WITH CLEAN WATER AND THE EXPOSED CONCRETE
WITH NO WATER ACCUMULATION ON THE SURFACE.

LIBERALLY COATED WITH TWO 20 MIL COATS OF BONDING AGENT
THE COATING SHALL BE COMPLETE WITH NO SKIPS, PIN HOLES OR
SURFACE OF THE EXPOSED STEEL. THE FIRST COAT SHALL BE
OR TO APPLICATION OF THE SECOND COAT. THE SECOND COAT
RY A MINIMUM OF 30 MINUTES PRIOR TO THE PLACEMENT OF THE
BE TAKEN TO AVOID APPLYING THE COATING MATERIAL TO THE
MATERIAL SHALL BE PLACED WITHIN THE OPEN TIME OF COATING

SECURE FORMS BY RAMSETTING. ALL HOLES AND SPALLS CAUSED BY
LL BE PATCHED. ALL INSERTS SHALL BE REMOVED OR SHALL BE
3/4 INCH COVER AFTER FORM REMOVAL.

ED FOR VERTICAL AND OVERHEAD REPAIRS LESS THAN OR EQUAL TO
MATERIAL SHALL BE APPLIED IN THICKNESSES PER MANUFACTURER'S

THICKNESSES EXCEEDING MAXIMUMS FOR NEAT MATERIAL SHALL BE
RECOMMENDED BY MANUFACTURER.

BE PLASTIC OR STAINLESS STEEL.

BE MADE SMOOTH AND LEVEL WITH THE EXISTING CONCRETE
E LESS THAN 1 INCH OF CONCRETE COVER, UNLESS OTHERWISE

E VIBRATED, RODDED, OR TAMPED DURING PLACEMENT TO
ILL ALL CORNERS OF THE PATCH OR FORM WITH NO VOIDS.

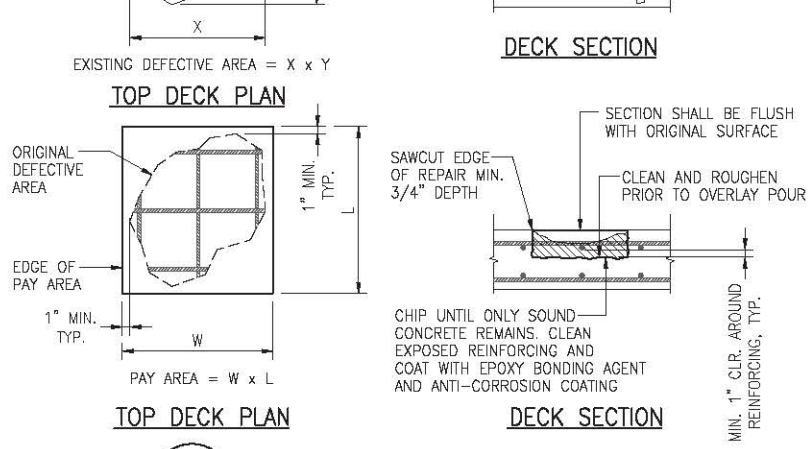
NTS IN THE FIELD OF THE REPAIR.

SHALL MATCH THE ORIGINAL SURFACE FINISH UNLESS IT IS PLANNED

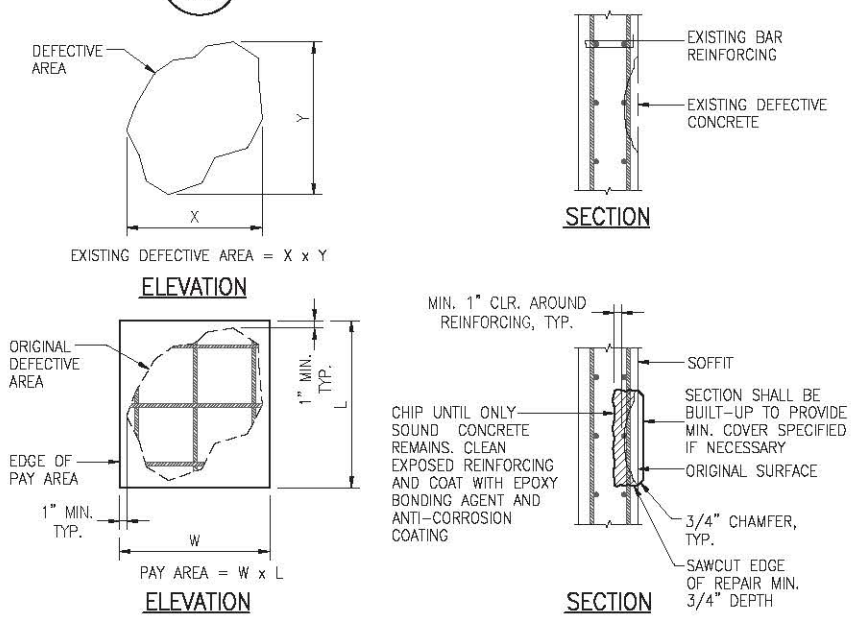
E OF THE FORM SHALL BE DRY PACKED IN LIFTS WITH PATCHING

S RECOMMENDED BY THE MANUFACTURER. REMOVE CURING FROM
IS NEEDED AFTER CURING IS COMPLETE.

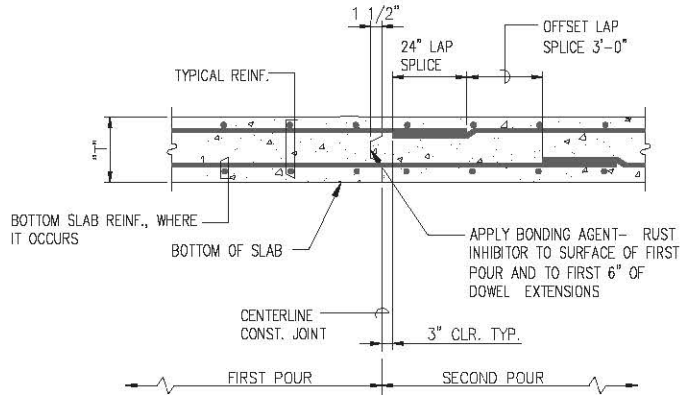
WED TO CURE 4 HOURS MINIMUM WITH NO VEHICULAR TRAFFIC
WITHIN 6 FEET HORIZONTALLY OF THE REPAIR AREA. THE
THE WORK ACCORDINGLY TO ALLOW REPAIRS TO ATTAIN MIN.
GTH OF 3,000 PSI PRIOR TO REOPENING TO TRAFFIC.

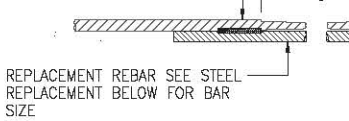


1 / S0.2 CONCRETE REPAIR – TYPE "D"
SCALE: 1" = 1'-0"

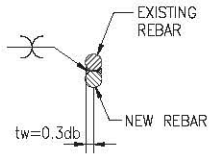


2 / S0.2 CONCRETE REPAIR – TYPE "S"
SCALE: 1" = 1'-0"





REBAR REPLACEME



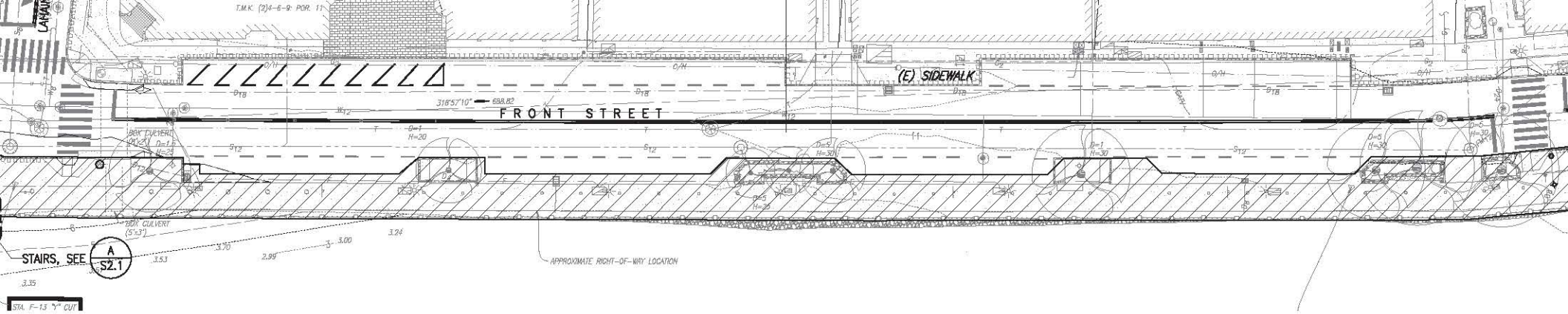
SECTION A

LAP SPLICE FOR #8 BAR

REPLACEMENT		
SIZE OF EXISTING REINFORCING		MINIMUM S (INCH)
SQUARE	ROUND	
3/8"	#3	5/16"
	#4	7/16"
1/2"	#5	1/2"
5/8"	#6	5/8"
3/4"	#7	3/4"
7/8" OR 1"	#8	7/8"

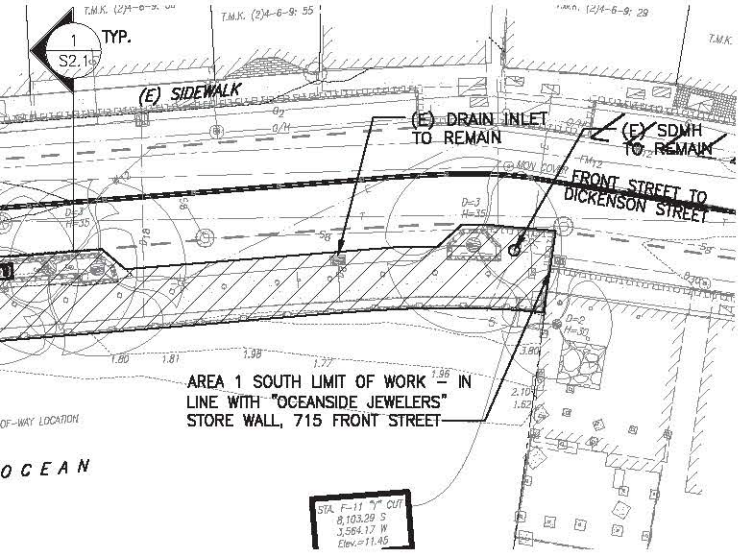
NOTES:
1. REPLACEMENT REINFORCING SHALL BE SPLI
OPPOSITE FACE OF THE CONCRETE REPAIR
CLEAR COVER.
2. FOR WELDING OF #3, #4, AND #5 REPLAC
PERFORMED ON ONE SIDE ONLY, IF lw IS
3. FOR EPOXY EMBEDMENT OF #3, #4, AND
EMBEDMENT LENGTHS SHALL BE AS RECOM
DEVELOP TO STRENGTH OF THE BAR AND

SIZE OF REPLACEMENT REINFORCING OR DOWEL	MINIMU LENGTH WELD ONE lw1
#3	4"
#4	4"
#5	5"



NORTH

AREA 1 – DEMO PLAN
SCALE: 1" = 20'-0"



NORTH

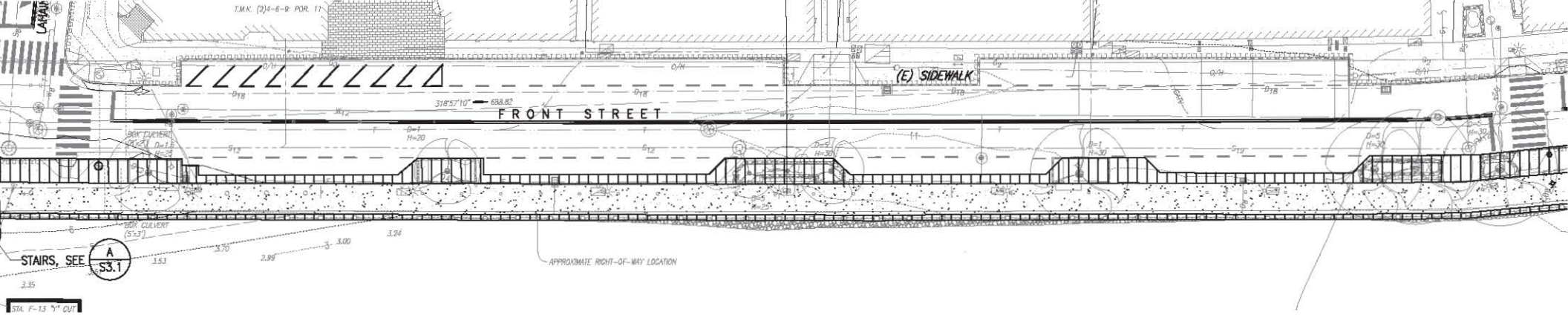
AREA 1 – DEMO PLAN (CONTINUED)
SCALE: 1" = 20'-0"

LEGEND:

DEMOLISH AND REMOVE

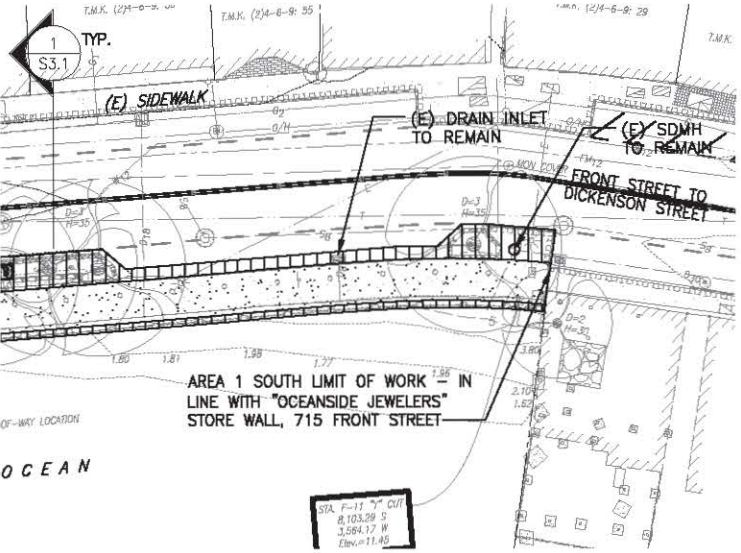
NOTES:

CONTRACTOR SHALL USE EXTREME CAUTION DURING DEMOLITION TO NOT DAMAGE REMAINING CONCRETE STRUCTURE, INCLUDING ANY MICROFRACTURING OF THE CONCRETE SEAWALL.



NORTH

AREA 1 – NEW PLAN
SCALE: 1" = 20'-0"



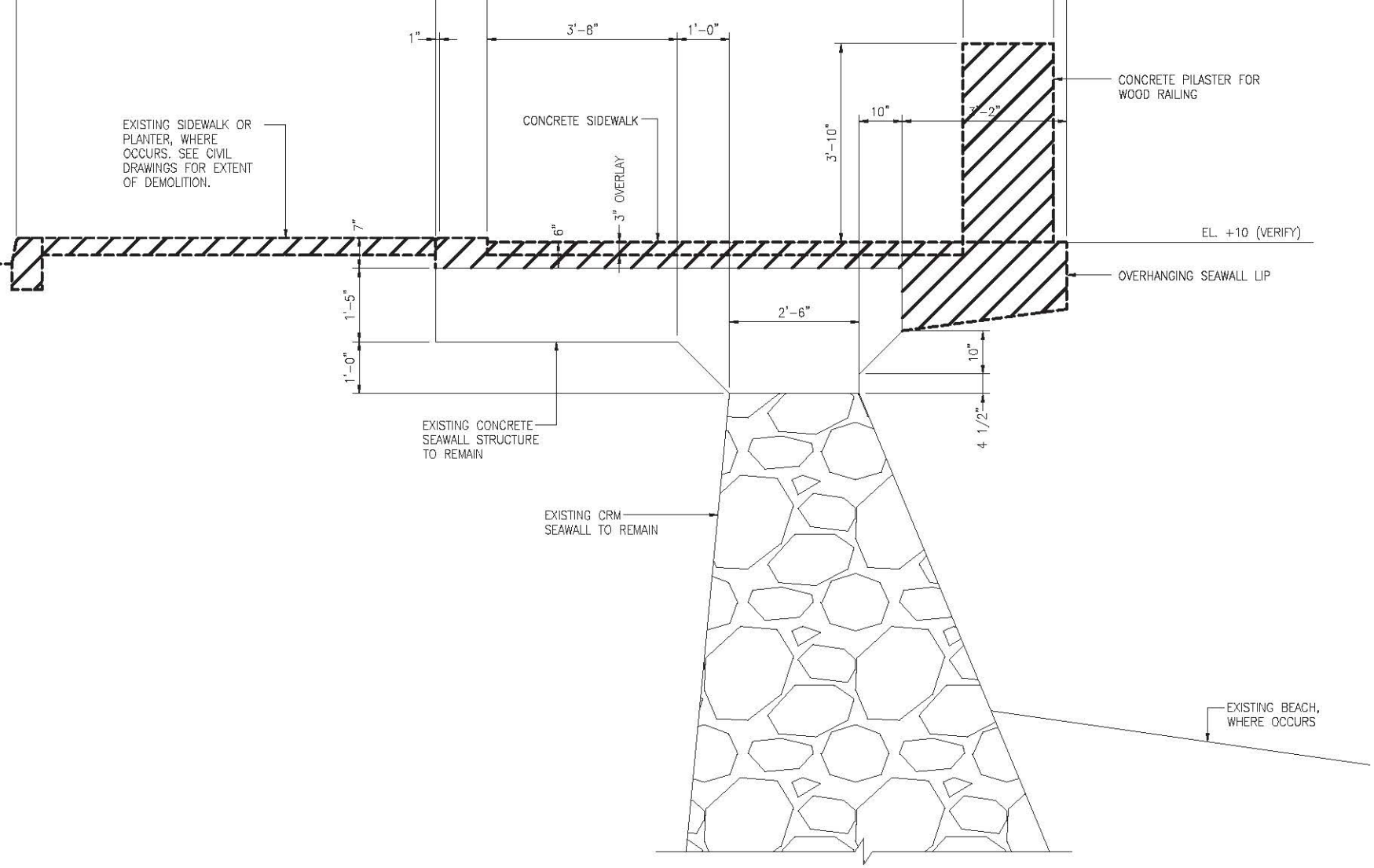
NORTH

AREA 1 – NEW PLAN (CONTINUED)
SCALE: 1" = 20'-0"

LEGEND:

NEW CONCRETE

NEW FASTRAC 6K CONCRETE

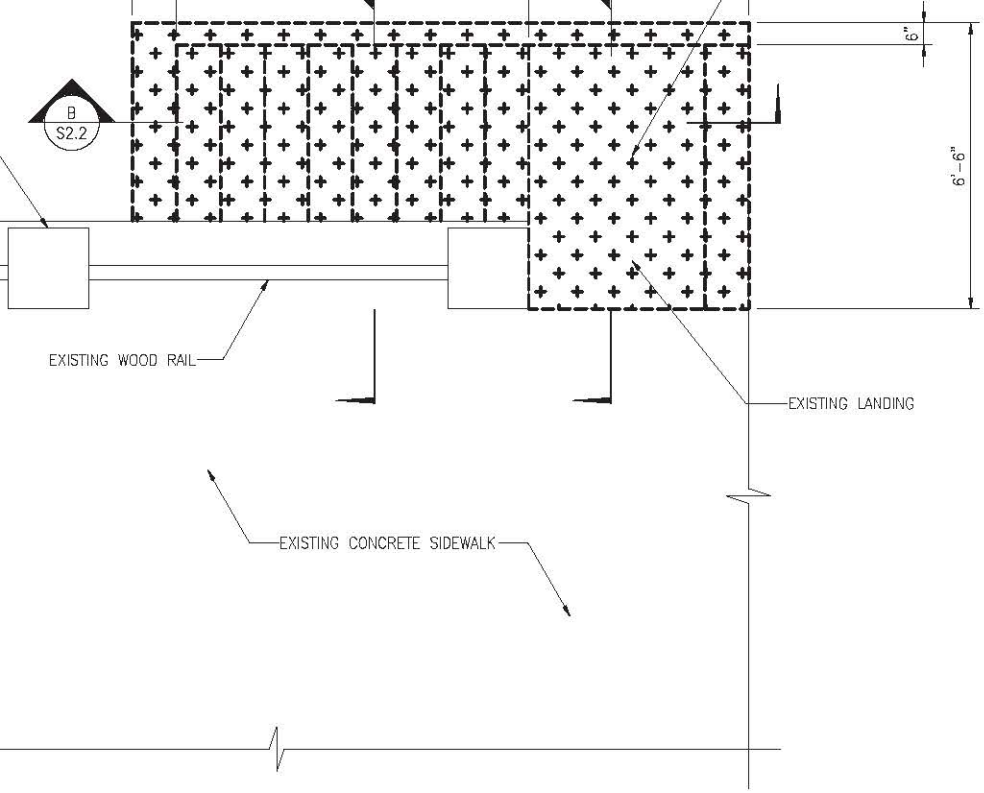


1 / S2.1 AREA 1 – SEAWALL DEMOLITION SECTION

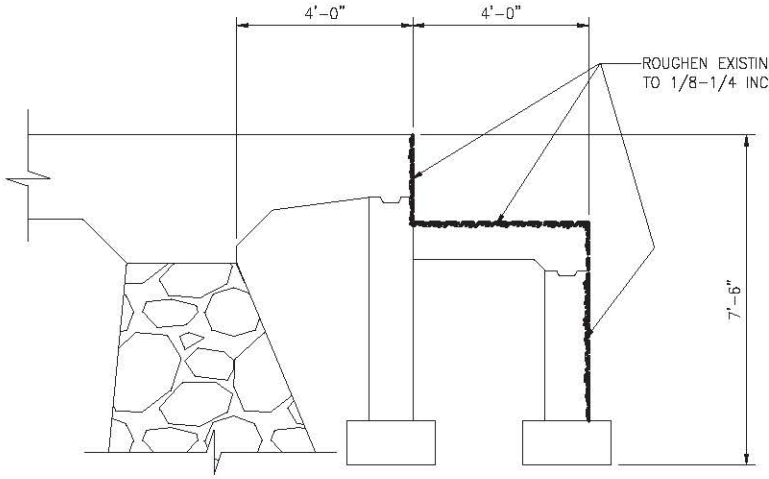
SCALE: 3/4" = 1'-0"

LEGEND

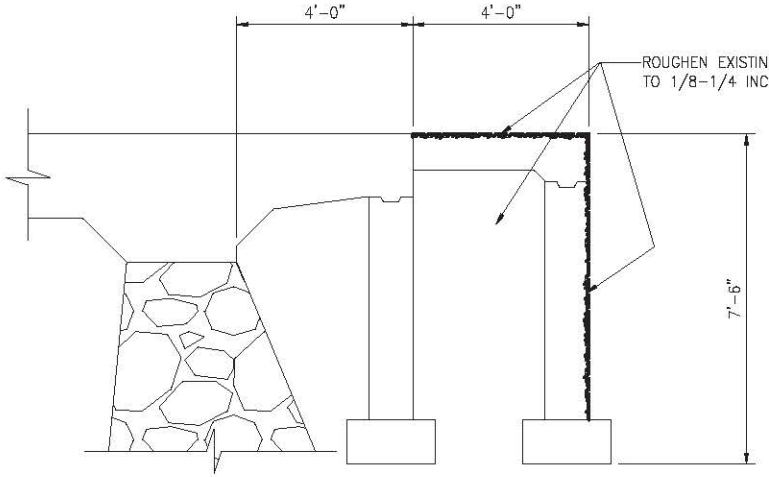
EXISTING TO BE DEMOLISHED AND REMOVED INCLUDING BEACH ACCESS SECTIONS OF CONCRETE STAIRS AND WOOD RAILING, OVERHANGING SEAWALL LIP, CONCRETE PILASTER.



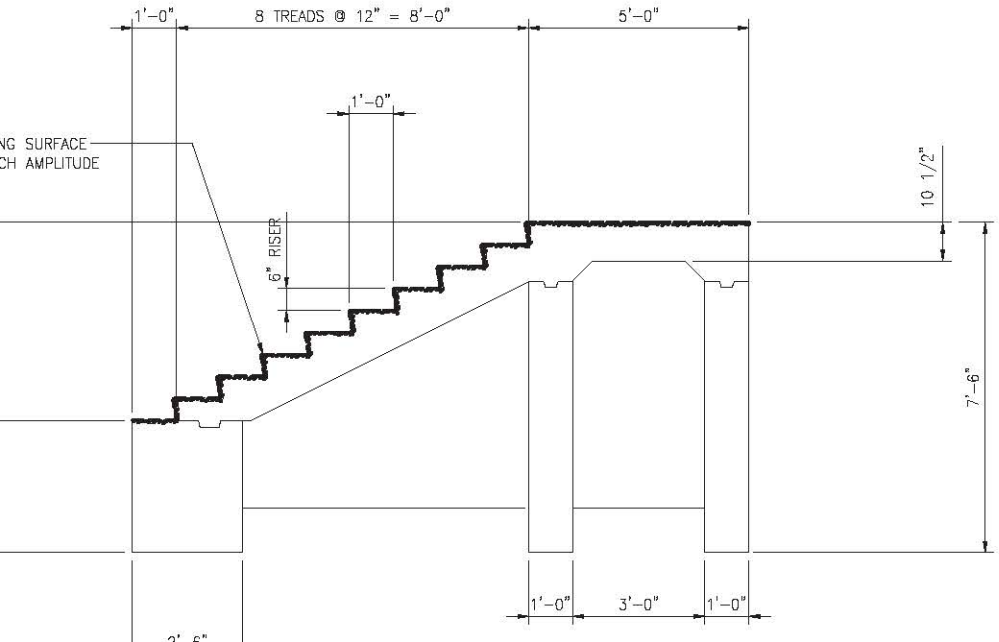
A S2.2 STAIR PLAN
SCALE: 1/2" = 1'-0"

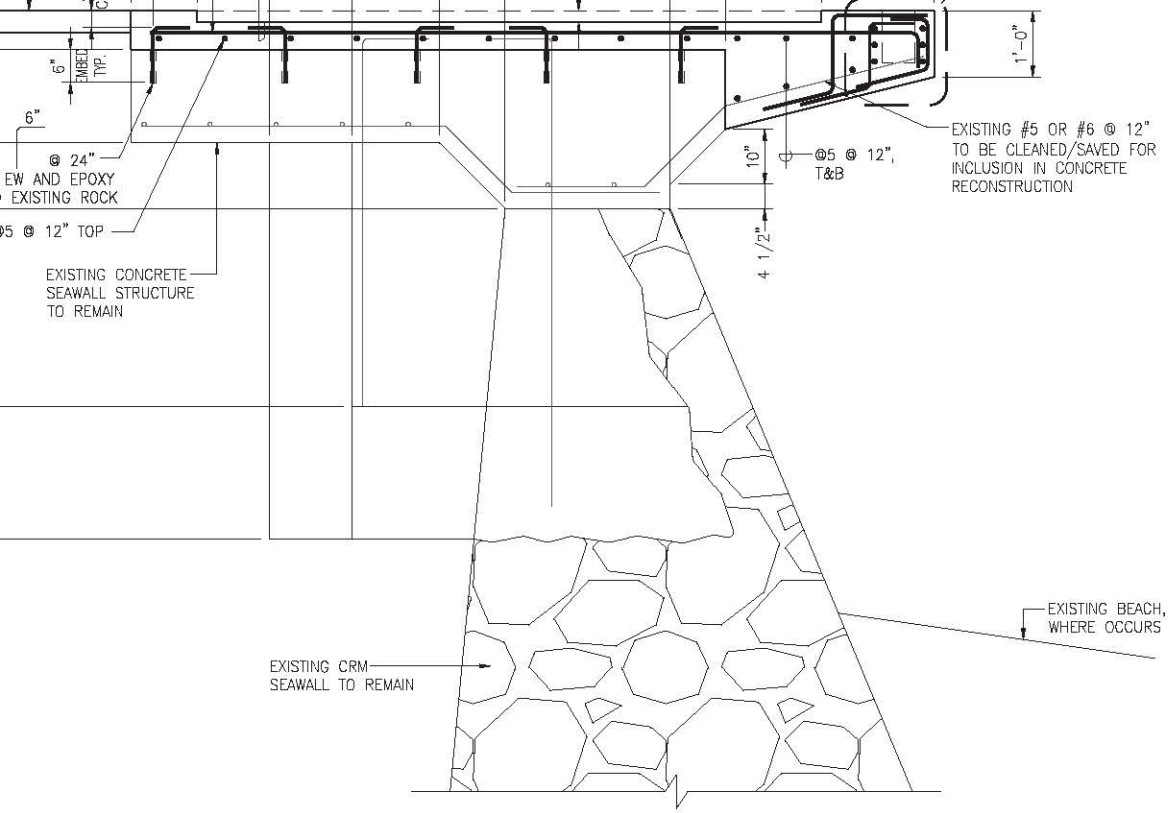


C S2.2 STAIR SECTION
SCALE: 1/2" = 1'-0"

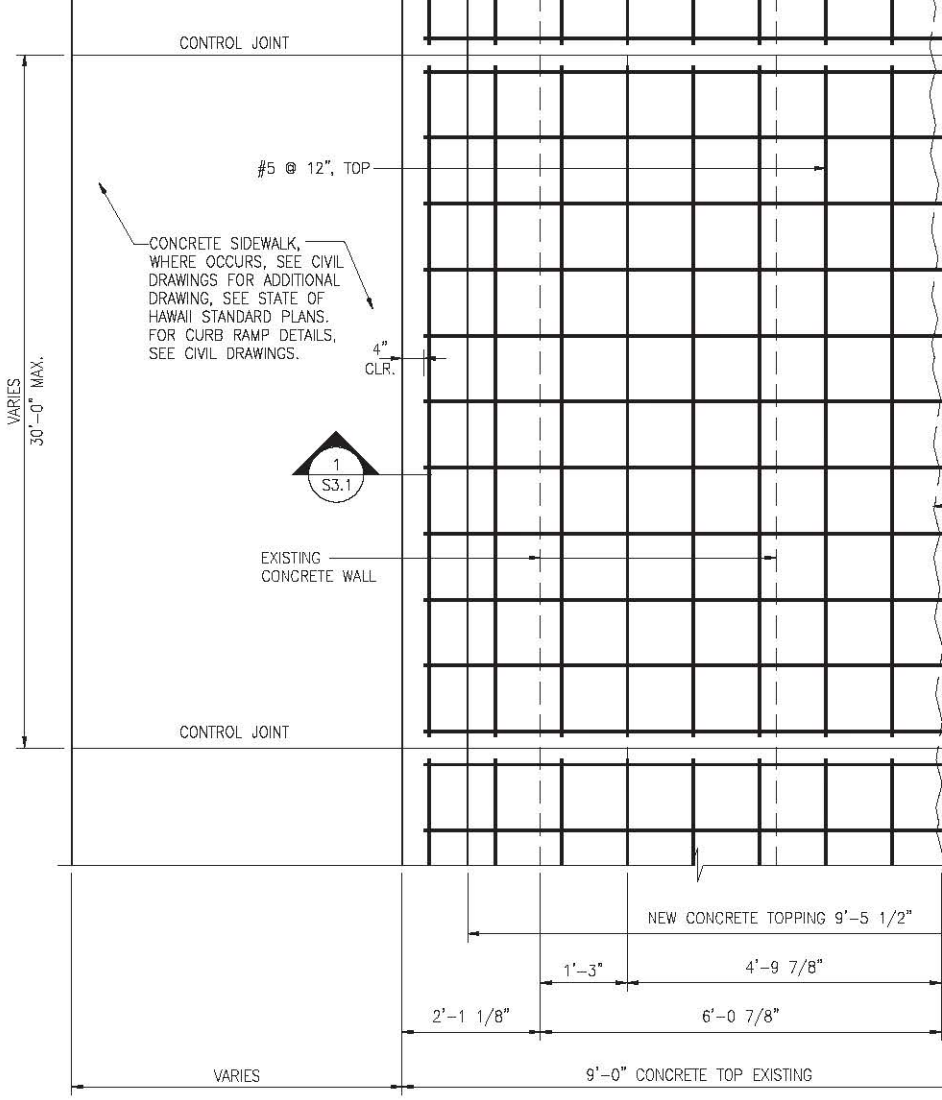


D S2.2 STAIR SECTION
SCALE: 1/2" = 1'-0"

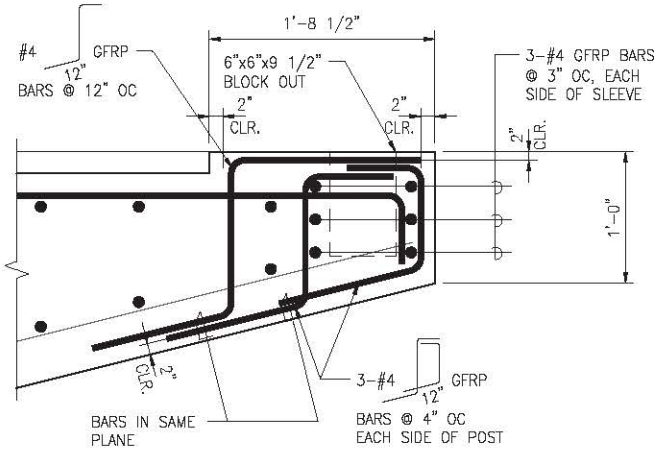




1 S3.1 AREA 1 – SEAWALL RECONSTRUCTION SECTION
SCALE: 3/4" = 1'-0"



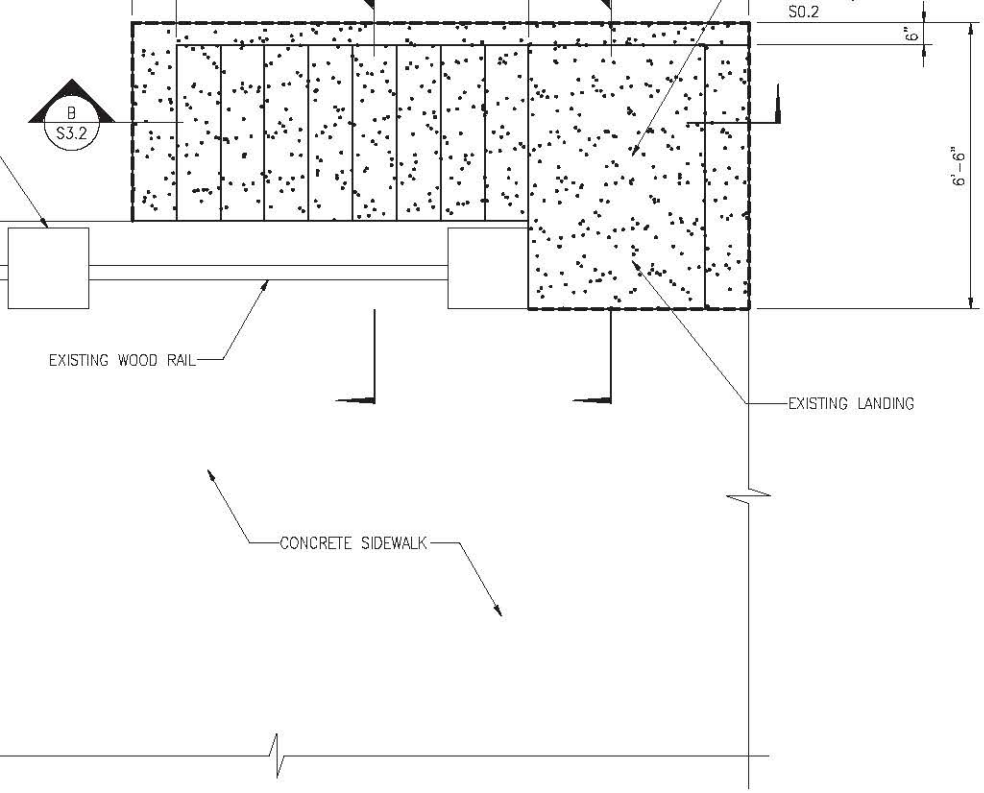
A S3.1 AREA 1 – SEAWALL RECONSTRUCTION PLA
SCALE: 3/4" = 1'-0"



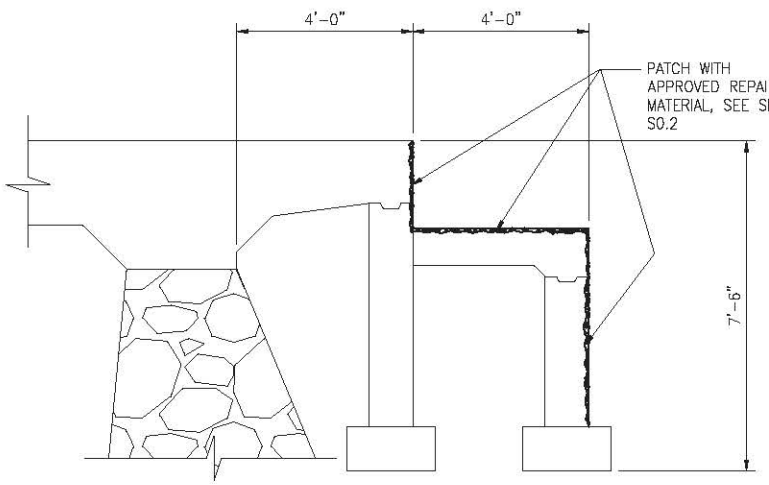
NOTES:

1. CONTROL JOINT LOCATIONS SHALL BE ADJUSTED AS REQUIRED SO NEW JOINT IS DIRECTLY ABOVE EXISTING JOINT.

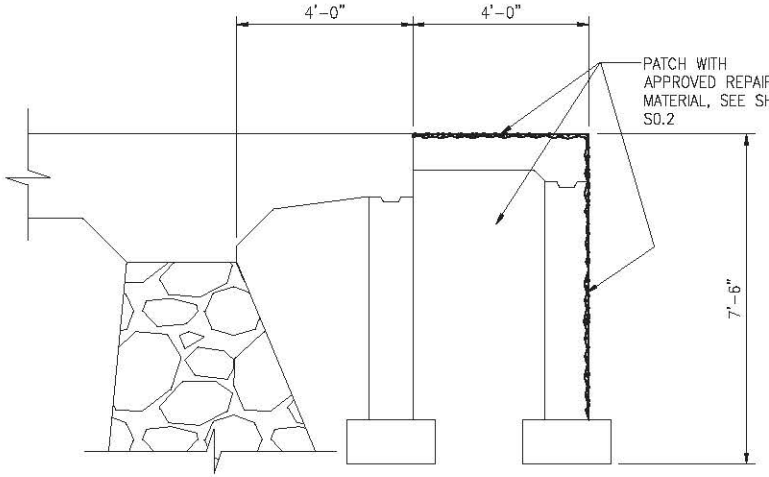
2. ADJUST CONTROL JOINT LOCATION TO PROVIDE 3" CLEAR TO EXISTING REBAR.



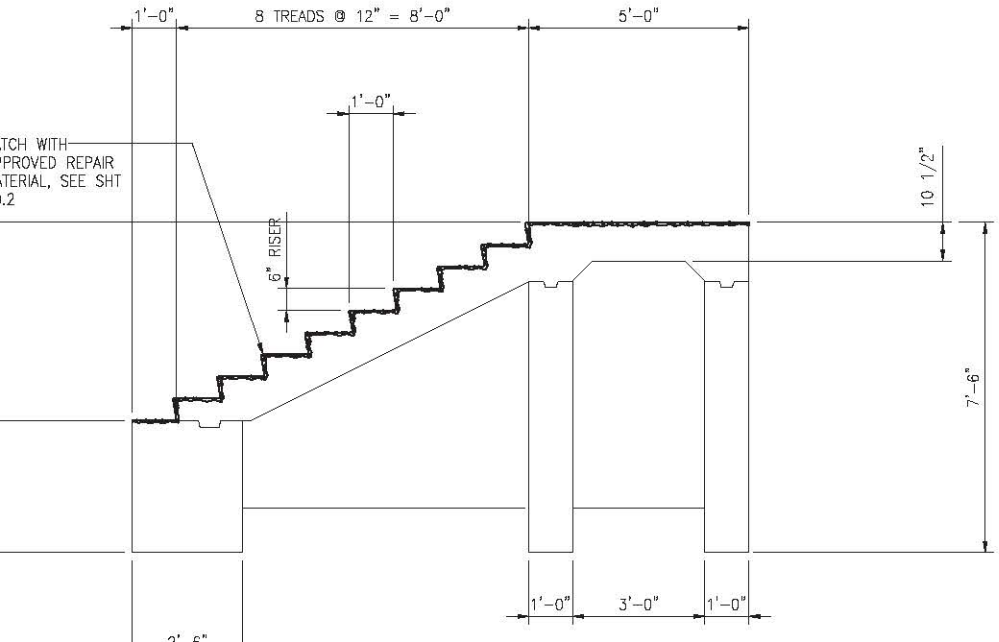
A S3.2 STAIR REPAIR PLAN
SCALE: 1/2" = 1'-0"



C S2.2 STAIR REPAIR SECTION
SCALE: 1/2" = 1'-0"



D S2.2 STAIR REPAIR SECTION
SCALE: 1/2" = 1'-0"



OF WATER SUPPLY APPROVED, AMERICAN MADE, LEAD FREE,
CIPLE BACKFLOW PREVENTION DEVICE (3/4" SIZE) WITH
PLF4A SERIES, OR ZURN WILKINS 975XLU SERIES.

EVICE ENCLOSURE ON CONC. PAD. SMOOTH STAINLESS
ED MESH CONSTRUCTION, HINGED AND LOCKABLE WITH
BASE: ALL-SPEC ENCLOSURES, INC. VB-SS-3024 WITH
E.

SIZES AS NOTED):
TYPE K THROUGH THE BACKFLOW PREVENTION DEVICE.
PVC ADAPTERS.
C SCH 80 FITTINGS DOWNSTREAM OF BACKFLOW PREVENTION

GREEN MARKING TAPE, "CAUTION IRRIGATION LINE BURIED

LINE (SIZES AS NOTED) WITHIN PLANTERS: PVC CLASS
ITTINGS.

LINE (SIZES AS NOTED) UNDER PAVEMENT WHERE NOTED:
C SCH 80 FITTINGS.
GREEN MARKING TAPE, "CAUTION IRRIGATION LINE BURIED

AS THE LARGEST DOWNSTREAM PIPING): AMERICAN MADE,
L PORT, SCREW-IN BONNET, NON-RISING STEM, CROSS
READED ENDS: APOLLO 102T-K SERIES, OR NIBCO T-113-K

CONTAMINATION RESISTANT, COMMERCIAL GRADE GLASS FILLED
D 100-PESB SERIES, OR HUNTER ICV-101G-FS SERIES.

2 PIECE WITH LOCKING VINYL OR RUBBER COVER, WITH
TABILIZER, 1" SIZE:
HUNTER HQ-44-LRC
QUICK COUPLING ANCHOR .
UICK COUPLING VALVE (2 TOTAL).
" MALE HOSE THREAD OUTLET (2 TOTAL).

AL GRADE POLYETHYLENE CONSTRUCTION WITH UV INHIBITORS,
RUGATED SIDES, AND PIPE KNOCK OUTS. RECTANGULAR AND
CONTROL VALVE", MOLDED INTO THE LID. PROVIDE JUMBO
REQUIRED: RAINBIRD VB SERIES, CARSON TRUSS T SERIES,
ES.

EM:
RS: WATER RESISTANT, BATTERY POWERED, 2 STATIONS, AND
NDENT PROGRAMS. PROVIDE COMPATIBLE DC LATCHING
EMOTE CONTROL VALVE. HUNTER NODE-200.
APPROVED DIRECT BURIAL SPLICE CONNECTOR WITH
ANT AND CAPS :
BURIAL SPLICE CONNECTOR.

	GPM-PSI	RADIUS	ARC
HEAD WITH ADJ. 5' RADIUS, CHECK VALVE AND 30 PSI AINBIRD 1804-SAM-PRS-5 SERIES, OR HUNTER SERIES			
	0.10-30	5'	90°
	0.20-30	5'	180°

IMPROVE PERFORMANCE.

2. SCALE HEAD LOCATIONS FROM THE DRAWINGS AND LAY OUT PER CURRENT INDUSTRY STANDARDS TO MEET THE DESIGN INTENT SHOWN. MAJOR DEVIATIONS DUE TO OBSTRUCTIONS OR OTHER SITE CONDITIONS SHALL BE APPROVED IN THE FIELD. DO NOT SPACE HEADS FURTHER THAN SHOWN. PROVIDE VALVES IN THE VICINITY OF THE LOCATIONS SHOWN AND ACCESSIBLE FOR SERVICE AND USE.
3. COORDINATE THE INSTALLATION AND CLEARANCES FOR CONNECTION OF PIPES, SLEEVES, AND APPURTENANCES WITH OTHER CONTRACTORS ON THE JOB. ENSURE THAT THESE ITEMS ARE INSTALLED PRIOR TO PLACEMENT OF PAVEMENT OR STRUCTURES.
4. WHEN PIPES CROSS EXISTING PAVEMENT AND A PATCH OR JOINT IS NEARBY, ADJUST ROUTE TO OCCUR WITHIN THE PATCHED AREA OR ADJACENT TO THE JOINT. REMOVE THE PATCH OR SAWCUT AT THE JOINT WITH NEAT STRAIGHT PARALLEL LINES. MINIMIZE DISTURBANCE TO EXISTING PAVEMENT FINISHES. REPAIR TO MATCH EXISTING FINISH TO THE SATISFACTION OF THE ARCHITECT. BORING AND PASSING SLEEVES UNDER WALKWAYS SHALL BE APPROVED BY THE ARCHITECT.
5. WHENEVER CONNECTIONS TO EXISTING IRRIGATION SYSTEMS ARE REQUIRED, LOCATE, EXPOSE AND VERIFY THE EXISTING PIPES AT THE PROPOSED CONNECTIONS PRIOR TO FURTHER TRENCHING. FOR CONNECTION OF NEW ITEMS TO EXISTING, VERIFY THE EXISTING CONDITIONS AND INCLUDE ITEMS FOR A COMPLETE INSTALLATION.
6. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM PRESSURE OF 60 PSI AND A MAXIMUM PRESSURE OF 80 PSI AT THE POINT OF CONNECTION. PRIOR TO COMMENCING WITH THE WORK, TEST THE PRESSURE AND REPORT THE RESULTS.
7. VALVE STATION NUMBERING IS FOR IDENTIFICATION PURPOSES AND NOT AN INDICATION OF VALVE OPERATION SEQUENCE. COORDINATE PROGRAMMING OF THE CONTROLLER WITH THE OWNER TO BEST SEQUENCE THE VALVES WITH THE SCHEDULE OF THE FACILITY. OPERATE DRIP SYSTEMS LAST.
8. EXCEPT WHEN REQUIRED FOR INITIAL PLANT ESTABLISHMENT, OPERATE IRRIGATION SYSTEMS DURING "OFF PEAK" EVENING HOURS. THE COUNTY OF MAUI SHALL APPROVE OPERATION DURING OTHER TIMES.
9. MAINTAIN A CURRENT SET OF DRAWINGS ON SITE. NOTE FIELD CHANGES AND DEVIATIONS AS THEY OCCUR. SUBMIT RECORD DRAWINGS AT THE END OF THE CONTRACT.
10. AN INSPECTION OF THE IRRIGATION SYSTEM SHALL BE CONDUCTED TOGETHER WITH THE LANDSCAPE FINAL INSPECTION.

PLANTING NOTES

1. EXCAVATE, PREPARE SUBGRADE, AND PROVIDE A MINIMUM DEPTH OF 12 INCHES OF TOPSOIL OVER EXPOSED AREAS. EXPOSED AREAS ARE DEFINED AS AREAS WHERE DISTURBANCE OCCURS DUE TO WORK UNDER THIS CONTRACT, AND WHERE NO STRUCTURES OR PAVEMENTS ARE TO BE CONSTRUCTED. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE QUANTITIES OF SOIL. ENSURE PLACEMENT TO FINISH GRADES, INCLUDING ALLOWANCE FOR SETTLEMENT. FINE GRADE AS DESIGNED, OR TO MAINTAIN EXISTING DRAINAGE PATTERNS.
2. THE CONTRACTOR SHALL VERIFY QUANTITIES AND PROVIDE THE QUANTITY OF PLANT MATERIALS REQUIRED AT THE SIZE AND SPACING NOTED.
3. TEST PLANT PITS FOR DRAINAGE BY FILLING WITH WATER. BRING CONDITIONS PERMITTING THE RETENTION OF WATER TO THE ATTENTION OF THE ENGINEER. DO NOT PROCEED WITH PLANTING WITHOUT APPROVAL. PAY SPECIAL ATTENTION IN AREAS OF COMPACTED FILL OR EXPOSED ROCK.
4. WHERE TEMPORARY IRRIGATION HAS BEEN PROVIDED, ACCLIMATIZE THE PLANTS TO RECEIVING MINIMAL WATER BY GRADUALLY REDUCING THE AMOUNT OF WATER APPLIED DURING THE LAST MONTH OF THE MAINTENANCE PERIOD. KEEP UP TO DATE RECORDS OF WATER APPLICATION.

INVASIVE PESTS

1. PRIOR TO TRANSPORT, INSPECT AND TAKE PRECAUTIONS TO ENSURE THAT PLANT MATERIALS, EQUIPMENT AND VEHICLES ARE FREE OF INVASIVE PESTS IDENTIFIED BY THE HAWAII INVASIVE SPECIES COUNCIL AND THE HAWAII DEPT. OF AGRICULTURE.
   - COQUI FROGS (ELEUTHERODACTYLUS COQUI AND/OR ELEUTHERODACTYLUS PLANIROSTRIS) AND/OR THEIR EGGS.
   - LITTLE FIRE ANT (WASMANNIA AUROPUNCTATA).
   - COCONUT RHINOCEROS BEETLE (ORYCTES RHINOCEROS).
2. IF ANY OF THE ABOVE PESTS ARE SUSPECTED, REPORT PRESENCE TO THE HAWAII DEPT. OF AGRICULTURE HAWAII PEST HOTLINE AT (808) 643-PEST (7378).

ENGINEER MAY APPROVE TEMPORARY REMOVAL OF ITEMS INDICATED TO REMAIN. SUCH ITEMS TO BE REMOVED AND REINSTALLED SHALL BE CAREFULLY REMOVED TO AVOID DAMAGE AND BE PROPERLY REINSTALLED.

2. DEMOLITION OF TREES INCLUDES REMOVAL OF ROOTBALL, BUTTRESS ROOTS, AND SURROUNDING ROOTS 1-1/2" IN DIAMETER AND LARGER TO MINIMUM DEPTH OF 18" BELOW GRADE. UNLESS OTHERWISE SPECIFIED, SURROUNDING ROOTS SHALL BE REMOVED TO A MINIMUM DEPTH OF 12" BELOW ADJACENT GROUND LEVEL.
3. THE CONTRACTOR SHALL NOT MAKE REQUESTS FOR ADDITIONAL COMPENSATION FOR DEGREE OF HARDNESS OR DIFFICULTY ENCOUNTERED IN REMOVAL OF MATERIAL OR EXCAVATION FOR NEW PLANTING.
4. REMOVE ROOTS ONLY WHERE REMOVAL DOES NOT DAMAGE EXISTING STRUCTURES, PAVEMENTS, OR UTILITIES TO REMAIN. IF INVESTIGATION INDICATES THAT ROOTS TO BE REMOVED MAY AFFECT OR SURROUND SUCH FEATURES TO REMAIN, EXPOSE THE ROOTS BY HAND EXCAVATION, AIR-SPADE PNEUMATIC EXCAVATOR, OR SIMILAR. DO NOT RIP OUT ROOTS WITH A BACKHOE OR SIMILAR EQUIPMENT. THE ROOTS SHALL THEN BE CUT AND REMOVED, BEING CAREFUL NOT TO DAMAGE THE FEATURES TO REMAIN.
5. BACKFILL PITS WITH APPROVED MATERIAL AND COMPACT AS REQUIRED TO ACCEPT THE DESIGNATED FINISH STRUCTURE OR SURFACE. BACKFILL OVER-EXCAVATION OF PITS TO RECEIVE NEW TREES WITH ON-SITE EXCAVATED SOIL. AREAS TO BE PLANTED SHALL RECEIVE A FINISH SURFACE OF TOPSOIL. OVERFILL, MONITOR, AND TAMP TO ALLOW FOR SETTLING TO MATCH FINISH GRADE.
6. PROPERLY REMOVE AND DISPOSE DEBRIS. DO NOT USE WOOD CHIPS OR DEBRIS AS BACKFILL.
7. CURRENT RECORD DWGS. OF THE IRRIGATION SYSTEM IN THE CONTRACT AREA ARE NOT AVAILABLE. PRIOR TO START OF DEMOLITION, COORDINATE WITH THE OWNER TO OPERATE, FLAG, AND DOCUMENT EXISTING IRRIGATION SYSTEMS TO ENSURE THAT SYSTEMS BEING DEMOLISHED DO NOT SERVICE PLANTERS OUTSIDE OF THE CONTRACT LIMITS.
   A. VERIFY EXISTING IRRIGATION SOURCE AND BACKFLOW PREVENTION DEVICE.
   B. OPERATE EXISTING IRRIGATION SYSTEM VALVES BEING AFFECTED BY WORK UNDER THIS CONTRACT TO DETERMINE EXTENT OF AREA BEING IRRIGATED. DOCUMENT AREAS (IF ANY) BEING IRRIGATED BY THE SUBJECT VALVES OUTSIDE THE CURRENT PROJECT LIMITS. IRRIGATION OF THESE AREAS SHALL REMAIN AND SERVICE RESTORED.
   C. LOCATE AND FLAG THE EXISTING IRRIGATION PIPES FEEDING INTO, AND OUT OF, THE CONTRACT AREA. WORK MAY REQUIRE EXPLORATORY EXCAVATION. CAP AND PROTECT FOR CONNECTION OF NEW IRRIGATION AND RESTORATION OF EXISTING IRRIGATION WHERE DIRECTED OR REQUIRED.
   D. PHOTO DOCUMENT THE CONDITION OF EXISTING PLANTING OUTSIDE THE CURRENT PROJECT LIMITS BEING IRRIGATED BY THE EXISTING VALVES BEING REMOVED.
12. EXTENT OF EXISTING SYSTEM PROTECTION AND MODIFICATION SHALL BE DETERMINED BASED ON THE DISCOVERY AND DOCUMENTATION OF THE EXISTING IRRIGATION SYSTEMS.
13. EXISTING SYSTEMS SHOWN OR NOTED ON THE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR AND IS NOT AN INDICATION OF ALL THE EXISTING IRRIGATION SYSTEMS ON SITE.
14. EXISTING IRRIGATION SYSTEMS SERVING AREAS OUTSIDE THE CONTRACT LIMITS SHALL REMAIN OPERATIONAL. SHOULD SUCH SYSTEMS BE DAMAGED OR MADE INOPERABLE DUE TO WORK UNDER THIS CONTRACT, IMMEDIATELY MAKE REPAIRS OR PROVIDE TEMPORARY IRRIGATION UNTIL REPAIRS CAN BE MADE.
7. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR REPAIR OF EXISTING IRRIGATION SYSTEMS INOPERABLE OR DAMAGED PRIOR TO WORK UNDER THIS CONTRACT.
8. SCHEDULE WORK TO MINIMIZE THE DURATION WHICH AN EXISTING IRRIGATION ZONE BECOMES INOPERABLE. AFFECTED ZONE(S) SHALL BECOME OPERABLE PRIOR TO PROCEEDING WITH WORK IN OTHER ZONES.
9. REPAIR DAMAGE TO THE SATISFACTION OF THE ENGINEER. MATERIALS AND EQUIPMENT FOR REPAIR SHALL AT A MINIMUM MEET THE SPECIFICATIONS AND PERFORMANCE OF THE ITEMS BEING REPLACED.
10. REPLACE EXISTING PLANTS DAMAGED AS A RESULT OF DELAYS IN REPAIRING EXISTING IRRIGATION SYSTEMS DAMAGED BY WORK UNDER THIS CONTRACT, OR IN MAKING CONNECTIONS OR MODIFICATIONS TO EXISTING IRRIGATION SYSTEMS. PLANTS OUTSIDE THE CONTRACT LIMITS WHICH ARE AFFECTED BY SUCH DELAYS ARE ALSO INCLUDED. THE OWNER OF THE DAMAGED EXISTING PLANTS SHALL APPROVE SIZE AND SPACING OF REPLACEMENT PLANTS.
11. WHERE NOTED OR REQUIRED FOR NEW CONSTRUCTION, CAP IRRIGATION PIPES AND REMOVE AFFECTED COMPONENTS. SALVAGE AND CLEAN REUSABLE COMPONENTS SUCH AS VALVES, HEADS, VALVE BOXES, AND CONTROLLERS. DEMOLISH AND DISPOSE EXISTING BURIED PIPING TO THE EXTENT EXPOSED BY OTHER WORK. UNEXPOSED PIPING MAY BE ABANDONED IN PLACE.
12. WHERE EQUIPMENT OR PIPE REMOVAL IS REQUIRED, BACKFILL AND COMPACT EXCAVATIONS WITH APPROVED MATERIAL. OVERFILL, MONITOR, AND TAMP TO ALLOW FOR SETTLING TO MATCH FINISH GRADE.
13. PROTECT EXISTING PIPES AND APPURTENANCES REQUIRED FOR MODIFICATIONS AND CONNECTIONS TO NEW IRRIGATION SYSTEMS.

WITH THE APPROVED
MANUFACTURERS, AN

2. BE RESPONSIBLE FO
AND PROCEDURES F
WORK WITH OTHER C
3. COMPARE DRAWINGS
AND REPORT INCONS
4. UNLESS PROVIDED F
OF DIFFERING SITE C
EXIST AND WARRANTS
UNDER SUCH CONDIT
5. EXISTING FACILITIES S
TOPOGRAPHIC SURVE
ACCURACY OR COMP
CONTRACTOR IS ALER
INTERFERE WITH NOR
DRAWINGS SHALL VER
CONTRACTOR SHALL
EXIST.
6. THE CONTRACTOR SH
SUBSURFACE CONDIT
EXCAVATING THE ARE
7. PROTECT EXISTING IM
REPAIR DAMAGES CA
SURFACES, INCLUDIN
REPAIRS SHALL BE A
WORK, PHOTO DOCU
8. PRIOR TO AND DURIN
FOR CONSTRUCTION
AS INDICATED ON TH
9. PRIOR TO EXCAVATION
THE ENGINEER RESE
IMPROVEMENTS PRIO
10. PROVIDE AND MAINTA
THE PROTECTION AN

MICHAEL T. M
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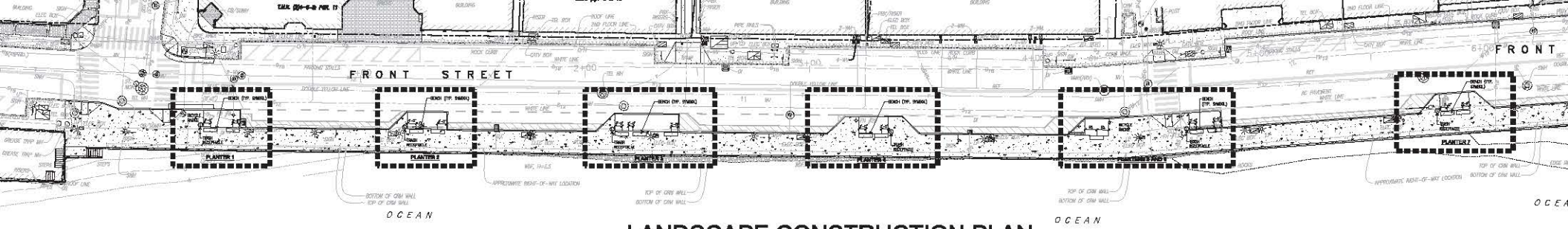
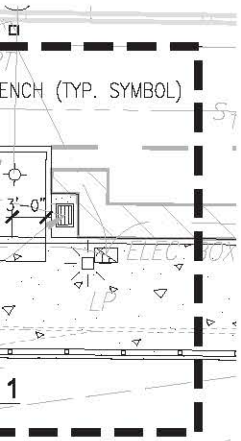
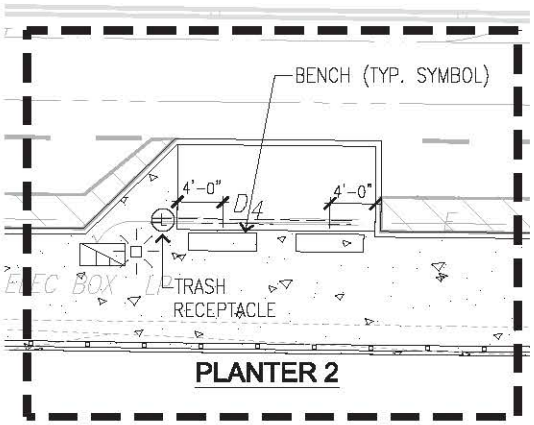


LANDSCAPE CONSTRUCTION PLAN

SCALE: 1"=30'



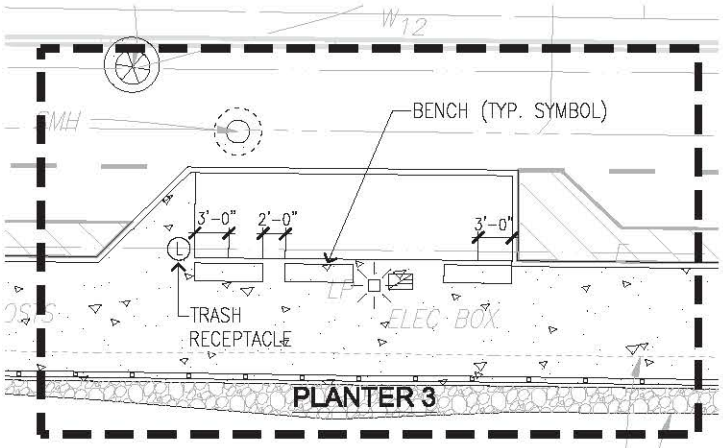
PLANTER 1



PLANTER 2

ENLARGEMENT - PLANTER 2

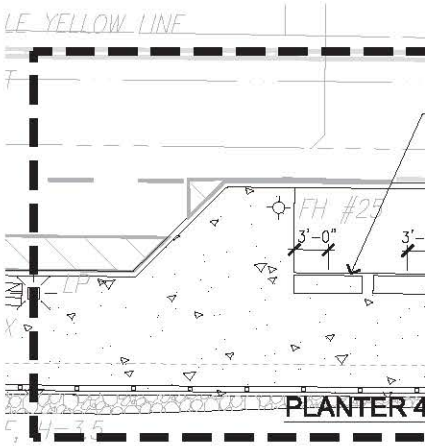
SCALE: 1/8"=1'-0"



PLANTER 3

ENLARGEMENT - PLANTER 3

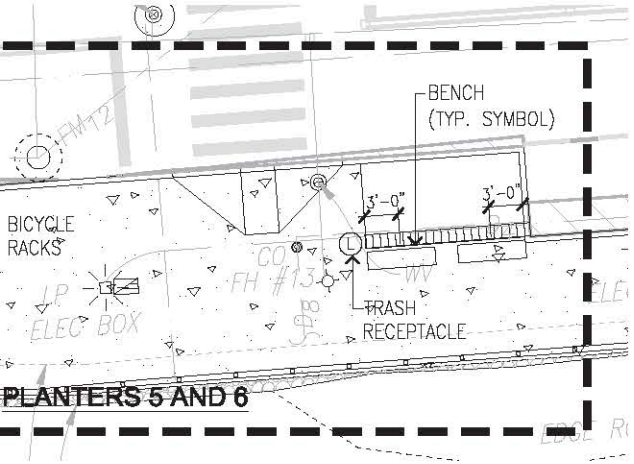
SCALE: 1/8"=1'-0"



PLANTER 4

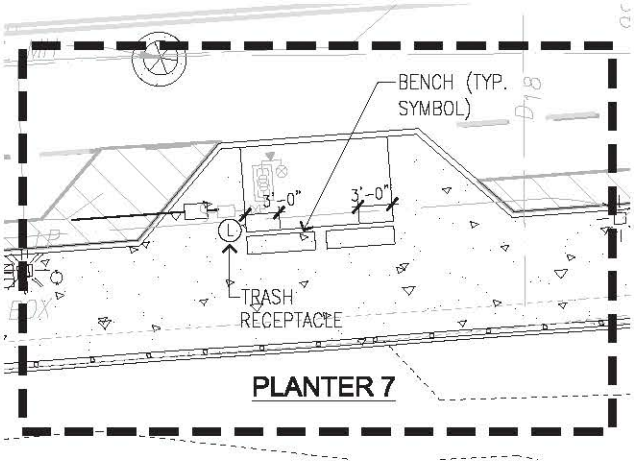
ENLARGEMENT - P

SCALE: 1/8"=1'-0"



PLANTERS 5 AND 6

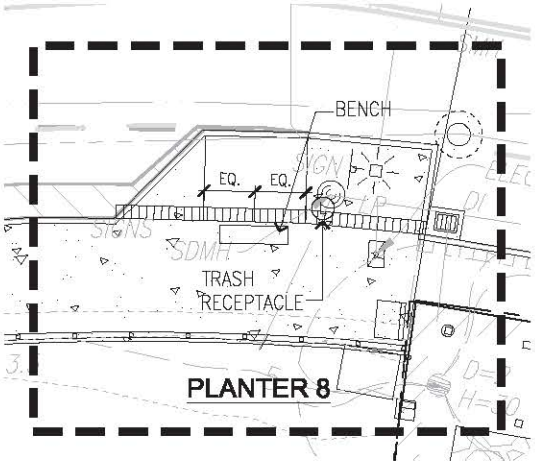
EMENT - PLANTERS 5 & 6



PLANTER 7

ENLARGEMENT - PLANTER 7

SCALE: 1/8"=1'-0"

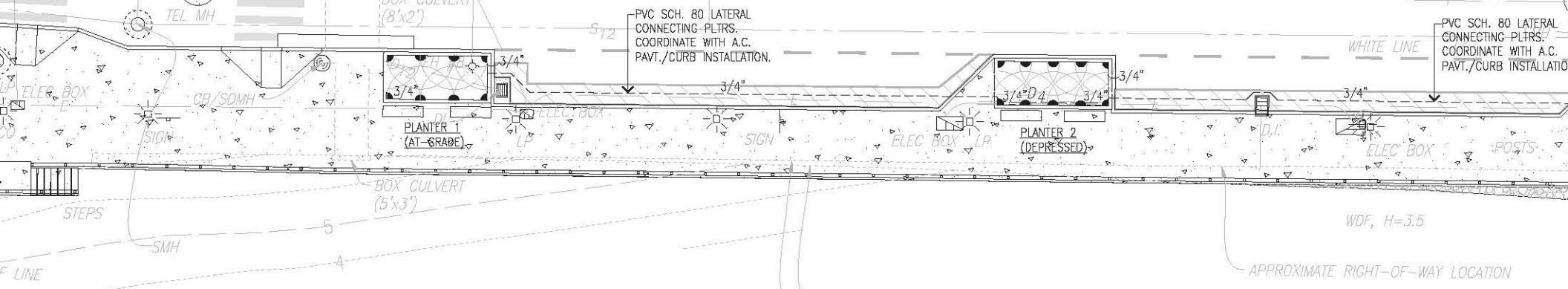


PLANTER 8

ENLARGEMENT - PLANTER 8

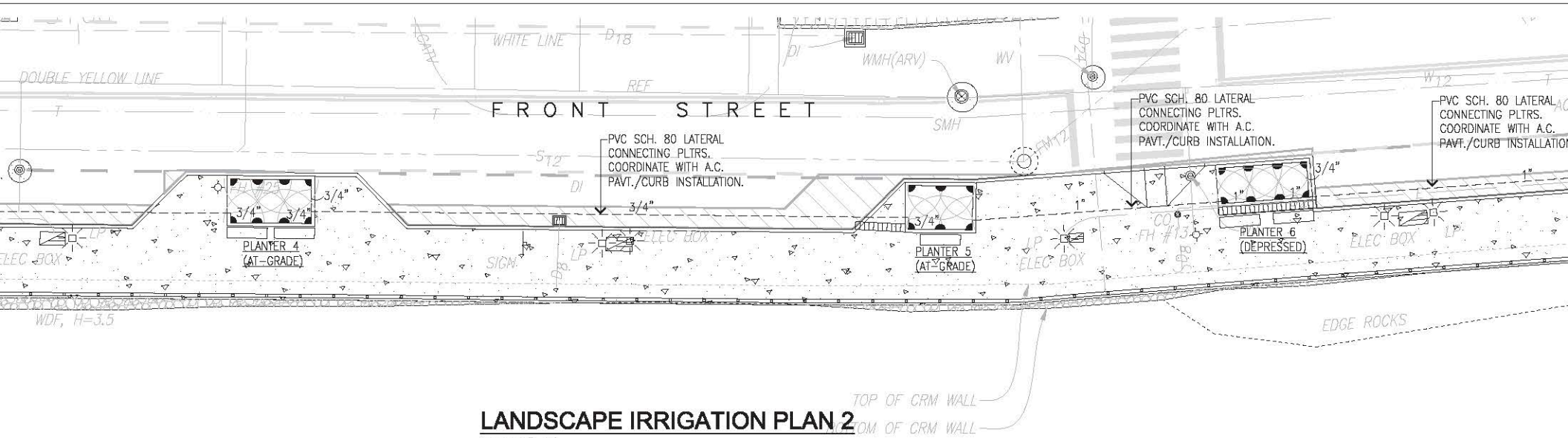
SCALE: 1/8"=1'-0"

0 15' 30' 60' 90'



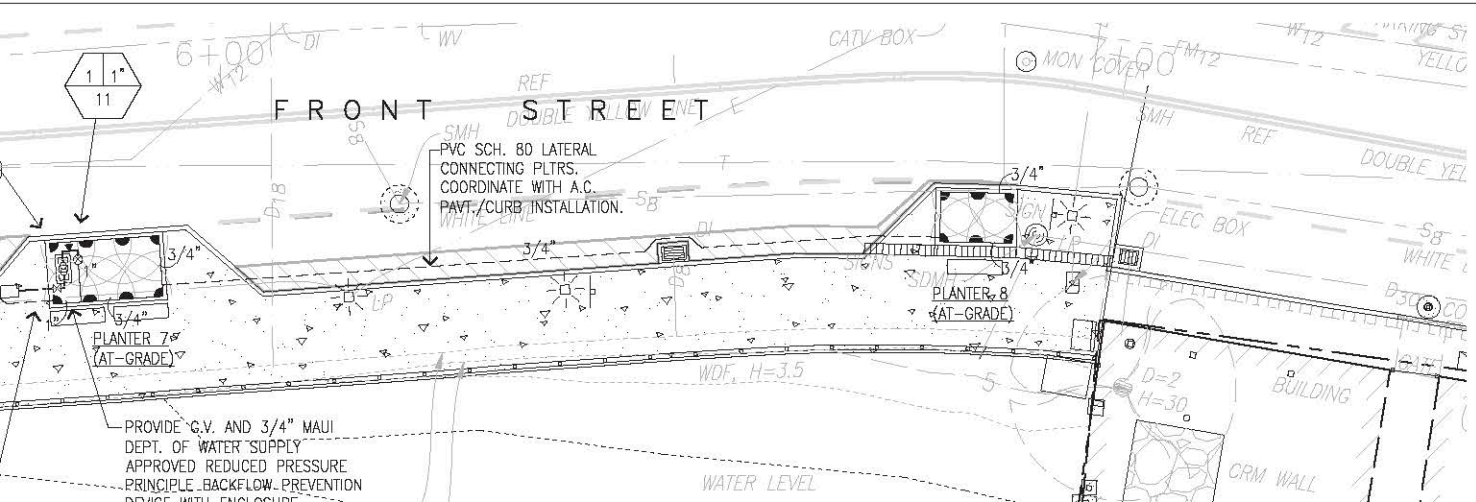
LANDSCAPE IRRIGATION PLAN 1

SCALE: 1"=10'



LANDSCAPE IRRIGATION PLAN 2

SCALE: 1"=10'



IRRIGATION FLOW REQUIREMENTS

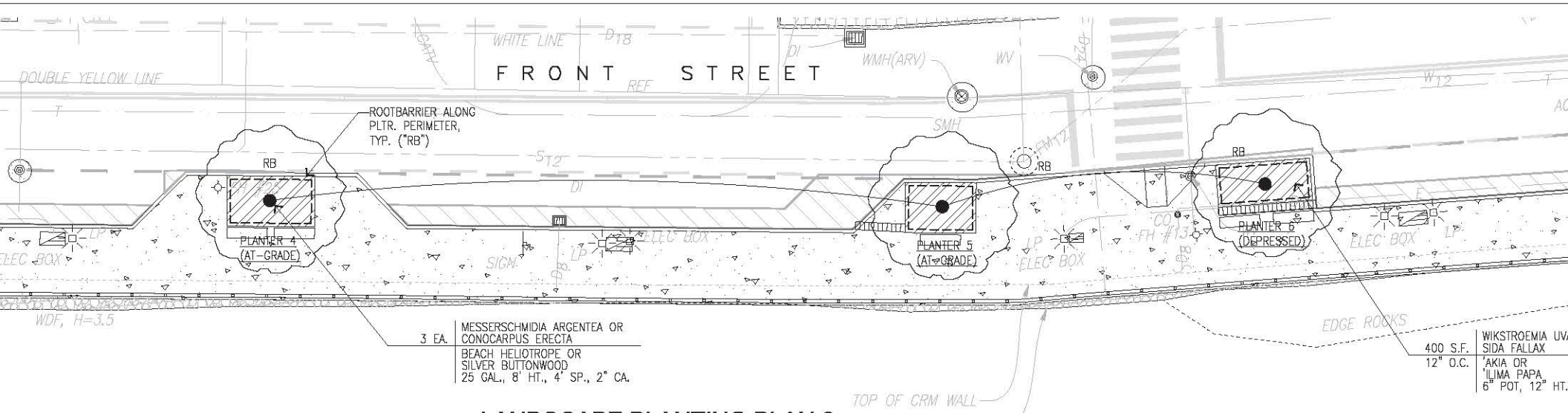
THE FOLLOWING IS PROVIDED FOR IRRIGATION WATER USE ONLY

1. PROPOSED IRRIGATION IS A RENOVATION OF AN EXISTING PERMITTED ON-SITE IRRIGATION SYSTEM. THE EXISTING PERMITTED FLOW WILL NOT BEEN EXCEEDED.
2. THE LARGEST EXISTING IRRIGATION VALVE WHICH HAS BEEN DEMOLISHED IS 1", WITH AN ESTIMATED DEMAND OF 18 GPM.
3. THE LARGEST NEW IRRIGATION VALVE IS A 1" VALVE WITH A FLOW OF 11 GPM, 15 FU. MAXIMUM SYSTEM DEMAND IS 50 GPD.
4. IRRIGATION WILL BE DONE DURING OFF PEAK HOURS WITH ONE CONTROL VALVE OPERATING AT ANY GIVEN TIME. AT NO TIME SHALL THE PERMITTED DEMAND BE EXCEEDED.

(NOTE: FU BASED ON TANK TYPE CURVE GPM)

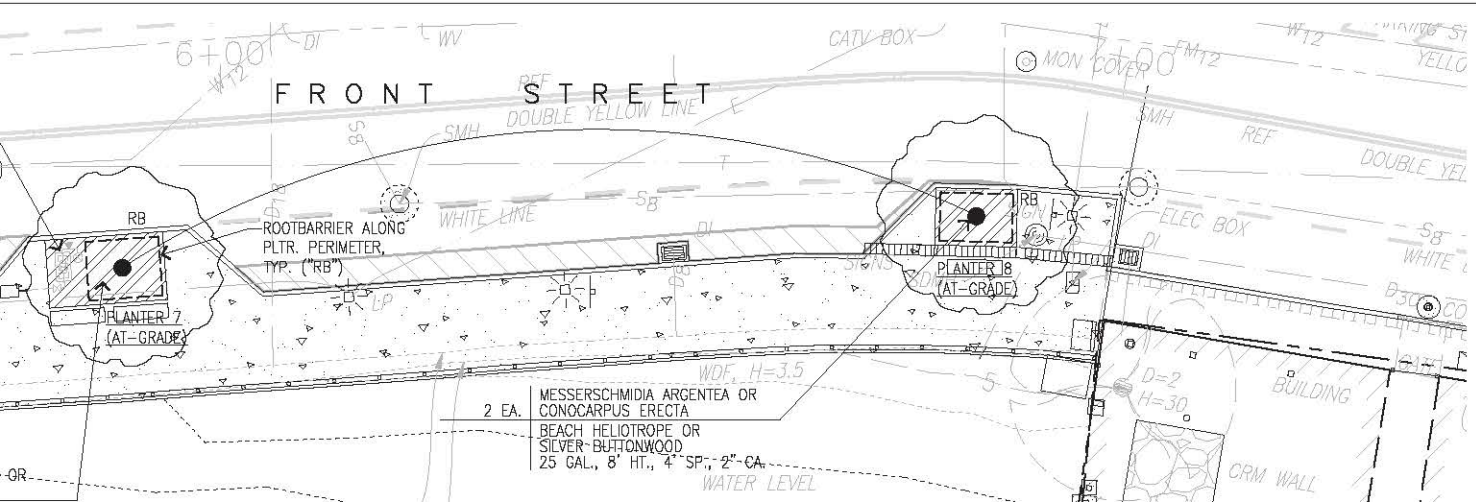
LANDSCAPE PLANTING PLAN 1

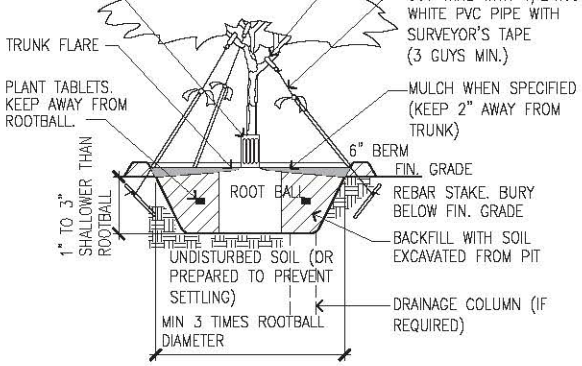
SCALE: 1"=10'



LANDSCAPE PLANTING PLAN 2

SCALE: 1"=10'





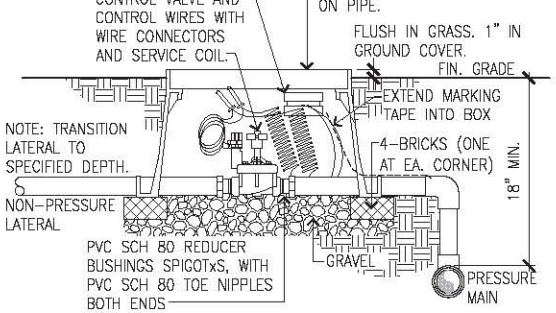
GUY WIRE SIZES	REBAR STAKE SIZES
#12 FOR 15 AND 25 GAL.	#4x24" FOR 15 AND 25 GAL.
#9 FOR FIELD SPECIMENS	#7x24" FOR FIELD SPECIMENS

NOTES :

1. PERFORM WORK IN ACCORDANCE WITH THE LATEST ISA STANDARDS FOR TREE PLANTING.
2. IF COMPACTED BASE COURSE, PAVEMENT, HARDPAN OR ROCK IS ENCOUNTERED, FILL PIT AND TEST FOR DRAINAGE. IF PIT RETAINS WATER, NOTIFY THE ARCHITECT. IF DIRECTED, PROVIDE GRAVEL FILLED DRAINAGE COLUMN AT THE SIDE OF THE ROOTBALL.
3. CUT CIRCLING AND GIRDLING ROOTS.
4. PRUNE ONLY TO REMOVE DAMAGED, DISEASED OR DEAD BRANCHES, OR FOR TRANSPORTATION PURPOSES.
5. IF APPROVED, GUYS MAY BE OMITTED WHERE STRONG WIND CONDITIONS DO NOT EXIST OR WHEN ROOTBALL SIZE AND BACKFILL CONDITIONS CREATE A FIRM BASE FOR THE TREE.

7 / L-3.00 TREE PLANTING - GUYING

NOT TO SCALE



6 / L-3.00 REMOTE CONTROL VALVE

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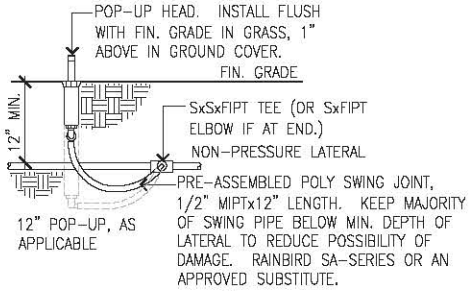
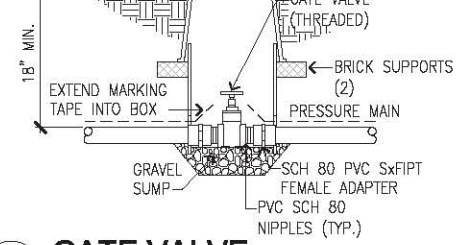


NOTE: INSTALL HEAD MIN. 12" CLEAR FROM BUILDINGS.

6 / L-3.00 POP-UP IRRIGATION HEAD

NOT TO SCALE



3 / L-3.00 GATE VALVE

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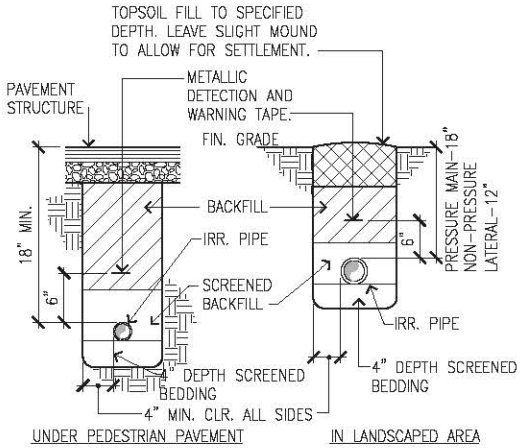
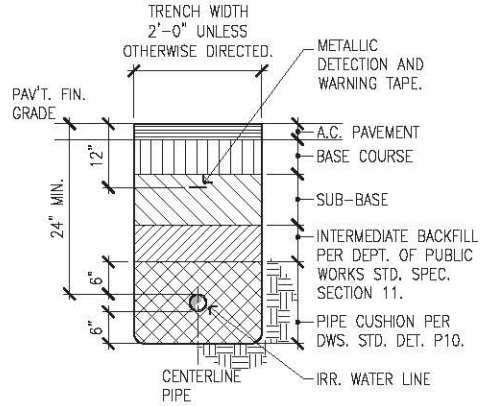


TRENCHING - PEDESTRIAN PAVEMENT AND LANDSCAPED AREAS

4 / L-3.00 NOT TO SCALE



TRENCHING - VEHICULAR PAVEMENT

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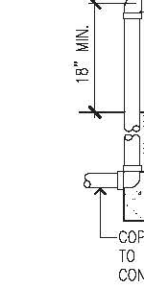

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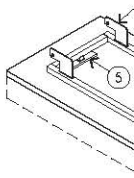

KEY NOTES

1. BACKFLOW PREV
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2. SETTING BASE
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3. STAINLESS STEE
4. STAINLESS STEE
5. ANCHOR TO PA
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CONSTRUCTION PRACTICES INDICATED OR REFERRED TO IN THE DRAWINGS AND SPECIFICATIONS SHALL BE APPLICABLE TO THIS PROJECT.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND DETAILED SCHEDULING OF THE SITE INSPECTION WORK BY UTILITY COMPANIES AND ALL OTHER CONCERNED PARTIES AND AGENCIES.

4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SUBDIVISION CONSTRUCTION PLANS AND SHALL COORDINATE HIS WORK WITH THAT OF THE GENERAL CONTRACTOR.

5. WORK UNDER THIS CONTRACT SHALL INCLUDE THAT OF THE ELECTRICAL DISTRIBUTION SYSTEM.

6. INSTALL A POLYOLEFIN PULL LINE IN ALL DUCTLINES.

7. COMPLY WITH THE LATEST APPLICABLE RULES, REGULATIONS, REQUIREMENTS, AND SPECIFICATIONS OF THE LOCAL LAWS AND ORDINANCES, STATE AND FEDERAL LAWS, NATIONAL ELECTRICAL CODE, COUNTY OF MAUI ELECTRICAL ORDINANCE, STATE FIRE MARSHALL, UNDERWRITER'S LABORATORY, ELECTRICAL SAFETY CODE, AND LIFE SAFETY CODE.

8. CONTRACTOR TO OBTAIN AND PAY FOR THE ELECTRICAL PERMIT AS REQUIRED BY LOCAL ORDINANCES AND ARRANGE FOR PERIODIC INSPECTION BY LOCAL AUTHORITIES AS WORK PROGRESSES.

9. PROVIDE PROTECTION FOR MATERIAL AND EQUIPMENT FROM LOSS, DAMAGE, CORROSION AND EFFECTS OF MOISTURE. REPAIR OR REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO THE OWNER.

10. VISIT PROJECT SITE PRIOR TO BID SUBMITTAL TO ASCERTAIN CONDITIONS AND COST ALLOWANCES THAT AFFECT THE PROPOSED WORK.

11. INSTALL MATERIALS AND EQUIPMENT IN WORKMANLIKE MANNER AND IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE SPECIFIED OR DIRECTED BY THE ENGINEER.

12. MATERIALS AND WORKMANSHIP SUBJECT TO INSPECTION AT ANY TIME BY THE OWNER OR HIS REPRESENTATIVE; CORRECT ANY WORK OR MATERIALS NOT IN ACCORDANCE WITH DRAWINGS OR FOUND TO BE DEFICIENT OR DEFECTIVE IN A MANNER SATISFACTORY TO THE OWNER AT NO ADDITIONAL COST.

13. PROVIDE ALL FIRST QUALITY, NEW MATERIALS, FREE FROM DEFECTS SUITABLE FOR SPACE PROVIDED AND APPROVED BY UL WHERE STANDARDS HAVE BEEN PROVIDED BY THAT AGENCY.

14. PROVIDE STANDARD MATERIALS AND EQUIPMENT OF MANUFACTURER'S REGULARLY ENGAGED IN THE PRODUCTION OF THESE PRODUCTS. PROVIDE PRODUCTS OF A SINGLE MANUFACTURER WHERE TWO OR MORE UNITS OF THE SAME CALL ARE REQUIRED.

N

LOCATION MAP
NOT TO SCALE

LUMINAIRE SCHEDULE - NEW		
	DESCRIPTION	MANUFACTURER
	POLE-MOUNTED AREA LUMINAIRE, FULL CUTOFF, HOOD, VERIFY VOLTAGE IN FIELD BEFORE ORDERING	BEACON URB-CAP21-36L2-65-AM-UNV-T3-PEC-NRNW-BMT-HSS-VP-L-90-LR/BMT, SHIELDING ON BEACH SIDE

ATIONS	
TUAL WATTS	ALLOWED WATTS
780	6950

(2015 IECC) COMMERCIAL PROVISIONS

COMPLIANCE METHOD
Check applicable method

☐	C401.2(1) ANSI/ASHRAE/IESNA 90.1
☒	C401.2(2) Section C405
☐	C401.2(3) Sections C405.2, 405.3, C405.4, C405.6 & C40
☐	C102.1 Alternative

To the best of my knowledge, this project's design substantially c
Energy Code.

Signature: _____ Date: _____

Name: MARK J UNEMORI

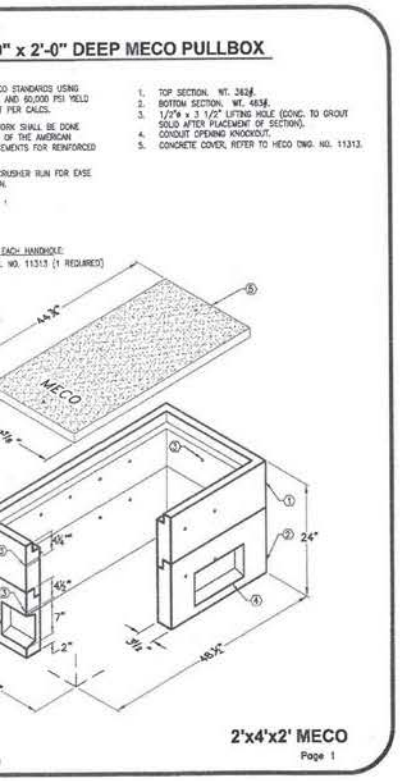
Title: PROJECT ENGINEER

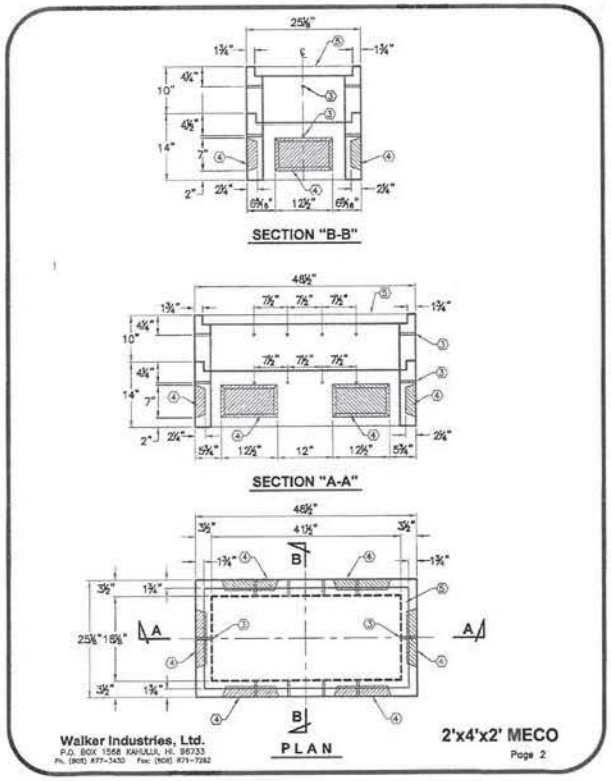
License No.: 13993–E

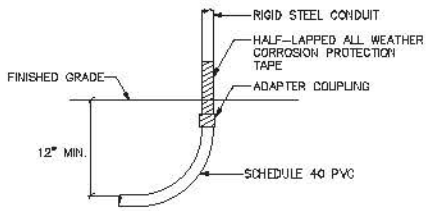
MAUI COUNTY CODE CHAPTER 20.35
OUTDOOR LIGHTING

THE ELECTRICAL OUTDOOR LIGHTING SYSTEM AND EQUIPME
HAVE BEEN REVIEWED BY ME AN TO THE BEST OF MY
KNOWLEDGE, THIS DESIGN SUBSTANTIALLY CONFORMS TO T
REQUIREMENTS SPECIFIED IN MAUI COUNTY CODE CHAPTER
OUTDOOR LIGHTING.

SIGNATURE	PROJECT ENGINEE TITLE
MARK J UNEMORI	13993–E
NAME (PRINT)	STATE OF HAWAI P.E. LICENSE NUMB







CONDUIT TRANSITION DETAIL

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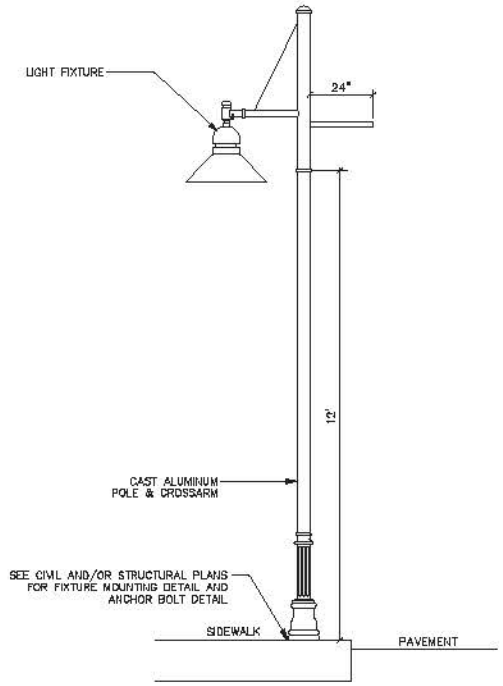
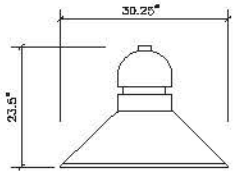


STREET LIGHT DETAIL

NOT TO SCALE



LIGHT FIXTURE DE

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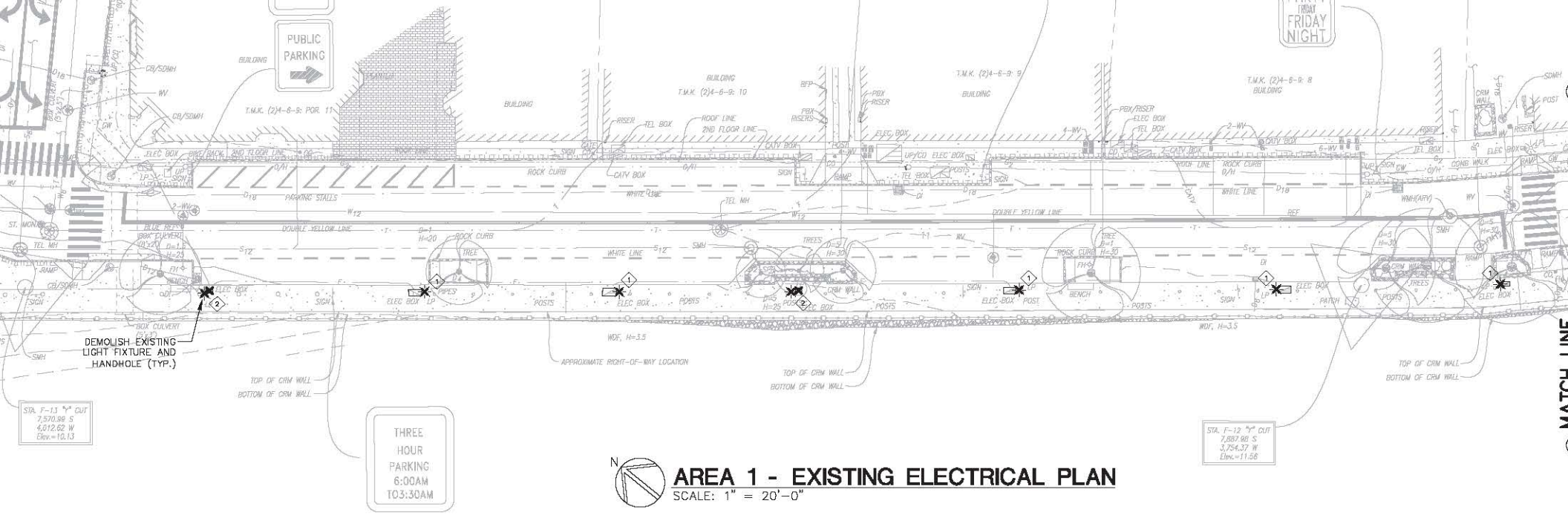


AREA 1 - EXISTING ELECTRICAL PLAN

SCALE: 1" = 20'-0"

GEND

E

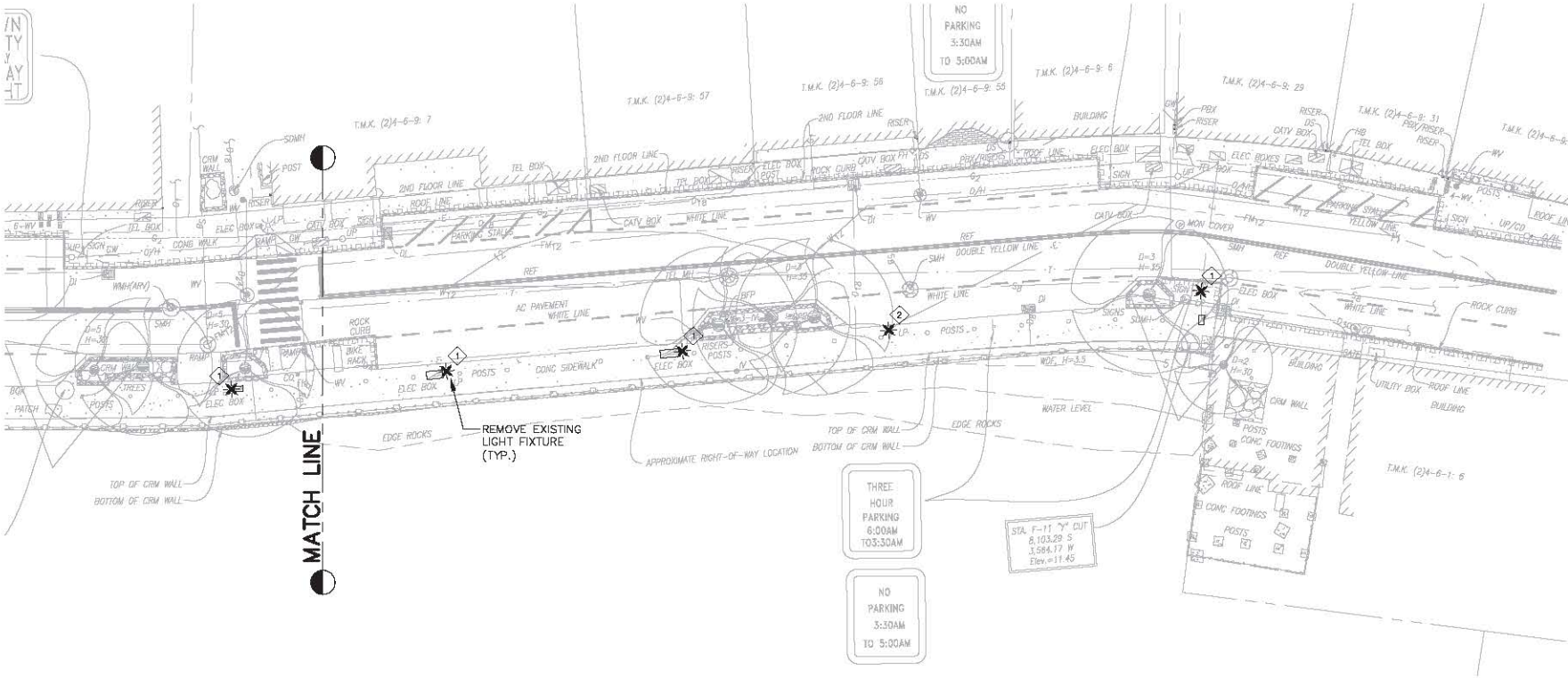
POLE (TO BE REMOVED)

HOLE

RVICE EQUIPMENT

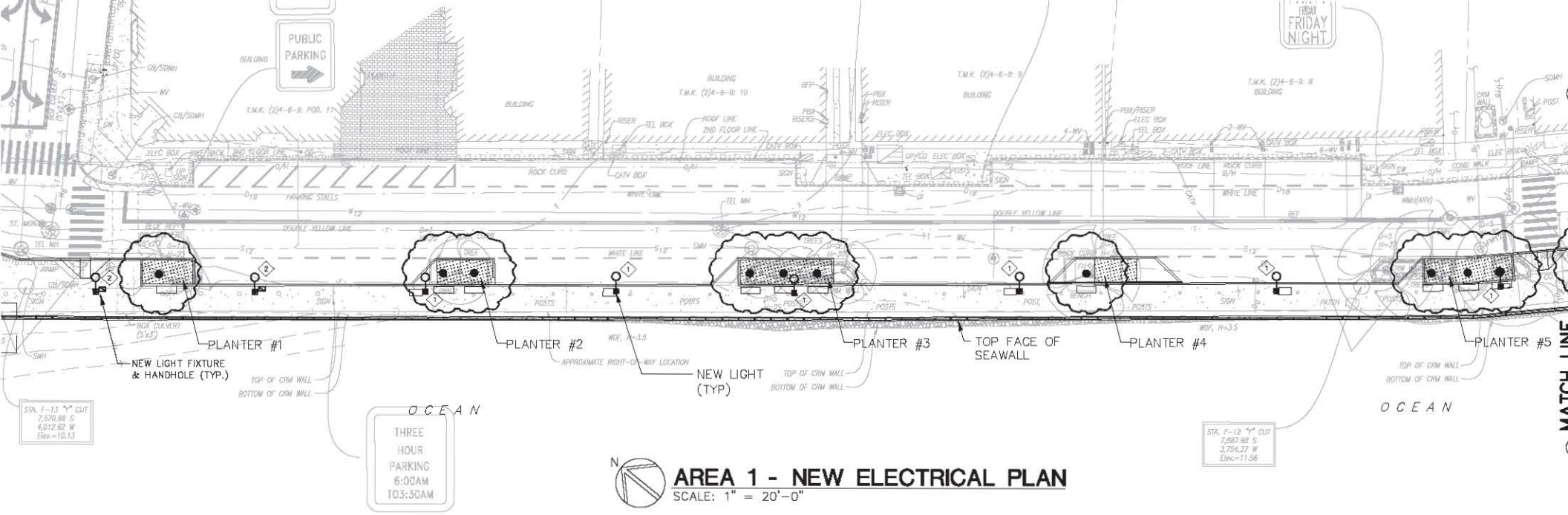
FIXTURE TO BE REPLACED;
NDUIT AND WIRE TO REMAIN.

T FIXTURE, HANDHOLE.



AREA 1 - EXISTING ELECTRICAL PLAN

SCALE: 1" = 20'-0"



N

AREA 1 - NEW ELECTRICAL PLAN

SCALE: 1" = 20'-0"

EGEND

OLE

IT POLE (TO BE REMOVED)

DHOLE

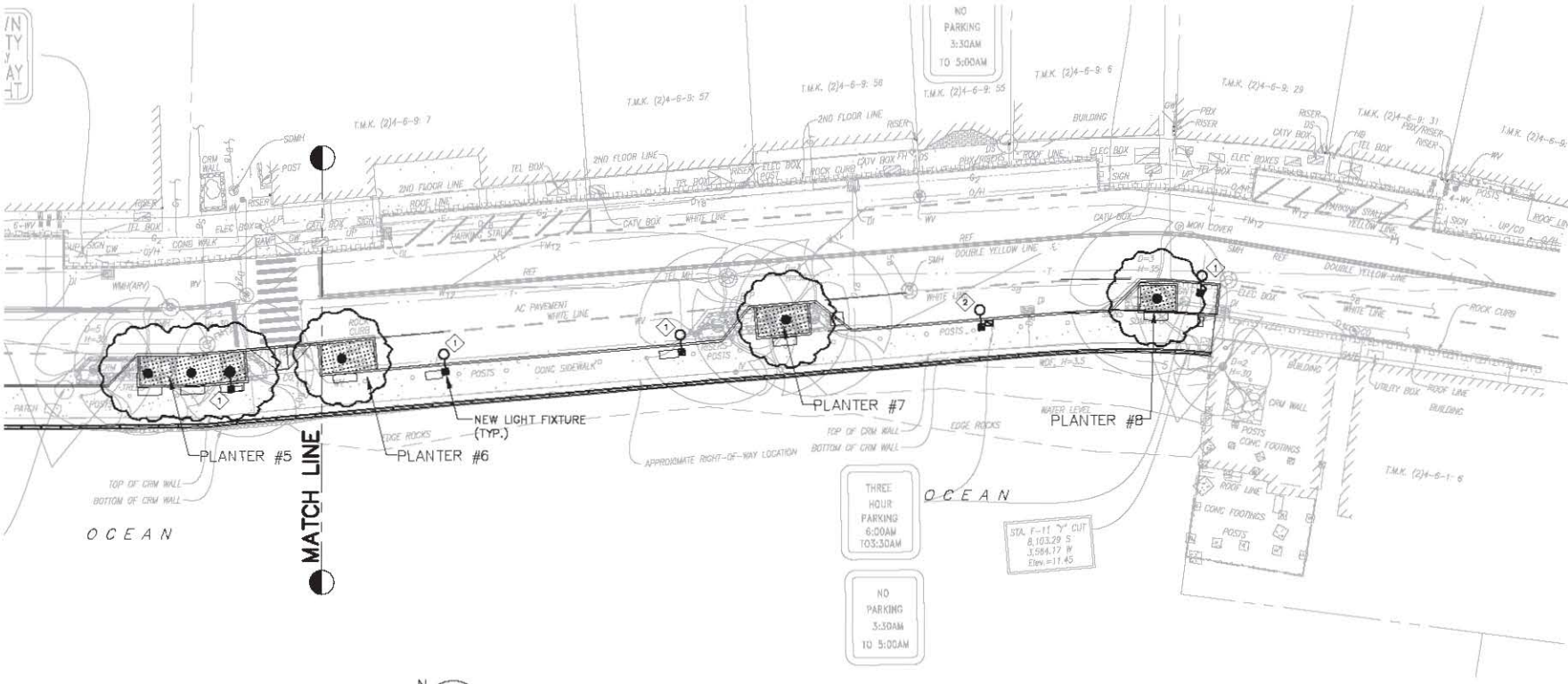
LE

X

SERVICE EQUIPMENT

TURE. INTERCEPT AND EXTEND EXISTING
NEW FIXTURE FROM EXISTING HANDHOLE.

TURE, HANDHOLE, CONDUIT AND WIRE.



N

AREA 1 - NEW ELECTRICAL PLAN

SCALE: 1" = 20'-0"

FIELD INSPECTION AND LITERATURE REVIEW

APPENDIX

B

SCS Project Number 2364 Fld. Insp. and Lit. Rev. Final

AN ARCHAEOLOGICAL FIELD INSPECTION AND ARCHAEOLOGICAL LITERATURE REVIEW IN ADVANCE OF THE PROPOSED FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR PROJECT

LAHAINA, PAUNAU AHUPUA‘A, DISTRICT OF LAHAINA (LĀHAINĀ) ISLAND OF MAUI, HAWAI‘I TMK (2) 4-6-009 and 4-5-002

Prepared by:
Cathleen A. Dagher, B.A.
and
Michael F. Dega, Ph.D.
April 2020

FINAL

Prepared for:
Sato and Associates, Inc.
2046 S King Street
Honolulu, HI 96826

SCIENTIFIC CONSULTANT SERVICES, Inc.

HAWAII

1347 Kapiolani Blvd., Suite 408 Honolulu, Hawai`i 96814

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TABLE OF CONTENTS

TABLE OF CONTENTS ii

LIST OF FIGURES ii

LIST OF TABLES iv

INTRODUCTION 1

ENVIRONMENTAL SETTING 7

- PROJECT AREA 7
- SOILS 8
- CLIMATE 10

TRADITONAL AND HISTORICAL CULTURAL CONTEXT 10

- PAST POLITICAL BOUNDARIES 11
- TRADITIONAL SETTING OF LĀHAINĀ 11

HISTORIC BACKGROUND 14

- HISTORIC SETTING OF LAHAINA (1778 TO MID-1800S) 14
- THE MĀHELE 19
- MID-1800S TO 1900S 23

PREVIOUS ARCHAEOLOGY 24

ARCHAEOLOGICAL FIELD INSPECTION METHODS 29

RESULTS 29

- AREA 2 29
- AREA 1 44

SUMMARY 54

RECOMMENDATIONS 55

REFERENCES 56

APPENDIX A: NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM ..... A

APPENDIX B: LAND COMMISSION AWARD 7713 (ROYAL PATENT 4475) ..... B

LIST OF FIGURES

FIGURE 1: USGS QUADRANGLE (LAHAINA, HI 1992; 1:24,000) SHOWING PROJECT AREA LOCATIONS. 2

FIGURE 2: TAX MAP KEY [TMK: (2) 4-6-009] SHOWING PROJECT AREA 1 LOCATION. 3

FIGURE 3: TAX MAP KEY [TMK: (2) 4-5-002] SHOWING PROJECT AREA 2 LOCATION. 4

FIGURE 4: SATELLITE IMAGE (GOOGLE 2018; IMAGERY DATE 7/8/2016) SHOWING PROJECT AREA LOCATIONS. 5

FIGURE 5: MAP OF LAHAINA SHOWING PROJECT AREAS WITHIN THE NATIONAL HISTORIC LANDMARK DISTRICT BOUNDARY (STATE SITE 50-50-03-3001; FROM STATE HISTORIC PRESERVATION DIVISION FILES). 6

Figure 6: USDA Soil Survey (Foote et al. 1972: Sheet Number 94) Showing Soil Types within the Project Areas. 9
Figure 7: Plan de la Rade de Raheina [Map of Raheina (Lahaina) Bay] (Duperry 1826). 16
Figure 8: Historic Map Plan of Portions of Kuhua 1 Lahaina, Maui Land Commission Award 7582 to E. Kipa (G. F. Wright 1916; Reg. Map 2782). 22
Figure 9: USGS Quadrangle (Lahaina, HI 1992; 1:24,000) Showing Previous Archaeology in the Vicinity of the Project Area. 25
Figure 10: Photographic View of Area 2 Wall Profile Adjacent to the Sidewalk in Area 2 Showing Previous Repairs. View to Southwest. 30
Figure 11: Photographic View of Coconut Palm Tree Growing Out of Wall Adjacent to Sidewalk in Area 2. View to Northeast. 31
Figure 12: Photographic View of Damaged Wall Adjacent to Sidewalk in Area 2 and the Cut-Off Coconut Palm Tree Stump. View to Southwest. 32
Figure 13: Photographic View of Modern Bicycle Parts along Seawall in Area 2. View to Northwest. 33
Figure 14: Photographic View of Area of Modifications to the Seawall in Area 2. View to West. 34
Figure 15: Photographic Close-up of Modifications to the Area 2 Seawall Depicted in Figure 13. View to Northwest. 35
Figure 16: Photographic View of Modifications to the Area 2 Seawall. View to South. 36
Figure 17: Oblique Photographic View of Area Exhibiting Modifications to the Area 2 Seawall. View to South. 37
Figure 18: Photographic View of Continuation of Area Exhibiting Modifications to the Area 2 Seawall. View to Southwest. 38
Figure 19: Photographic View of Dry-Laid and Stacked Basalt Rock Seawall to be Repaired in Area 2. View to South. 39
Figure 20: Oblique Photographic View of Concrete Culvert in Area 2. View to North. 40
Figure 21: Photographic View of Concrete Culvert in Area 2. View to Northwest. 41
Figure 22: Photographic Plan View of Similar Concrete Culvert in Area 2. View to South. 42
Figure 23: Photographic Profile View of Area 2 Cement Culvert Depicted in Figure 22. View to Northwest. 43
Figure 24: Photographic Overview of the Seawall and Railing within Area 1. View to Northwest. 45
Figure 25: Photographic Overview of Existing Sidewalk, Wooden Bench, and At-Grade Planter within Area 1. View to Northeast. 46
Figure 26: Oblique Photographic View of Existing Raised Planter along Front Street in Area 1. View to Northwest. 47
Figure 27: Photographic View of Existing Bicycle Rack Installed on the Sidewalk within Area 1. View to Northwest. 48
Figure 28: Photographic View of Existing Railing within Area 1. View to Southwest. 49
Figure 29: Photographic View of Existing Wood Bollard and Lamp Posts within Area 1. View to Northwest. 50
Figure 30: Photographic Overview of Area 1, Taken from Sidewalk. View to Southwest. 51
Figure 31: Photographic Overview of Area 1, taken from North End of Area 1 Seawall. View to Southeast. 53

LIST OF TABLES

TABLE 1: LAND COMMISSION AWARDS (LCA) WITHIN TMK: (2) 4-6-009 (ALL INFORMATION BASED ON OFFICE OF HAWAIIAN AFFAIRS KIPUKA DATABASE 2019). 21

TABLE 2: LAND COMMISSION AWARDS (LCA) WITHIN TMK: (2) 4-5-002 (ALL INFORMATION BASED ON OFFICE OF HAWAIIAN AFFAIRS KIPUKA DATABASE 2019). 22

INTRODUCTION

At the request of Sato and Associates, Inc., representing the County of Maui, Department of Public Works (DPW), Scientific Consultant Services, Inc., and (SCS) prepared this Cultural Impact Assessment (CIA) in advance of the proposed Front Street Sidewalk, Railing, and Seawall Repair Project area. The proposed project area consists of two corridors (Project Area 1 and Project Area 2) located along the southwest (makai) edge of Front Street, within Historic Lahaina Town, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi. (Project Area 1 is located in TMK: (2) 4-6-009, on land owned by the County of Maui. Area 2 is located in TMK: (2) 4-5-002, on land owned by the County of Maui, and within TMK: (2) 4-5-002:002, on land owned by Lahaina Land Company Figures 1 through 4).

The project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (Appendix A). This area has also been designated as a National Historic Landmark (Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2. The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawaiʻi, prepared by AECOM (May 2016) for the County of Maui Planning Department.

Both Area 1 and 2 consist of seawalls along Front Street, the main transportation way through the coastal side of Lahaina. Both seawalls have fallen into disrepair through time, as has been the case since they were both originally constructed and repaired on multiple occasions in the past. The current project reconstructs both seawalls to their original heights.

Project Area 1, the southern seawall corridor, extends approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. The work within Project Area 1 will consist of demolishing and reconstructing the damaged wave deflector, damaged concrete sidewalk, and planters and trees. Mason Architects, Inc. (Mason n.d.) prepared an analysis of the Area 1 railing design from a historical perspective. According to Mason (n.d.), the original seawall was constructed in the early 1900s. Mason (n.d.) also indicated the initial wood railings were replaced with metal pipe railings by the 1920s and the seawall in Area 1 was again modified in the 1930s, the current seawall and railings were constructed in 1979 and the seawall was also modified at that time.

The existing Area 1 railing was last re-constructed in 1979. The proposed action will reconstruct the existing modern portion of the seawall wave deflector, the sidewalk, railing, and street furnishings in Area 1.

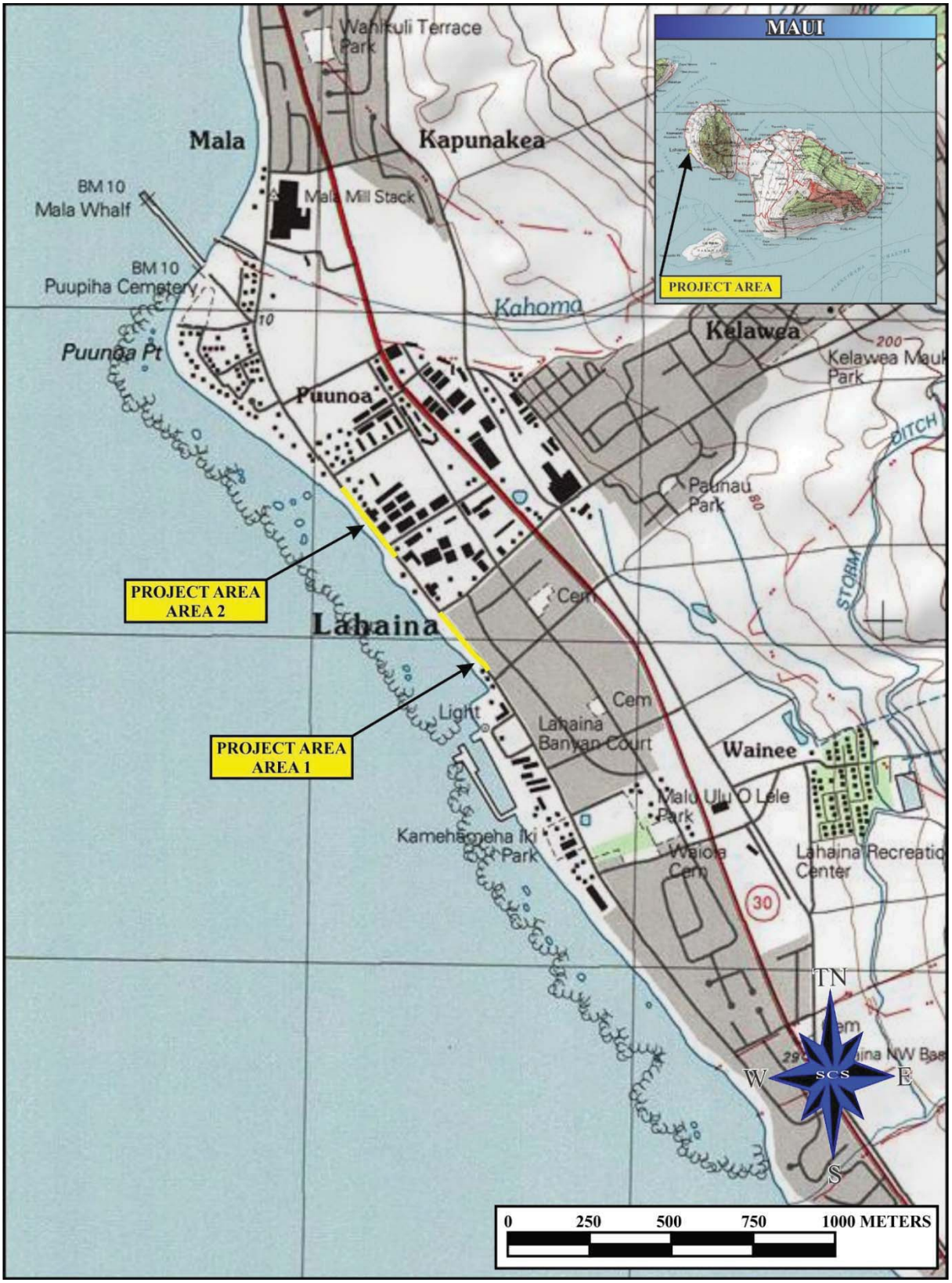


Figure 1: USGS Quadrangle (Lahaina, HI 1992; 1:24,000) Showing Project Area Locations.

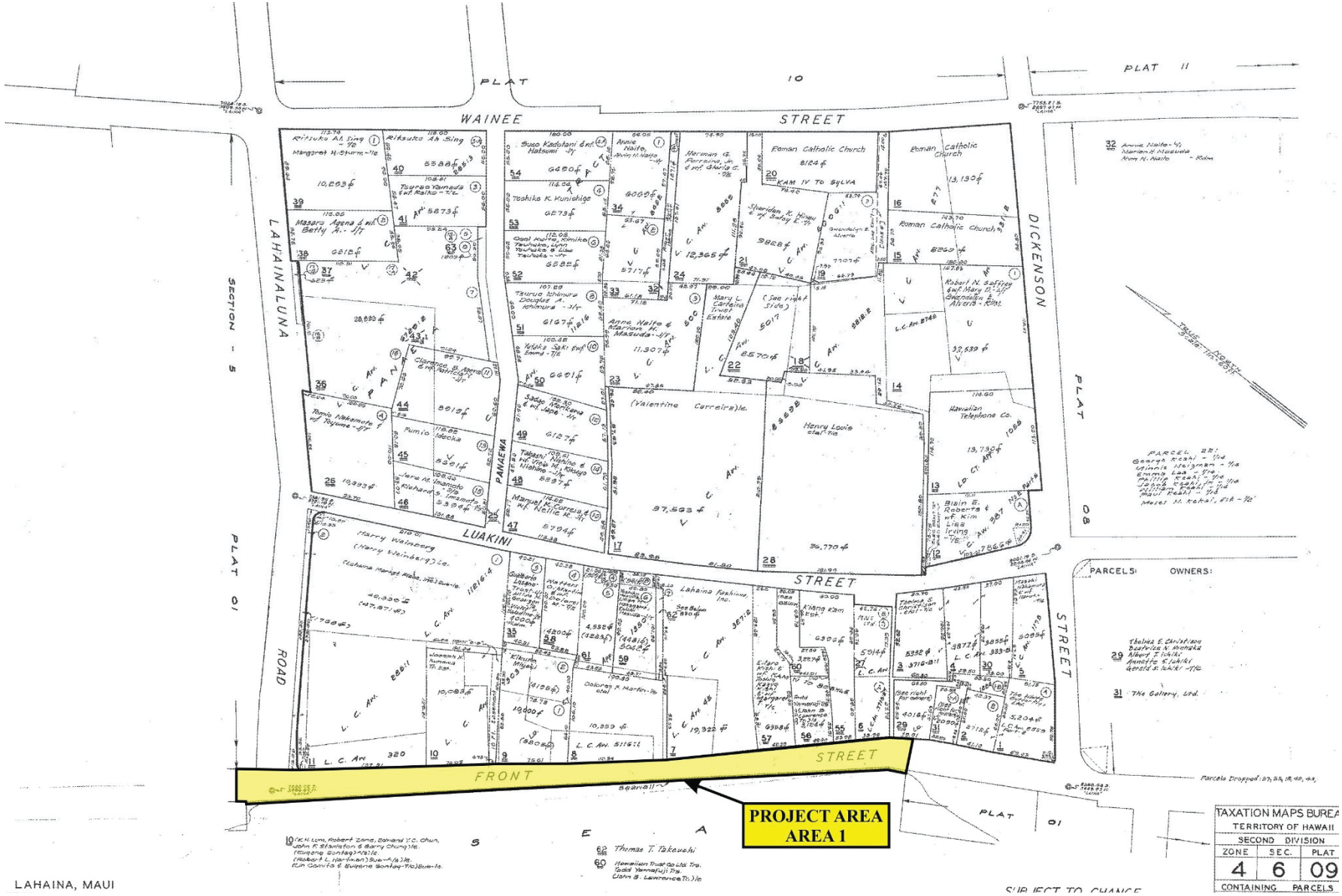
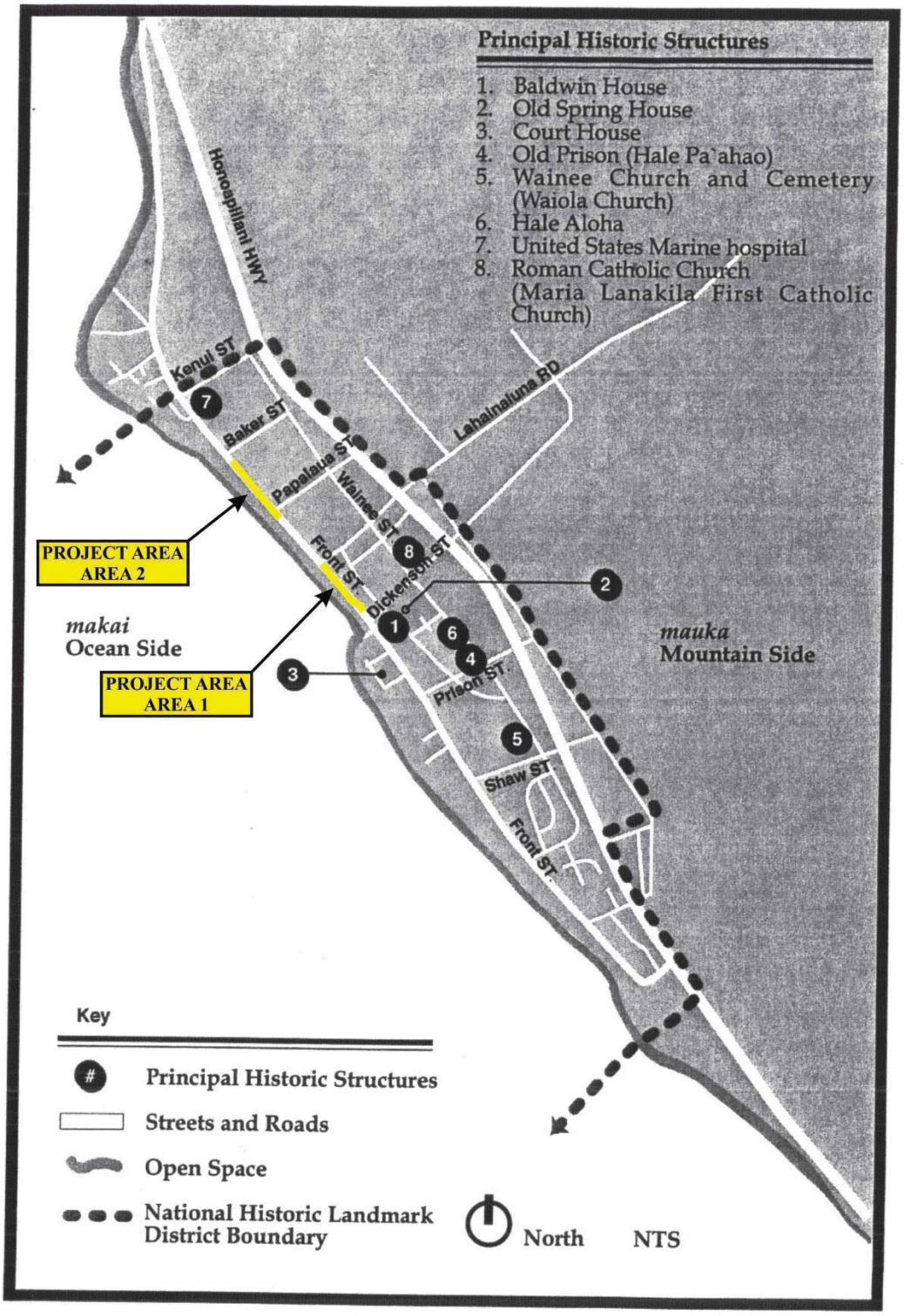


Figure 2: Tax Map Key [TMK: (2) 4-6-009] Showing Project Area 1 Location.

Figure 3: Tax Map Key [TMK: (2) 4-5-002] Showing Project Area 2 Location.

Figure 4: Satellite Image (Google 2018; Imagery Date 7/8/2016) Showing Project Area Locations.



National Historic Landmark District Boundary Map

Figure 5: Map of Lahaina Showing Project Areas within the National Historic Landmark District Boundary (State Site 50-50-03-3001; from State Historic Preservation Division Files).

Project Area 2, the northern project area seawall corridor, extends approximately 730 feet (222 meters) from just south of Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The work within Project Area 2 will consist of replenishing the basalt boulder seawall.

All work for the wall corridors in Area 1 and Area 2 will consist of repairing the walls to their constructed height and will have no effect on historic properties. Over 50 percent of the Area 1 seawall corridor is dilapidated and has been disturbed through time, as well as re-built on multiple occasions.

Archaeological fieldwork was conducted by SCS archaeologist Trevor Iliff, B.A., under the direction of Michael F. Dega, Ph.D., Principal Investigator. This report presents information on the seawall corridors and an overview of previous archaeological reports and documented archaeological sites in the vicinity, archaeological field inspection methods, results of the archaeological field inspection, and recommendations.

ENVIRONMENTAL SETTING

The Island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Maui Island was formed by two volcanoes, Pu‘u Kukui in the west and Haleakalā in the east. Pu‘u Kukui, the highest peak of the West Maui Mountains (Mauna Kahalawai, extends 5, 788 feet (1,765 m) m above mean sea level and forms the west end of the island. Pu‘u Kukui is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of West Maui and their associated coastal regions have been witness to many battles during the pre-Contact Period and were coveted productive landscapes. These are joined together by an isthmus containing dry, open country or kula.

The younger of the two volcanoes, Haleakalā, soars 10,023 feet (3, 065 m) above sea level and embodies the largest section of the island. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lavas of the Honomanū and Kula Volcanic Series prevent the formation of rain-fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches were formed by intermittent water run-off.

PROJECT AREA

The proposed project area consists of two seawall corridors (Area 1 and Area 2) located along the southwest (makai) edge of Front Street, within Historic Lahaina Town, Paunau Ahupua‘a, Lahaina (Lāhainā) District, Maui Island, Hawai‘i [TMK: (2) 4-6-009 and 4-5-002; see Figures 1 through 4].

. The project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (see Appendix A). This area has also been designated as a National Historic Landmark (see Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2. The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawai‘i, prepared by AECOM (May 2016) for the County of Maui Planning Department.

Area 2, the northern project area seawall corridor, extends approximately 730 feet (222 meters) north from Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The Project Area 2 extends approximately 15 feet (5 meters) inland from the shore line to approximately 8 ft. above mean sea level (amsl).

Area 1, the southern project seawall corridor, extends approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. Project Area 1 extends approximately 25 feet (8 meters) inland from the shore line to approximately 10 ft. (3 m) above mean sea level (amsl).

SOILS

According to Foote et al. (1972:Sheet 94; Figure 6), the southern portion Area 1 is comprised of soils of the Ewa Soil Series, specifically Ewa silty clay loam, 0 to 3 percent slope (EaA) (Foote et al. 1972:29-30). The well-drained alluvial soils of the Ewa Series formed from volcanic rock. These soils occur from 0 to 150 feet amsl in areas receiving 10 to 30 inches of rainfall annually (Foote et al. 1972: 29). The EaA soils exhibit very slow runoff with a very slight erosion hazard and are typically used for the cultivation of sugarcane and for residential areas (Foote et al. 1972: 30). The northern portion of Area 1 is comprised of soils of the Pulehu Series, specifically Pulehu silt loam, 0 to 3 percent slopes (PpA) (see Figure 6). These soils are of the same as those within Area 2 and are described below (see Figure 6).

Area 2 is comprised of soils of the Pulehu Series, specifically Pulehu silt loam, 0 to 3 percent slopes (PpA) (see Figure 6). The well-drained soils of the Pulehu Series can be found in alluvial fans, stream terraces, and basins between sea level and 300 ft. amsl in areas receiving 10

Figure 6: USDA Soil Survey (Foote et al. 1972: Sheet Number 94) Showing Soil Types within the Project Areas.

to 35 inches of rainfall annually (Foote et al. 1972:115). The PpA soils exhibit moderate permeability, slow runoff, and a very slight erosion hazard. Large land parcels comprised of PpA soils are used for the cultivation of sugarcane, while smaller lots are used for residences (Foote et al. 1972: 116).

CLIMATE

According to the online Rainfall Atlas of Hawaiʻi (Giambelluca et al. 2013), the project area receives approximately 12.5 inches per year mean annual rainfall. Approximately 2.6 to 2.7 inches of rainfall occur within the winter months and 0.23 to 0.25 inches occur during the summer months (Armstrong 1983:64). Temperatures within the project area environs range from the 52 to 90 degrees Fahrenheit in the winter months and from approximately 68 to 92 degrees Fahrenheit during the summer (Armstrong 1983:58).

TRADITONAL AND HISTORICAL CULTURAL CONTEXT

Archaeological settlement pattern data suggests that initial colonization and occupation of the Hawaiian Islands first occurred on the windward shoreline areas of the main islands between A. D. 850 and 1100, with populations eventually settling in drier leeward areas during later periods (Kirch 2011). Although coastal settlement was dominant, native Hawaiians began cultivating and living in the upland kula (plains) zones. Greater population expansion to inland areas began around the 14th century and continued through the 16th century. Large scale or intensive agriculture was implemented in association with habitation, religious, and ceremonial activities.

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various ahupuaʻa. Traditionally, there were two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland kalo (Colocasia esculenta) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as kō (sugar cane, Saccharum officinaruma) and maiʻa (banana, Musa sp.), were also grown and, where appropriate, such crops as ʻuala (sweet potato, Ipomoea batatas) were produced. Traditionally, this was the typical agricultural pattern seen during the pre-Contact Period on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on Maui was likely to have begun early in what is known as the Expansion Period (AD 1200-1400, Kirch 1985).

PAST POLITICAL BOUNDARIES

In general, several terms, such as moku, ahupuaʻa, ʻili or ʻiliʻāina were used to delineate various land sections. A district (moku) contained smaller land divisions (ahupuaʻa), which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the ahupuaʻa were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each ahupuaʻa to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The ʻili ʻāina or ʻili were smaller land divisions next to importance to the ahupuaʻa and were administered by the chief who controlled the ahupuaʻa in which it was located (Lyons 1875: 33; Lucas 1995:40). The moʻoʻāina were narrow strips of land within an ʻili. The land holding of a tenant or hoa ʻāina residing in an ahupuaʻa was called a kuleana (Lucas 1995:61). The project area is located in Paunau Ahupuaʻa, which literally means "completely chewed up" (Pukui et al. 1974:182).

TRADITIONAL SETTING OF LĀHAINĀ

The District of Lāhainā, located on the western side of the West Maui Mountains (Mauna Kahalawai), extends from Honokōhau Ahupuaʻa on the north to Ukumehame Ahupuaʻa on the south. A number of traditional activities took place in this district from fishing and cultivation by early Hawaiians to residential occupation and recreational use by members of the aliʻi (ruling class). The district served as an important center both politically and socially during the late pre-Contact (pre-1778) and early Historic (post-1778) Periods. It was the royal chiefly center for centuries (Thrum 1909; Kirch 1985; Kamakau 1961; Sterling 1998) and played a key role in the intra-island warfare associated with island unification. By the late 1700s, Kamehameha I had firmly established his presence on Maui with the invasion of Lāhainā. By the early 1800s, Kamehameha I designated Lāhainā the capital of the Hawaiian Kingdom. Lāhainā served as the capital between 1820 and1845 when it was moved to Honolulu (Pukui et al. 1974:127). In 1819, the first whaling ship Bellina arrived in what would later be known as Lahaina Harbor. Lāhainā became the center of commercial whaling in the Pacific until the mid-1800s. After the decline of the whaling industry, Lāhainā and surrounding areas became a base for sugarcane plantations. Most recently, tourism is the main industry in Lāhainā.

Lāhainā is the traditional spelling and pronunciation of the area currently referred to as Lahaina. Lāhainā literally translated means "cruel sun," said to be named for a time of terrible droughts (Pukui et al. 1974:127). Others believe the original name for Lāhainā was "Lele" (small piece of property) which translates literally as the flying piece of a kuleana near the shore (Sterling 1998:17). As Lāhainā is situated along the shoreline the name is applicable. Pukui et al. (1974:127) also note that Lāhainā is associated with the Kauaʻula wind that caused the destruction of churches and buildings in Lāhainā in 1828 and again in 1858.

Lāhainā is traditionally and historically known for its verdant and abundant groves of breadfruit. Sterling (1998) references Lāhainā as second only to Puna, Hawai‘i as a favorable location for breadfruit cultivation. In mele (songs), Lāhainā is even referred to as ka malu ulu o Lele, “the breadfruit shade of Lele” (Handy 1940:190). Ashdown (1970) writes that the name Lele was changed to Laha‘ina when it became the home of the noted prophet, Laha‘inaloa for whom all of West Maui was named.

According to Handy and Handy (1972:492), the District of Lāhainā was a favored place among the high chiefs of Maui and their entourage because of its abundant resources from both land and sea, its warm climate, easy communication with other populated areas around West Maui, and close proximity to the outer islands of Moloka‘i and Lāna‘i.

Early descriptions of Lāhainā village provided by Westerners paint a picture of idyllic tranquility and cooperation among the inhabitants. According to Handy and Handy (1972:493), Menzies, the surgeon and naturalist on board the HMS Discovery during Captain George Vancouver’s expedition, states that he and the members of his party “…observed the rugged banks of a large rivulet that came out of a chasm cultivated and watered with great neatness and industry.” Menzies (cited in Handy and Handy 1972:493) goes on to describe an afternoon tour of the village on March 17, 1793, as follows:

> I accompanied Vancouver and a party of officers, with the two Niihau women, to see the village of Lahaina which we found scattered along shore on a low tract of land that was neatly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetable of the country, and watered at pleasure by aqueducts that ran here and there along the banks of intersecting fields…In short, the whole plantation was cultivated with such studious care and artful industry as to occupy our minds and attention with a constant gaze of admiration...

Little had changed twenty-six years later when J. Arago visited Hawai‘i with Captain Louis de Freycinet in 1819. Arago (cited in Handy and Handy 1972:493), impressed by the verdant quality of Lāhainā and the skill the Hawaiians exhibited in farming, writes:

> The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to a greater advantage; little pathways sufficiently raised and kept in excellent condition…These are frequently divided by trenches, through which a fresh and limpid stream flows tranquilly, giving life to the plantations...

Handy (1940:159) discusses the proliferation of fishing settlements and isolated fishermen's houses all the way from Kīhei to Honokahua and mentions the cultivation of ʻuala (*Ipomea batatas*, sweet potato) in the red lepo (sandy soil) near the shore. Handy (1940) points out that this coast is the most favorable on Maui for fishing and that kula lands (uplands) were ideal for the cultivation of sweet potato. According to Handy (1940:106), the aliʻi Kakaʻalaneo lived on Kekaʻa Hill in Lāhainā District. Kekaʻa became the capital of Maui during Kakaʻalaneo's reign and was also an area of intense cultivation. Fornander (1916, Vol. 5:540–41) discusses how Kakaʻalaneo planted kukui (*Aleurites moluccana*, candlenut) and ʻulu (*Artocarpus incisus*, breadfruit) at Lāhainā village.

According to Thrum (1909), an infamous chief named Hua, who was born in Lāhainā and reigned prior to the 10th century, is credited with the construction of the first heiau (temple) on Maui. Hua is also referred to as Hua-a-Pohukaina and Hua-a-Kapuaimanaku, names by which his father was also known. Hua is known for the construction of two heiau in Lāhainā. Another Hua, two generations later, is credited with the construction of a third. Three additional heiau are said to date to, or just prior to, the reign of Kahekili (Thrum 1909).

Fornander (1969) discusses how Lāhainā figured prominently in battles between various island chiefs. In the early 1700s, wars between Alapaʻinui of Hawaiʻi, in conjunction with Kamehamehanui of Maui, and Kauhi (Kamehamehanui's brother) occurred. Alapaʻinui established his headquarters at Lāhainā village while the rest of his army occupied the coast extending from Honokowai to Ukumehame. With the pending arrival of Peleioholani from Oʻahu, who was to assist Kauhi, Alapaʻinui destroyed the kalo patches and broke down ʻauwai belonging to the followers of Kauhi in the vicinity of Lāhainā. Eventually the forces met, Fornander 1969, Vol. 2:140) writes:

> The fortune of the battle swayed back and forth from Honokowai to near Lahaina; and to this day heaps of human bones and skulls, half buried in various places in the sand, attest to the bitterness of the strife and carnage committed.

Lāhainā also played a crucial role in the intra-island warfare that led to island unification and the establishment of the capital of the Hawaiian Kingdom by Kamehameha I. In February of 1795, Kamehameha established his presence on Maui with the invasion of Lāhainā.

Kamehameha's great fleet of war canoes landed in Lāhainā covering the coast from Launiupoko to Mala. That part of Lāhainā, covered in food patches and cane fields, was overrun by Kamehameha's men from the island of Hawai'i (Kamakau 1961:171).

HISTORIC BACKGROUND

The pre-Contact Period in the Hawaiian Islands came to an end with the arrival of Captain Cook on the island of Kaua'i in 1778. The years to follow would drastically alter the political, agricultural, and social foundation of the Hawaiian Kingdom. The destabilization of Hawaiian society was further intensified by the profound reformation of the traditional land system.

HISTORIC SETTING OF LAHAINA (1778 TO MID-1800S)

Western descriptions of Maui were given by Captain Cook and his men who were the first Europeans to record their impressions of the island, on November 26, 1778 (Beaglehole 1967: Part I, Vol. III). After returning from Alaska, they spotted Maui and sailed down a portion of the east side of the island. A surgeon on the Discovery, David Samwell (cited in Beaglehole 1967:1151) reported:

> the ships lay to all day about 3 miles off shore, trading with the Natives who came off in their canoes in great number…

It had been a time of war between Kalaniopu'u, ruler of Hawai'i Island, and Kahekili, chief of Maui and Moloka'i. During this season of the year (Makahiki), however, the fighting was temporarily suspended and Kahekili was free to visit the foreign ships. Samwell (cited in Beaglehole 1967:1151) describes the great King and the windward slopes calling Kahekili:

> a middle aged man... rather of a mean appearance..." and the land as "...mountainous, the sides of the hills are covered with trees...large open plains on which stand their houses & where they have their plantations of sweet potatoes, taro &c…

The leeward side of the island was dry and an early account (1786) suggests inhabitants were much poorer in health and resources at its southern end (La Perouse in Sterling 1998:222). However, further up the coast towards Lahaina, the population increased and the habitations situated in coconut groves became numerous. Lahaina Village, with access to mountain streams, was described in 1793 by Vancouver and Menzies (Menzies 1920:112) as:

> ...laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetables of the country and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields ...In short, the whole plantation was cultivated with such studious care and artful industry as to occupy our minds and attention with a constant gaze of admiration....

The war between Kahekili of Maui and Kalaniopu‘u of Hawai‘i Island had not ended with the death of Kalaniopu‘u in 1782, but was continued by his nephew, Kamehameha I. Vancouver was not as impressed as Menzies with the Lahaina landscape and was told it was the result of the continued disputes:

> To the ravage and destruction of Tamaahmaah's wars, the wretched appearance of the crops was to be ascribed of this they grievously complained, and were continually pointing out the damages they had sustained; the despoiled aspect of the country was an incontrovertible evidence of this melancholy truth. Most of the different tenements in the lands formerly cultivated, were now lying waste, their fences partly or intirely [sic] broken down, and their little canals utterly destroyed; nor was a hog or a fowl any where to be seen. By far the larger portion of the plain was in this ruinous state; and the small part that was in flourishing condition bore the evident marks of very recent labor (Vancouver 1984: 870).

After defeating Kahekili’s army and subjugating all but the island of Kaua‘i, Kamehameha moved his fleet of peleleu (war canoes) to Lahaina for a year to collect tribute (in 1802-1803). His headquarters was a two-story brick house near the landing, close to a section of the project area. The building was surrounded by kalo patches and fishponds, coconut, hala, and kou trees (The Maui Historical Society 1964). The kalo patches stretched along the beach, behind which were huts, and behind them, a mulberry and cane plantation belonging to a Mr. Butler, the land having been a gift from Kamehameha I (Litten in Sterling 1998:19). To be able to supply his retinue with provisions, Kamehameha ordered the repair of the damage previously done to Lahaina and vicinity during the wars with Kahekili. The walls for the lo‘i were rebuilt and crops were again successfully grown.

There was also a heiau at the landing. L. R. Duperrey, cartographer with Louis Claude de Saulses de Freycinet, mapped the Lahaina Village in 1819 depicting points of interest: a) the observatory of Freycinet, b) the brick palace of Kamehameha I, c) heiau, d) Mr. Butlers house, e) kalo lo‘i and ‘auwai, f) wauke plantation, and g) sugar cane plantation (Figure 7).

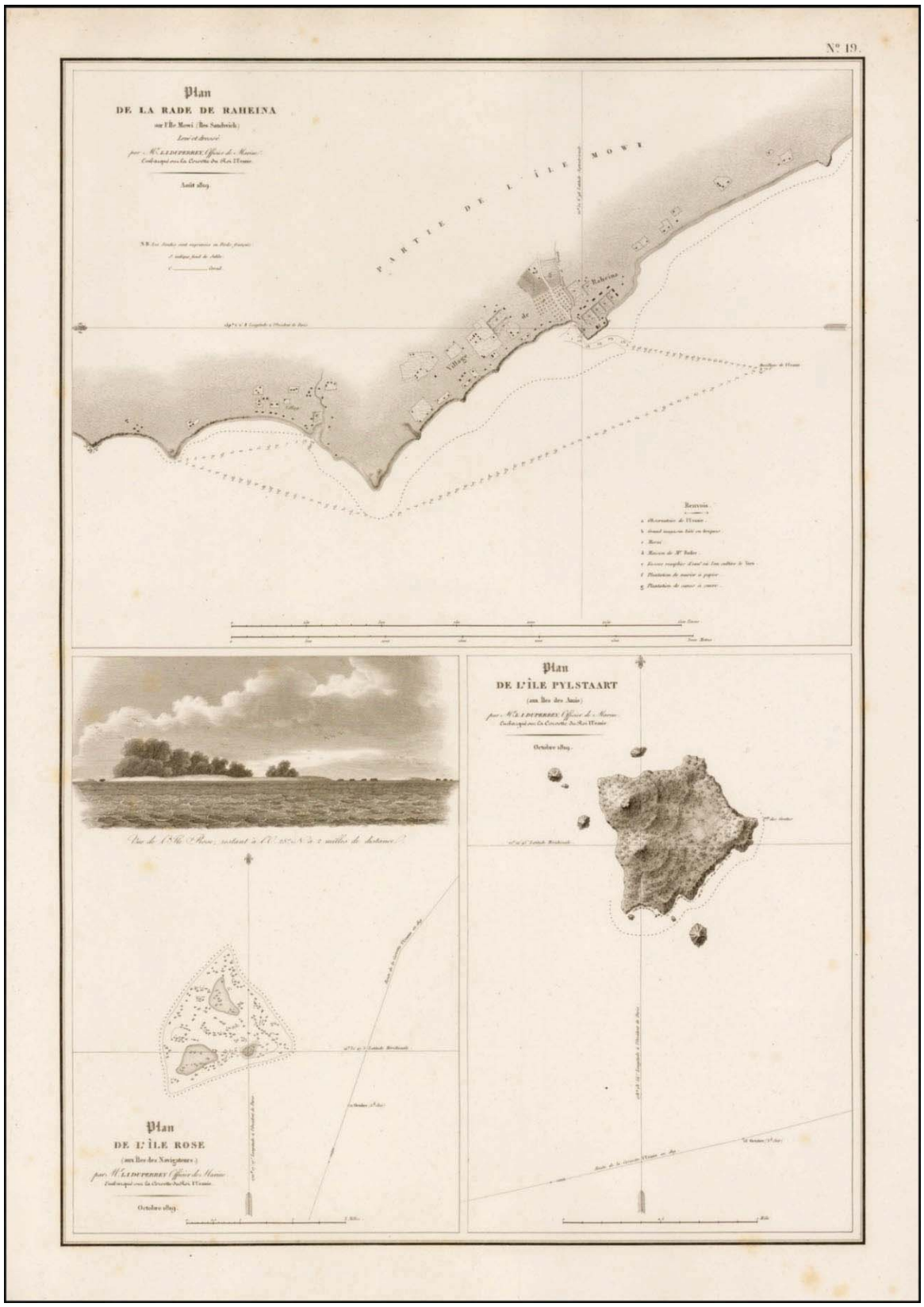


Figure 7: Plan de la Rade de Raheina [Map of Raheina (Lahaina) Bay] (Duperry 1826).

Freycinet (cited in Kelly 1978:29) recorded:

> We immediately landed...to select an appropriate location for setting up our instruments...upon my request, was kind enough to tabou a platform in the neighborhood of a morai and of a red brick house, which was convenient.

In describing Lahaina Village Freycinet (cited in Kelly 1978:41) stated:

> ...the first thing we noticed upon our arrival at Raheina was a red brick structure. Standing right next to the landing point, it was an excellent guide for the vessels...to the south was the habitation of the priests and next to it a morai constructed on a pile of dry rocks and forming a sort of dike on the beach. A little farther up in the interior one comes across hand-dug reservoirs used for taro culture. They stretch along the coast for quite some distance and are fed by the streams brought there through artificial canals. The houses, instead of being grouped next to each other, are dispersed over a rather wide terrain....

Freycinet (cited in Kelly 1978:32) was impressed with the fertility of Lahaina:

> ...Here were found vast orchards of the paper mulberry, whole fields of bananas and of sugar cane of fine appearance, fields of taro and other vegetables fit for human food, enormous breadfruit trees scattered here and there, finally the fertility and freshness of the soil everywhere maintained by frequent irrigation and well husbanded.

Arago, draftsman and artist on Freycinet's voyage, recorded that Lahaina occupied approximately nine miles along the coast by three miles, inland (14.4 by 4.8 kilometers). He described the same orderly cultivated system of kalo, bananas, breadfruit, coconut, wauke and housesites. Arago (1823:119-120 in Handy and Handy 1972: 493) described Lahaina as:

> The environs of Lahaina are like a garden...little pathways sufficiently raises, and kept in excellent condition, serve as communications between the different estates. These are frequently divided by trenches …Every cabin has its enclosure, and every enclosure is well taken care of; it seems to suffice for the wants of the family...The space cultivated by the natives of Lahaina is about three leagues in length and one in its greatest breadth.

Kamehameha I died in 1819 in Kona and his oldest living son died four years later in London. This left Kamehameha's youngest son, Kauikeaouli, as reigning monarch (under the guidance of Ka‘ahumanu) at the age of nine years old. During the reign of Kauikeaouli, as Kamehameha III, Lāhainā became the capital of the Kingdom and favorite headquarters of the ali‘i.

Kamakau (1961:262) reported:

> Lāhainā was in those days a popular resort for the chiefs...None of these paid any attention to the word of God but amused themselves at their gatherings with liquor drinking, dancing, gambling, sensual indulgence, and all kinds of such devilish doings.

In 1823, the mother of the King and sacred wife of Kamehameha I, Keōpuolani, brought the Reverends Stewart and Richards and their families to Lāhainā. Land was eventually given to the missionaries along what was to become Front Street. The population of Lahaina was estimated at 2,300 around this time and consisted of 700 grass houses with a few permanent buildings (Belt Collins & Associates 1992). With the arrival of the missionaries and the conversion of several powerful ali‘i such as Ka‘ahumanu and Keōpuolani, a shift occurred and Lahaina's new buildings began to reflect western influence. The first stone dwelling in Hawaii, located on Front Street in Lahaina and belonging to Rev. Richards, was completed in 1827. Clustered along or near Front Street, besides the mission houses occupied by the Stewarts' and Richards', and Baldwin’s, were several other buildings, such as the Marine hospital, Seamen's Chapel and Reading Room. Dr. Baldwin constructed a medical office in conjunction to his residence on Front Street in 1834. By the late 1820s, stone houses were being built by many of the ali‘i on their land in Lāhainā, much of which now borders the current project area.

A fort was constructed in 1831-32 near the brick palace, where a sailor would drum at sundown as a signal for all the seamen to board their ships. In 1854 the old coral blocks that had been a part of the fort walls were dragged across Front Street to become a part of the new Hale Pa‘ahao or Lahaina Prison.

Whaling ships by the dozens filled the anchorage between spring and fall from the 1820s through the 1860s. Lahaina had already provided supplies, sailors, and recreation for countless voyagers participating in the trans-Pacific fur/sandalwood trade. The harbor in Honolulu required excessive port charges, unlike Lahaina (Belt Collins & Associates 1992). Because Lahaina was a roadstead, no pilot was needed to guide the ships, as was the case for Honolulu, and ships could come and go as they pleased. The ships' boats would travel up the canal (what is now Canal Street) and barter in the government-regulated market place which had a large grass house extending the entire length of the canal.

In 1825 there were already 19 schools in Lahaina with 380 students. The schools were only outnumbered by the 23 grog shops. By 1826, the school number had increased to 29, instructing 568 male and 570 female students. In spite of the law against selling ardent spirits, the number of grog shops in Lahaina had increased to 30 by the early 1830s. In 1846, 429

whaling ships anchored at Lahaina (Maui Historical Society 1971:7). Lahaina's constable expressed his frustration at trying to keep order:

> There are so many Beer shops here, and they have so many chances of selling spirits in their Beer without detection that do all I can, and use all the means in my power, I cannot get a fair chance to fine them (Maui Historical Society 1971:9).

The traditional subsistence economy had quickly changed to a market economy and Lahaina was at the center of activity. The buying and selling of produce had been strictly regulated under Kamehameha I. His successors, however, quickly gave into the pressure of the lesser chiefs to share in the bounty and their desire for exotic merchandise. Soon, free enterprise dominated commerce. In 1833, Brinsmade, Ladd, and Hooper in partnership with Hoapili the Governor of Maui, establish a large store and hotel in Lāhainā. By 1837, Pierce and Brewer owned a large trading house in Lahaina (Belt and Collins & Associates 1992).

Dr. Dwight Baldwin, a missionary doctor in the 1830s whose residence was the old Richard's house located on Front Street, recorded the main food items supplied to the ships were:

> ...water, hogs, goats, bananas, melons, pumpkins, onions, squashes, sweet potatoes, young turkeys, ducks, fowls and beef, all of which can be had in abundance; but the greatest article or which they come is Irish potatoes which grow plentifully in the interior of this island" (In Maui Historical Society 1971:7).

THE MĀHELE

During the mid-1800s, extreme modification to traditional land tenure occurred throughout all of the Hawaiian Islands. The transition from traditional Hawaiian communal land use to private ownership and division was commonly referred to as the Māhele (Division). The Māhele of 1848 set the stage for vast changes to land holdings within the islands as it introduced the foreign (western) concept of land ownership to the Islands. Although it remains a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kauikeaouli (Kamehameha III) established laws changing the traditional Hawaiian system of land tenue, which were intended to keep lands in the hands of the Hawaiians, but resulted in providing an opportunity for foreigners to obtain land (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–166, 170; Daws 1968:111; Kelly 1983:45; Kameʻeleihiwa 1992:169–170, 176).

The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were made available and private ownership was instituted, the makaʻāinana (commoners) were able to claim the plots on

which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

Once Article IV of the Board of Commissioners to Quiet Land Titles was passed in December 1845, the legal process of private land ownership was begun. The land division, called the Māhele, began in 1848. As stated above, the lands of the kingdom of Hawaiʻi were divided among the king (crown lands), the aliʻi and konohiki, and the government.

Once lands were made available and private ownership was instituted, native Hawaiians, including the makaʻainana (commoners), were able to claim land plots upon which they had been cultivating and living, through the Kuleana Act of 1850. The process for foreigners to acquire land was conducted through the Alien Landownership Act of 1850.

Oftentimes, foreigners were simply just given lands by the aliʻi. However, in the case of commoners, they would only make claims only if they had first been made aware of the foreign procedures (kuleana lands, land commission awards). These claims could not include any previously cultivated or currently fallow land, okipū, stream fisheries, or many other natural resources necessary for traditional survival (Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). Awarded parcels were labeled as Land Commission Awards (LCAs). If occupation could be established through the testimony of witnesses, the petitioners were issued a Royal Patent number and could then take possession of the property. Commoners claiming house lots in Honolulu, Hilo, and Lāhainā were required to pay commutation to the government before obtaining a Royal Patent for their awards (Chinen 1961:16).

According to the Waihona ʻAina (2019 Database), 71 LCAs were claimed within Paunau Ahupuaʻa. The Office of Hawaiian Affairs Kipuka Database (2019) indicates LCA 7713:26/Royal Patent 4475 is located within the current project area. Land Commission Award 7713/Royal Patent 4475, comprised of a total of 55 ʻāpana (land parcel), minus kuleana lands, was claimed by and awarded to Victoria Kamamalu (Appendix B).

This information is included in both the Title Report and the Deed, which confirms that the LCA 7713, ʻĀpana 26 was awarded to V. Kamamalu. The Title Report and the Deed also indicate that that a project area includes a portion of LCA 8524-B, which was awarded to Peke:

> All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Royal Patent Number 4475, Land Commission Award Number 7713, Apana 26 to V. Kamamalu and Royal Patent Number 5702, Land Commission Award Number 8542-B, Apana 1 to Peke) situate, lying and being at Lahaina, Island and County of Maui, State of Hawaii, being LOT A and thus bounded and described…

Numerous additional LCAs surround the current project area indicating that the area was widely used and valued during the pre-Contact and early Historic Periods. Land Commission Awards located adjacent to the project area (Figure 8; see Figures 2 and 3; Table 1 and Table 2).

Table 1: Land Commission Awards (LCA) within TMK: (2) 4-6-009 (All information based on Office of Hawaiian Affairs Kipuka Database 2019).

TMK: (2) 4-6-009:	LCA/RP	Claimant	Date Awarded	Notes (cited from OHA Kipuka Online Database (2019)
011	320/596	Kapolulo	1852	N/A
010	303:1/1831	Kuakamauna, E	1855	N/A
009	303:1/1831	Kuakamauna, E	1855	Verified in Buke Mahele vol.2 pgs.887-8. (Apana 1 of 3 in Panaewa).
008	8452.4.1/4388	Keohokalole, A	1858	Not shown in Figure 2
	5116			Not shown in Office of Hawaiian Affairs Kipuka Database 20019)
007	45/	Vonpfister, John R.		
057, 056, 055, 006	7713:27	Kamamalu, Victoria		In 1858 this area was deeded to John Boehle by Kamehameha IV Notes: Kam IV deed of 0.22 acres, Liber 11, pg.28.
029	7718/5575	Kamamalu, Victoria	1861	N/A
062	327/7193	Kaauwai, Z	1878	Per Buke Mahele this could possibly be Apana 1 or 2, vol.10 pgs.514-5 & vol.2 pgs.45-6, but boundaries are not clear on Reg1262. Needs More Research.

Table 2: Land Commission Awards (LCA) within TMK: (2) 4-5-002 (All information based on Office of Hawaiian Affairs Kipuka Database 2019).

TMK: (2) 4-5-002	LCA/RP	Claimant	Date Awarded	Notes
004	10789:1/1114	Piianaia	1853	N/A
003	10789:2/656	Piianaia	1852	Granted 0.7 acres in 1865, Book 14. The details of this award have been erased from Reg1262, but adjacent LCAw 7682:1 to Huluwaimakalani, depicts the lands of Wm Ap Jones bordering to its north: Buke Mahele vol.10 pgs.504-5.
010	10789:2/656	Piianaia	1852	N/A
009	7716:10/8146	Keelikolani, Ruth	1902	N/A
	312/2650	Timoteo Keaweiwi	1856	ʻāpana 6

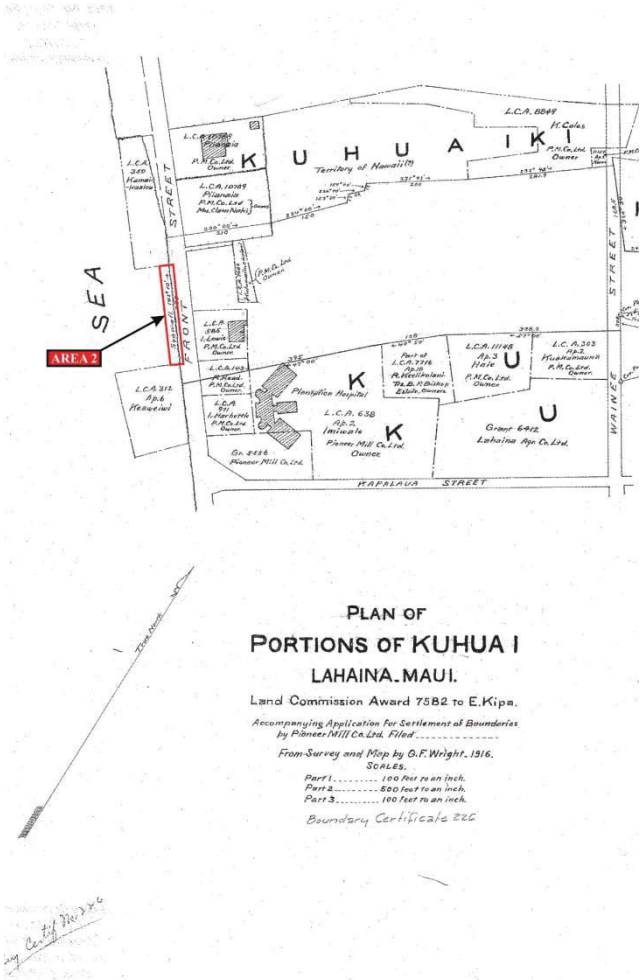


Figure 8: Historic Map Plan of Portions of Kuhua 1 Lahaina, Maui Land Commission Award 7582 to E. Kipa (G. F. Wright 1916; Reg. Map 2782).

MID-1800s TO 1900s

Charles Wilkes visited Maui in 1841 as part of his scientific expedition in the Pacific region. When viewing Lāhainā, Wilkes (1845:4) recorded:

> The town of Lahaina is built along the beach for a distance of three-quarters of a mile: it is principally composed of grass houses, situated as near the beach as possible: it has one principal street with a few others running at right angles. After the king's palace, the fort is the most conspicuous object: its form is quadrangular. The longest side, facing the sea: it is of little account, however, as a defense, serving chiefly to confine unruly subjects and sailor.

Lahaina's commerce continued to expand with new ventures appearing frequently. A boarding house had been built in Lahaina by George W. Punchard to accommodate the transient population arriving in Lahaina and J. Armas opened a restaurant in 1843. An enterprising Milo Calkin built a store and office for ship chandlery and general merchandise and directed possible customers to Front Street by saying "the canal leads direct to the store" (Belt Collins & Associates 1992). The many retail businesses established in Lahaina by the 1840s included Dow Drugstore, Gilman and Company, and A.H. Koon with many more to come. Punchard, Bush, Makee, Mellish, Sheik Mohamet, Halstead, McIntyre, Banks and Chinaman had all applied for licenses to peddle foreign goods at Lāhainā.

The first official census was taken in Lahaina in 1846 and recorded 3,445 Hawaiians, 112 foreigners, 882 grass houses, 155 adobe houses, 59 stone and wooden houses, and 99 sheds or lānai used as houses, 528 dogs and some 600 seamen (Belt Collins & Associates 1992).

Economically, everything was booming in Lāhainā. Not only were the merchants supporting the whaling ships, but in California the gold rush had begun with Hawai‘i supplying many commodities, including, potatoes to the west coast. In 1850, 51,957 barrels of Irish potatoes and 43,923 barrels of sweet potatoes were exported from Lahaina to California (Belt Collins & Associates 1992).

By this time, Lahaina had two hotels, two bowling alleys, and a billiard room. Grass houses could also be rented for $4 dollars a month. As Lahaina prepared for another whaling season, it was recorded "victualers or better known as beer-shop keepers have commenced with great activity in cleaning up their houses for the fall season. No less than 15 or 20 of these licensed houses, besides several "sly" houses, two dance-houses and a native hula halau [school] in the lower part of town" were preparing for the sailors (Belt Collins & Associates 1992).

As the whaling industry began to wane, sugar production was on the rise. The increasing lack of sperm whales and the discovery of oil in Pennsylvania, which could produce cheap kerosene, seriously contributed to its decline. The last large fleet of whaling ships left Lahaina in 1860. As early as 1837, three sugar mills had been reported for Lahaina, two of which were owned by Hawaiians. The

Lahaina Sugar Mill, owned by Judge Alfred W. Parsons, began operation in 1849. In the 1860s, opportunities for sugar increased. In 1861, James Campbell began a sugar plantation and eventually established a mill in Lāhainā. Because of the Māhele, land was easier to obtain, and vast areas were purchased for sugar cultivation. The Pioneer Mill Company owned 900 acres, which produced 2000 tons of sugar in 1884. By 1957, the Pioneer Plantation cultivated 4,710 acres of sugar producing 62,000 tons sugar (Belt Collins & Associates 1992).

Lahaina had become increasingly quiet at the end of the 19th century due to the exodus of the whalers and decreasing commerce to the gold fields. The Hawaiian capitol had been moved long ago to Honolulu by Kamehameha III and many had followed to this new thriving port as work opportunities lessened in Lāhainā. Diseases had also taken their toll. A measles and diarrhea epidemic occurred in 1849 and a smallpox epidemic broke out in 1854. To offset the population decline, Chinese, Japanese, and Filipino workers were imported. Lahaina prospered as a plantation town in the early part of the 20th century. With the arrival of statehood in 1959, Lāhainā, once again became a desirable destination for travelers (Belt Collins & Associates 1992).

PREVIOUS ARCHAEOLOGY

No archaeological studies were previously conducted in the project area. However, many archaeological projects have been conducted over the years in the general area, which primarily focused on improvements related to the Front Street area (Figure 9).

Although no previous archaeological work was conducted in the proposed project area, Mason Architects, Inc. (Mason n.d.) conducted an Architectural study of the wall corridors railing design, which provides historic background on the construction of the seawall within Area 1. According to Mason (n.d.), the Area 1 seawall was constructed in the early 1900s and a "metal pipe railing with a top and a mid-height horizontal railing only…appears to have been in place by the 1920s. Mason (n.d.) further states "by the 1930s a solid wall was constructed." The current seawall and railings were reconstructed to current form in in 1979.

The many archaeological projects conducted in the area resulted in the documentation of numerous traditional and post-contact sites. Most of these have been identified as habitation plots, lo‘i, burials, and refuse pits. The earliest archaeological investigation on the Island of Maui

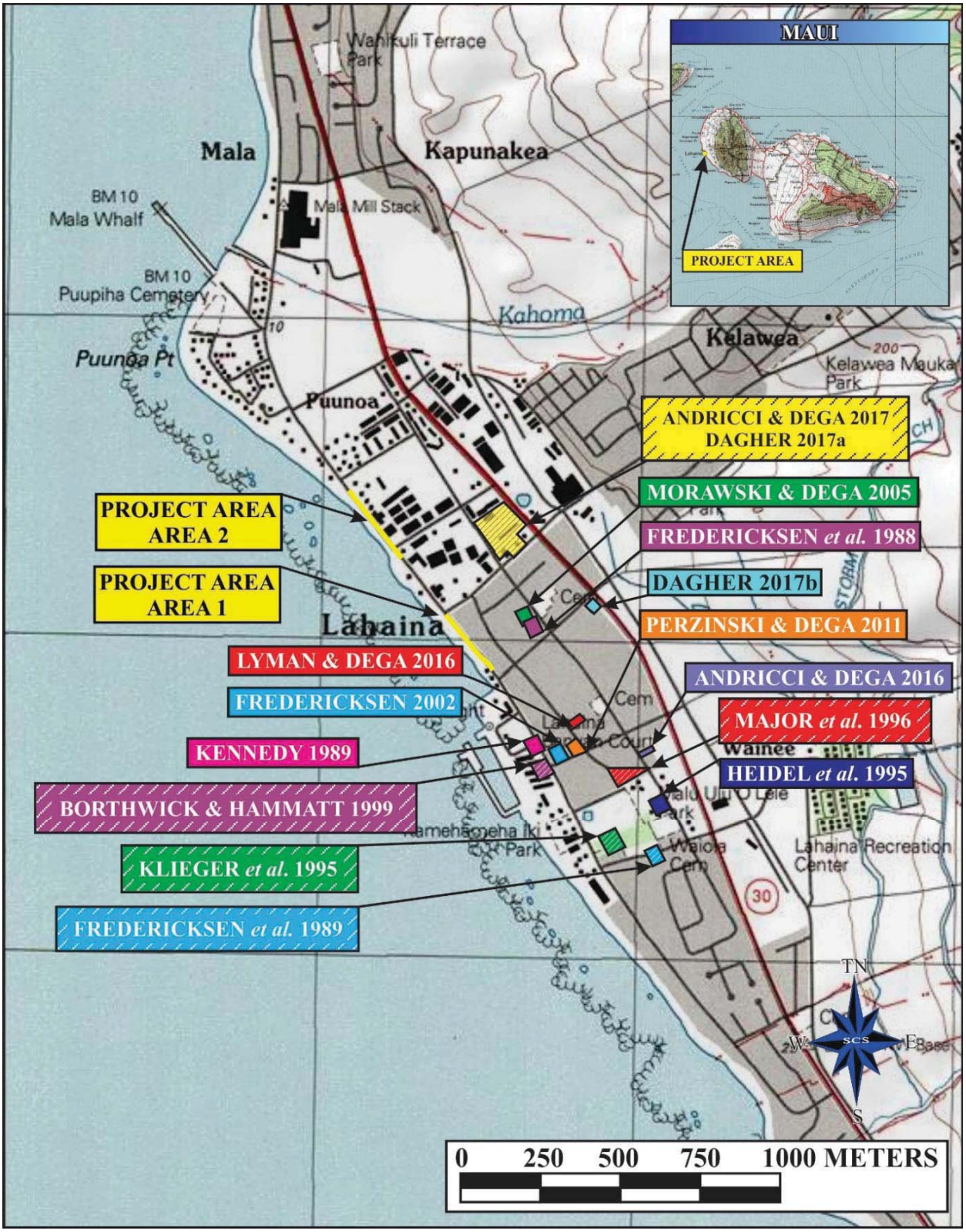


Figure 9: USGS Quadrangle (Lahaina, HI 1992; 1:24,000) Showing Previous Archaeology in the Vicinity of the Project Area.

was conducted by Winslow Walker (1933), under the auspices of the Bernice Pauahi Bishop Museum. During this survey, Walker (1933:112-113) identified two heiau within the Paunau Ahupuaʻa: Waiie Heiau (Walker Site 9) and Luakona Heiau (Walker Site 10). Waiie Heiau (Walker Site 9), now totally destroyed, was located in Kapaulu District, south of Lahainaluna Road in a sugar cane field. Luakona Heiau (Walker Site 10) was located at the mauka (east) end of Kelawea Camp, north of Lahainaluna Road, in the traditional District of Kapaulu. At the time of Walker's (1930) survey, remnants of the walls and platform of Luakona Heiau still existed (Sterling 1998:30-34). In 1988, Paul H. Rosendahl, Inc. (Haun 1988, cited in Burgett et al. 1996) conducted a subsurface survey on the mauka (east) and makai (west) lands abutting Front Street. Excavations revealed a cultural layer and an agricultural (i.e., loʻi field) layer. Collected cultural materials included traditional artifacts, including volcanic glass and shell midden. Radiocarbon samples submitted for radiocarbon analysis yielded a date range of A.D. 1260 to 1640.

In 1988 and 1989, Xamanek Researches (Fredericksen et al. 1989:24) conducted an Archaeological Inventory Survey and subsequent Archaeological Data Recovery on TMK: (2) 4-6-009:021 (Fredericksen et al. 1988, Fredericksen et al.1989). This parcel, initially owned by Kamehameha IV and subsequently by the Roman Catholic Church, contained the Historic Aus Site (State Site 50-50-03-1797). State Site 50-50-03-1797 consisted of 10 subsurface pit features dating from the mid to late 19th Century. Subsequently the subsurface pits comprising State Site 50-50-03-1797 were interpreted as habitation features. According to Fredericksen et al. (1989) the Aus Site, was generally utilized throughout the early post-Contact period (post-1778) and most likely continuously until the late 1970s. During subsurface testing, a feature located within the upper stratum of Test Trench 9 that contained a recent refuse material dating to 1979, suggesting the Aus Site was use continuously into the Twentieth Century.

In 1989, Archaeological Consultants of the Pacific (Kennedy 1989) excavated a parcel (TMK: (2) 4-6-008:012), area which provided information about historic land use in the area. Construction materials and domestic wares dating from the late Historic Period - including red bricks, coral blocks, glass, and ceramics - were recovered.

In 1995, Under the Lahaina Restoration Foundation, archaeological work in Maluʻulu-o-lele Park (approximately 700 m south of the project area) identified Mokuʻula, the private residence of Kamehameha III, as previously located near Mokuhininia Pond (Klieger 1995). Through such archaeological undertakings, it became evident that architectural constructions, as well as other archaeological features of the royal occupation period, have been, in a number of cases, well preserved. In 1996, the Bernice Pauahi Bishop Museum (Major et al.1996) conducted historical background research and inventory survey on land once owned by Chief Pikanele during the mid-1800s. The project area was adjacent to Loko o Mokuhinia. During the survey, two archaeological sites were identified: a subsurface habitation area and pondfield and a plantation house dating from 1908.

In 1998, SCS (McGerty et al. 1998) conducted Archaeological Monitoring on Front Street, from Baker Street to Shaw Street (approximately 370 m west of the current project area, at its closest point), which led to the identification of both Traditional- and Historic-type features. A total of 13 archaeological sites were identified and recorded during monitoring. Habitation deposits with associated subsurface features including refuse pits, fire pits, shell midden, and postholes were identified and recorded. Artifacts associated with these features included basalt preforms, volcanic glass cores and debitage, various ornaments, and abraders. McGerty et al. (1998) also recovered Historic artifacts manufactured in the 19th and 20th Centuries, such as horseshoes, buttons, bricks, ceramics, slate, and glass bottles. Radiocarbon samples from a lower cultural stratum dated the site to A.D. 1450 to 1660, firmly within traditional times (McGerty et al. 1998). This same project also yielded burials relating to both pre-Contact (pre-1778) and Historic Periods.

In 1999, Cultural Surveys Hawai`i, Inc. (Borthwick and Hammatt 1999) recorded a cultural layer that included pre- and post-Contact features, which indicate prolonged use of the location. The site was located at the Lahaina Court House (approximately 640 m south of the current project area) and was subsequently assigned State Site 50-50-03-4754. (Fredericksen and Fredericksen 2000) documented a previously disturbed human burial (State Site 50-50-03-4978) directly across Front Street from the Lahaina Courthouse.

In 2001, Xamanek Researches (Fredericksen and Fredericksen 2001) identified four new archaeological sites (State Sites 50-50-03-4982, 50-50-03-4983, 50-50-03-4984, and 50-50-03-5174) with multiple components, during Archaeological Monitoring of improvements to King Kamehameha III Elementary School's electrical system. As these sites were identified during limited subsurface excavation relating to construction improvements the full spatial extent of these sites remains unknown. Nine in situ burials, a secondary burial, and ten probable burial features were identified during the course of the construction mitigation (Fredericksen 2001:12).

In addition, previously disturbed human remains were identified at State Site 50-50-03-4984. State Site 50-50-03-4983 consisted of a remnant subsurface habitation layer with associated postholes and hearths in addition to burials. State Site 50-50-03-4982 overlays State Site 50-50-03-4983 and both of these sites were heavily impacted by construction of the school facilities. These sites are located within LCA 277, which awarded to William Charles Lunalilo. State Site 50-50-03-5174 consisted of a post-Contact 'ili'ili pavement with an associated refuse pit. This site is also located within LCA 277 and was interpreted to be associated with residences within this award parcel.

Radiocarbon samples submitted from State Site 50-50-03-4983 indicate occupation of that part of the site from the late pre-Contact period through early post-Contact times. State Site 50-50-03-4984 is located within LCA 10806.77 awarded to Kamehameha III and his sister Nahi'ena'ena and LCA 5320 awarded to Asa Ka'eo, kahili bearer for Kauikeaouli (2001:6). These LCAs were listed as house

lots and 10806.77 was named Pa Halekamani by Nahiʻenaʻena who lived in a traditional hale on the property. Asa Kaʻeo testified that Halekamani contained seven houses and a fishpond. Please note the current project area is approximately distance 640 meters northwest of these archaeological sites, including the unknown extent of burials found at King Kamehameha III Elementary School.

In 2002, SCS (Calis 2002) conducted Archaeological Monitoring on a parcel on the other side of Lahainaluna Road. Archaeological deposits relating to Historic Period use of the area in the form of porcelain and glass artifacts dating from 1904 through the 1920s and 1930s were identified in subsurface contexts and subsequently designated as State Site 50-50-03-5180.

In 2002, Xamanek Researchers (Fredericksen and Fredericksen 2002), documented four Historic-type refuse pits and a waterworn pavement at TMK: (2) 4-6-008:053. The deposits subsumed under State Site 50-50-03-5203 were dated to the mid-20th Century.

In 2005, SCS (Morawski and Dega 2005) conducted an Archaeological Inventory Survey on approximately 12,365 square feet lot located on Waineʻe Street adjacent to the Historic Aus site (State Site 50-50-03-1797). During the course of excavation one subsurface scatter and two subsurface pit features were recorded. Both the subsurface scatter collection and the pit features contained Historic-type cultural materials likely related to habitation in the area during the late 1920s through the 1930s. These features were designated as State Site 50-50-03-5701.

From 2005 to 2007 SCS (Shefcheck and Dega 2007) conducted Archaeological Monitoring during subsurface construction work at the Maui Islander [TMK: 4-6-011:008]. No significant cultural deposits were identified during the course of this Monitoring program, and the subterranean soil deposits were found to consist singularly of sandy fill soils associated with previous development of the project area. The Maui Islander (currently called "Aina Nalu Lahaina Vacation Condos") site is adjacent and immediately south of the current project site.

In 2012, SCS (Medrano and Dega 2013) Inc. conducted an archaeological inventory survey-level investigation on several parcels of land totaling 1.02-acres in Lāhainā, Kuia Ahupuaʼa, District of Lāhainā, Island of Maui, Hawaiʼi [TMK: (2) 4-6-009: 036, 038, and 044]. No historic properties were identified.

In 2014, SCS (Lyman and Dega 2016) conducted an archaeological inventory survey-level investigation for the proposed demolition of historic structures and construction of a parking lot in Waineʻe Ahupuaʻa, Lāhainā District, Maui Island, Hawaiʻi [TMK: (2) 4-6-008:017]. No historic properties were identified.

ARCHAEOLOGICAL FIELD INSPECTION METHODS

An archaeological field inspection of the Front Street Sidewalk, Railing, and Seawall Repair Project areas was conducted by SCS archaeologist Trevor Iliff, B.A., under the supervision of Michael F. Dega, Ph.D., Principal Investigator. The archaeological field inspection of Area 2 was conducted between August 7 and August 14, 2019. The archaeological field inspection of Area 1 was conducted on December 7, 2019. Field methodology included a review of previously conducted archaeological studies, as well as a proposal for the restoration plan, an introductory assessment of the seawall to attain pertinent vertical and horizontal metrics and describe the current state of both project areas, and finally a photographic assessment. Photographs of each structural component comprising the project areas, as well as photographs that show the current condition of the Area 2 and Area 1 sections of seawalls were taken. The results of the archaeological field inspection are presented below.

RESULTS

AREA 2

Project Area 2, the northern project area corridor, extends approximately 730 feet (222 meters) from just south of Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The proposed work within Project Area 2 will consist of replenishing the basalt boulder seawall.

Evidence that Area 2 is an historic seawall (i.e., constructed over 50 years ago) is supported by an historic map (G. F. Wright 1916; Reg. Map 2782; see Figure 8), which depicts an existing seawall in project Area 2. Fronting the grouted basalt rock (CRM) seawall is a stacked, dry-laid, basalt rock wall that may be a modern addition to the historic seawall. The temporal affinity of the stacked dry-laid basalt boulders fronting the seawall was not established during the field inspection or during the literature review.

The entire length of the Area 2 section of seawall is approximately 222 meters in length. Figure 10 shows multiple layers of mortar used to repair previous damage the sidewalk wall. Figure 11 shows a coconut tree actively growing out of the low, grouted basalt rock sidewalk wall. Figure 12 shows cracking in the grouted basalt rock sidewalk wall from the growth of a coconut tree, the upper portion of said coconut tree was cut most likely because it died. The presence of the concrete capping on the Area 2 seawall suggests some modern repair.

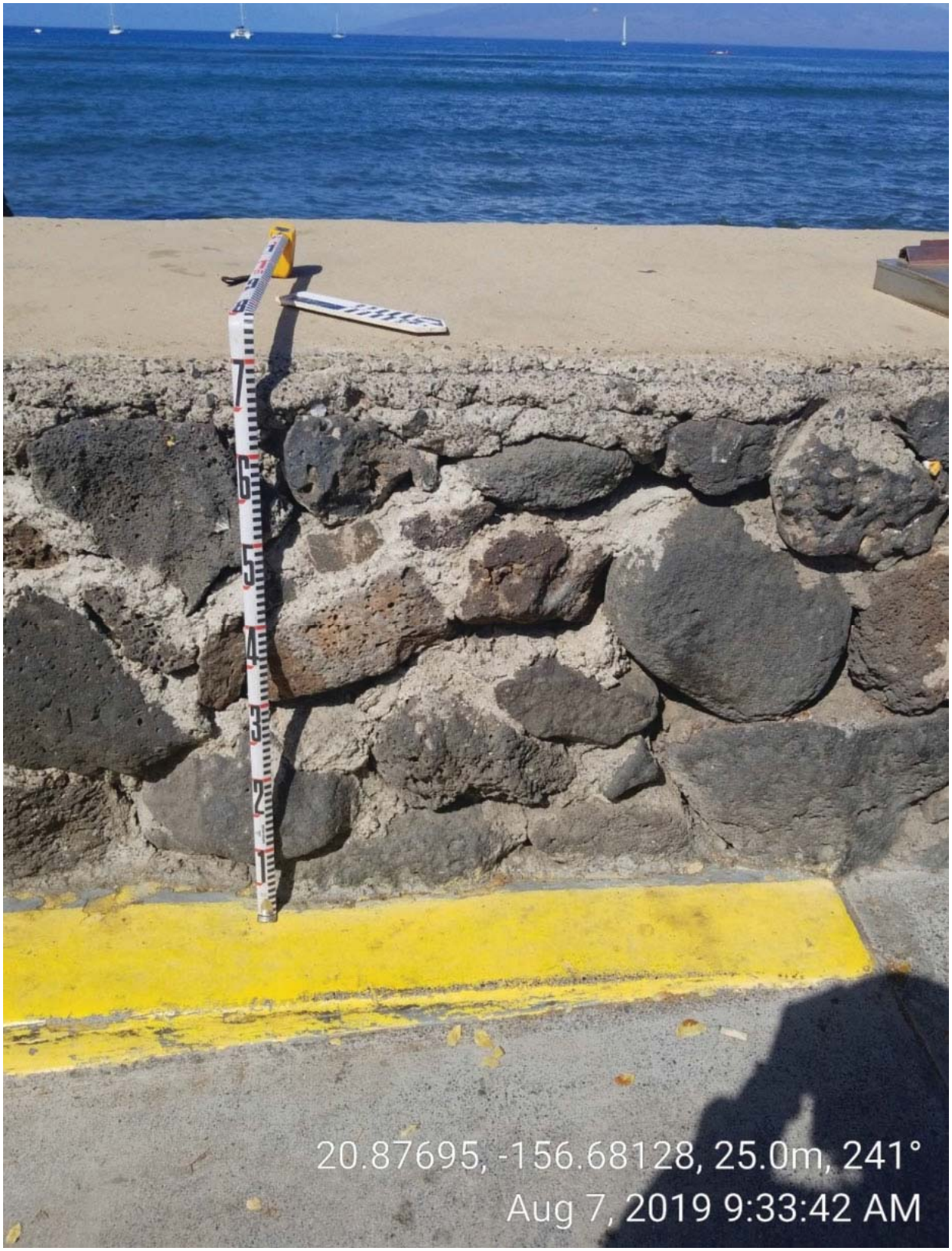


Figure 10: Photographic View of Area 2 Wall Profile Adjacent to the Sidewalk in Area 2 Showing Previous Repairs. View to Southwest.

Figure 11: Photographic View of Coconut Palm Tree Growing Out of Wall Adjacent to Sidewalk in Area 2. View to Northeast.

Figure 12: Photographic View of Damaged Wall Adjacent to Sidewalk in Area 2 and the Cut-Off Coconut Palm Tree Stump. View to Southwest.

Figures 13 identifies recently deposited modern bicycle parts; Figures 14 and 15, depict an area of the modern stacked basalt rock wall, which appears to have recently been leveled off with wood mulch; Figures 15, 16, and 17 all show a small, narrow wall that was constructed using basalt rocks taken from the original dry-stacked wall, which were interpreted as recent modifications. Semi-circular alignments constructed of loosely piled basalt rock in the area near the shoreline were also interpreted as recent modifications to the basalt rock wall.

Current observations of Area 2 assessed an extreme level of decomposition/collapse of the dry-stacked basalt rock wall portion of the seawall, with approximately 40 percent of the seawall being significantly deteriorated, while approximately 30 percent of those ill-effected areas of the dry-stacked wall are completely collapsed (Figure 18). Figures19 is a photograph of the Area 1 seawall which will be repaired in this project. Figures 20 through 23 provide a photographic representation the CRM wall and a modern culvert observed during the field inspection.

Figure 13: Photographic View of Modern Bicycle Parts along Seawall in Area 2. View to Northwest.

Figure 14: Photographic View of Area of Modifications to the Seawall in Area 2. View to West.

Figure 15: Photographic Close-up of Modifications to the Area 2 Seawall Depicted in Figure 13. View to Northwest.

Figure 16: Photographic View of Modifications to the Area 2 Seawall. View to South.

Figure 17: Oblique Photographic View of Area Exhibiting Modifications to the Area 2 Seawall. View to South.

Figure 18: Photographic View of Continuation of Area Exhibiting Modifications to the Area 2 Seawall. View to Southwest.

Figure 19: Photographic View of Dry-Laid and Stacked Basalt Rock Seawall to be Repaired in Area 2. View to South.

Figure 20: Oblique Photographic View of Concrete Culvert in Area 2. View to North.

Figure 21: Photographic View of Concrete Culvert in Area 2. View to Northwest.

Figure 22: Photographic Plan View of Similar Concrete Culvert in Area 2. View to South.

Figure 23: Photographic Profile View of Area 2 Cement Culvert Depicted in Figure 22. View to Northwest.

AREA 1

Project Area 1, the southern project corridor located within TMK: (2) 4-6-009, extends approximately 730 feet (222 meters) along Front Street from just south of Lahainaluna Road to just north of Dickenson Street. The work within Project Area 1 will consist of repairing the damaged concrete wave deflector that projects over the basalt rock seawall, replacing the wood rails, reconstructing the damaged concrete sidewalk. In addition, the existing planters and trees will be replaced with at-grade planters and trees. Photographs of Area 1 are presented in Figures 24 through 31.

Mason Architects, Inc. (Mason n.d.) prepared an analysis of the Area 1 railing design from a historical perspective. According to Mason (n.d.:2), the grouted basalt rock seawall, which extends the full length of Area 1, was constructed in the early 1900s (Mason n.d.:2). Mason (n.d.:2) also indicated the initial wood railings were replaced with metal pipe railings by the 1920s and the seawall was modified in the 1930s. The current seawall and railings were constructed in 1979. According to Charles Schuster (Sato and Associates, personal communication February 5, 2020), Area 1 upper (reinforced concrete) portion of the seawall was reconstructed in 1979. The 1979 reinforced concrete section (including the overhanging lip, railing, concrete sidewalk and planters) replace and overlie a previous historic, CRM seawall (grouted basalt rock wall) which itself was topped by a reinforced concrete lip with overhanging wave deflector of unknown age. So, the 1979 work demolished/replaced a previous concrete wave deflector and extended the seawall vertically, 3 feet higher than previous. As shown in Figures 24 through 31, Area 1 consists of an intact corridor of grouted basalt rock seawall, concrete sidewalk with installed benches, fire hydrants, planters, bike racks, wood bollards, handrail, and lamp posts. The pedestrian handrail extends the full length of Area 1 (see Figure 31). In addition, the stacked, dry-laid basalt rocks fronting the Area 1 seawall (shown in Figure 31) was constructed during the 1979 work and extends 300 feet along the seawall.

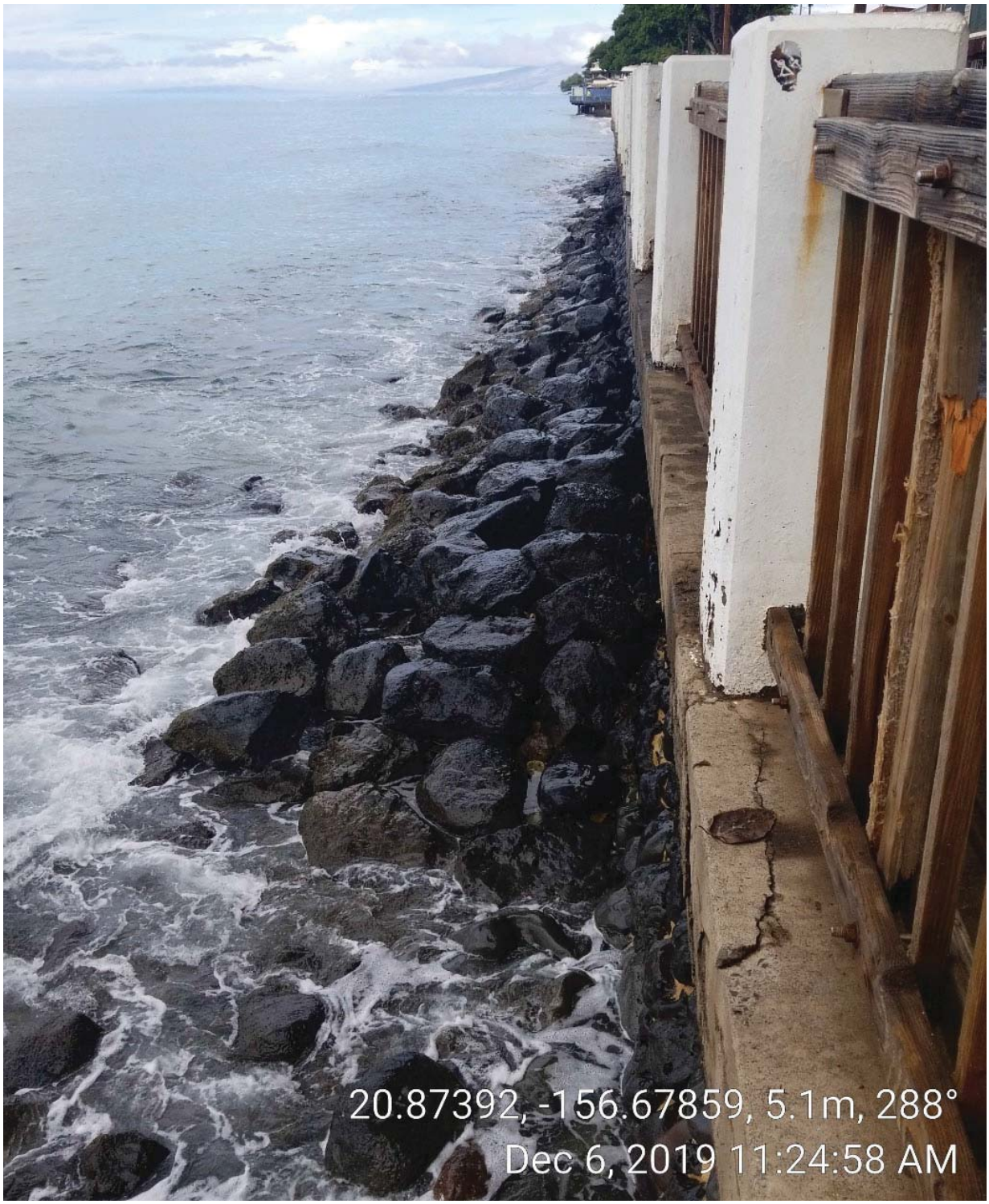


Figure 24: Photographic Overview of the Seawall and Railing within Area 1. View to Northwest.

Figure 25: Photographic Overview of Existing Sidewalk, Wooden Bench, and At-Grade Planter within Area 1. View to Northeast.

Figure 26: Oblique Photographic View of Existing Raised Planter along Front Street in Area 1. View to Northwest.

Figure 27: Photographic View of Existing Bicycle Rack Installed on the Sidewalk within Area 1. View to Northwest.

Figure 28: Photographic View of Existing Railing within Area 1. View to Southwest.

Figure 29: Photographic View of Existing Wood Bollard and Lamp Posts within Area 1. View to Northwest.

Figure 30: Photographic Overview of Area 1, Taken from Sidewalk. View to Southwest.

Figure 31: Photographic Overview of Area 1, taken from North End of Area 1 Seawall. View to Southeast.

SUMMARY

Scientific Consultant Services, Inc. has prepared an archaeological literature review and conducted an archaeological field inspection of two wall corridors in advance of the proposed Front Street Sidewalk, Railing, and Seawall Repair project. The seawall was divided into Area 1 and Area 2, both built environments, with Area 1 being more developed and utilized than Area 2. The corridors are located in Historic Lahaina Town, along the southwest (makai) edge of Front Street, Lahaina, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi. Project Area 1 is located in TMK: (2) 4-6-009, on land owned by the County of Maui and Area 2 is located in TMK: (2) 4-5-002.

As stated elsewhere in the report, the project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (Appendix A). This area has also been designated as a National Historic Landmark (Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2. The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawaiʻi, prepared by AECOM (May 2016) for the County of Maui Planning Department.

The findings of the archaeological field inspection indicate both Area 1 and Area 2 are historic seawalls originally constructed over 50 years ago. Evidence that Area 2 is an historic seawall (i.e., constructed over 50 years ago) is supported by an historic map (G. F. Wright 1916; Reg. Map 2782; see Figure 8), which depicts an existing seawall in project Area 2. Fronting the grouted basalt rock CRM seawall is a stacked, dry-laid, basalt rock wall that may be a modern addition to the historic seawall. The temporal affinity of the stacked dry-laid basalt boulders fronting the seawall was not established during the field inspection or during the literature review. The findings of the archaeological field inspection also led to the identification of recent modifications of areas on and adjacent to the seawall.

The Area 1 corridor of seawall has been established by Mason (n.d.:2) as being of historic origin as it was constructed during the early 1900s and is well over 50 years ago. However, this section of seawall has also undergone multiple modifications, some completed during the 1920s and 1930s. Recent modifications were also completed on this corridor less than 50 years ago, in 1979, and were documented by Mason (n.d.:3).

The SCS archaeological field inspection resulted in the visual confirmation of these historic and recent modifications. The field inspection also found that Area 1 is more frequented by the general population and tourists than Area 2

The proposed repairs to both seawall corridors seek to reconstruct the seawalls, at their design height in an effort to stabilize both seawalls. As both seawall corridors have been subjected to several reconstructions and stabilization episodes, the current proposed work will have no effect on the historic seawall corridors.

RECOMMENDATIONS

The current planned modifications will not impact the historic sections of the Area 1 and Area 2 seawalls, but will allow for re-construction of wall sections in Area 1 and Area 2 for stability and long-term protection. A large percentage of both corridors is dilapidated and needing repair. While both seawalls were originally constructed over 50 years ago, both have been heavily modified through time. No further archaeological work is recommended for this project.

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APPENDIX A: NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM

Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES

[redacted]

NATIONAL HISTORICAL LANDMARK - 1974 UPDATE

(Type all entries – complete applicable sections)

STATE:	
Hawaii	
COUNTY:	
Maui	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

SEE INSTRUCTIONS

1. NAME

COMMON: Lahaina

AND/OR HISTORIC: Lahaina (Historic District)

2. LOCATION

STREET AND NUMBER: Lahaina is a port town on the west coast of Maui island; it is 27 miles by road from Kahului airport.

CITY OR TOWN:

STATE	CODE	COUNTY:	CODE
Hawaii	15	Maui	009

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
[X] District [ ] Building [ ] Site [ ] Structure [ ] Object	[ ] Public [ ] Private [X] Both	Public Acquisition: [ ] In Process [ ] Being Considered	[X] Occupied [ ] Unoccupied [X] Preservation work in progress	Yes: [ ] Restricted [X] Unrestricted [ ] No

PRESENT USE *(Check One or More as Appropriate)*

[ ] Agricultural	[X] Government	[X] Park	[ ] Transportation	[ ] Comments
[X] Commercial	[ ] Industrial	[X] Private Residence	[ ] Other *(Specify)*	
[X] Educational	[ ] Military	[X] Religious		
[ ] Entertainment	[X] Museum	[ ] Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: Various, State of Hawaii, County of Hawaii, Lahaina Restoration Foundation and numerous private owners.

STREET AND NUMBER:

CITY OR TOWN: STATE: CODE

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: State Office Building

STREET AND NUMBER:

CITY OR TOWN:	STATE	CODE
Wailuku, Maui	Hawaii	15

RECEIVED JAN 21 1974 NATIONAL REGISTER

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: National Survey of Historic Sites and Bldgs., John A. Hussey, Regional Hist.

DATE OF SURVEY: July 17, 1962 [X] Federal [ ] State [ ] County [ ] Local

DEPOSITORY FOR SURVEY RECORDS: National Park Service, Washington, D.C.; also Theme XXI, Political and Military Affairs, 1865-1910, Special Study, Hawaii History, 1778-1910, USDI, NPS, 1962; 47th Mtg. Advisory Board, Oct. 15-17, 1962, at Hawaii Volcanoes National Park; Secretarial designation as Landmark:

STREET AND NUMBER:

CITY OR TOWN: STATE: CODE

Historic American Buildings Survey Nos. HA-9, 10, 11, 13, 37, 40, 41, 43

STATE: Hawaii

COUNTY: Maui

FOR NPS USE ONLY — ENTRY NUMBER — DATE

7. DESCRIPTION

CONDITION	(Check One)					
	☐ Excellent	☒ Good	☐ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One) ☒ Altered ☐ Unaltered			(Check One) ☐ Moved ☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL *(if known)* PHYSICAL APPEARANCE

For descriptions as to Lahaina conditions ca. 1962, see item 8.

1974 Update: The Board of Supervisors of the County of Maui, on April 21, 1967, following public hearings, passed on its second and final reading Ordinance No. 514 which established the Maui Historic Commission and /county/ Historic Districts Nos. 1 and 2 in the town of Lahaina. County historic districts 1 and 2 are shown on the "Lahaina Historic Districts Map," dated and revised March 22, 1967. A copy of this map is part of this update. Ordinance 514 explains that county historic district 2 "differs from /county/ District No. 1 in that there are no historic structures or sites within this district to be preserved or restored."

Ordinance 514 contains identical restrictions for county historic districts 1 and 2 on use, building heights, yard spacing and signs; provides for variances; and permits existing non-conforming uses to continue, but such may not be enlarged nor changed to other non-conforming use. (This last is the "grandfather" clause.)

Architectural controls within county historical districts 1 and 2 are exercised by the Maui County Historic Commission to preserve the prevailing historical atmosphere and architecture. County historical district boundaries generally run along street edges closest to the districts, i.e., the "near" side of streets, but in places cut through the interior of town blocks. Photograph No. 1 shows the architectural contrast between buildings inside and outside county historical district 2. County historic districts 1 and 2 include "downtown" Lahaina.

Vested interests in downtown Lahaina and its vicinity are held by the Lahaina Restoration Foundation, a private non-profit corporation; the Maui Historic Commission; Maui county agencies and elected and appointed county officials; State agencies and elected and appointed State officials; several Federal agencies; numerous landowners, some absentee; and the businessmen and residents of the Lahaina and West Maui area. In 1973 the climate of local support and opinion is wider and stronger than a decade before. Some of the Lahaina businessmen recently organized to further the historical project, hold weekly breakfast meetings, and are now (Dec. 1973) investigating the return of horses, wagons and carriages to Front Street.

The Lahaina Restoration Foundation, with statewide support from individuals and trusts, owns and/or operates several of the key historic features. It also has income-producing operations, such as admission fees and rentals from commercial use of some of its property. The Foundation has a paid staff and operates on a business basis. It sponsors and co-sponsors archeological and historical research; restorations (see photos 2 and 3), on-site

SEE INSTRUCTIONS

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

- [ ] Pre-Columbian
- [ ] 16th Century
- [ ] 18th Century
- [ ] 20th Century
- [ ] 15th Century
- [ ] 17th Century
- [X] 19th Century

SPECIFIC DATE(S) *(If Applicable and Known)*

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

Aboriginal	Education	Political	Urban Planning
Prehistoric	Engineering	Religion/Philosophy	Other *(Specify)*
Historic	Industry	Science	
Agriculture	Invention	Sculpture	
Architecture	Landscape Architecture	Social/Humanitarian	
Art	Literature	Theater	
Commerce	Military	Transportation	
Communications	Music		
Conservation			

STATEMENT OF SIGNIFICANCE

(1974) The American whalers, businessmen and missionaries who headquartered at the port town of Lahaina during many decades of the 19th century generated economic, cultural and governmental conditions which made great contributions to the Americanization of the Kingdom of Hawaii and the subsequent annexation of the islands by the United States. Lahaina preserves the atmosphere and architecture of a mid-19th century Hawaiian seaport.

(1972) "Lahaina preserves the atmosphere of a mid-19th century Hawaiian seaport. It is prominently associated with the American whaling industry in the Pacific, an important commercial activity that influenced the Americanization of Hawaii and its subsequent annexation by the United States. As the former capital of Maui, it was intermittently the residence of Hawaiian kings. American missionaries made Lahaina a center of activity and left important architectural influences." (The National Register of Historic Places, 1972, National Park Service, U. S. Department of the Interior, Washington, D. C., p. 121.)

(1962) "Significance: Perhaps no island town so well preserves the atmosphere of a mid-19th century Hawaiian seaport as does Lahaina; and thus it seems to be the key site for illustrating and commemorating one of the broad factors which resulted in the Americanization of Hawaii and which helped lead eventually to the annexation of the islands by the United States--the whaling industry. From about 1830 to about 1860 the semi-annual visits of the American whaling fleet to Lahaina and other Hawaiian ports constituted the dominant force in island economy, stimulating a diversified agriculture and a general trade which helped spread Western technology among the Hawaiian people. Also, the thirsting of thousands of seamen for liquor and women resulted in annual struggles with the authorities attempting to enforce the missionary induced "blue laws," a long campaign which the forces of law and order eventually won, with important effects upon the social and political conditions in the islands. The vital and long-continued need of the whalers for bases in the islands was one of the primary factors bringing Hawaii to the attention of the United State Government. In addition, Lahaina was the royal residence

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

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Community Planning Inc., Proposal for the historical restoration and preservation of Lahaina, Honolulu, 1961.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES	
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds
NW	20° 52' 39"	156° 42' 17"		° ' "	° ' "
NE	20° 53' 28"	156° 41' 06"			
SE	20° 51' 50"	156° 39' 50"			
SW	20° 51' 01"	156° 41' 00"			

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 1,671 (water: 1,333 ac.; land: 338 ac.)

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
Hawaii	15	Maui	009
STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY	CODE

RECEIVED JAN 21 1974 NATIONAL REGISTER

11. FORM PREPARED BY

NAME AND TITLE: Russell A. Apple, Pacific Historian

ORGANIZATION: Hawaii Group, National Park Service, USDI

DATE: Dec. 21, 1973

STREET AND NUMBER: Suite 512, 677 Ala Moana Blvd.

CITY OR TOWN: Honolulu

STATE: Hawaii 96813

CODE: 15

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☐ State ☐ Local ☐

Name _____

Title _____

Date _____

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date _____

ATTEST:

Keeper of The National Register

Date 9-13-74

GPO 928-379

SEE INSTRUCTIONS

7. DESCRIPTION - page 1 of 6

interpretation (see photo 4) and purchase of historic sites and buildings. The Maui county planning department has assigned a planner part-time to Lahaina matters and has provided him with an office in the historic Court House (see photo 5). An architectural style-book, which includes signs and alphabets, has been published to guide new construction within the county historic districts. The Commission meets regularly.

Architectural character of Front Street (see photo 6) within the county historic districts has been retained, and new construction (see photos 7 and 8) along this street continues the architectural theme. This is also true of the more inland parts of the county historical districts, but Front Street has the advantage of the adjacent Pacific ocean, with intermittent unobstructed views of the anchorage, the channel, and Lanai island. The last corner lot along Front Street to the north within county historical district 2 is vacant (see photo 9), and only the front 100 feet of this corner lot lies within county historic district 2. The last corner lot along Front Street to the south within county historical district 1 is undergoing development (see photo 10) as a shopping center under a "grandfathered" zoning situation. On that portion of the property just outside the historical district a high-rise condominium is under construction. Further along Front Street to the east (see photo 11) landscaped single-family dwellings predominate, with those on the right in photo 11 fronting on the ocean. The shopping center/condominium when completed will dominate this portion of Front Street when seen from the anchorage and from the nearby sites of Hawaiian royal dwellings and grounds within county historical district 1.

Inland within the county historical districts are a few "grandfathered" architectural non-conformities, but the mid-19th century atmosphere and architecture prevails. Much of the inland parts of the county historical districts consists of single-family homes, a county park, churches, cemeteries and grounds. Across the quiet tree-lined streets, adjacent but outside the county historical districts, are many single-family homes, a few of modern architecture, some open lots, churches, and some fields of sugarcane. Almost all roofs are well below treetops. There is much greenery in the large yards. The atmosphere of the residential areas of the town is quiet and peaceful in contrast to downtown Lahaina, with its businesses, parking problems, and relative throngs. From the inland perimeters of the county districts are many places where vistas of the West Maui mountains (see photo 12) are customary. Most of the town blocks inland and on the sides of the boundaries of the county historical districts contribute to the historical atmosphere of Lahaina in 1973.

7. DESCRIPTION - page 2 of 6

During a great portion of the 19th century, Lahaina was frequently one of the residences of the kings and paramount chiefs of the Kingdom of Hawaii. During the first and middle thirds of the century, the area which is now in the southern part of Maui county historic district 1 contained the persons, events, structures and buildings which give Lahaina importance for the themes of "royal residence and capital during much of the critical period when Hawaii was changing from a feudal autocracy to a constitutional monarchy." During the middle third of the century, when the theme of "whaling" became dominant, the focus of activity shifted slightly north, centered around the fort and missionary structures. Some structures from this middle period are still standing, but the county park, armory, and school are among the modern uses of the sites of the royal residences and grounds. The theme center for "whaling" is in the center along the waterfront of the county historic districts, but the theme center for "royalty and government change" lies adjacent to the southern boundary of the districts. This theme center receives county legal protection only on one side. Its other side is already threatened (see photo 10).

In his 1962 study, Dr. Hussey indentified nine structures as included among the principal historic structures and sites then visible. Those and additional ones are listed in Lahaina, A Walking Tour of Historic and Cultural Sites, a copy of which is included in this 1974 update. Additional information is presented below.

Baldwin House: House and grounds restored as historic house museum (see photo 3) and operated by the Lahaina Restoration Foundation. Admission fee.

Masters Reading Room: House and grounds restored (see photo 2); adaptive interior used as office of Lahaina Restoration Foundation. The building was started in 1833 by the missionaries to provide a place for ships' officers to read periodicals, such as hometown newspapers. Adjacent to Baldwin House.

Old Prison: (see photo 14) The standing cell block was destroyed by fire and rebuilt in the late 1960's. The entrance gate house was also rebuilt at that time by the County of Maui. It is open daily. Historical research done in 1971.

Court House: Traffic court still operates on second floor; county planning and other county departments have offices in the building. The cellar (for art classes) and part of the first floor (for sales room) are leased to an art studio.

ENVIRONMENTAL SURVEYS

APPENDIX

C

Environmental surveys for Front Street sea wall repairs, Lahaina, Maui

September 10, 2019 | ***DRAFT*** | *AECOS* No. 1593

Stacey Kilarski, Chad Linebaugh, and Allen Cattell
AECOS, Inc.
45-939 Kamehameha Hwy, Suite 104
Kāne'ohe, Hawai'i 96744
Phone: (808) 234-7770 Fax: (808) 234-7775 Email: aecos@aecos.com

Introduction 2
Project Description 3
Survey Methods 5
Water Quality 5
Flora 7
Avian Biota 8
Terrestrial Mammals 8
Insects 8
Marine Biota 9
Results 9
Water Quality 9
Vegetation 9
Flora 12
Avian Survey 14
Mammalian Survey 14
Insect Survey 14
Marine Resources 14
Discussion 22
Water Quality 22
Botanical Resources 28
Avian Resources 28

Mammalian Resources 29
Hawaiian Yellow-faced Bee Resources 30
Marine Resources 30
Essential Fish Habitat in the Project Area 32
References 35

Introduction

The County of Maui, Department of Public Works (DPW) proposes to restore two sections of seawall located along Front Street in Lahaina, Maui, Hawai'i (herein "the Project"; see Figures 1 and 2). The two sections along the seawall (denoted "Area 1" and "Area 2") are in need of structural repair and rehabilitation due to deterioration caused by wave impacts. *AECOS*, Inc. was contracted by Sato & Associates, Inc. to conduct water quality, botanical, and marine resources surveys to include assessment of Essential Fish Habitat (EFH) in the Project area. This report details findings of the field efforts conducted in July 2019.

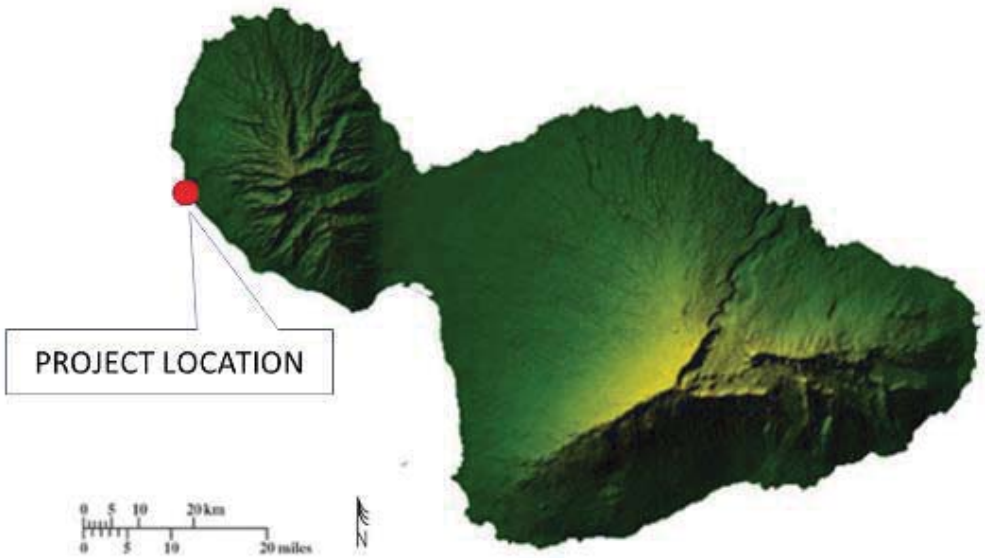

Figure 1. Location of the Project on the Island of Maui.

Figure 2. The location of Area 1 and Area 2 in Project area.

Project Description

The section of seawall along Front Street designated as Area 1 extends approximately 220 m (730 ft) between Dickenson Street and Lahainaluna Road (Fig. 2). Area 1 consists of a concrete seawall and sidewalk topped by a wooden railing, planters, concrete benches, and wooden bollards. The seawall, sidewalk, railing, planters, benches, and bollards are in need of repair. The seawall in Area 1 is approximately 2.4 m (8 ft) tall and is constructed of grouted basalt rock (concrete rock masonry or crm), topped with a concrete wave deflector and sidewalk. The proposed repair includes the demolition of (Sato and Associates, Inc., 2017a; Figure 3):

- Concrete curb and sidewalk (956 m^2 or 10,300 ft^2)
- Concrete seawall wave deflector lip (220 m or 730 ft)
- Wood railings with concrete pilasters (220 m or 730 ft)
- Eight planters (5 raised with crm walls, 3 at grade), 3 concrete benches, 2 wood benches and 12 mature trees

- Wood bollards (51 locations)
- Wood street light poles (12 locations)
- Concrete beach access stairway at north end of the Project site

The seawall lip, concrete sidewalk, railing, planters, street lights and beach access stairway will be reconstructed. Three existing fire hydrants will not be disturbed . Street furnishings (signs, bicycle racks, trash containers) will be removed and reinstalled after reconstruction.

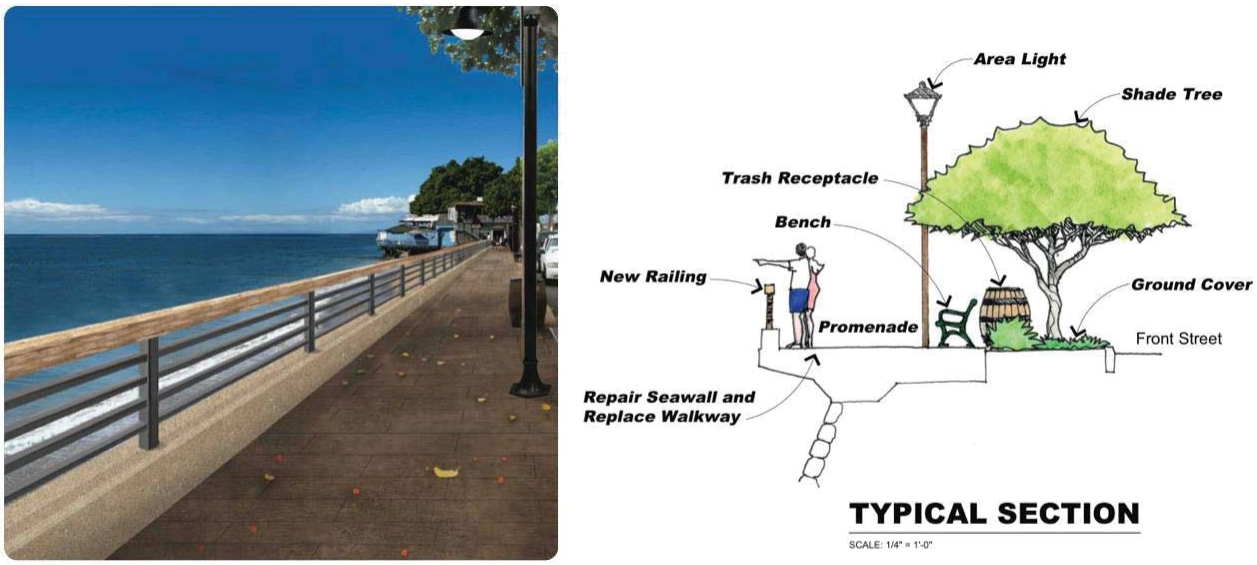

Figure 3. Conceptual sketch for seawall and sidewalk reconstruction at Area1 of seawall.

The section of seawall along Front Street designated as Area 2 extends approximately 220 m (730 ft) north from Papalaua Street (see Fig. 2). This area of shoreline is protected by a mortar topped lava rock wall extending approximately 0.6 m (2 ft) above the sidewalk to approximately 11 ft elevation. The crm wall is approximately 1 m (3 ft) wide and fronted by a stacked, ungrouted boulder wall approximately 1.8 to 2.4 m (6 to 8 ft) in height and width with a near vertical face. Boulders in this section of the seawall are of various sizes. In localized areas throughout the length of the seawall, wave action has displaced boulders from the stacked boulder wall. The Area 2 seawall is proposed to be reconstructed using lava rocks reclaimed from the shore fronting the wall (Figure 4).

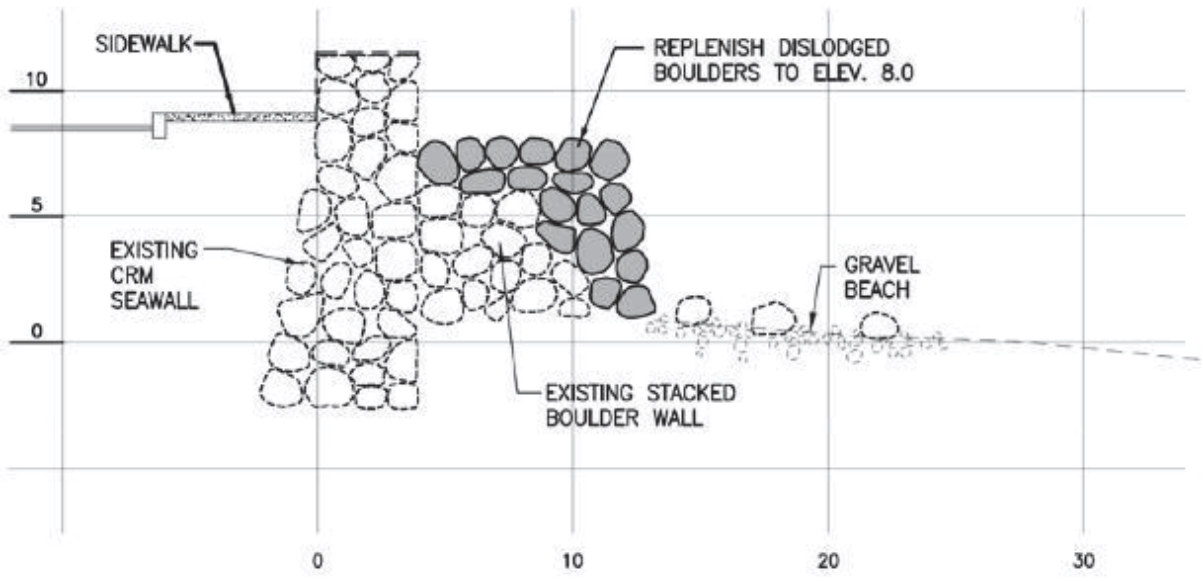

Figure 4. Conceptual sketch for boulder replenishment at Area 2 of seawall (Sato and Associates, Inc., 2017b).

Survey Methods

Water Quality

Water quality sampling was conducted on July 9, 2019 along 6 transects set perpendicular to shore (three transects in Area 1 and three transects in Area 2; see Figure 5) at stations 2 and 10 m from shore. Station names reflect Area ("1" or "2"), location (north end or "N", middle or "M", and south end or "S"), and distance along transect line ("2" for 2 m and "10" for 10 m). Temperature, salinity, pH, and dissolved oxygen (DO) were measured *in situ*. Water samples were collected, chilled, and returned to the *AECOS* laboratory for additional analyses (*AECOS* Log No. 38168). The following parameters were measured from these samples: salinity, turbidity, ammonia, nitrate+nitrite, total nitrogen, total phosphorus, and chlorophyll α. Table 1 lists the instruments and analytical methods used for these field and laboratory analyses.

Figure 5. Water quality stations, avian count stations, and botanical survey area at the Project site.

Table 1. Analytical methods and instruments used for water quality analyses.

Analysis	Method	Reference	Instrument
Temperature	SM 2550B	SM (1998)	YSI Model Pro Plus meter thermistor
Salinity	SM 120.1	SM (1998)	YSI Mode Pro Plus meter
pH	SM 4500H+	SM (1998)	pH pHep HANNA meter
Dissolved Oxygen	SM 4500-O G	SM (1998)	YSI Model Pro Plus meter
Turbidity	EPA 180.1, Rev. 2.0	USEPA (1993)	Hach 2100P Turbidimeter
Ammonia	EPA 349	USEPA (1997)	Lachat Quickchem 8500 Series 2 Flow Injection Analyzer
Nitrate + Nitrite	EPA 353.2	USEPA (1993)	Lachat Quickchem 8500 Series 2 Flow Injection Analyzer
Total Nitrogen	EPA 353.4	USEPA (1993)	Lachat Quickchem 8500 Series 2 Flow Injection Analyzer
Total Phosphorus	EPA 365.5	USEPA (1993)	Lachat Quickchem 8500 Series 2 Flow Injection Analyzer
Chlorophyll α	SM10200H(M)	SM (1998)	Turner Flurometer

Flora

AECOS biologists conducted a plant survey of the Project site on July 9, 2019 using a pedestrian or wandering transect method that entailed covering the survey area (Figure 5) on foot and noting each plant species as it was encountered. A Garmin 62sx GPS was used to record a progress track, providing the capability to mark the position of any feature or plant of special interest or concern. Any plant not immediately recognized during the survey was photographed and/or a representative feature (e.g., a flower, fruit, or leaf) collected for later identification at the laboratory.

Within the Project site, notes on plants encountered were kept for reporting a qualitative sense of each species abundance. Although the survey was conducted in the dry season, conditions with respect to plant health were adequate; plants were readily identifiable by fruits and flowers.

Plant names used herein follow *Manual of the Flowering Plants of Hawai'i* (Wagner, Herbst, & Sohmer, 1990; Wagner & Herbst, 1999) for native and naturalized flowering plants and *A Tropical Garden Flora* (Staples & Herbst, 2005) for ornamental plants. More recent name changes for naturalized plant species follow Imada (2012).

Avian Biota

Two avian count stations were established by the biologist within the Project site on July 9, 2019 (Fig. 5). A single eight-minute avian point-count was made at each station. Field observations were accomplished with the aid of Bushnell Fusion, 10 x 42 binoculars and by listening for vocalizations.

Avian counts were conducted between 06:15 and 07:00 AM. Additional bird species not detected during the point-counts, but observed during the botanical and water quality surveys, were noted as "incidental sightings". Weather conditions were ideal, with no rain, unlimited visibility, and light winds from the east at 5 to 10 mph. The avian phylogenetic order and nomenclature used in this report follows the *Checklist* of *North and Middle America Birds* by American Ornithological Society (Chesser et al., 2018).

Terrestrial Mammals

The survey of mammals was limited to visual and auditory detection, coupled with visual observation of scat, tracks, or other animal sign. A running tally of all terrestrial mammal species detected within the project area was kept along with notes of general abundances.

Insects

An abbreviated insect survey was conducted to establish presence or absence of Hawaiian yellow-faced bees (*Hylaeus* spp.) in the Project area. The survey entailed inspection of all plants in flower for the presence of insects. A running tally of any bee species present was recorded and all bees were identified to genus. The flora at the site was also evaluated to assess the likelihood of Hawaiian yellow-faced bee utilizing the Project area.

Marine Biota

Biologists conducted a biological reconnaissance survey of marine resources off Area 1 and Area 2 in the Project vicinity. The survey area included the nearshore waters out to approximately 120 m (400 ft) from the shore. On July 9, 2019 , the snorkel survey began at 06:30, 143 minutes after a predicted 0.34-ft low tide relative to mean lower low water (MLLW: Lahaina ID TPT2799: NOAA-NOS, 2019). Underwater visibility off Area 1 was poor (approximately 0.6 m or 2 ft), and was on the order of 2 m (6 ft) off Area 2. Depths surveyed ranged from 1 to 3 m (3 to 10 ft). Marine algae, fishes, and macroinvertebrates were identified in the field and verified with various texts (Hoover, 1999; Huisman, et al. 2007).

Results

Water Quality

Weather conditions were as follows on the morning of July 9, 2019: cloud cover was about 10 percent with winds from the east at 0 - 5 mph and 0.3 m (1 ft) waves breaking at all stations. Surf was 0.6 m (2 ft) to 1.2 m (4 ft) offshore with strong surge along shoreline. July rainfall for Lahaina included 0.01 in on July 7 at Station 515178 Lahainaluna 361 (Giambelluca, 2013). Water quality results for the Front Street Project area are presented in Table 2 (physical parameters) and Table 3 (nutrient and chlorophyll α data).

Little variation between stations was recorded for temperature (27.6 – 28.4° C), salinity (34.91 – 35.36 PSU), and pH (8.06 – 8.13). DO saturation was noticeably low (71%) at Sta. 1N-10, and turbidity was elevated (9.15 NTU) at Sta. 1N-2. Turbidity was higher at Area 1 stations compared with Area 2 stations. Ammonium and chlorophyll α values tended to be greater at Area 1 stations compared with Area 2. Total nitrogen values were low compared with most Hawai‘i coastal waters at all stations except Sta. 2S-2.

Vegetation

The vegetation at Area 1 is limited to several planters with trees and small hedges along Front Street (Figure 6). Weedy sedges and grasses grow in portions of the planters. Several trees grow through the seawall in Area 2. A few grasses and herbs grow out of cracks in the sidewalk and the seawall.

Table 2. Water quality results for physical parameters from samples collected on July 9, 2019.

Station	Time	Temp. (°C)	Salinity (PSU)	pH	DO Sat. (%)	Turbidity (NTU)
Area 1						
1N-2	0715	27.6	34.91	8.11	90	9.15
1N-10	0700	27.7	35.00	8.11	71	2.14
1M-2	0730	27.8	35.18	8.12	89	2.60
1M-10	0727	27.8	35.13	8.09	81	2.80
1S-2	0747	28.0	35.16	8.13	86	2.20
1S-10	0745	27.8	35.03	8.11	84	1.50
	Mean	**27.8**	**35.07**	**8.11**	**84**	**3.40**
Area 2						
2N-2	0858	28.4	35.35	8.13	91	2.85
2N-10	0901	28.1	35.36	8.12	88	0.90
2M-2	0837	28.0	35.22	8.10	89	1.39
2M-10	0846	27.9	35.36	8.10	86	1.03
2S-2	0830	27.7	35.08	8.06	89	1.64
2S-10	0820	27.7	34.97	8.06	86	1.70
	Mean	**28.0**	**35.22**	**8.10**	**88**	**1.59**

Table 3. Water quality results for nutrients and chlorophyll α for samples collected on July 9, 2019 for the Front Street Project.

Station	Time	NH_4 (µgN/L)	NO_3+NO_2 (µgN/L)	Total N (µgN/L)	Total P (µgP/L)	Chl. α (µg/L)
Area 1						
1N 2	0715	34	14	<70	18	0.78
1N 10	0700	9	8	<70	10	0.57
1M 2	0730	37	15	<70	9	0.50
1M 10	0727	20	11	<70	12	0.52
1S 2	0747	18	16	78	9	0.87
1S 10	0745	30	11	<70	10	0.41
	Mean	**25**	**13**	**---**	**11**	**0.61**

Table 3 (continued).

Station	Time	NH_4 (µgN/L)	NO_3+NO_2 (µgN/L)	Total N (µgN/L)	Total P (µgP/L)	Chl. α (µg/L)
Area 2						
2N 2	0858	3	12	<70	12	0.64
2N 10	0901	15	12	<70	7	0.28
2M 2	0837	6	18	<70	6	0.35
2M 10	0846	48	10	<70	14	0.26
2S 2	0830	25	19	118	13	0.54
2S 10	0820	14	11	<70	8	0.51
	Mean	**19**	**14**	**---**	**10**	**0.43**

Figure 6. Grasses and herbaceous weeds vegetate the planters beneath the *kou* trees along the Front Street Project site.

Flora

Only 20 species of plants were recorded from the survey area (Table 4). The planters in Area 1 have plantings of *kou* (*Cordia subcordata*), Mexican false heather (*Cuphea hyssopifolia*), and mock orange (*Murraya paniculata*). Bermuda grass (*Cynodon dactylon*), nutgrass (*Cyperus gracilis*), McCoy grass (*Cyperus gracilis*), and lovegrass (*Eragratis pectinaceae*) grow around the roots of the *kou* trees. A single tropical almond (*Terminalia catappa*) is growing along the shoreline at the south end of Area 1.

Coconut palms (*Cocos nucifera*) grow out of the seawall in the northern half of Area 2 where masonry work to the seawall has incorporated the trees into the structure. Buffelgrass (*Cenchrus ciliaris*) and pigweed (*Portulaca oleracea*) grow in cracks in the sidewalk. All of the plants, with the exception of two species, are common, naturalized (non-native) species. One indigenous species (plants native to Hawaiʻi and elsewhere) and a Polynesian introduction occur in the survey area: *kou* and coconut palm, respectively. A second species may also be indigenous: *mānieie ʻula* (*Chrysopogon aciculatus*) was first reported in Hawaiʻi in 1819 by Gaudichaud-Bweaupré, some (Nagata 1985; Whistler; 1995) believe this grass to be a European introduction to Hawaii and Tahiti while others (Wagner et al, 1990; 1999) present the likelihood that the species dispersed to Hawaii by natural means much earlier and is hence, indigenous or Polynesian introduced.

Table 4 - Flora present in the Front Street Project site in Lahaina, Maui.

Family *Species*	Common name	Status	Abundance
	FLOWERING PLANTS		
	DICOTYLEDONS		
BORAGINACEAE			
Cordia subcordata Lam.	*kou*	**Ind**	C
COMBRETACEAE			
Terminalia catappa L.	false *kamani*; tropical almond	Nat	R
EUPHORBIACEAE			
Euphorbia prostrata L.	prostrate spurge	Nat	R
FABACEAE			
Desmanthus pernambucanus (L.) Thellung	virgate mimosa	Nat	R

Table 4 (continued).

Family *Species*	Common name	Status	Abundance
LYTHRACEAE			
Cuphea hyssopifolia Kunth	Mexican false heather	Nat	O
Boerhavia coccinea Mill.	false *alena*	Nat	O
PORTULCACEAE			
Portulaca oleracea L.	pigweed	Nat	O
RUTACEAE			
Murraya paniculata (L.) Jack	mock orange	Nat	C
	FLOWERING PLANTS MONOCOTYLEDONS		
ALOEACEAE			
Aloe vera (L.) Burm. f.	*alo'e*; aloe	Nat	R
ARECACEAE			
Cocos nucifera L	*niu*; coconut palm	**Pol**	O
CYPERACEAE			
Cyperus rotundus L.	nutgrass	Nat	U
Cyperus gracilis R. Br.	McCoy grass	Nat	U
POACEAE (GRAMINEAE)			
Cenchrus ciliaris L.	buffelgrass	Nat	R
Chrysopogon aciculatus (Retz.) Trin.	*mānienie 'ula*; golden beardgrass	**Ind**?	R
Cynodon dactylon (L.) Pers.	Bermuda grass	Nat	C
Eragrostis pectinacea (Michx.) Nees var. *pectinacea*	Carolina lovegrass	Nat	U
Sporobolus africanus (Poir.) Robyns & Tournay	smutgrass	Nat	O
Stenotaphrum secundatum (Walter) Kuntze	St. Augustine grass	Nat	R

Legend to Table 4

Status = distributional status

Ind = indigenous; native to Hawai'i, but not unique to the Hawaiian Islands.

Ind? =

Nat = naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.

Abundance = occurrence ratings for plants in Project site July 9, 2019

R - Rare - only one or two plants seen.

U - Uncommon - several to a dozen plants observed.

O - Occasional - found regularly, but not abundant anywhere.

C - Common - considered an important part of the vegetation and observed numerous times.

Avian Survey

During the stationary point-count surveys, 100 individual birds of eight species representing six families (Table 5) were observed. Nearly all species detected during these point-counts are alien to the Hawaiian Islands. House Sparrow (*Passer domesticus*), Common Myna (*Acridotheres tristis*) and Rock Pidgeon (*Columba livia*) were the most abundant species observed, accounting for 66% of individual birds sighted. The only indigenous species recorded was a single *'iwa* or Great Frigatebird (*Fregata minor*) high over the Project site, flying south above shore.

Generally, the two proposed work areas had similar bird species present, with the cacophonous sounds of Red Junglefowl in Area 1 the only difference. Interestingly, the flock of House Sparrow encountered in Area 2 were feeding alongside a few *'a'ama* crabs (*Grapsus tenuicrustatus*) from a pile of cat food placed on the seawall by someone.

Mammalian Survey

Two domesticated dog (*Canus lupus familiaris*) were observed along the beach north of the Project site and tracks from a dog were present on the beach fronting Area 1. No other mammal was detected during the survey.

Insect Survey

No Hawaiian yellow-face bees (*Hylaeus* spp.) were noted at the Project site during the survey. A few carpenter bees (*Ceratina* sp.) were observed flying among the flowers and leaves of the mock orange and Mexican false heather hedges.

Marine Resources

The beach fronting the north end of Area 1 is mainly composed of coral sand. Ghost crabs (*Ocypode pallidula*) are common here. At the south end of Area 1, basalt boulders line the shore and host helmet urchin (*Colobocentrotus atratus*), nerite or *pipipi* (*Nerita picea*), dotted periwinkle (*Littoraria pintado*), *'opihi* (*Cellana exarata* and *C. sandwicensis*), and thin shelled rock crab or *a'ama* (*Grapsus tenuicrustatus*). Offshore the bottom is sand with limestone cobbles. A moderate amount of macroalgae is growing on the cobbles, including: *Padina sanctae-crucis*, *Acanthophora spicifera*, *Halimeda discoidea*, *Halimeda opunitia*, *Caulerpa sertularioides, Neomeris* spp., and *Hydrolithon* spp. Macroinvertebrates observed include urchins (*Echnometra mathaei*, *Tripneustes gratilla*, *Echinothrix*

Table 5. List of bird species observed and their relative abundance at the Project site during the morning of July 9, 2019.

ORDER FAMILY *Species*	Common Name	Status	SPC Sta.1	SPC Sta.2	Relative Abundance (total/SPC)
	BIRDS				
COLOMBIFORMES					
COLUMBIDAE					
Columba livia Gmelin	Rock Pidgeon	Nat	8	13	10.50
Geopelia striata Linnaeus	Zebra Dove	Nat	4	12	8.00
Streptopelia chinensis Scopoli	Spotted Dove	Nat	10	2	6.00
GALLIFORMES					
PHASIANIDAE					
Gallus gallus Linnaeus	Red Junglefowl	**Pol**	3	--	1.50
PASSERIFORMES					
FRINGILIIDAE					
PASSERIDAE					
Passer domesticus Linnaeus	House Sparrow	Nat	8	16	12.00
STURNIDAE					
Acridotheres tristis Linnaeus	Common Myna	Nat	10	11	10.50
THRAUPIDAE					
Paroaria coronata Miller	Red-crested Cardinal	Nat	--	--	Incid. (2)
SULIFORMES					
FREGATIDAE					
Fregata minor Gmelin	*ʻiwa*; Great Frigatebird	**Ind**	1	--	0.50

Legend to Table 5

Nat – Naturalized (alien) species
Ind – Indigenous resident: species found in Hawaiʻi and elsewhere
Pol – Polynesian introduction prior to 1778

diadema, and *Diadema paucispinum*), and sea cucumbers (*Holothuria cinerascens*, *H. atra,* and *H. whitmaei*). Corals (*Porites* spp.) are rare in this area, with a few colonies observed at least 20 m (65 ft) from the shore (Figure 7). Fishes are uncommon. Those observed include convict tang or *manini* (*Acanthurus triostegus*), ringtail surgeonfish (*A. blochii*), Hawaiian sergeant (*Abudefduf abdominalis*), saddle wrasse (*Thalassoma duperrey*), Hawaiian whitespot toby (*Canthigaster jacator*), wedgetail triggerfish or *humuhumu-nukunuku-ā-pua'a* (*Rhinecanthus rectangulus*), and juvenile racoon butterflyfish (*Chaetodon lunula*). A single green sea turtle (*Chelonia mydas*) was observed during the survey.

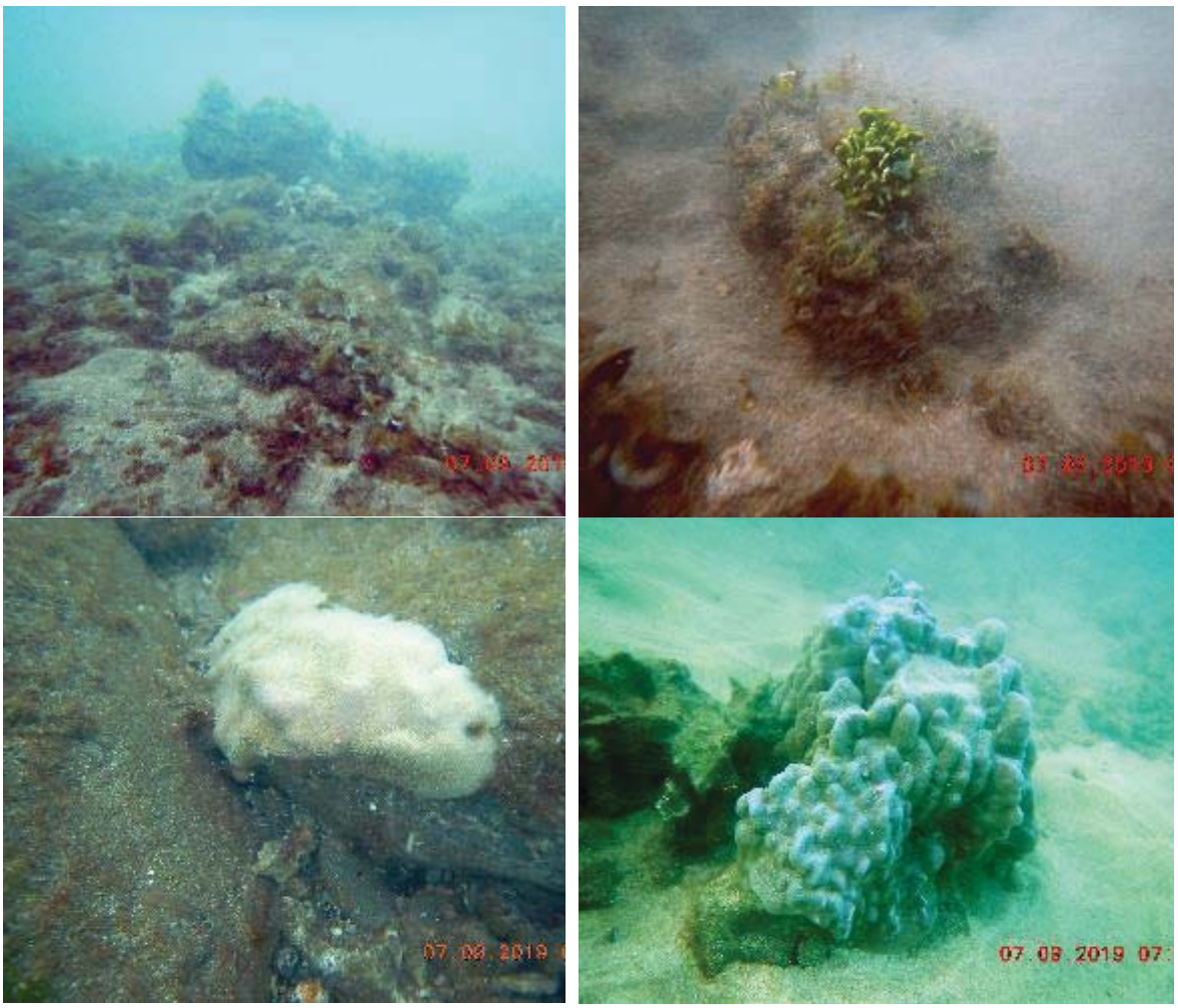

Figure. 7. Bottom offshore of Area 1 is sand and cobbles with macroalgae (top photos). Corals (*Porites* spp.) are rare and occur at least 20 m (65 ft) from shore.

Basalt boulders front the seawall in Area 2. Helmet urchin, nerite or *pipipi*, dotted periwinkle, '*opihi,* and thin shelled rock crab or *a'ama* are observed on the boulders. Offshore the bottom is rubble and sand, with scattered boulders. The rubble and boulders host macroalgae, including: *Dictyota sandvicensis*, *Tricleocarpa cylindrica*, *Acanthophora spicifera*, *Asparagopsis taxiformis*, *Caulerpa sertularioides*, *Hydrolithon reinboldii,* and *Lyngbya majuscula*. Urchins (*Echnometra mathaei*, *Tripneustes gratilla*, *Echinothrix diadema*, and *Diadema paucispinum*) are common. Corals (*Porites* spp.) are rare off the south end of the Area 2, with a few colonies observed in this vicinity. At the north end of Area 2, colonies of *Psammocora stellata* are common (Figure 8).

Figure. 8. Bottom offshore of Area 2 is sand and cobbles with macroalgae (top left photo). Colonies of Porites spp. are rare (top right photo). Colonies of *Psam. stellata* are common at the north end of Area 2 (bottom left photo) where much debris (tires, broken boat parts) is also present (bottom right photo).

Fishes observed in Area 2 include convict tang (*A. triostegus*), surgeonfish (*A. blochii*, *A. dussumieri*, *Naso unicornis*, *N. lituratus*), Hawaiian sergeant (*A. abdominalis*), blackspot sergeant (*A. sordidus*), wrasses (*T. duperrey* and *Stethojulis balteata*), whitesaddle goatfish (*Parupeneus porphyreus*), and bluefin trevally (*Caranx melampygus*). A school of square spot goatfish (*Mulloidichthys flavolineatus*) occur feeding in the rubble and sand. Debris (tires, rugs/mats, and broken boat pieces) are found scattered across the seafloor in Area 2. Table 6 is a listing of marine biota identified by *AECOS* biologists on July 9, 2019 in the Project vicinity.

Table 6. Inventory of marine biota observed at Front Street Project vicinity in Lahaina, Maui, July 9, 2019.

PHYLUM, CLASS, ORDER, FAMILY *Species*	Common name & *Hawaiian name*	Status	**Abundance by location** Area 1	 Area 2
	ALGAE			
CYANOPHYTA	CYANOBACTERIA			
Lyngbya majuscula	stinging algae	**Ind**	--	A
RHODOPHYTA	RED ALGAE			
Acanthophora spicifera		**Ind**	--	C
Asparagopsis taxiformis		**Ind**	--	C
Galaxaura rugosa		**Ind**	--	O
Hydrolithon gardineri		**Ind**	O	--
Hydrolithon onkodes		**Ind**	O	--
Hydrolithon reinboldii		**Ind**	O	O
Liagora albicans		**Ind**	O	--
Tricleocarpa cylindrica		**Ind**	--	C
CHLOROPHYTA	GREEN ALGAE			
Caulerpa serrulata	saw caulerpa	**Ind**	R	--
Caulerpa sertularioides		**Ind**	--	O
Codium edule		**Ind**	--	O
Halimeda discoidea		**Ind**	C	O
Halimeda opuntia		**Ind**	C	O
Halimeda kanaloana		**End**	C	--
Neomeris sp.		**Ind**	O	C
PHAEOPHYTA	BROWN ALGAE			
Asteronema breviarticulatum		**Ind**	--	O
Padina sanctae-crucis		**Ind**	C	O

Table 6 (continued).

PHYLUM, CLASS, ORDER, FAMILY *Species*	Common name & *Hawaiian name*	Status	**Abundance by location** Area 1	Area 2
Dictyota friabilis		**Ind**	--	O
Dictyota sandvicensis		**End**	O	C
	INVERTEBRATES			
CNIDARIA, ANTHOZOA, ZOANTHINARIA	ZOANTHIDS			
Palythoa caesia	blue-gray zoanthid	**Ind**	C	--
Zoanthus spp.	colonial zoanthid	**--**	C	--
CNIDARIA, ANTHOZOA, SCLERACTINIA	HARD CORALS			
PORITIDAE				
Porites lobata	lobe coral	**Ind**	C	C
SIDERASTREIDAE				
Psammocora stellata	stellar coral	**Ind**	--	C
MOLLUSCA, GASTROPODA	SNAILS			
NACELLIDAE				
Cellana exarata	dark footed limpet; *'opihi maka ia uli*	**End**	O	O
Cellana sandwicensis	yellow-foot ʻopihi; *ʻopihi ʻālinalina*	**End**	O	O
PATELLIDAE				
Siphonaria normalis	false limpet, *ʻopihi-ʻawa*	**Ind**	O	O
LITTORINIMORPHA				
Littoraria pintado	dotted periwinkle	**Ind**	O	O
NERITIDAE				
Nerita picea	common nerite; *pipipi*	**End**	A	C
CYPRAEIDAE				
Cypraea tigris schilderiana	Hawaiian tiger cowry	**End**	--	R
ARTHROPODA, MALACOSTRACA, DECAPODA	ROCK CRABS			
GRAPSIDAE				
Grapsus tenuicrustatus	thin-shelled rock crab, *aʻama*	**Ind**	C	O
Grapsus planissimum	flat rock crab; *pāpā*	**Ind**	O	O
OCYPODIDAE				
Ocypode pallidula	pallid ghost crab	**Ind**	C	--
ECHINODERMATA, ECHINOIDEA, DIADEMATOIDA,	URCHINS			

Table 6 (continued).

PHYLUM, CLASS, ORDER, FAMILY *Species*	Common name & *Hawaiian name*	Status	**Abundance by location** Area 1	Area 2
DIAMDEMATIDAE				
Diadema paucispinum	long spine urchin	**Ind**	O	O
Echinothrix diadema	blue-black urchin; *wana*	**Ind**	C	C
ECHINOMETRIDAE				
Colobocentrotus atratus	helmet urchin; *haʻukeʻuke*	**Ind**	C	C
Echinometra mathaei	rock boring urchin, *ʻina kea*	**Ind**	C	C
TEMNOPLEUROIDA, TOXOPNEUSTIDAE				
Tripneustes gratilla	collector urchin, *hāwaʻe maoli*	**Ind**	O	O
ECHINODERMATA, HOLOTHUROIDAE HOLOTHURIIDAE	SEA CUCUMBERS			
Holothuria cinerascens	ashy sea cucumber; *loli pua*	**Ind**	R	--
Holothurian atra	black sea cucumber; *loli okuhi kuhi*	**Ind**	O	--
Holothuria whitmaei	teated sea cucumber; *loli*	**Ind**	R	--
CHORDATA, ACTINOPTERYGII	**VERTEBRATES** BONY FISHES			
ACANTHURIDAE	SURGEONFISHES and UNICORNFISH			
Acanthurus triostegus	convict tang; *manini*	**Ind**	O	C
Acanthurus blochii	ringtail surgeonfish; *pualu*	**Ind**	O	O
Acanthurus dussumieri	whitespine surgeonfish; *palani*	**Ind**	--	O
Naso unicornis	bluespine unicornfish; *kala*	**Ind**	--	O
Naso lituratus	orangespine unicornfish; *umauma lei*	**Ind**	--	O
POMACENTRIDAE	DAMSELFISH			
Abudefduf abdominalis	Hawaiian sergeant; *mamo*	**End**	O	O

Table 6 (continued).

PHYLUM, CLASS, ORDER, FAMILY *Species*	Common name & *Hawaiian name*	Status	**Abundance by location** Area 1	Area 2
Abudefduf sordidus	blackspot sergeant; *kūpīpī*	**Ind**	--	C
Dascyllus albisella	Hawaiian dascyllus	**End**	--	O
LABRIDAE	WRASSES			
Thalassoma duperrey	saddle wrasse; *hinalea lauwili*	**End**	C	C
Stethojulis balteata	belted wrasse; *ʻomaka*	**End**	--	O
TETRAODONTIDAE	PUFFERFISHES			
Canthigaster amboinensis	ambon toby	**Ind**	--	R
Canthigaster jacator	Hawaiian whitespot toby	**End**	O	--
BALISTIDAE	TRIGGERFISHES			
Rhinecanthus rectangulus	wedgetail triggerfish; *humuhumu-nukunuku-ā-puaʻa*	**Ind**	O	O
CARANGIDAE	JACKS			
Caranx melampygus	bluefin trevally; *ʻōmilu*	**Ind**	--	R
MULLIDAE	GOATFISHES			
Parupeneus porphyreus	whitesaddle goatfish; *kūmū*	**End**	--	R
Mulloidichthys flavolineatus	square-spot goatfish; *weke*	**Ind**	--	C
CHAETODONTIDAE	BUTTERFLYFISHES			
Chaetodon lunula	raccoon butterflyfish; *kīkākapu*	**Ind**	R	--
Chaetodon miliaris	milletseed butterflyfish; *lauwiliwili*	**End**	--	R
CHORDATA, REPTILIA	REPTILES			
CHELONIIDAE				
Chelonia mydas	green sea turtle, *honu*	**Ind**	R	--

Key to Table 6

Abundance categories:

R – Rare – only one or two individuals observed.
O – Occasional – seen irregularly in small numbers
C – Common –observed everywhere, although generally not in large numbers.
A – Abundant – observed in large numbers and widely distributed.

Status categories:

End – Endemic – species found only in Hawaiʻi.
Ind – Indigenous – species found in Hawaiʻi and elsewhere.
Nat – Naturalized – species introduced to Hawaiʻi intentionally, or accidentally.

Discussion

Water Quality

The nearshore marine waters off the Front Street Project are classified as open coastal waters in Hawaii's Water Quality Standards (HAR Chapter 11-54; HDOH, 2014) and are included on the Hawaiʻi Department of Health (HDOH) 2018 list of impaired waters in Hawaiʻi prepared under Clean Water Act §303(d) (HDOH, 2018) for waters out to 18 m (60 ft) from shore between Honolua and Lahaina (Water ID HIW00060). Listed parameters include nitrate+nitrite, total nitrogen, and total phosphorus, total suspended sediments, turbidity and insufficient data for ammonium and chlorophyll α. A Total Maximum Daily Load Study (TMDL) is needed (and is given a medium priority rating).

State water quality criteria for the parameters monitored during this survey are given in Table 7. Criteria for temperature, salinity, DO and pH are based on deviations from ambient conditions, while the criteria for turbidity, nutrients (nitrogen and phosphorus), and chlorophyll α are based on comparisons to geometric mean values.

Two sets of water quality criteria ("wet" and "dry") are specified for open coastal waters for turbidity, nutrients and chlorophyll α. Whether wet or dry criteria apply depends upon freshwater discharge volume as stream and/or groundwater input to the shore (see Table 7 footnote below for details). For the purposes of this analysis, it is assumed dry criteria apply to the Project area

Not all of the water quality results from the July 9 sampling event can be compared directly with state water quality criteria because representative geometric mean values are necessary; these are calculated from a minimum of three sampling events for turbidity, chlorophyll α, and nutrients. However, the criteria may serve as a guide to what are regarded as acceptable water quality as long as limitations on lack of representativeness of our samples are recognized. Salinity, pH, and DO saturation values can be compared with state criteria presented in Table 7.

Salinity and pH results did meet the state criteria during the present survey. DO saturation at one station (Sta. 1N-10) did not meet the state criteria. Turbidity levels were elevated, but this is typical in nearshore waters due to wind and wave action stirring up bottom sediments. Ammonia, nitrate+nitrite, and chlorophyll α concentrations were elevated off the Project area; again, a common occurrence in nearshore waters. Interestingly, total nitrogen

concentrations were uncharacteristically low during this sampling event, whereas total phosphorus concentrations were typical for coastal waters.

Table 7. Selected state of Hawaii water quality criteria for open coastal waters for both dry (upper value) and wet (lower value) seasons (HAR §11-54-05.2; HDOH, 2014).

Parameter	Geometric Mean value not to exceed this value	Value not to be exceeded more than 10% of the time	Value not to be exceeded more than 2% of the time
Ammonia Nitrogen (µg N/l)	2.00 *3.50*	5.00 *8.50*	9.00 *15.00*
Nitrate+Nitrite (µg N/l)	3.50 *5.00*	10.00 *14.00*	20.00 *25.00*
Total Nitrogen (µg N/l)	110.00 *150.00*	180.00 *250.00*	250.00 *350.00*
Total Phosphorus (µg P/l)	16.00 *20.00*	30.00 *40.00*	45.00 *60.00*
Chlorophyll ?, (µg/l)	0.15 *0.30*	0.50 *0.90*	1.00 *1.75*
Turbidity (NTU)	0.20 *0.50*	0.50 *1.25*	1.00 *2.00*

Two values: upper, "dry" criteria apply when the open coastal waters receive less than three million gallons per day of freshwater discharge per shoreline mile; lower, "wet" (italicized) criteria apply when the open coastal waters receive more than three million gallons per day of freshwater discharge per shoreline mile.

Other "standards":

- pH units shall not deviate more than 0.5 units from a value of 8.1.
- Dissolved oxygen shall not decrease below 75% of saturation.
- Temperature shall not vary more than 1°C from ambient conditions.
- Salinity shall not vary more than 10% from natural or seasonal changes.

Historic water quality data are available for a HDOH monitoring Station HI-657 located about 180 m (590 ft) offshore of Project Area 1 (location shown in Fig. 5). This station was sampled periodically between August 1989 and September 1997 (HDOH, 1997). Distribution curves for selected parameters from this monitoring program are shown in Figures 9 through 14 and compared with means generated by combining all of the station results from an area obtained from the present survey.

Mean pH values for Area 1 and Area 2 of the present survey are compared with historic data (Sta. HI-657) in Figure 9. Historic pH values in the Project area covered the range specified by the state criterion (7.10 – 8.60). Present survey values occurred in the middle portion of the historic range and are typical for seawater. pH can vary in coastal waters on a diurnal basis, depending upon the amount of photosynthesis occurring at a given time because uptake of carbon dioxide by photosynthesis increases pH. This process reverses in the absence of photosynthesis; i.e., during night-time hours.

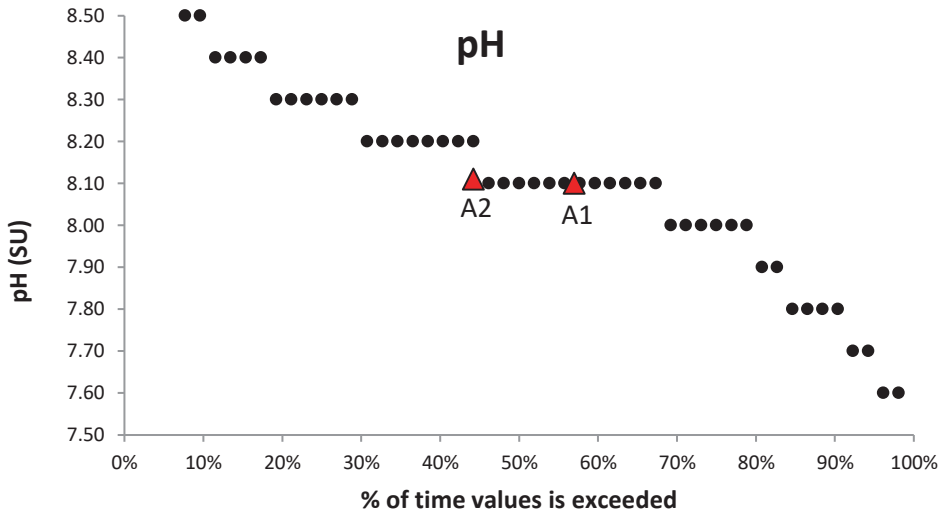

Figure 9. Distribution curve for historic pH data (Sta. HI-657) and mean values for present survey Area 1 (A1) and Area 2 (A2).

DO saturation values in the Project area have been typically high during daylight hours (Figure 10) indicating relatively high photosynthetic rates. Present survey area means were low by comparison due to the fact that these samples were collected during morning hours (0715 – 0820 hours) well before photosynthesis reached maximum daily rates. Nevertheless, present survey DO saturation levels were greater than the state criterion minimum of 75 percent saturation at all stations except one (Sta. 1N-10 was at 71%).

Turbidity values for the historic data were consistently higher than the state dry geometric criterion of 0.20 NTU (Figure 11). Turbidity means for the present survey were also elevated compared with historic data, especially at A2 and likely due to effects of wind/wave action stirring up sediments in these shallow nearshore waters.

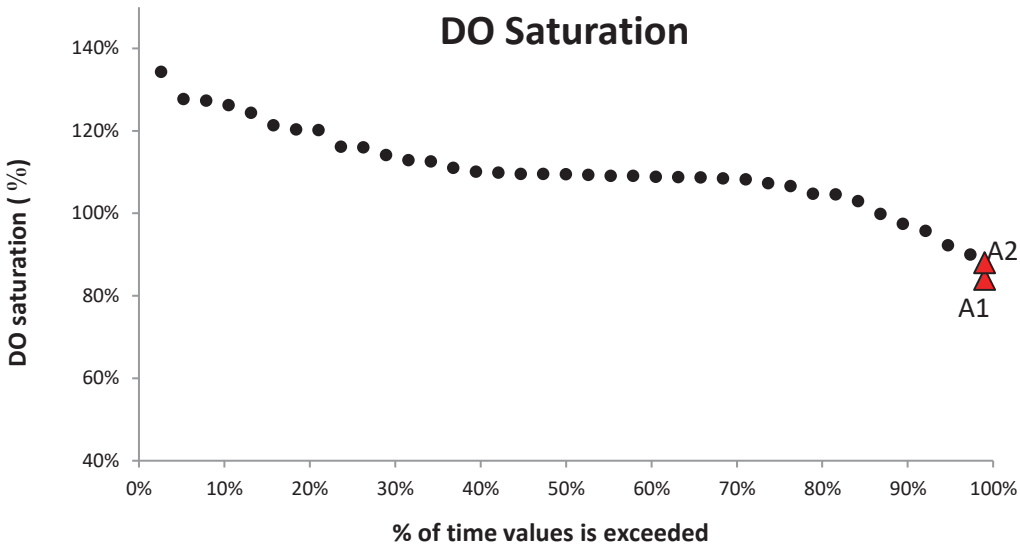

Figure 10. Distribution curve for historic DO saturation data (Sta. HI-657) and mean values for present survey Area 1 (A1) and Area 2 (A2).

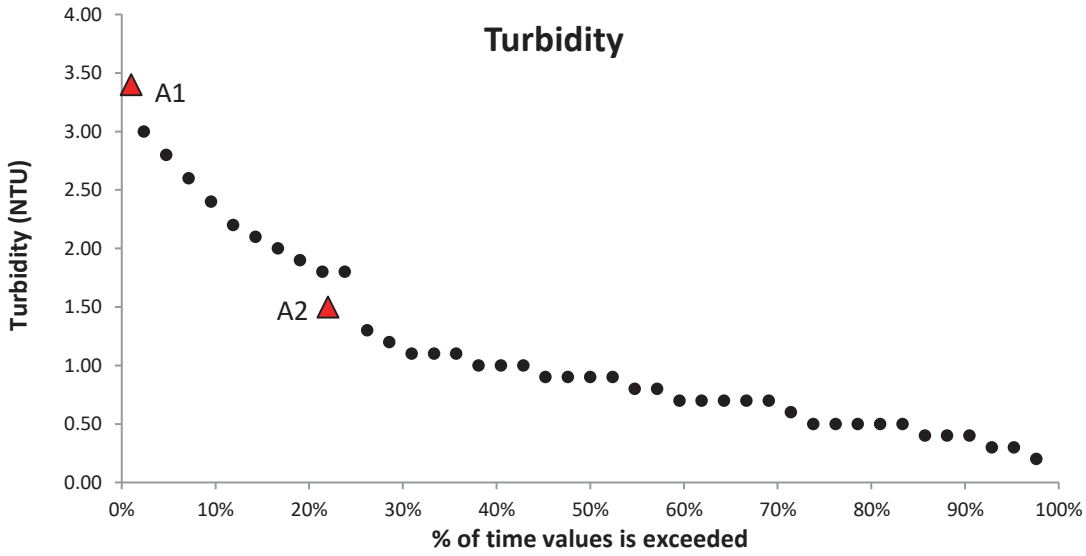

Figure 11. Distribution curve for historic turbidity data (Sta. HI-657) and mean values for present survey Area 1 (A1) and Area 2 (A2).

Historic ammonia values off the Project area were elevated (Figure 12) compared with the state geometric dry criterion of 2.00 µg/L. Ammonia means for the present survey were yet higher. It is not known whether the higher means for A1 and A2 represent changes in time, changes related to distance from shore, or simply natural variability. Nevertheless, present survey ammonia values are within the range typical for other Maui coastal waters (*AECOS*, 2019a, 2019b; Faliniski et al., 2019).

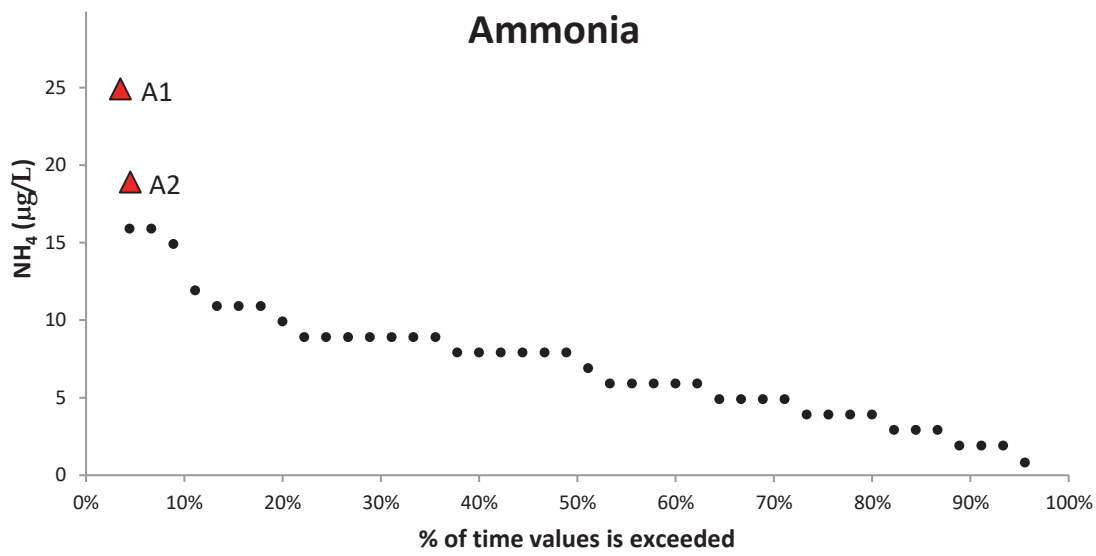

Figure 12. Distribution curve for historic ammonia data (Sta. HI-657) and mean values for present survey Area 1 (A1) and Area 2 (A2).

Nitrate+nitrite values in the Project area were elevated compared with the state dry geometric mean criterion. Unfortunately, the historic nitrate+nitrite data available to us showed no variability—all values were listed as 10 µg/L)—and thus were not suitable for comparable purposes. Present survey ammonia values were, however, within the range typical for other Maui coastal waters (*AECOS*, 2019a; 2019b, Faliniski et al., 2019).

Total nitrogen values for historic data (Figure 13) were low compared with many coastal waters in Hawai‘i. Total N values for the present survey were also low with only two individual values above the analytical method detection level. These two individual values are shown as A1 and A2 in Figure 13.

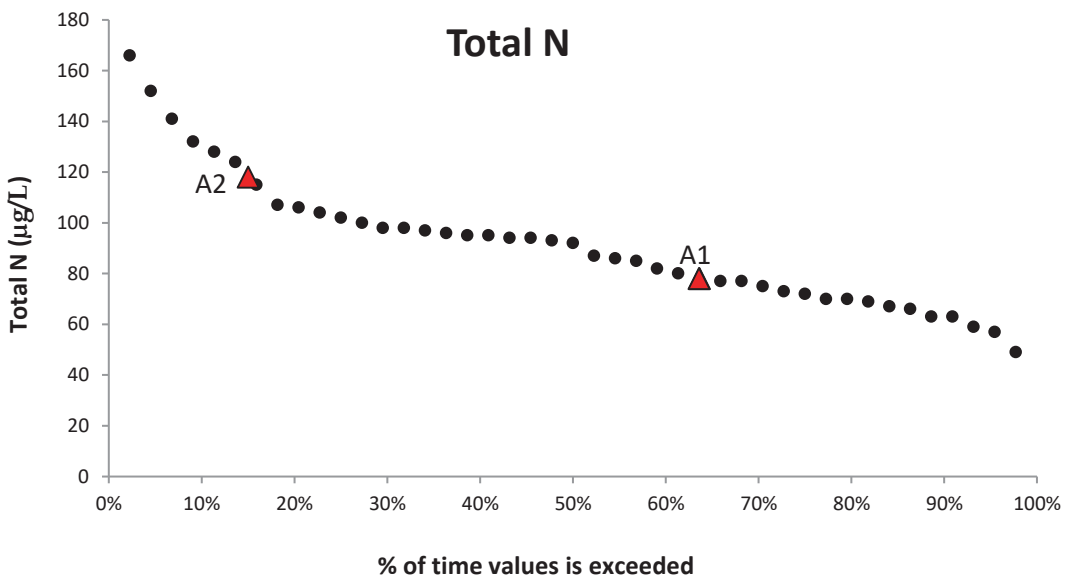

Figure 13. Distribution curve for historic total nitrogen data (Sta. HI-657) and values for present survey Area 1 (A1) and Area 2 (A2).

Total P mean values for the present survey were similar to historic values (Figure 14) and both data sets would meet the state dry geometric mean criterion.

In general, water quality data collected during the July 9, 2019 sampling event were within distribution limits for historic data collected by HDOH over an 8-year period between 1989 and 1997 and with other water quality data for Maui coastal waters (*AECOS*, 2019a, 2019b; Faliniski et al., 2019). As such, the present survey water quality data can be considered representative of the Project area with some possible exceptions: (1) ammonia values during the present survey were notably elevated compared with historic data; and (2) turbidity values were somewhat elevated during the present survey. As noted above, differences in turbidity values likely results from effects of wind/wave action on shallow nearshore waters stirring up sediments (Stas. 1 and 2), compared with calmer, deeper offshore waters (Sta. HI-657) and in the absence of turbid water discharges at the shore.

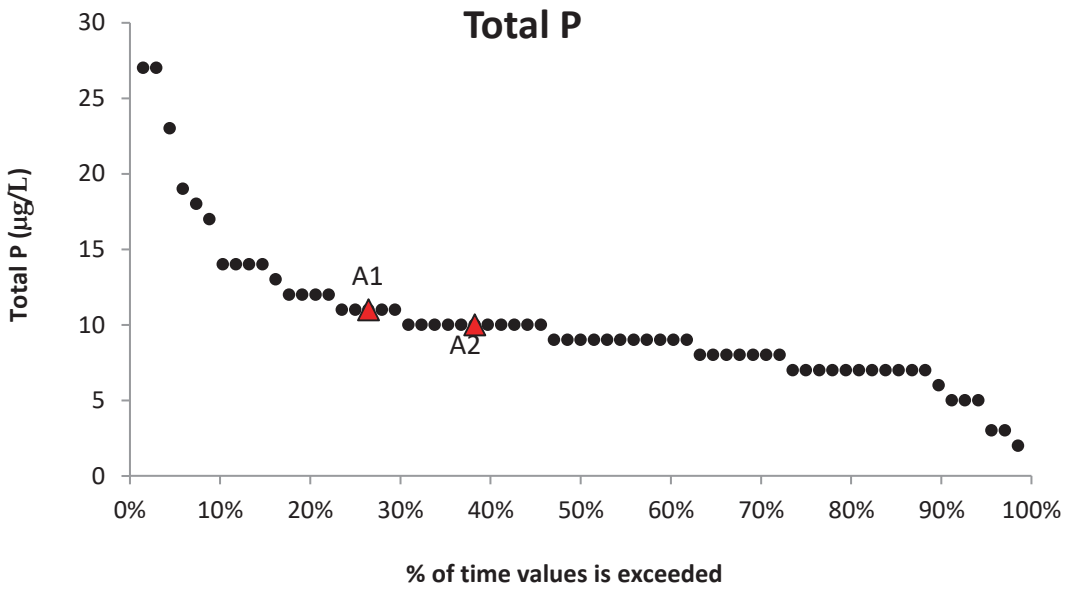

Figure 14. Distribution curve for historic total phosphorus data (Sta. HI-657) and mean values for present survey Area 1 (A1) and Area 2 (A2).

Botanical Resources

No plants of any particular concern were recorded during our survey. Indeed, with the exception of *kou* and coconut palm plantings, only a single (perhaps) native plant species was observed on the Project site: *mānienie ʻula*. All of these indigenous or Polynesian introduced species are common in the Hawaiian Islands and though not important from a natural resources conservation perspective, the trees do provide shade and scenery to the Front Street waterfront. No species listed as state or federally threatened or endangered (HDLNR, 1998; USFWS, 2019) are present in the Project area.

Avian Resources

The majority of birds observed in the project area are naturalized, urban-dwelling birds. Of the eight species observed (including incidental observations), three (Rock Pidgeon, Spotted Dove, Zebra Dove) are listed as injurious species—animals known to be harmful to agriculture, aquaculture, indigenous wildlife, or plants, or constitute a nuisance or health hazard (HDLNR, 2015). No species listed as state or federally endangered or threatened (HDLNR, 2015; USFWS,

2019) were seen or expected to utilize the Project area. The Project is not expected to adversely impact avian resources recorded from the area.

The Migratory Bird Treaty Act (MBTA) offers protection to several species of birds that occur on Maui, including seabirds and shorebirds. No known nesting colonies of any of the Maui resident seabird species occur on, or within close proximity of, the project area. Several species of seabirds might over-fly the area, but no resources of interest to these species are present in the Project area.

Due to the coastal location of the Project, construction activity could conceivably impact seabird populations if night-time work is conducted. If construction activity is to be undertaken after sunset, all associated lights should be well-shielded and, where large flood/work lights are used, these placed on poles that are high enough to allow the lights to be pointing directly downward (see HDLNR, 2016). Seabird fledglings typically leave the nest between September 15 and December 15 and many become disoriented by artificial lighting and collide with man-made structures. Avoiding night-time work during this peak in "seabird fallout"[1] can minimize adverse impacts to listed seabird species that might fly over the Project vicinity.

Mammalian Resources

With the exception of the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), or *ʻōpeʻapeʻa* as it is known locally, all terrestrial mammals currently found on the Island of Maui are alien species, and most are ubiquitous. The Hawaiian hoary bat is the only Endangered Species Act (ESA)-listed terrestrial mammal in Hawaiʻi. Given the paucity of documented records of this species from West Maui, the chance that bats use resources in the Project area are quite low. Additionally, few suitable roosting sites (trees in excess of 4.6 m or 15 ft) for Hawaiian Hoary bat are present in the area.

Although no rodents were recorded in our survey, some, if not all, of the four established Muridae found in Hawaiʻi—roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), black rat (*Rattus exulans hawaiiensis*), and European house mouse (*Mus musculus domesticus)*—could use various resources within and surrounding the Project area. All of these introduced rodents are considered deleterious to native ecosystems and native species. Similarly, another

[1] Term defined as the phenomenon whereby young of certain seabird species, attracted to man-made light sources, can become disoriented and end up on the ground where they are vulnerable to harm or death (HDLNR-DOFAW, 2019).

nuisance species, the small Indian mongoose (*Herpestes javanicus*) is widely distributed on Maui and may utilize the Project area.

No mammalian species currently protected or proposed for protection under either the federal or State of Hawaiʻi endangered species programs were detected during the course of this survey (HDLNR, 2015; USFWS, 2019).

Hawaiian Yellow-faced Bee Resources

Seven species of yellow-faced bees (*Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*) from the Hawaiian Islands were listed as endangered under ESA in late 2016 (USFWS, 2016). Yellow faced bees have historically been found in all habitats in the islands, ranging from coastal strand to subalpine shrubland above 10,000 ft (Magnacca and King, 2013), and were quite common (Perkins 1913). Though reported Hawaiian yellow-faced bee populations from Lahaina are found above 600-m elevation, known populations of endangered *Hylaeus* spp. are located on Maui in a few coastal sites in Waiʻehu and ʻEleielei Point.

Hawaiian yellow-faced bees forage on common flora that includes *naupaka* (*Scaevola taccada*), tree heliotrope (*Tournefortia argentea*), *ʻohai* (*Sesbania tomentosa*), and *ʻilima* (*Sida fallax*) among others. None of these plant species, though common elsewhere on Maui, are present around the Project site. The proposed work for the Project will not have an adverse effect on Hawaiian yellow-faced bee populations or their existing known habitat.

Marine Resources

One federally protected marine species was observed in our survey: green sea turtle (*Chelonia mydas*). Other state- and federally-listed (endangered or threatened; HDLNR, 2015; USFWS, 2019) marine species—hawksbill sea turtle (*Eretmochelys imbricata*) and monk seal (*Neomonachus schauinslandi*)—may occur in the general vicinity of the Project, considering the distribution of these species throughout the Islands.

<u>Invertebrates</u> — Coral species are protected by Hawaiʻi State regulations that prohibit damage to "any stony coral by any intentional or negligent activity causing the introduction of sediment, biological contaminants, or pollution into state waters" (HDLNR, 2014). On August 27, 2014, NOAA issued a final rule for listing 20 coral species as threatened under ESA (NOAA-NMFS, 2014), but none of these listed coral species occurs in Hawaiʻi. On September 20, 2018, NOAA issued a proposed rule for listing the cauliflower coral (*Pocillopora meandrina*)

as an endangered or threated species under ESA (NOAA-NMFS, 2018). A global status review has been initiated by NOAA to determine whether listing it throughout its range is warranted. No *Poc. meandrina* colonies were observed in the Project vicinity.

Hawaiʻi Department of Land and Natural Resources (HDLNR) regulates taking of shellfishes such as pearl oysters (HDLNR, 1987) and ʻ*opihi* (HDLNR, 1989). Two ʻ*opihi* species (*C. exarata* and *C. sandwicensis*) were observed in our survey. Regulations are in place for certain fishes (HDLNR, 2014). However, because fishing activity is not part of this Project nor expected to be influenced or impacted by the Project, these catch-regulated species are not discussed further.

Sea turtles — The distinct population segment (DPS) of green sea turtle that occurs in Hawaiʻi is federally-listed as a threatened species (USFWS and NOAA-NMFS, 2016c; UFWS, nd) and as a threatened subspecies (*Chelonia mydas agassizi*) under Hawaiʻi regulations (DLNR, 2014).

Threats to the green sea turtle in Hawaiʻi include: disease and parasites, accidental fishing take, boat collisions, entanglement in marine debris, loss of foraging habitat to development, and ingestion of marine debris. Throughout the global range of green sea turtle, nesting and foraging habitats are being altered and destroyed by coastal development, beach armoring, beachfront lighting, vehicular/pedestrian traffic, introduction of invasive species, and pollution from discharges and runoff (NOAA-NMFS & USFWS, 2007a, 2007b). Adult green sea turtles forage in shallow nearshore areas and coral reefs. Contamination from effluent discharges and runoff has degraded these environments, and invasive species may reduce native algae species preferred by green sea turtles or could exacerbate susceptibility to, or development of, disease (NOAA-NMFS & USFWS, 2007a). Fibropapillomatosis, a disease characterized by the presence of internal and/or external tumors that may grow large enough to hamper swimming, vision, feeding, and potential escape from predators continues to be a major threat to green sea turtles. Extremely high incidence has been reported in Hawaiʻi, where affliction rates peaked at 47-69% in some foraging areas (Murakawa et al., 2000).

Hawksbill sea turtle is distributed across the Pacific, Indian, and Atlantic oceans. Hawksbill sea turtle is much less common in the Hawaiian Islands than green sea turtle and is known to nest only in the southern reaches of the state (NOAA-PIFSC, 2010). Hawksbill sea turtle is federally-listed as endangered (USFWS, nd) and is also listed as an endangered subspecies (*Eretmochelys imbricata bissa*) under Hawaiʻi regulations (HDLNR, 2014). Hawksbill sea turtle faces

many of the same threats affecting green sea turtle (see above section; NOAA-NMFS, 2007b).

Monk Seal — The Hawaiian monk seal (*Monachus schauinslandi*) was listed as an endangered species pursuant to the ESA on November 23, 1976 (41 FR 51612) and remains listed as endangered. In that same year, the Hawaiian monk seal was designated as "depleted" under the Marine Mammal Protection Act (MMPA). Critical habitat for Hawaiian monk seal has been designated (NOAA-NMFS, 2015) and includes the seafloor and marine environment to 10 m above the seafloor from the 200 m depth contour through the shoreline and extending into terrestrial environment 5 m inland from the shoreline between identified boundary points. These terrestrial boundary points define preferred pupping areas and significant haul-out areas. (NOAA-NMFS, 2015). The shoreline off the Project site falls outside assigned boundary points and therefore is not designated monk seal terrestrial critical habitat. Furthermore, all manmade structures, such as seawalls are excluded from critical habitat (NOAA-NMFS, 2015). The waters offshore of the Project area are designated monk seal marine critical habitat.

Essential Fish Habitat in the Project Area

Essential Fish Habitat (EFH) is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802(10)). The Magnuson-Stevens Act (MSA) provisions at 50 CFR 600.10 provide further definition for the purpose of interpreting EFH as follows:

> *"Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle*

The Project vicinity is located within the boundaries of the Hawaiʻi Archipelago Fishery Ecosystem Plan (FEP; WPRFMC, 2009a). This place-based FEP uses an ecosystem-based approach with "geographically defined ecosystem plans containing identical fishery regulations." The FEP identifies and categorizes Management Unit Species (MUS) based on the managed fisheries and incorporates all of the management provisions of the former Fishery Management Plans, with updates. MUS known to be present in waters around

the Hawai'i Archipelago include Bottomfish and Seamount Groundfish MUS (BMUS), Crustaceans MUS (CMUS), Precious Corals MUS (PCMUS), and Coral Reef Ecosystems MUS (CREMUS). Pelagic MUS (PMUS) are managed separately through the Pacific Pelagic FEP. According to the Hawai'i Archipelago and Pacific Pelagic FEPs, the following MUS and life history stages are identified as likely present at, near, or dependent on the Project area:

- BMUS: all life stages for shallow complex, eggs and post-hatch pelagic for intermediate and deep complexes.
- CMUS: all life stages.
- CREMUS: all life stages
- PMUS: all life stages.

Waters and substrate in the Project vicinity are designated as EFH for managed fishery species listed in Table 8.

Table 8. EFH designated in Project vicinity.

MUS	Species Complex	Designated EFH
CREMUS[+]	All currently and potentially harvested coral reef taxa	Water column and all benthic substrate to a depth of 50 fathoms (fm) from the shoreline to the Exclusive Economic Zone (EEZ)
BMUS (all stages)[++]	Bottomfish Shallow Complex	Eggs and post-hatch pelagic: Water column from the surface to 240-m depth from the shoreline to the EEZ Post-settlement and Subadult/adult: Water column from the surface to 240-m depth from the shoreline to the EEZ
	Bottomfish Intermediate and Deep complexes	Eggs and post-hatch pelagic: Water column from the surface to 400-m depth from the shoreline to the EEZ
CMUS[+]	Spiny/Slipper Lobster and Kona Crab complexes (all stages)	Eggs and larvae: water column from the surface to 150-m depth, from the shoreline to the EEZ Juveniles and adults: bottom habitat from the shoreline to 100-m depth
PMUS[+++]	Temperate/Tropical Species, Sharks and Squid complexes	Eggs and larvae: water column from the surface to 200-m depth, from the shoreline to the EEZ Juveniles and adults: water column from the surface to 1,000-m depth, from the shoreline to the EEZ

[+]Western Pacific Regional Fishery Management Council, 2009a.

++ Western Pacific Regional Fishery Management Council, 2016.
+++ Western Pacific Regional Fishery Management Council, 2009b.

Waters off the Project site are designated as EFH (including water column and all bottom areas) for coral reef ecosystem, bottomfish, pelagic, and crustacean MUS. According to the EFH designations in the Hawai'i FEP, the Project vicinity is absent of EFH for precious corals, deep-water shrimp, and seamount ground fish. No juveniles or adults for either BMUS or CMUS were recorded from our survey in the area.
The Hawai'i and Pelagic FEPs further identify ecologically valuable subsections of EFH for the above MUS as "habitat areas of particular concern" (HAPC). These HAPCs are based on the importance of the ecological functions provided, the sensitivity to human or development-induced environmental degradation or stress, and rarity. There are no HAPC within, adjacent to, or near the Project area that may be affected by the sea wall replacement.

In February, 2019, NMFS published a final rule to reclassify certain management unit species in the Pacific Islands as ecosystem component species (ECS; NOAA-NMFS, 2019, 84 FR 2767). An ECS means a stock that a Council or the Secretary has determined does not require conservation and management, but is identified in an FEP to achieve ecosystem management objectives. The intent is to focus management efforts on species that are in need of conservation and management, and improve efficiency of fishery management in the region. The rule reduces the number of MUS from 173 species or families to 20 in the Hawai'i FEP. The rule also removes the definitions of "Currently Harvested Coral Reef Taxa (CHCRT)" and "Potentially Harvested Coral Reef Taxa (PHCRT)" and revises the definitions of "Ecosystem Component Species" and "Special Permit" throughout. In the current regulations, coral reef MUS are divided into two categories: CHCRT and PHCRT. CHCRT are those species that are harvested commercially in the EEZ, and PHCRT are those species that may be potentially harvested in the future. This final rule reclassifies all coral reef MUS as ECS, so the terms CHCRT and PHCRT are unnecessary (NMFS-NOAA, 2019).

Direct impacts to marine resources at Area 1 are anticipated to be minimal. Direct impacts to marine biological resources at Area 2 will result in the loss of marine resources that occur on the existing boulders and within the footprints of the proposed replenishment area. These communities include a few macroinvertebrates (*N. picea*, *C. sandwicensis*, *S. normalis, L. pintado*, *G. tenuicrustatus*). No corals occur on the existing boulders. Biological assemblages residing on and around the present boulders will be impacted, but it is expected that similar assemblages will recolonize any newly placed solid

structure(s). Recruitment of biota to the new structures will likely include marine species established nearby, and may possibly include corals.

It is anticipated that the fishes that occur in the Project vicinity will actively avoid direct impacts from Project activities. Some impairment of ability of EFH managed species to find prey items could occur, but this effect should be temporary and spatially limited to the immediate vicinity of construction activities. The new structures will maintain fish habitat in the Project area, and will provide additional fish foraging resources on the boulders.

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BEST MANAGEMENT PRACTICES PLAN

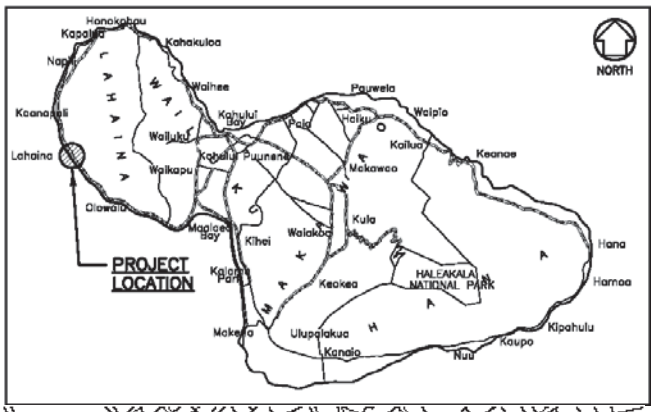
APPENDIX

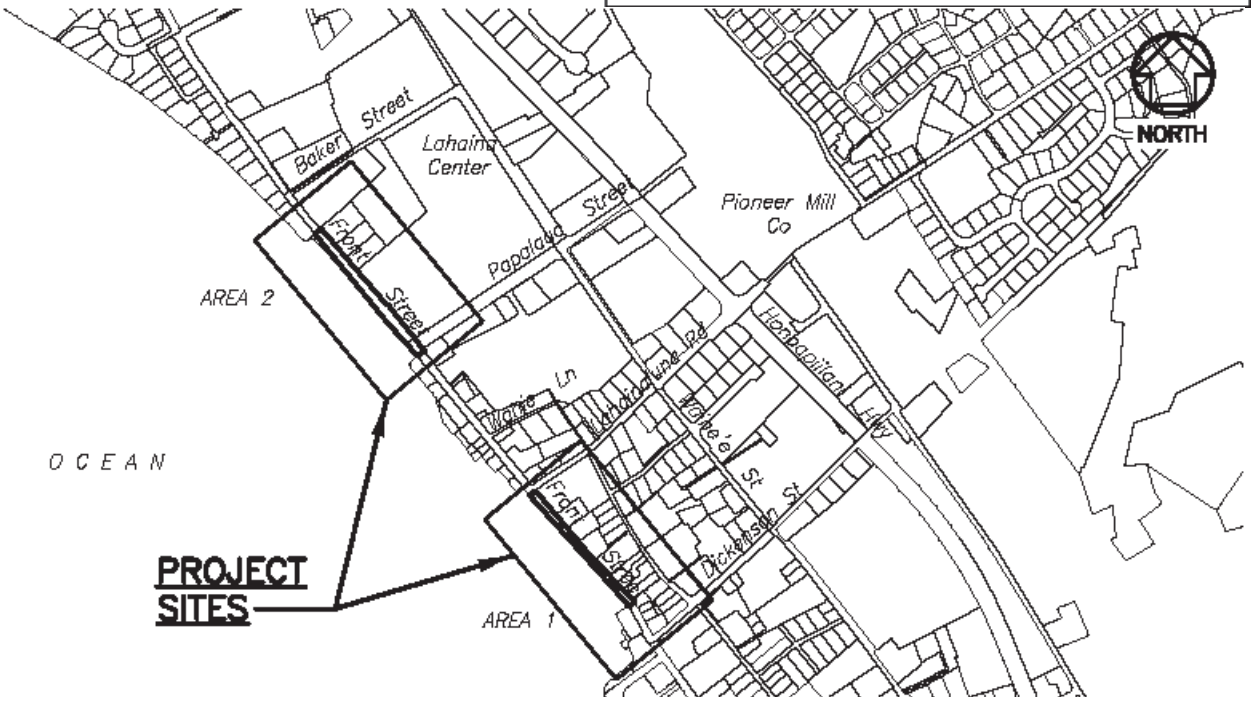
D

Front Street Sidewalk, Railing and Seawall Repairs
Lahaina, Maui, Hawaii

Best Management Practices

The Maui County Department of Public Works intends to reconstruct two sections of seawall and sidewalk along Front Street in Lahaina which have become severely deteriorated due to decades of salt and wave exposure. The locations of the proposed work (Area 1 and Area 2) are shown in the Location and Vicinity Maps below.





Area 1 Existing Conditions

The Area 1 seawall and sidewalk extend approximately 728 feet along the Front Street shoreline, from Dickenson Street north to Lahainaluna Road. The seawall consists of a grouted concrete rock masonry (CRM) wall, topped with a reinforced concrete wave deflector. A wood railing supported by concrete pilasters is mounted above wave deflector. Adjacent to the seawall is a

concrete sidewalk approximately eleven feet wide with street lights, wood bollards, planters, and the concrete/wood benches. A concrete beach access stairway is located at the northern end of Area 1. All concrete elements and the wood railing have become severely deteriorated as a result of salt spray exposure. Photos below depict typical conditions along the seawall.

Spalls and corrosion on seawall wave deflector

Sidewalk surface defects

Wood Railing

Railing pilaster

Beach access stair

Area 1 Work Description and Sequence

Area 1 work will demolish, remove and reconstruct the deteriorated concrete sidewalk and concrete curb, a portion of the overhanging seawall lip, CRM planters and trees, and street furniture; the beach access stair will be restored.

The work will start with placement of traffic barriers along the makai curb line. Warning signs will also be placed upstream and downstream to demarcate the work area, control pedestrian traffic and warn approaching traffic. Demolition work will include removing the planters, trees, concrete benches, street signs, street lights and standards, wood bollards, railing and pilasters followed by removal of the street curb and a six-inch thickness of the concrete sidewalk. After sidewalk concrete removal, a portion of the overhanging concrete seawall lip will be removed. Street light fixtures shall be salvaged and returned to Maui Electric.

Demolish portion of overhanging lip above CRM seawall

Demolish concrete curb and sidewalk topping, pilasters and railing, planters, trees, bollards and portion of seawall lip

Structural removal and replacement of the portion of the Area 1 overhanging concrete seawall will require phased removal and replacement work since total removal will require a work force larger than anticipated, and obstruct pedestrian traffic along this iconic stretch of Lahaina coastline. The general demolition and reconstruction work sequence is as follows:

1. Placement a steel framed falsework cantilevered over the ocean, extending from the top of sidewalk demolition area and extending along the portion of the sidewalk and seawall lip to be demolished. The falsework will be anchored to the existing concrete sidewalk.
2. Sealing the falsework to the face of the seawall to remain, below the lip, prevent demolition contamination of shoreline waters.
3. Drilling vertical holes through the sidewalk at 12-inch spacing measured parallel to Front Street and setting expansive demolition grout.
4. Activation of expansive demolition grout and removal of debris after grout expansion.
5. Dressing the remaining exposed face of the seawall.
6. Drilling and epoxy setting new epoxy coated or high strength corrosion resistant reinforcing steel.
7. Forming and pouring the replacement concrete seawall lip.
8. Curing the replacement concrete for a minimum of 21 days.
9. Removal and relocation of steel framed falsework to the next section to be demolished.

After completion of seawall lip replacement, the concrete sidewalk, planters and street furnishings will be demolished and reconstructed.

After the completion of items 1 through 9 above over the length of Area 1, repair of the concrete stair at the North end of the work area (adjacent to “Cheeseburgers in Paradise”) will begin.

Conceptual Area 1 reconstruction: new stainless steel railing topped with wood, board finish concrete sidewalk, reconstructed planters, benches and street lighting.

Area 1 Best Management Practices

Because of the sensitive shoreline environment immediately fronting Area 1 and proximity of the work to the ocean, it is imperative to emplace effective Best Management Practices to control release of pollutants from the work area. Pollutants which may be generated during demolition work include fragments of concrete or wood, trash, turbid storm runoff, concrete saw cutting slurry, polluted runoff, fugitive dust and water used for dust control.

The work area border will first be enclosed by a compost filter sock to control both storm water run-on and runoff. At the contractor's option, the area enclosed may be a portion of the total area. Seawall lip demolition debris will be contained using a framework placed over the seawall, with a plastic sheet liner to catch and retain water and demolition debris. The framework will be moved along the seawall as the demolition and reconstruction of the seawall lip progresses.

Filter socks will be placed around storm drain inlets and at the work area boundary and the excavator will remain onsite and within the filter sock perimeter. Trucks entering or leaving the work area will drive over the filter socks. BMP measures will be inspected daily to ensure they are in place and effective.

All concrete forms for the new seawall lip will be sufficiently tightly set and sealed against the substrate to contain leakage of freshly placed concrete. The reconstructed seawall lip (augmented by filter socks at drainage inlets) will provide containment during sidewalk and planter reconstruction.

Repair of the concrete stair at the north end of Area 1 will be performed within an enclosure sufficient to contain debris as well as prevent wave wash from mixing with freshly placed concrete. The containment will be completely removed following stair reconstruction.

All BMP materials placed where they may be exposed to wave splash or on the beach will be free of toxics and potential pollutants.

Water used for dust control will only applied at minimum rates to be effective, and will be contained and prevented from release to the shoreline by the compost filter sock and drain filters. Slurry from saw cutting (if used) will be controlled by immediate removal using a vacuum truck. Collected slurry, demolition debris and trash from demolition and reconstruction work will be properly containerized and removed from the site to approved disposal locations as needed.

Local weather conditions such as rainfall or high surf may require adjustment of the contractor's work schedule to prevent possible discharge of pollutants.

See also the "General Construction BMPs Applicable to Both Work Areas" on pages following.

<u>Area 2 Existing Conditions</u>

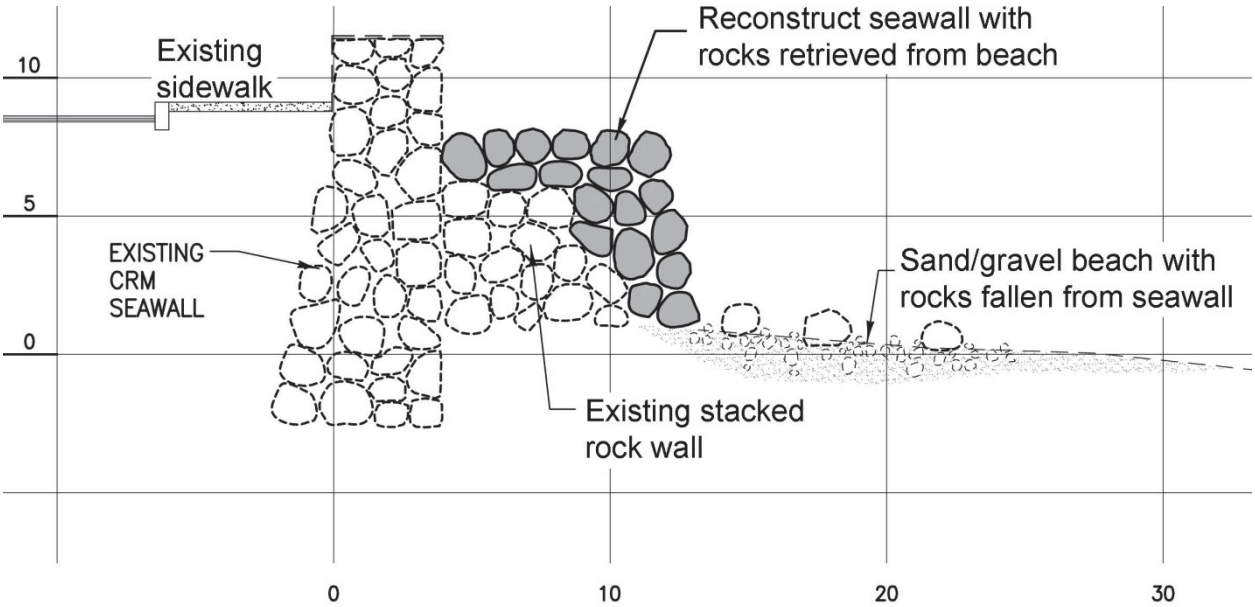
Area 2 extends approximately 705 feet along the shoreline makai of Front Street and between Baker and Papalaua Streets. The dry stacked lava rock seawall has become deteriorated as a result of decades of wave impact and has suffered partial to near-complete collapse. Photos below depict the conditions along the seawall.

Area 2 seawall looking south

Area 2 seawall looking north.

Area 2 Seawall Reconstruction

Area 2 will be reconstructed by retrieving lava rocks that have collapsed from the seawall into the foreshore area and re-incorporating them to reconstruct the seawall with a slightly battered seaward face and flat top at elevation 8 feet msl as shown in the following sketch.



Typical Area 2 existing seawall and repair cross section normal to shoreline

The work will be accomplished using an excavator with a thumb attachment on the bucket, positioned on the Front Street sidewalk. Rock retrieval and placement will be assisted by several workers with crowbars to ensure close fitting. Additional imported similar stones may be used to

the extent needed but are not anticipated to be necessary. The reconstructed seawall will not be concrete grouted. Pedestrian traffic will be diverted (to the mauka sidewalk) around the local work area with barricades.

Area 2 Best Management Practices

A silt curtain will be maintained in nearshore waters and around the active work area to control turbidity which may occur when boulders are lifted from the foreshore area. The silt curtain will be maintained around the active work area as it progresses from one end of Area 2 to the other.

General Construction BMPs Applicable to Both Work Areas

- All materials and equipment will be clean and free of deleterious or toxic materials.

- Fueling and powered equipment service and repair will be carried out at a location from which spills will not reach storm drain inlets or flow directly to the ocean, and at least 50 feet from the water and within a containment area, and over an impervious surface.

- A spill kit will be on hand at all work areas at all times.

- No fuel tanks or maintenance materials shall be allowed to be stored at the project site. Mechanized equipment and construction materials will be clean, uncontaminated and free of deleterious substances, including toxic chemicals and clay-coated materials. Mechanized equipment stored at the project site will be parked over spill-absorbent materials over plastic sheeting, and surrounded by filter socks.

- All work authorized under a DA Nationwide Permit will comply with all applicable Nationwide Permit General Conditions, Honolulu Engineering District Regional Conditions, and any imposed project specific conditions.

- The project footprint will be limited to the minimum area necessary to complete the project.

- Seals or sea turtles protected by federal and state laws may be present along the shoreline. Protocol and operations measures for the avoidance and protection of turtles, seals and other protected species in work area shall incorporate the following and minimization measures.

- Constant vigilance shall be kept for the presence of Endangered Species Act (ESA)-listed marine species (sea turtles, marine mammals, sharks) during all aspects of the permitted action.

- The contractor's project supervisor shall designate a competent observer to monitor the work area for presence of ESA-listed marine species. The observer shall ensure that protocols to avoid the potential contact or harassment of listed species are followed at all times. The competent observer shall verify that no listed species are in the area. Surveys

of the work area and immediate surroundings shall be made prior to the start of work each day, and periodically during the day, including prior to resumption of work following any break of more than one half hour.

- All on-site project personnel must be apprised of the status of listed species potentially present in the project area and the protections afforded to those species under federal laws. Information explaining laws and regulations for listed species in Hawai‘i may be downloaded at: http://www.nmfs.noaa.gov/pr/laws/ Records of observations of turtles observed in the project areas for the duration of in-water activities shall be maintained and submitted at the completion of work.

- Work on the seawall face will be postponed or halted when listed marine species are within 50 yards of the proposed work, and will only begin/resume after the animals have voluntarily departed the area, with the following exception: if listed marine species are noticed within 50 yards after work has already begun, that work may continue only if, in the best judgment of a biologist, the activity is unlikely disturb or harm the animal(s).

- Project personnel shall NOT attempt to disturb, touch, ride, feed, or otherwise intentionally interact with any protected species.

- Immediate notification to Mr. Robert Schroeder, robert.schroeder@noaa.gov, Protected Resources Division, NMFS PIRO, shall occur if: a take occurs; new information reveals effects of the action have affected seals or turtles in a manner or to an extent not previously evaluated; if the action is subsequently modified and causes effects to listed species in a manner or to an extent not previously considered or evaluated; or a new species is listed or critical habitat is designated that may be affected by the authorized work.

- Work seaward of the Mean Higher High Tide Line will be timed to minimize potential effects on listed species and their habitats.

- Project operations will cease under unusual conditions, such as large tidal events and high surf conditions, except for efforts to avoid or minimize resource damage.

- A Site Specific Best Management Practices (SSBMP Plan) will be provided by the construction contractor prior to in-water activities. At a minimum the BMPs listed herein will be incorporated into the SSBMP Plan.

- All work will be conducted in accordance with plans and specifications approved by the County of Maui.

Project Schedule

The work is anticipated to start at the end of 2021 and the work completed in approximately 12 months.

HRS 6-E SUBMITTAL FORM

APPENDIX

E

MICHAEL P. VICTORINO
Mayor

ROWENA M. DAGDAG-ANDAYA
Director

JORDAN MOLINA
Deputy Director

GLEN A. UENO, P.E., L.S.
Development Services Administration

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Engineering Division

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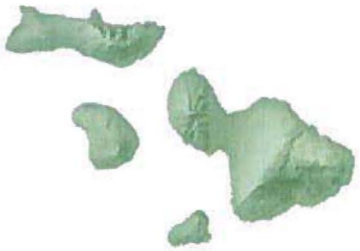


COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
200 SOUTH HIGH STREET, ROOM NO. 410
WAILUKU, MAUI, HAWAII 96793

December 16, 2019

VIA EMAIL: dlnr.intake.shpd@hawaii.gov

Alan Downer, Ph.D., Administrator and
Deputy State Historic Preservation Officer
Department of Land and Natural Resources
State Historic Preservation Division

SUBJECT: FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR
COUNTY OF MAUI, DEPARTMENT OF PUBLIC WORKS JOB NO. 19-28
HAWAI'I REVISED STATUTES, CHAPTER 6E-8
HISTORIC PRESERVATION REVIEW AND SECTION 106 CONSULTATION
TMK: (2)4-6-009 (POR.) AND (2)4-5-002 (POR.)
AHUPUA'A OF PAUNAU, DISTRICT OF LAHAINA, ISLAND OF MAUI, HAWAI'I

Dear Dr. Downer:

The County of Maui, Department of Public Works (DPW) is seeking a "no historic properties affected" determination for the proposed "Front Street Sidewalk, Railing, and Seawall Repair" project. The project is located within the National Historic Landmark, National Park Service site number 66000302 nominated on December 29, 1962 and updated in 1974. This location in Lahaina is also documented as State Inventory of Historic Places site number 50-50-03-03001 and is within a County of Maui historic district, Historic District No. 2 (Maui County Code, Section 19.50.020). Please refer to the enclosed map.

In compliance with Hawaii Revised Statutes (HRS), Chapter 343, an Environmental Assessment will be prepared. In addition, the project is located within the County of Maui's Special Management Area (SMA). An SMA Use Permit Application will be submitted to the Planning Department for review.

This letter initiates consultation under HRS, Section 6E-8. Included in this submittal is the 6E submittal form and project documentation prepared by Sato & Associates, Inc. A cultural impact assessment, literature review, and field inspection are currently being developed by Scientific Consultants Services.

Proposed Project

The project consists of repairs to two (2) physically separate sections along Front Street, designated "Area 1" and "Area 2." Area 1 is approximately 730 feet long, located between Dickenson Street and Lahainaluna Road. Area 2 is also approximately 730 feet long, located between Baker Street and Papalaua Street. Both sites include improvements along the southwest (makai) side of Front Street.

Within Area 1, the existing sidewalk, railing pilasters, and planters built on the top of a seawall have deteriorated as a result of salt exposure and exhibit extensive cracking and spalling. Wood railing sections and sidewalk wood bollards have rotted. Mason Architects prepared an analysis of the railing design from a historic perspective, and determined that the seawall was constructed in the early 1900s. The original wood

railings were replaced with metal pipe railings by the 1920s and the seawall was modified in the 1930s. The current seawall and railings were constructed in 1979.

The proposed action does not include changes to the historic sections of the seawall and only proposes improvements to the modern additions. These repairs include:

- Remove and reconstruct damaged portions of the overhanging wave reflector seawall lip.
- Remove the wooden rail and concrete pilasters and reconstruct with steel posts.
- Remove and reconstruct the sidewalk topping.
- Remove and reconstruct existing light poles.
- Remove wood bollards.
- Remove and reconstruct planter boxes, replace trees.
- A temporary suspended catwalk may be installed over the ocean by the contractor along the seawall repair area.

Please refer to the enclosed Design Report.

Area 2 contains a seawall of stacked boulders in front of a grouted rock wall. A section of the stacked boulders has been dislodged over time and has fallen onto the beach. The proposed repair to Area 2 will be to retrieve fallen boulders and reconstruct to its approximately original form.

A Section 404 permit may be required for portions of both work areas which lie over or in the ocean. If necessary, a Section 106 consultation will be conducted by a Federal agency. Also, a Section 401 Water Quality Certification and Coastal Zone Management Consistency would be needed for work over/in the water.

Effect Determination

Based on the review of historical archaeological information for the site, the project's archaeologist has recommended that DPW seek a "no historic properties" determination, with the implementation of a State Historic Preservation Division (SHPD) approved archaeological monitoring plan during ground altering activities.

The proposed action will only affect the modern portion of the seawall which was constructed in 1979 and does not include changes to the historic sections of the seawall. Thus, DPW has made the determination of "no historic properties affected" and is requesting SHPD's concurrence with the effect determination.

Should you have any questions, please contact Kristi Ono of our Engineering Division at (808) 270-7745.

Sincerely,

ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA/KO (ED19-1466)
Enclosures
cc: Richard Sato, Sato and Associates, Inc. (via email)
Michael F. Dega and Ms. Cathleen Dagher, SCS Archaeology (via email)
Gwendolyn Rivera and Kauanoe Batangan, Munekiyo Hiraga (via email)

HONOAPIILANI
STREET
WAINEE
STREET
ROAD
LAHAINALUNA
DICKENSON
STREET
PRISON
STREET
LUAKINI
STREET
LUAKINI
STREET
FRONT
MARKET STREET
HOTEL STREET
CANAL STREET
WHARF
STREET
STREET

Seaman's Cemetery
Roman Catholic Church
Roman Catholic Cemetery
Episcopal Cemetery
Hale Aloha Church
Old Prison/ Hale Paahao
Hoapili House
Honpa Hongwangi Mission
Malu-ulu Pa
Loko Mokuhinia
Old Ro
Seaman's Chapel & Reading Room
Master's Reading Room
Baldwin's House
Richard's House
Watering Yard (Spring House)
Bowling Alley
Hawaiian Ship Market
Canal Basin
Peck Store
Baldwin Canoe House
Hawaiian Market Place
Hoapili & Malo Canoe Log
Kapukalalu
Beer Shop
Taro Patch
Gilman's Store/ Aunea's House
Governor's Mansion
Banyan Tree
French Hotel
Port
Canal
Court House
Wharf Council House
Customs House/ Post Office
Kamehameha I House
Hauola Stone
Cannons
Slaughter House
Keawaiki Landing
Landing
Bolles' Stone house
Bolles' House
Loko o Hoolili
Loko o Kaaoo
Hale Kamani
Nahienaena House
Kia
Emma's House
Episcopal Church
Pond
Fanny Young's House
Lahaina Small Boat Harbor
Breakwater
Surf of Uo
Lahaina Anchorage
A U A U C H A N N E L
P A C I F I C O C E A N
Project Area 1
ea 2

LANDMARK DISTRICT

Legend

- National Historic Landmark
- Historic District 1
- Historic District 2
- Locations from Lahaina Map dated 1884
- Existing Historic Site
- Former Historic Site
- BanyanTree
- Historic Waterway

Roya

REVISED: MARCH 22, 1987 (After Publi

MA

LAHAINA

SHOWIN

APPROVED:

CHAIRMAN:

APPROVED: 3-22-87

CHAIRMAN:

State Historic Preservation Division

HRS 6E Submittal Form

Per §6E, Hawai‘i Revised Statutes, if the Project requires review by the State Historic Preservation Division (SHPD), please review and fill out this form and submit all requested information to SHPD. Please submit this form and project documentation **electronically** to:

dlnr.intake.shpd@hawaii.gov

If you are unable to submit electronically, please contact SHPD at (808) 692-8015. Mahalo.

The submission date of this form is:

1. APPLICANT (select one)

☐ Property Owner ☑ Government Agency

2. AGENCY (select one)

☐ Planning Department ☑ Department of Public Works ☐ Other (specify):

Type of Permit Applied For: Determination letter per HAR Section 13-275

3. APPLICANT CONTACT

3.1) Name: Rowena Dagdag-Andaya 3.2) Title: Director, Department of Public Works

3.3) Street Address: 200 S. High St., 4th flr., Wailuku

3.4) County: Maui 3.5) State: Hawaii 3.6) Zip Code: 96793

3.7) Phone: 808-270-7745 3.8) Email: public.works@mauicounty.gov

4. PROJECT DATA

4.1) Permit Number (if applicable): n/a

4.2) TMK [e.g. (3) 1-2-003:004]: (2) 4-5-002:002; also County- or State-owned right of ways

4.3) Street Address: n/a

4.4) County: Maui 4.5) State: Hawaii 4.6) Zip Code: 96761

4.7) Total Property Acreage: 0.09 acres (TMK 4-5-002:002 only); part

4.8) Project Area (acreage, square feet): Area 1: 1.03 acre, Area 2: 0.54

4.9) List any previous SHPD correspondence (LOG Number & DOC Number, if applicable):

LOG NO. n/a DOC NO. n/a

5. PROJECT INFORMATION

5.1) Does the Project involve a Historic Property? A Historic Property is any building, structure, object,

district, area, or site, including heiau and underwater site, **which is over 50 years old** (*HRS §6E-2*).

☑ Yes ☐ No

5.2) The date(s) of construction for the historic property (building, structure, object, district, area, or site, including heiau and underwater site) is Area 1, 1979, Area 2, unknown.

5.3) Is the Property listed on the Hawai‘i and or National Register of Historic Places? To check: http://dlnr.hawaii.gov/shpd/

☑ Yes ☐ No

5.4) Detailed Project Description and Scope of Work:

ReconstructArea 1 concrete seawall wave deflector lip and Front Street makai sidewalk concrete overlay, including railing, planters, benches and bollards, required by extensive deterioration caused by salt water exposure. Reconstruct Area 2 stacked, ungrouted lava rock seawall. See attached Design

5.5) Description of **previous** ground disturbance (e.g. previous grading and grubbing):

Construction of Area 1 concrete seawall lip and sidewalk and planters with 10 trees in 1979 over previously constructed CRM seawall. Construction date of Area 2 lava rock seawall is unknown.

5.6) Description of **proposed** ground disturbance (e.g. # of trenches, Length x Width x Depth):

Demolition and reconstruction of Area 1. Approximately 52 sf x 2 ft deep excavation for removal and replacement of trees, and excavation for new irrigation lines, 730' x 20' x 1' . No ground disturbance in Area 2.

5.7) The Agency shall ensure whether historic properties are present in the project area, and, if so, it shall ensure that these properties are properly identified and inventoried. Identify all known historic properties:

Area 1 historic property consists of the underlying concrete rubble masonry seawall. Area 2 historic property consists of a stacked lava rock seawall.

5.8) Once a historic property is identified, then an assessment of significance shall occur.

Integrity (check all that apply):

☑ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria (check all that apply):

☑ a – associated with events that have made an important contribution to the broad patterns of our history
☐ b – associated with the lives of persons important in our past
☐ c – embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value
☐ d – have yielded, or is likely to yield, information important for research on prehistory or history
☐ e – have an important value to the Native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts - - these associations being important to the group’s history and cultural identity

5.9) The effects or impacts of a project on significant historic properties shall be determined by the agency.

Effect Determination (select one):

☑ No Historic Properties Affected
☐ Effect, with Agreed Upon Mitigation Commitments (§6E-42, HRS)
☐ Effect, with Proposed Mitigation Commitments (§6E-8, HRS)

5.10) This project is (check all that apply, if applicable):

☐ an activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency;

☐ carried out with Federal financial assistance; and or

☑ requiring a Federal permit, license or approval.

If any of these boxes are checked, then the Project may also be subject to compliance with Section 106 of the National Historic Preservation Act (NHPA).

6. PROJECT SUBMITTALS

6.1) Please submit a copy of the Tax Map Key (TMK) map

6.2) Please submit a copy of the property map showing the project area and indicate if the project area is smaller than the property area.

6.3) Please submit a permit set of drawings. A permit set is a set of drawings prepared and signed by a licensed architect or engineer and is at least 65% complete.

6.4) Are you submitting a survey?

☑ Yes ☐ No

Specify Survey: Topographic survey shown as background on project plans attached.

6.5) Did SHPD request the survey?

☐ Yes ☑ No

If 'Yes', then please provide the date, SHPD LOG NO, and DOC NO:

Date: LOG NO. DOC NO.

6.6) **SURVEY REVIEW FEES**. Fee for Review of Reports and Plans (§§13-275-4 and 284-4). A filing fee will be charged for all reports and plans submitted to our office for review. Please go to:

http://dlnr.hawaii.gov/shpd/about/branches/archaeology/filing-fee-schedule/

A check payable to the Hawaii Historic Preservation Special Fund should accompany all reports or plans submitted.

6.7) Please submit color photos/images of the Historic Property (any building, structure, object, district, area, or site, including heiau and underwater site) that will be affected by the Project.

The following are the minimum number and type of color photographs required:

Quantity	Description
1-2	Street view(s) of the resource and surrounding area
1-2	Over view of exterior work area
1	exterior photo of the North elevation (if applicable)
1	exterior photo of the South elevation (if applicable)
1	exterior photo of the East elevation (if applicable)
1	exterior photo of the West elevation (if applicable)
1-2	interior photos(s) of areas affected (if applicable)

CHECKLIST

☑ **SHPD FORM 6E** (this form)

☑ **PROJECT SUBMITTALS** (any requested documentation for items 6.1 - 6.7 of this form)

☑ **FILING FEE FORM** (if applicable)

DESIGN REPORT AND CONCEPTUAL PLANS
FRONT STREET SIDEWALK, RAILING
AND SEAWALL REPAIRS
AREA 1

for the

Maui County Department of Public Works
Job No. 19-28

Prepared by
SATO AND ASSOCIATES, INC.
Consulting Engineers

September 2019

TABLE OF CONTENTS

PAGE NO.

INTRODUCTION 1

HISTORIC REVIEW 2

OBSERVED CONDITIONS 3

RECOMMENDED REPAIRS 6

CONCEPTUAL PLANS

ANALYSIS OF RAILING DESIGN – HISTORIC PERSPECTIVE
BY MASON ARCHITECTS, INC.

INTRODUCTION

Front Street passes through historic Lahaina Town on the southwest side of the Island of Maui. A section of the seaward edge of the street approximately 730 feet long, between Dickenson Street and Lahainaluna Road (denoted "Area 1") consists of a concrete seawall and sidewalk topped by a wooden railing, planters with concrete benches, and wooden bollards. The seawall, sidewalk, railing, planters, benches and bollards are in need of structural repair and rehabilitation due to extensive deterioration caused by wave impact and the salt environment. Various damages have been repeatedly patched by County maintenance crews, but the deterioration has progressed to a point requiring more extensive repairs.

AREA 1

FRONT STREET LOOKING NORTH

HISTORIC REVIEW

The history of the Lahaina Seawall is addressed in the report by Mason Architects, Inc., titled “Analysis of Railing Design – Historic Perspective”

1900s

Historical photos dating from the early 1900s show a grouted rock seawall with a steel pipe railing on the makai side of Front Street.

Early 1900’s

1930s

Later photos from the 1930s show Front Street paved and the seawall topped with concrete sidewalk and solid concrete railing, cantilevered several feet over the seawall.

1930’s SEAWALL

1979 - PRESENT

The “Lahaina Seawall” project constructed in 1979, replaced the top portion of the wall with new concrete top section, sidewalk and wooden railing supported on concrete post. This new section remains in service today. Other project improvements included street lighting, wooden bollards in the sidewalk, and eight planter areas with concrete or wooden benches. Five of the planters are raised with CRM walls and the other three are at sidewalk grade. A concrete stair at the north end of the project area near Lahainaluna Road was also constructed to provide access from Front Street to the shoreline below the wall. The section represents the current typical wall section.

1979 SEAWALL

OBSERVED CONDITIONS

Occasional high surf splashes over the wall causing the sidewalk to slowly deteriorate. The sidewalk, railing and pilasters have been repeatedly patched by County maintenance crews but the deterioration has progressed beyond their ability to maintain the improvements. Similarly, the concrete steps leading to the beach have cracked, spalled and exposed corroded rebars. Wooden bollards, the seawall railing, and street light poles are also weathered, cracked and splintered. Deterioration of individual streetscape elements are discussed in the following paragraphs.

SEAWALL WAVE DEFLECTOR

The upper portion of the seawall is constructed of reinforced concrete over a concrete rubble masonry base and incorporates a cantilevered wave splash deflector. Chloride intrusion into the concrete has caused extensive rebar rusting, resulting in cracking and spalling on the vertical and bottom faces of the deflector. Spalling of concrete occurs along the entire length of the wall and is more pronounced on the southeast.

WAVE DEFLECTOR SPALLS

RAILING & CONCRETE POST

The wooden railing consists of 4x6 top rail, 2x4 bottom rail, and 2x2 balusters spaced approximately 8” apart. The top and bottom rails are supported by plastered concrete posts 10’ apart. Its 3’-6” height meets current County Building Code, however, balusters spaced 8” apart results in 6-1/2” gaps which exceed the current code requirement of 4”.

The railing is very deteriorated due to the constant salt water exposure, especially at the bottom of the railing.

DETERIORATED RAILING

The railing posts have deteriorated from salt penetration resulting in rusting rebar and spalling concrete. An extreme case of deterioration is shown in the photo. In extreme cases the posts have been repaired by cutting them off at the sidewalk level, setting new internal reinforcing with epoxy, forming and pouring new posts which incorporate existing railing hardware.

DETERIORATED POST

CONCRETE SIDEWALK

The concrete sidewalk exhibits surface defects ranging from small-scale pop outs to spalling caused by chloride penetration and subsequent rebar rusting.
Field investigations to assess the extent of the deterioration were conducted during September - October 2015. Sounding the sidewalk using a chain indicated some 50%-60% of the surface had delaminated. Concrete deterioration at depth was investigated by five core samples. The cores confirm the delamination of the concrete topping (see photos). At mid-depth (approximately 3") the cores exhibited signs of delamination and/or separation.

SIDEWALK SURFACE DEFECTS

LANDSCAPE

The existing landscape treatment built in 1979 comprises of 5 raised and 3 at-grade planters. The raised planters average about 30 inches in height. Concrete benches are integrated into the wall. Walls and benches are damaged.

The 40 year old trees have clearly outgrown the limited space in the raised planters. The walls of the planters will not be able to contain the tree trunks and root system, and over time will damage the planter walls.

DAMAGED BENCHES & BOLLARDS

OVERGROWN TREES

STAIR

The concrete stairway at the north end of the seawall has also suffered from chloride intrusion resulting in rebar rusting and spalling. The wooden railing is also deteriorating from salt water exposure.

STAIR TO BEACH

BOLLARDS

Wooden bollards were installed as part of the 1979 seawall project. The bollards are located in the sidewalk parallel to the roadway are placed approximately 10 feet on center. Similar to the wooden railings and street light poles, the bollards are weathered, cracked and splintered due to the constant exposure to moisture and the salt environment. At some locations, the bollards have been removed and the hole sealed with concrete. The purpose for the bollards is unknown.

LIGHT FIXTURES

Wooden street light poles installed as part of the 1979 “Lahaina Seawall” project have not fared well in the moist and salty environment. Typically the deterioration is worse at the sidewalk concrete interface. As a result of the deterioration, street light posts have been set in steel brackets on the concrete sidewalk.

BASES OF WOODEN LIGHT POLES

RECOMMENDED REPAIRS

(See attached Conceptual Plans)
Remove and reconstruct damaged portion of the wave deflector, railings, concrete post, top 6” of concrete sidewalk and curbs, all planters and trees, light standards and eliminate the bollards.

New Railing
Replace existing wooden railing and concrete post with painted stainless railing with a wooden top rail to lessen the heat effect and to be more appropriate for the historical area.

Sidewalk Concrete Finish
Replace the concrete sidewalk topping with either a board form or rock salt finish.

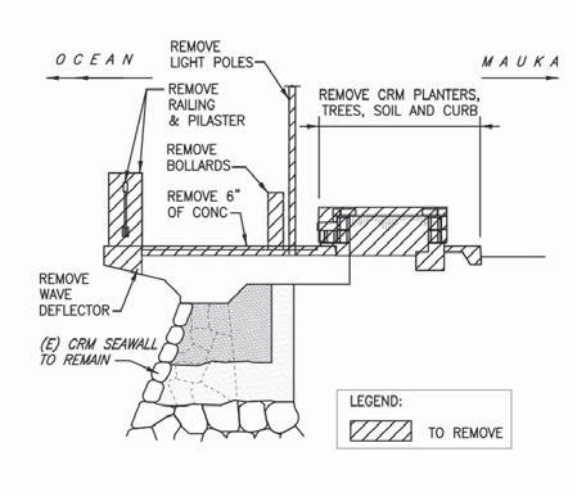
Landscape Planters
Replace raised planters with at-grade planters to provide a larger planting area and serve as collector for storm water runoff.

Trees
Replace the overgrown Kou trees with new shade trees.

Lights
Replace wooded light standards with metal standards.

Bollards
Eliminate bollards.

EXISTING



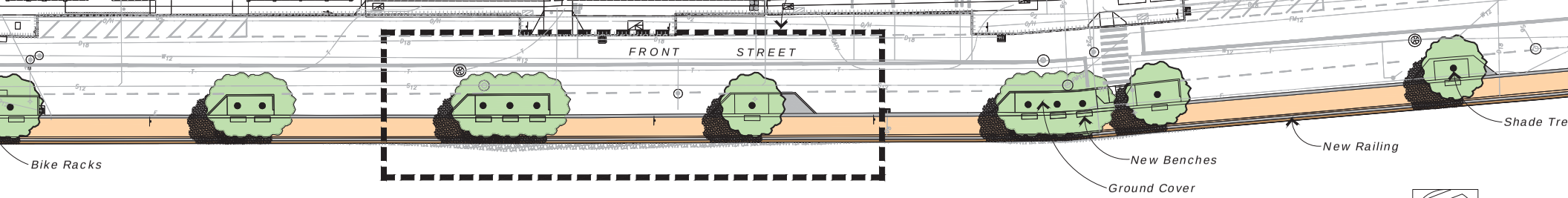
REMOVAL SECTION

Proposed

TYPICAL SECTION

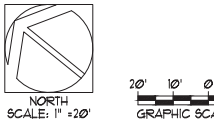
ANALYSIS OF RAILING DESIGN – HISTORIC PERSPECTIVE

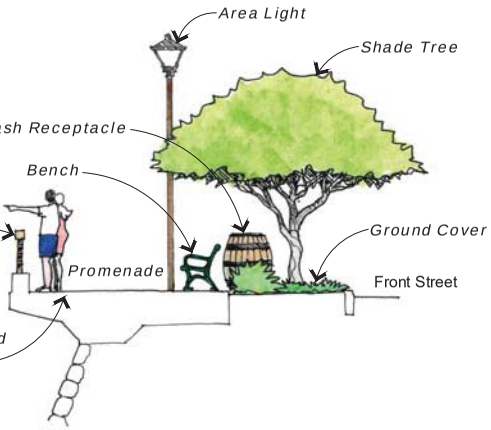
Glenn Mason, AIA
Mason Architects, Inc.



LANDSCAPE PLAN

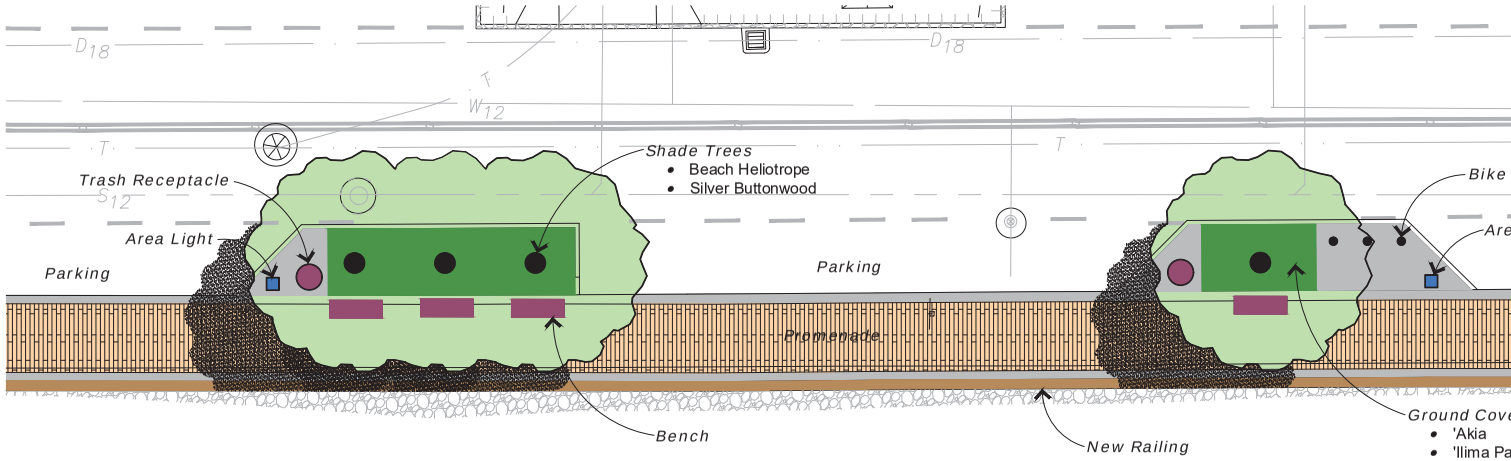
SCALE: 1" = 20'-0"





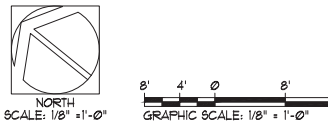
TYPICAL SECTION

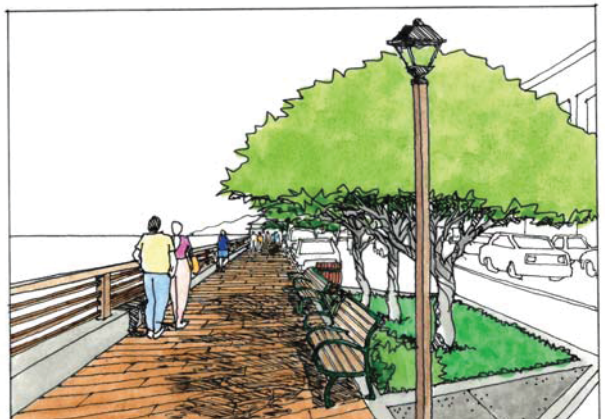
SCALE: 1/4" = 1'-0"



ENLARGEMENT

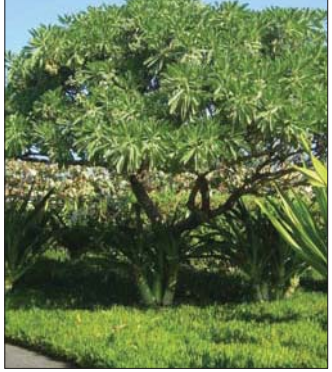
SCALE: 1/8" = 1'-0"





FRONT STR
RAILING AND S

Vertical Rails



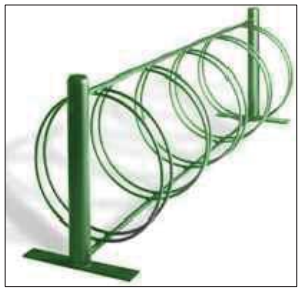
Beach Heliotrope
(Messerschimidia argentea)

ank Finish

Concrete Rock Salt Finish

BIKE RACK OPTIONS

Period



Contemporary

Akia
(Wikstroemia uva-ursi)

Contemporary

TRASH RECEPTACLE OPTIONS

Period

Contemporary

FRONT STR
RAILING AND S

Front Street Sidewalk, Railing and Seawall Repairs
Lahaina, Maui
Maui County Job No.: 14-25
QBS No. Q-PW-14-09

ANALYSIS OF RAILING DESIGN - HISTORIC PERSPECTIVE
Glenn Mason, AIA, Mason Architects, Inc.

Brief Historical Background:

There have been several railing designs used along the Area 1 section of Front Street from the early 20th century through today. They are described to provide some context for decisions about the railing design in this portion of Front Street.

The earliest railing may have been a somewhat temporary wood rail, as shown below.

Figure 1: Front Street (Maui Historical Society Collection)

Figures 1 and 2 show the wood rail with a dirt Front Street which appears under construction. Figure 3 shows that rail from the makai side. The road is paved, but the seawall appears to have partially collapsed in several places.

Figure 2: Wood railing is visible. Seawall in good condition. (Maui Historical Society Collection)

Figure 3: Railing showing detail of brace. (Maui Historical Society Collection)

The wood railing was replaced by a metal pipe railing with a top and mid-height horizontal rail only, with cast iron rounded connectors, and appears to have been in place by the 1920s (Figure 4). It is not known how long this lasted but by the 1930s a solid wall was constructed, supported by posts at least 12 feet apart (Figures 5 and 6). There was a 3-foot wide curb next to the wall, with a 6-foot wide sidewalk between the curb and the street. The posts were concrete and the walls between them were reinforced concrete 6

inches thick. This 1930s design cantilevered the wall a couple of feet beyond the face of the stone masonry wall below.[1]

Figure 4: Metal pipe railing set into concrete sidewalk. (Maui Historical Society Collection)

Figure 5: Solid masonry wall. Rounded detail has a Moderne feeling. (Maui Historical Society Collection)

[1] Dimensions shown on 1979 drawings for the work proposed at that time.

Figure 6: Solid seawall from ocean side. Base of seawall appears to be mostly concrete.

The current seawall and railing was designed in 1979 by Stanley S. Shimabukuro & Associates. That design is largely intact today. The 1930-era concrete base and wall were demolished and replaced by a new slightly cantilevered concrete walkway. Parking was partially removed along the sidewalk and 3 double and one single planter installed. Each of these has a concrete bench. Subsequently, two more planters were added along this length.

The railing consists of a 4 x 6 top rail, 2 x 4 bottom rail and 2 x 2 balusters at about 8-inches on center. All appear to be Douglas Fir, although the 1979 drawings indicated the top rail was to be Redwood. It is supported by concrete posts at about 10-feet on center which support the railing using stainless steel brackets. The original design called for the brackets holding the wood were indicated to be galvanized steel and they are currently stainless steel. That original design indicated the posts holding the wood rails were to be reinforced concrete with stone cladding. Theo Morrison of the Lahaina Restoration Foundation said she never remembers them having stone, so that may have been deleted.

The other significant element in the 1979 design was the use of wood bollards along the entire length of this section. Some of these are currently missing.

Figure 7: Existing railing on Front Street

Figure 8: Existing planter and bollards

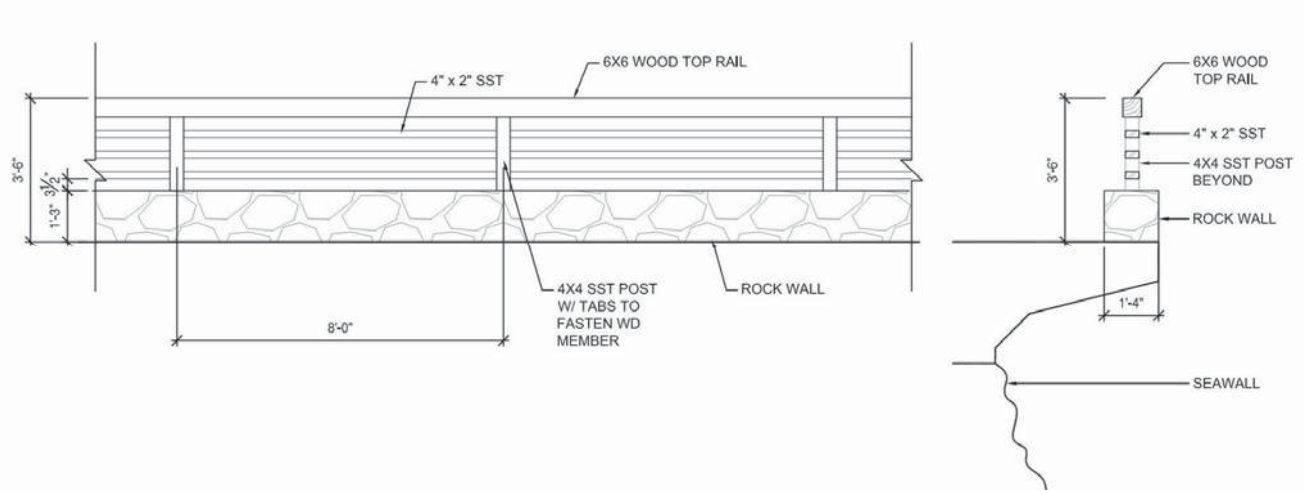
Options for Railing Design:

The existing railing has a very open feeling. Its height meets current code but the baluster spacing results in 6 ½-inch gaps while the current code maximum is 4 inches. The current design is very deteriorated, with one of the primary drivers of the deterioration being the constant salt water exposure, especially at the bottom of the railing. The concrete surface of the sidewalk is also deteriorated.

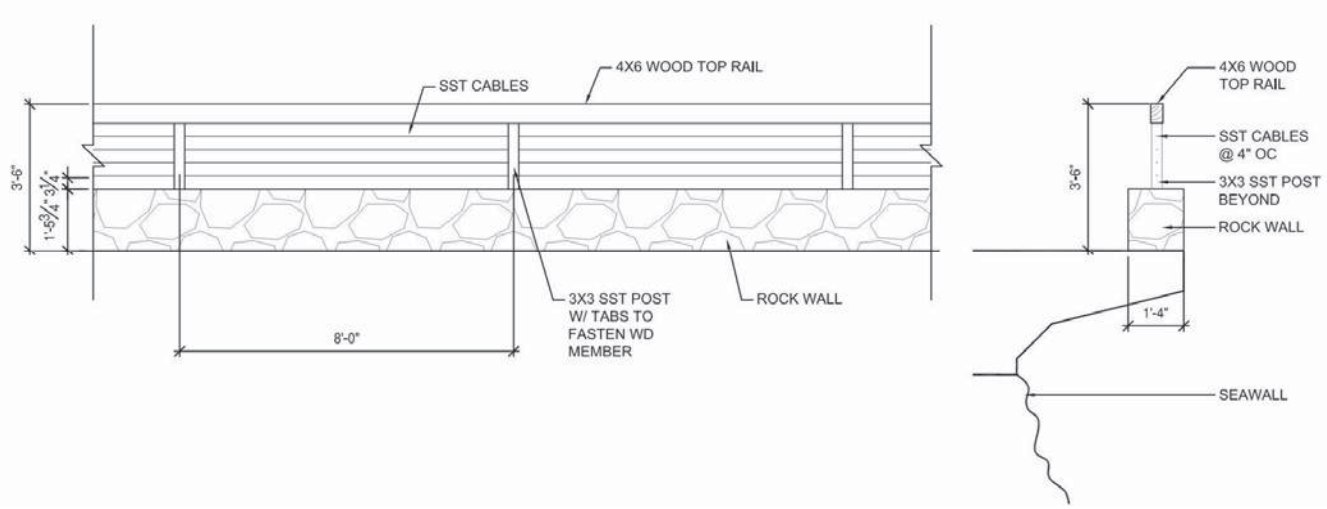
Several options for the new railing were considered. Although there was a historical precedent for a solid railing, it was felt that this would be too much of a visual barrier along Front Street. This would be exacerbated by the fact that the 1930s era rail was only 3-feet tall and the new one would have to be at least 3'-6" tall to meet current codes. As a result, constructing something similar to the 1930s design was not explored further.

Although reconstructing the existing railing design would be possible, this was also not deemed viable for several reasons. First, correcting the spacing of the verticals to meet current codes would have placed them close enough together that from oblique angles the railing would appear to be effectively solid. Second, the design is inherently a maintenance challenge. The wood members, continually bathed in salt water at the base, require frequent replacement and constantly look deteriorated.

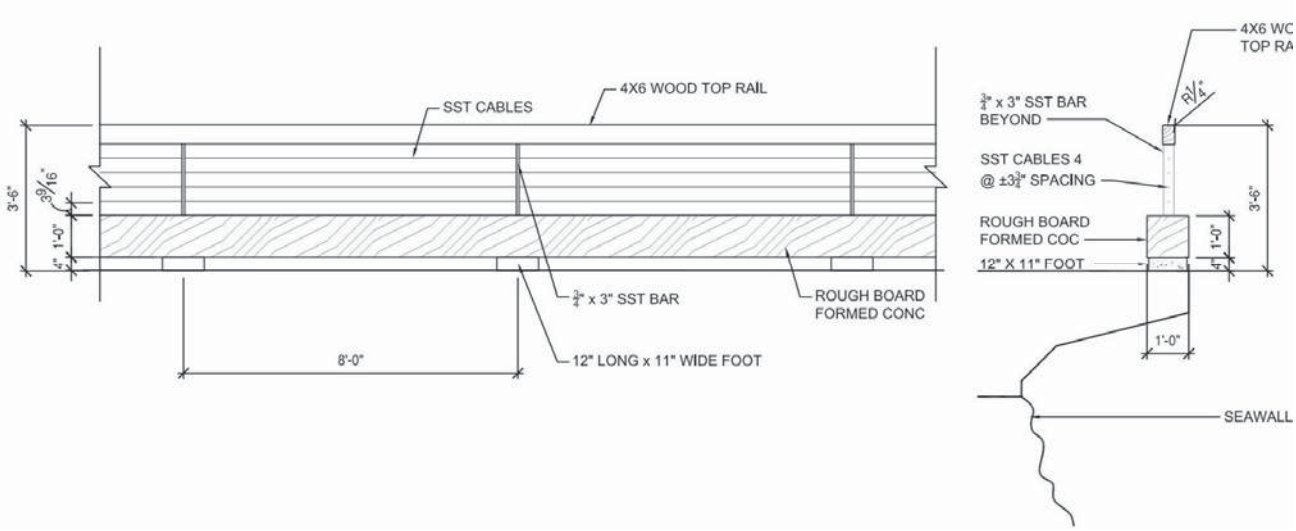
Three alternative designs were considered, all of which attempt to maintain visual transparency while utilizing a more durable material at the base of the rail where salt water exposure is the greatest.



OPTION 1



OPTION 2



OPTION 3

All the options propose to use a 4 x 6 wood top rail with rounded top corners, similar to the 1979 design. This was done because wood is better to lean on, particularly because it doesn't get so hot, and because it is a natural element more appropriate to Lahaina. It is also high enough that it does not get the same exposure as lower elements.

Options 1 and 2 have stone bases, with the intention of visually tying the railing to the stone planters that will be retained on the other side of the sidewalk. Option 1 proposes to use 2 x 4 stainless steel tubes, painted, as horizontal elements. That size will make them appear more like painted wood elements. Option 2 proposes to uses stainless steel cables and thin vertical bars to provide the maximum of visual transparency.

Option 3 shares many of the same characteristics of Option 2, except the base is proposed to be a rough board-formed cast concrete, raised on short feet, to resemble the timber member that was often used at the edge of wharfs and docks.

Option 1 was selected as the preferred option. Although the other two options are more visually transparent, there was significant concern about the long term durability of the stainless steel cables. These tend to stretch and sag over time, requiring tightening. In addition, almost all stainless steel will get some surface rust haze on it with this type of exposure, which can't be mitigated without painting, which is hard to maintain on cables. Finally, it was felt the cables, while associated appropriately with a nautical theme, could appear too "modern" for historic Lahaina.

The stone base was preferred over the false wood timber of Option 3 because the stone was a more natural material and obviously related to the existing planters. There was some concern that the public would not understand the wharf association.

Other Site Elements:

The overall appearance of the Front Street's "Area A" is also affected by the bollards, the signs and light posts. The new elements used are proposed to be identical to those recently approved for the Lahaina Wharf Street Park project that was recently approved.

CULTURAL IMPACT ASSESSMENT

APPENDIX

F

SCS Project Number 2365 CIA-Final

A CULTURAL IMPACT ASSESSMENT IN ADVANCE OF THE PROPOSED FRONT STREET SIDEWALK RAILING, AND SEAWALL PROJECT

LAHAINA, PAUNAU AHUPUA‘A, DISTRICT OF LAHAINA (LĀHAINĀ) ISLAND OF MAUI, HAWAI‘I TMK (2) 4-6-009 and 4-5-002

Prepared by:
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April 2020

FINAL

Prepared for:
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TABLE OF CONTENTS

TABLE OF CONTENTS ii

LIST OF FIGURES iii

LIST OF TABLES iii

INTRODUCTION 1

CULTURAL IMPACT ASSESSMENT METHODOLOGY 7

- GEOGRAPHICAL EXTENT 8
- OEQC GUIDELINES FOR ASSESSING CULTURAL IMPACTS 8
- CULTURAL IMPACT ASSESSMENT CONTENTS 9
- PROJECT METHODOLOGY 11
- ARCHIVAL RESEARCH 11
- INTERVIEWS 11

KA PA‘A KAI O KA‘AINA V. LAND USE COMM’N, STATE OF HAWAI‘I 12

ENVIRONMENTAL SETTING 13

- PROJECT AREA 14
- SOILS 15
- CLIMATE 15

TRADITONAL AND HISTORICAL CULTURAL CONTEXT 17

- PAST POLITICAL BOUNDARIES 17
- TRADITIONAL SETTING OF LĀHAINĀ 18
- WAHI PANA (LEGENENDARY PLACES) 21

HISTORIC BACKGROUND 23

- HISTORIC SETTING OF LAHAINA (1778 TO MID-1800S) 23
- THE MĀHELE 28
- MID-1800S TO 1900S 32

PREVIOUS ARCHAEOLOGY 33

CONSULTATION 38

CULTURAL IMPACT ASSESSMENT INQUIRY RESPONSES AND INTERVIEWS 40

- RESPONSES 40
  - ANDREW K. PHILLIPS, BURIAL SITES SPECIALIST, STATE HISTORIC PRESERVATION DIVISION 40
  - PRINCESLEHUANANI KUMAEWAKAINAKALEOMOMONA 41
  - CHRIS (IKAIKA) NAKAHASHI, CULTURAL HISTORIAN, STATE HISTORIC PRESERVATION DIVISION 43
  - DR. SCOTT FISHER, ASSOCIATE EXECUTIVE DIRECTOR OF CONSERVATION, HAWAII ISLAND LAND TRUST 44
- INTERVIEWS 47
  - DR. SCOTT FISHER, ASSOCIATE EXECUTIVE DIRECTOR OF CONSERVATION, HAWAII ISLAND LAND TRUST 47
  - FOSTER AMPONG,MEMBER OF AHA MOKU 0 MAUI,WAILUKU MOKU 49

CULTURAL IMPACT ASSESSMENT SUMMARY 50

- IDENTIFED CULTURAL PRACTICES 51
- IDENTIFED CULTURAL RESOURCES 52
- IMPACT ASSESSMENT AND RECOMMENDATION 53

REFERENCES 56
APPENDIX A: NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM .....A
APPENDIX B: EXAMPLE LETTER OF INQUIRY .....B
APPENDIX C: NEWSPAPER NOTICE PUBLISHED IN KA WAI OLA NOVEMBER 2019 ISSUE.....C
APPENDIX D: EXAMPLE FOLLOW-UP LETTER.....D
APPENDIX E: FOSTER AMPONG'S SIGNED INFORMATION RELEASE FORM.....E
APPENDIX F: LAND COMMISSION AWARD 7713 (ROYAL PATENT 4475) .....F

LIST OF FIGURES

FIGURE 1: USGS QUADRANGLE (LAHAINA, HI 1992; 1:24,000) SHOWING PROJECT AREA LOCATIONS. 2
FIGURE 2: TAX MAP KEY [TMK: (2) 4-6-009] SHOWING PROJECT AREA 1 LOCATION. 3
FIGURE 3: TAX MAP KEY [TMK: (2) 4-5-002] SHOWING PROJECT AREA 2 LOCATION. 4
FIGURE 4: SATELLITE IMAGE (GOOGLE 2018; IMAGERY DATE 7/8/2016) SHOWING PROJECT AREA LOCATIONS.5
FIGURE 5: MAP OF LAHAINA SHOWING PROJECT AREAS WITHIN THE NATIONAL HISTORIC LANDMARK DISTRICT BOUNDARY (STATE SITE 50-50-03-3001; FROM STATE HISTORIC PRESERVATION DIVISION FILES). 6
FIGURE 6: USDA SOIL SURVEY (FOOTE ET AL. 1972: SHEET NUMBER 94) SHOWING SOIL TYPES WITHIN THE PROJECT AREAS. 16
FIGURE 7: PLAN DE LA RADE DE RAHEINA [MAP OF RAHEINA (LAHAINA) BAY] (DUPERRY 1826).....26
FIGURE 8: HISTORIC MAP PLAN OF PORTIONS OF KUHUA 1, LAHAINA, MAUI LAND COMMISSION AWARD 7582 TO E. KIPA (G. F. WRIGHT 1916; REG. MAP 2782). 31
FIGURE 9: USGS QUADRANGLE (LAHAINA, HI 1992: 1:24,000) SHOWING PREVIOUS ARCHAEOLOGY IN THE VICINITY OF THE PROJECT AREA.....34

LIST OF TABLES

TABLE 1: LAND COMMISSION AWARDS (LCA) WITHIN TMK: (2) 4-6-009 (ALL INFORMATION BASED ON OFFICE OF HAWAIIAN AFFAIRS KIPUKA DATABASE 2019). 30
TABLE 2: LAND COMMISSION AWARDS (LCA) WITHIN TMK: (2) 4-5-002 (ALL INFORMATION BASED ON OFFICE OF HAWAIIAN AFFAIRS KIPUKA DATABASE 2019). 32

INTRODUCTION

At the request of Sato and Associates, Inc., representing the County of Maui, Department of Public Works (DPW), Scientific Consultant Services, Inc., (SCS) prepared this Cultural Impact Assessment (CIA) in advance of the proposed Front Street Sidewalk, Railing, and Seawall Project area. The proposed project area consists of two corridors (Project Area 1 and Project Area 2) located along the southwest (makai) edge of Front Street, within Historic Lahaina Town, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi. Project Area 1 is located in TMK: (2) 4-6-009, on land owned by the County of Maui. Area 2 is located in TMK: (2) 4-5-002, on land owned by the County of Maui, and within TMK: (2) 4-5-002:002, on land owned by Lahaina Land Company (Figures 1 through 4).

The project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (Appendix A). This area has also been designated as a National Historic Landmark (Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2. The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawaiʻi, prepared by AECOM (May 2016) for the County of Maui Planning Department.

The proposed Project Area 2, the northern project corridor, will extend approximately 730 feet (222 meters) from just south of Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The work within Project Area 2 will consist of replenishing the boulder seawall. Scientific Consultant Services Inc. recently conducted an Archaeological Field Inspection and Literature Review for the proposed project area which found that the seawall within Area 2 was constructed prior to 1916 (Dagher and Dega 2020:23).

The proposed Project Area 1, the southern project corridor, extends approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. The work within Project Area 1 will consist of demolishing and reconstructing the damaged wave deflector, the wood rails, damaged concrete sidewalk, and the planters and trees. Mason Architect, Inc. (Mason n.d.) prepared an analysis of the Area 1 railing design from a historic perspective. According to Mason (n.d.), the seawall underlying the present concrete sidewalk and wave deflector was constructed in the early 1900s. Mason (n.d.) also indicated the initial wood railings were replaced with metal pipe railings by the 1920s and the seawall was modified in the 1930s, the current seawall and railings were constructed in 1979 and the seawall was also modified at that time.

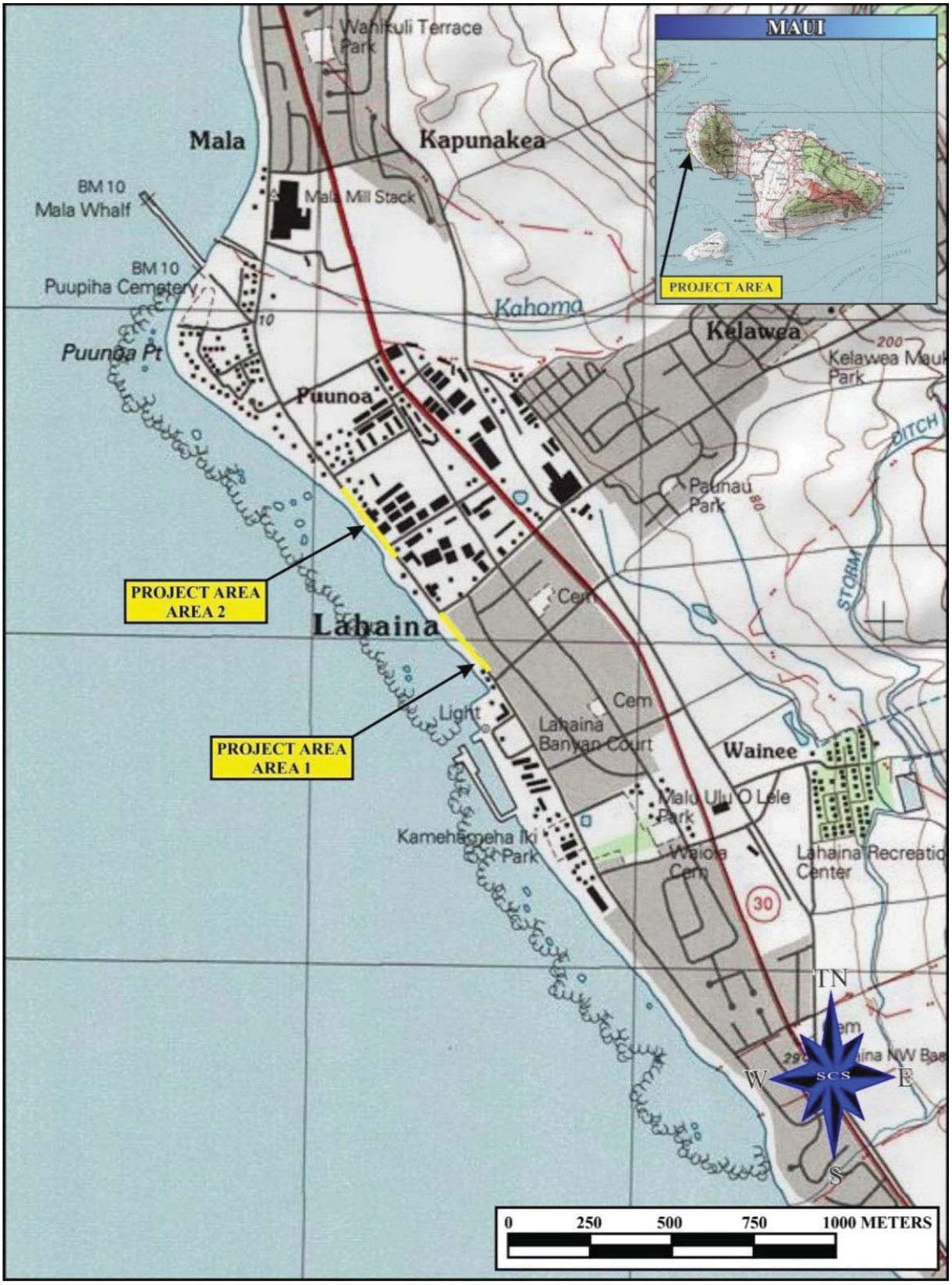


Figure 1: USGS Quadrangle (Lahaina, HI 1992; 1:24,000) Showing Project Area Locations.

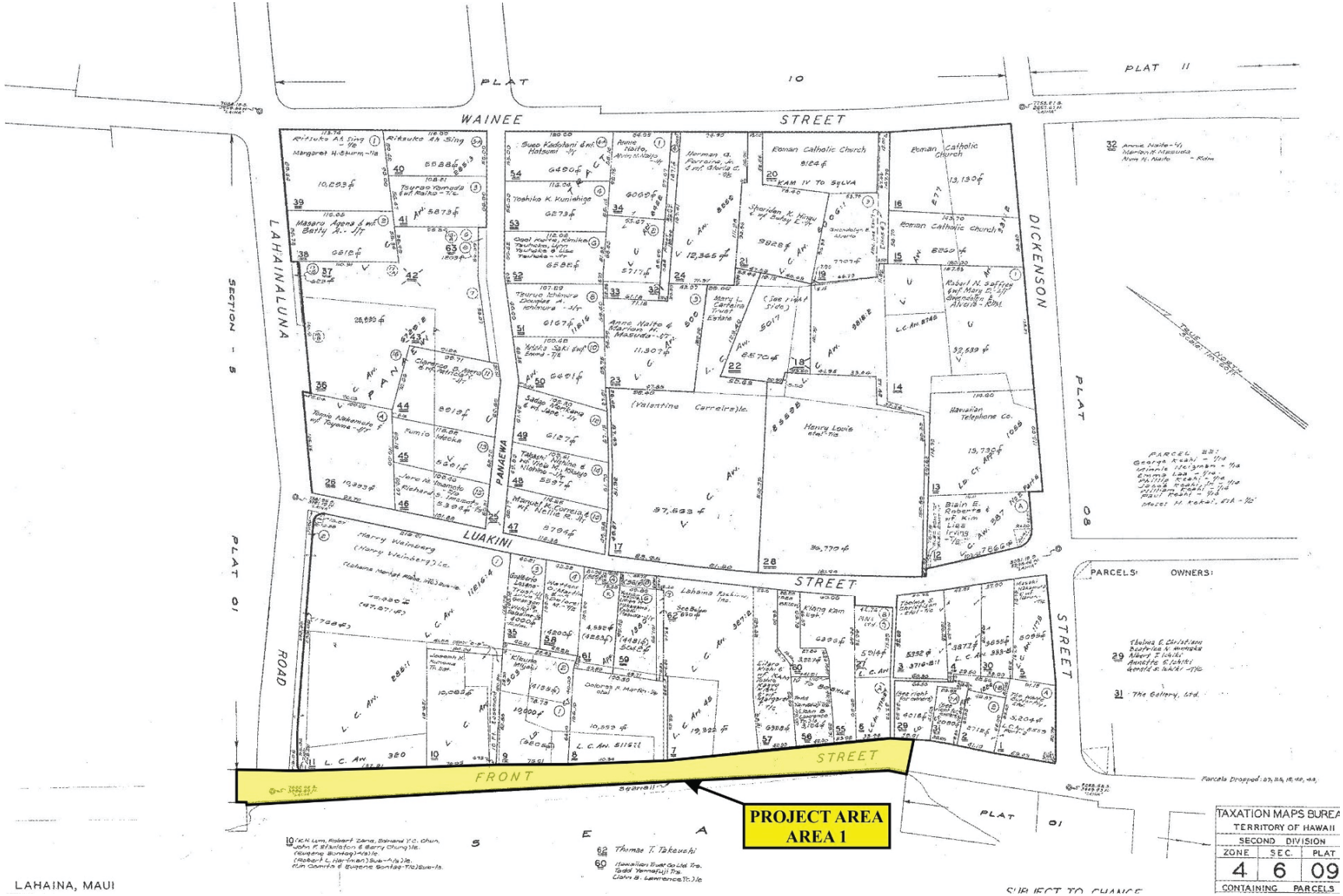


Figure 2: Tax Map Key [TMK: (2) 4-6-009] Showing Project Area 1 Location.

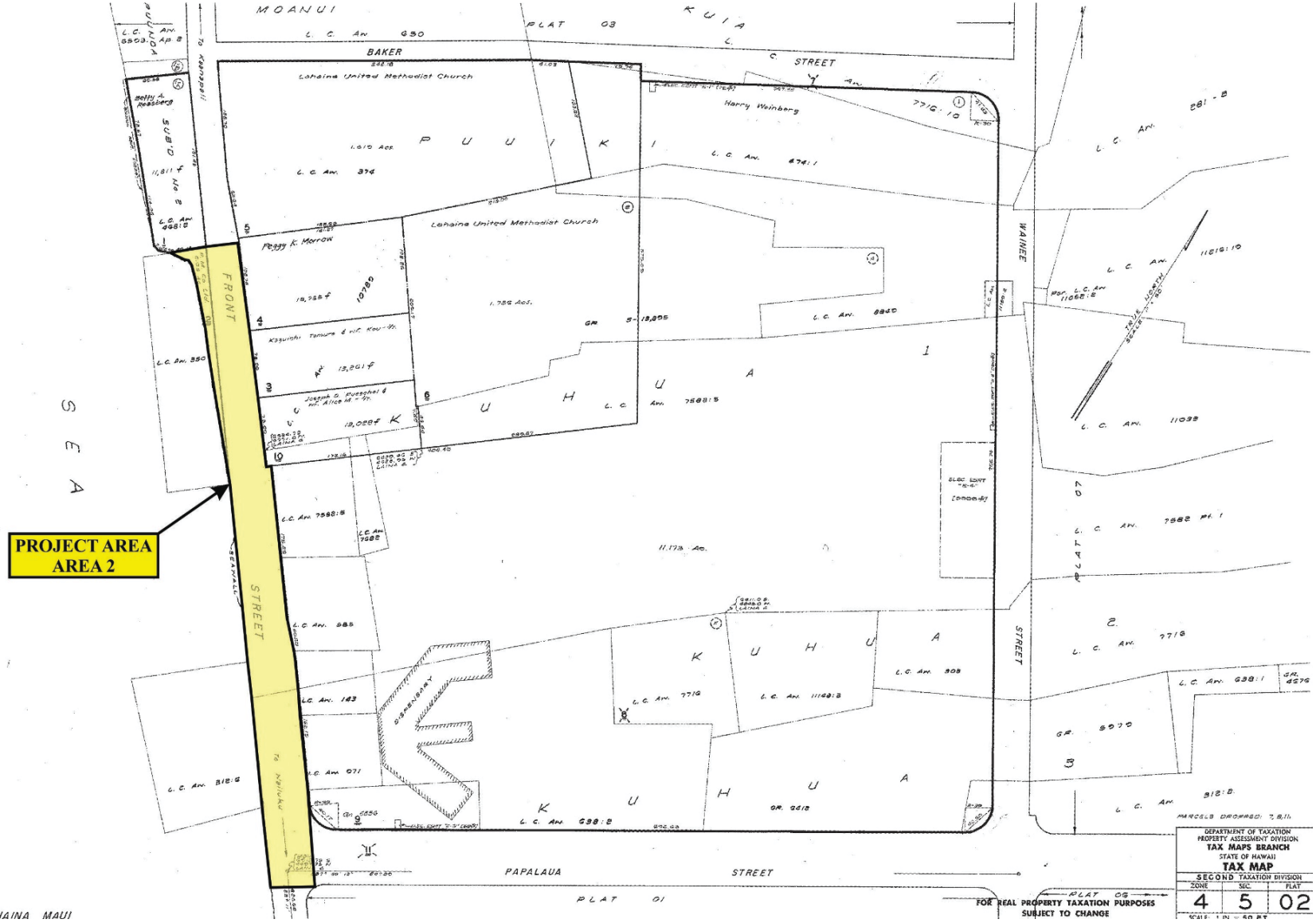
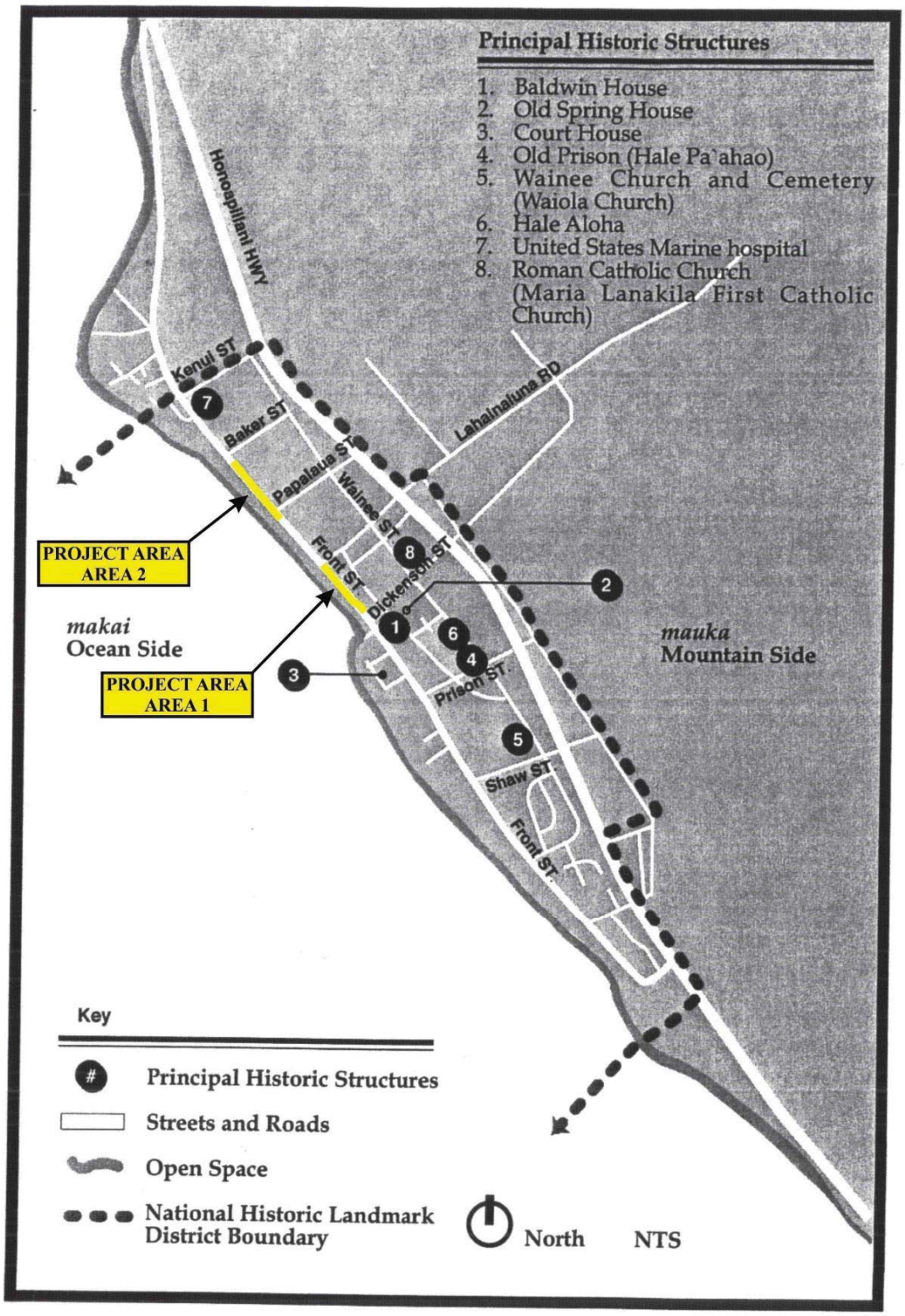


Figure 3: Tax Map Key [TMK: (2) 4-5-002] Showing Project Area 2 Location.

Figure 4: Satellite Image (Google 2018; Imagery Date 7/8/2016) Showing Project Area Locations.



National Historic Landmark District Boundary Map

Figure 5: Map of Lahaina Showing Project Areas within the National Historic Landmark District Boundary (State Site 50-50-03-3001; from State Historic Preservation Division Files).

The Hawaii State Office of Environmental Quality Control (OEQC 1997:11) states that "an environmental assessment of cultural impacts" gathers information about cultural practices and cultural features that may be affected by significant environmental effects:

> Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

The purpose of a CIA is to identify the possibility of on-going cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. The CIA is not intended to be a document of in depth archival-historical land research, or a record of oral family histories, unless these records contain information about specific cultural resources that might be impacted by a proposed project.

CULTURAL IMPACT ASSESSMENT METHODOLOGY

The Constitution of the State of Hawai‘i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 (2000) requires the State to "protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua‘a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778." Additionally, Article IX and XII, of the state constitution, other state laws, and the courts of the State, impose on government agencies a duty to promote and protect cultural beliefs and practices, and resources of native Hawaiians as well as other ethnic groups.

Kamehameha III (Kauikeaouli) preserved the people's traditional right to subsistence. As a result, in 1850 the Hawaiian Government confirmed the traditional access rights to native Hawaiian ahupua‘a tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawaiian Revised Statutes (HRS) 7-1. In 1992, the State of Hawai‘i Supreme Court reaffirmed HRS 7-1 and expanded it to include, "native Hawaiian rights…may extend beyond the ahupua‘a in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner" [Pele Defense Fund v. Paty, 73 Haw.578, 620, 837 P.2d 1247, 1272 (1992)]. Act 50, enacted by the Legislature of the State of Hawai‘i (2000) with House Bill (HB) 2895, relating to Environmental Impact Statements, proposes that:

> There is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights [H.B. NO. 2895].

Act 50 also requires state agencies and other developers to assess the effects of proposed land use or shoreline developments on the "cultural practices of the community and State" as part of the HRS Chapter 343 (2001) environmental review process.

It also re-defined the definition of "significant effect" to include "the sum of effects on the quality of the environment including actions that impact a natural resource, limit the range of beneficial uses of the environment, that are contrary to the State's environmental policies, or adversely affect the economic welfare, social welfare or cultural practices of the community and State." Cultural resources can include a broad range of often overlapping categories, including places, behaviors, values, beliefs, objects, records, stories, etc. (H.B. 2895, Act 50, 2000).

GEOGRAPHICAL EXTENT

As defined by the Hawaii State Office of Environmental Quality Control (OEQC 1997:11), the geographical extent should be greater than the area over which the proposed project will take place in order to ensure that cultural practices that occur outside of the project area, but which may still be affected, are included in the assessment. For example, a project that may not itself physically impact traditional gathering practices, but may block access to those locations, would be included within the assessment. The concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or ahupuaʻa." In some cases, the geographical extent could extend beyond the ahupuaʻa if cultural practices do so as well.

OEQC GUIDELINES FOR ASSESSING CULTURAL IMPACTS

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997:12):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, which support such cultural beliefs.

The meaning of "traditional" was explained by in National Register Bulletin:

> "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations', usually orally or through practice. The traditional cultural significance of a historic property then is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. . . [Parker and King 1998:1]

This CIA was prepared as much as possible in accordance with the suggested methodology and content protocol in the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). In outlining the "Cultural Impact Assessment Methodology", the OEQC (1997:11) states that:

> "…information may be obtained through scoping community meetings, ethnographic interviews and oral histories…"

This Cultural Impact Assessment was prepared in accordance with the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). The Guidelines recommend that preparers of assessments analyzing cultural impacts adopt the following protocol:

1. Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a;
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. Identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

CULTURAL IMPACT ASSESSMENT CONTENTS

The Guidelines state that an assessment of cultural impacts should address, but not be limited to:

1. Discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

2. Description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

3. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

4. Biographical information concerning the individuals and organizations consulted their particular expertise and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

5. Discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

6. Discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

7. Discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area affected directly or indirectly by the proposed project.

8. Explanation of confidential information that has been withheld from public disclosure in the assessment.

9. Discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10. Analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

If on-going cultural activities and/or resources are identified within the project area, assessments of the potential effects on the cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

PROJECT METHODOLOGY

This report contains archival and documentary research, as well as communication with organizations and individuals having knowledge of the project area, its cultural resources, and its practices and beliefs. An example of the initial letter of inquiry is presented in Appendix B, the CIA newspaper notice is presented in Appendix C, an example of the follow up letter is presented in Appendix D, and the signed information release form is presented in Appendix E. This Cultural Impact Assessment was prepared in accordance with the suggested methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997:13), whenever possible. The assessment concerning cultural impacts may include, but not be limited to archival research and interviews.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps, land records, such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological reports.

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of this report. Such scholars as Samuel Kamakau, Martha Beckwith, Jon J. Chinen, Lilikalā Kameʻeleihiwa, R. S. Kuykendall, Marion Kelly, E. S. C. Handy and E.G. Handy, John Papa ʻĪʻī, Gavin Daws, A. Grove Day, and Elspeth P. Sterling and Catherine C. Summers, and Mary Kawena Pukuʻi and Samuel H. Elbert continue to contribute to our knowledge and understanding of Hawaiʻi, past and present. The works of these and other authors were consulted and incorporated in this report where appropriate. Land use document research was supplied by the Waihona ʻAina (2017) Database and the Maui County Real Property Assessment Division website.

INTERVIEWS

In general, interviews are conducted in accordance with Federal and State laws and guidelines when knowledgeable individuals are able to identify traditional cultural practices and/or resources procured in the project area or in the environs. If they have knowledge of traditional stories, practices and beliefs, and resources associated with a project area or if they

know of historical properties within the project area, they are sought out for additional consultation and interviews. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information concerning particular cultural resources. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs (OHA), historical societies, Island Trail clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input and suggest further avenues of inquiry, as well as specific individuals to interview. It should be stressed again that this process does not include formal or in-depth ethnographic interviews or oral histories as described in the OEQC‘s Guidelines for Assessing Cultural Impacts (1997). The assessments are intended to identify potential impacts to ongoing cultural practices, or resources, within a project area or in its close vicinity.

If knowledgeable individuals are identified, personal interviews are sometimes taped and then summarized. These draft summaries are returned to each of the participants for their review and comments. After corrections are made, each individual is to sign an information release form, making the interview available for this study. When telephone interviews occur, a summary of the information is also sent for correction and approval, or dictated by the informant and then incorporated into the document. If no cultural resource information is forthcoming and no knowledgeable informants are suggested for further inquiry, interviews are not conducted.

KA PA‘A KAI O KA‘AINA V. LAND USE COMM’N, STATE OF HAWAI‘I

The Land Use Commission (LUC) is also required to apply the analytical framework set forth by the Hawaii Supreme Court in Ka Pa‘akai O Ka‘Aina v. Land Use Comm’n, State of Hawai‘i, 94 Hawai‘i 31, 7 P.3d 1068 (2000) (hereinafter, “Ka Pa‘akai”). In this case, a coalition of native Hawaiian community organizations challenged an administrative decision by the Land Use Commission (LUC) to reclassify nearly 1,010 acres of land from conservation to urban use, to allow for the development of a luxury project including upscale homes, a golf course, and other amenities. The native Hawaiian community organizations appealed, arguing that their native Hawaiian members would be adversely affected by the LUC’s decision because the proposed development would infringe upon the exercise of their traditional and customary rights. Noting that “[a]rticle XII, section 7 of the Hawaii Constitution obligates the LUC to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible when granting a petition for reclassification of district boundaries,” the Hawai‘i Supreme Court held that the LUC did not provide a sufficient basis to determine “whether [the

agency] fulfilled its obligation to preserve and protect customary and traditional rights of native Hawaiians" and, therefore, the LUC "failed to satisfy its statutory and constitutional obligations." Ka Paʻakai, 94 Hawaiʻi at 46, 53, 7 P.3d at 1083, 1090.

The Hawaiʻi Supreme Court in Ka Paʻakai provided an analytical framework in an effort to effectuate the State's obligation to protect native Hawaiian customary and traditional practices while reasonably accommodating competing private interests. In order to fulfill its duty to preserve and protect customary and traditional native Hawaiian rights to the extent feasible, the LUC must—at a minimum—make specific findings and conclusions as to the following (Ka Paʻakai, 94 Hawaiʻi at 47, 7 P.3d at 1084):

A. Identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;

B. Extent to which those resources--including traditional and customary native Hawaiian rights--will be affected or impaired by the proposed action; and

C. Feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist.

See Ka Paʻakai, 94 Hawaiʻi at 47, 7 P.3d at 1084.

To fulfill these purposes outlined by Ka Paʻakai, the Cultural Impact Assessment has reviewed historical research and suggestions from contacts knowledgeable about traditional cultural practices which were conducted within the project area and in the surrounding environs. The potential effect of the proposed project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place has been analyzed, as required by the OEQC (1997).

ENVIRONMENTAL SETTING

The Island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Maui Island was formed by two volcanoes, Puʻu Kukui in the west and Haleakalā in the east. Puʻu Kukui, the highest peak of the West Maui Mountains (Mauna Kahalawai, extends 1,215 m above mean sea level and forms the west end of the island. Puʻu Kukui is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of

West Maui and their associated coastal regions have been witness to many battles during the pre-Contact Period and were coveted productive landscapes. These are joined together by an isthmus containing dry, open country or kula.

The younger of the two volcanoes, Haleakalā, soars 2,727 m (10,023 feet) above sea level and embodies the largest section of the island. Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lavas of the Honomanū and Kula Volcanic Series prevent the formation of rain-fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches were formed by intermittent water run-off.

PROJECT AREA

As stated elsewhere in this document, the proposed project area consist of two corridors (Project Area 1 and Project Area 2) located along the southwest (makai) edge of Front Street, within Historic Lahaina Town, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi [TMK: (2) 4-6-009 and 4-5-002; see Figures 1 through 4].

The project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (see Appendix A). This area has also been designated as a National Historic Landmark (see Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2.

The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawaiʻi, prepared by AECOM (May 2016) for the County of Maui Planning Department. Preparation of the survey report followed field survey of 300 buildings and 53 vacant sites.

The proposed Project Area 1, the southernmost project corridor segment, will extend approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. Project Area 1 extends approximately 25 feet (23 meters) inland from the shore line 10 approximately 10 ft. above mean sea level (amsl).

The proposed project Area 2, the northernmost project area segment, will extend approximately 730 feet (222 meters) north from Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. Project Area 2 extends approximately 15 feet (11.5 meters) inland from the shore line to approximately 8 ft. above mean sea level (amsl).

SOILS

According to Foote et al. (1972:Sheet 94; Figure 6), the southern portion Area 1 is comprised of soils of the Ewa Soil Series, specifically Ewa silty clay loam, 0 to 3 percent slope (EaA) (Foote et al. 1972:29-30). The well-drained alluvial soils of the Ewa Series formed from volcanic rock. These soils occur from 0 to 150 feet amsl in areas receiving 10 to 30 inches of rainfall annually (Foote et al. 1972: 29). The EaA soils exhibit very slow runoff with a very slight erosion hazard and are typically used for the cultivation of sugarcane and for residential areas (Foote et al. 1972: 30).

Area 2 is comprised of soils of the Pulehu Series, specifically Pulehu silt loam, 0 to 3 percent slopes (PpA) (see(1972:Sheet 94; see Figure 6). The well-drained soils of the Pulehu Series can be found in alluvial fans, stream terraces, and basins between sea level and 300 ft. amsl in areas receiving 10 to 35 inches of rainfall annually (Foote et al. 1972:115). The PpA soils exhibit moderate permeability, slow runoff, and a very slight erosion hazard. Large land parcels comprised of PpA soils are used for the cultivation of sugarcane, while smaller lots are used for residences (Foote et al. 1972: 116).

CLIMATE

According to the online Rainfall Atlas of Hawai‘i (Giambelluca et al. 2013), the project area receives approximately 12.5 inches per year mean annual rainfall. Approximately 2.6 to 2.7 inches of rainfall occur within the winter months and 0.23 to 0.25 inches occur during the summer months (Armstrong 1983:58). Temperatures within the project area environs range from the 52 to 90 degrees Fahrenheit in the winter months and from approximately 68 to 92 degrees Fahrenheit during the summer (Armstrong 1983:58).

Figure 6: USDA Soil Survey (Foote et al. 1972: Sheet Number 94) Showing Soil Types within the Project Areas.

TRADITONAL AND HISTORICAL CULTURAL CONTEXT

Archaeological settlement pattern data suggests that initial colonization and occupation of the Hawaiian Islands first occurred on the windward shoreline areas of the main islands between A. D. 850 and 1100, with populations eventually settling in drier leeward areas during later periods (Kirch 2011). Although coastal settlement was dominant, native Hawaiians began cultivating and living in the upland kula (plains) zones. Greater population expansion to inland areas began around the 14th century and continued through the 16th century. Large scale or intensive agriculture was implemented in association with habitation, religious, and ceremonial activities.

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various ahupuaʻa. Traditionally, there were two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland kalo (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as kō (sugar cane, *Saccharum officinaruma*) and maiʻa (banana, *Musa* sp.), were also grown and, where appropriate, such crops as ʻuala (sweet potato, *Ipomoea batatas*) were produced. Traditionally, this was the typical agricultural pattern seen during the pre-Contact Period on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on Maui was likely to have begun early in what is known as the Expansion Period (AD 1200-1400, Kirch 1985).

PAST POLITICAL BOUNDARIES

In general, several terms, such as moku, ahupuaʻa, ʻili or ʻiliʻāina were used to delineate various land sections. A district (moku) contained smaller land divisions (ahupuaʻa), which customarily continued inland from the ocean and upland into the mountains. The ahupuaʻa varied in size but ideally encompassed land from the mountain to the sea, allowing the chiefs and makaʻāinana (commoner) access to both land and marine resources. All persons from chiefs to commoners were entitled to portions of these resources (Chinen 1994).

Extended household groups living within the ahupuaʻa were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each ahupuaʻa to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The ʻili ʻāina or ʻili were smaller land divisions next to importance to the ahupuaʻa and were administered by the chief who controlled the ahupuaʻa in which it was located (Lyons 1875: 33; Lucas 1995:40). The moʻoʻāina were narrow strips of land within an ʻili. The land holding of a

tenant or hoa ʻāina residing in an ahupuaʻa was called a kuleana (Lucas 1995:61). The project area is located in Paunau Ahupuaʻa, which literally means "completely chewed up" (Pukui et al. 1974:182).

TRADITIONAL SETTING OF LĀHAINĀ

The District of Lāhainā, located on the western side of the West Maui Mountains (Mauna Kahalawai), extends from Honokōhau Ahupuaʻa on the north to Ukumehame Ahupuaʻa on the south. A number of traditional activities took place in this district from fishing and cultivation by early Hawaiians to residential occupation and recreational use by members of the aliʻi (ruling class). The district served as an important center both politically and socially during the late pre-Contact (pre-1778) and early Historic (post-1778) Periods. It was the royal chiefly center for centuries (Thrum 1909; Kirch 1985; Kamakau 1961; Sterling 1998) and played a key role in the intra-island warfare associated with island unification. By the late 1700s, Kamehameha I had firmly established his presence on Maui with the invasion of Lāhainā. By the early 1800s, Kamehameha I designated Lāhainā the capital of the Hawaiian Kingdom. Lāhainā served as the capital between 1820 and1845 when it was moved to Honolulu (Pukui et al. 1974:127). In 1819, the first whaling ship Bellina arrived in what would later be known as Lahaina Harbor. Lāhainā became the center of commercial whaling in the Pacific until the mid-1800s. After the decline of the whaling industry, Lāhainā and surrounding areas became a base for sugarcane plantations. Most recently, tourism is the main industry in Lāhainā.

Lāhainā is the traditional spelling and pronunciation of the area currently referred to as Lahaina. Lāhainā literally translated means "cruel sun," said to be named for a time of terrible droughts (Pukui et al. 1974:127). Others believe the original name for Lāhainā was "Lele" (small piece of property) which translates literally as the flying piece of a kuleana near the shore (Sterling 1998:17). As Lāhainā is situated along the shoreline the name is applicable. Pukui et al. (1974:127) also note that Lāhainā is associated with the Kauaʻula wind that caused the destruction of churches and buildings in Lāhainā in 1828 and again in 1858.

Lāhainā is traditionally and historically known for its verdant and abundant groves of breadfruit. Sterling (1998) references Lāhainā as second only to Puna, Hawaiʻi as a favorable location for breadfruit cultivation. In mele (songs), Lāhainā is even referred to as ka malu ulu o Lele, "the breadfruit shade of Lele" (Handy 1940:190). Ashdown (1970) writes that the name Lele was changed to Lahaʻina when it became the home of the noted prophet, Lahaʻinaloa for whom all of West Maui was named.

According to Handy and Handy (1972:492), the District of Lāhainā was a favored place among the high chiefs of Maui and their entourage because of its abundant resources from both land and sea, its warm climate, easy communication with other populated areas around West Maui, and close proximity to the outer islands of Moloka‘i and Lāna‘i.

Early descriptions of Lāhainā village provided by Westerners paint a picture of idyllic tranquility and cooperation among the inhabitants. According to Handy and Handy (1972:493), Menzies, the surgeon and naturalist on board the HMS Discovery during Captain George Vancouver's expedition, states that he and the members of his party "…observed the rugged banks of a large rivulet that came out of a chasm cultivated and watered with great neatness and industry." Menzies (cited in Handy and Handy 1972:493) goes on to describe an afternoon tour of the village on March 17, 1793, as follows:

> I accompanied Vancouver and a party of officers, with the two Niihau women, to see the village of Lahaina which we found scattered along shore on a low tract of land that was neatly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetable of the country, and watered at pleasure by aqueducts that ran here and there along the banks of intersecting fields…In short, the whole plantation was cultivated with such studious care and artful industry as to occupy our minds and attention with a constant gaze of admiration...

Little had changed twenty-six years later when J. Arago visited Hawai‘i with Captain Louis de Freycinet in 1819. Arago (cited in Handy and Handy 1972:493), impressed by the verdant quality of Lāhainā and the skill the Hawaiians exhibited in farming, writes:

> The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to a greater advantage; little pathways sufficiently raised and kept in excellent condition…These are frequently divided by trenches, through which a fresh and limpid stream flows tranquilly, giving life to the plantations...

Handy (1940:159) discusses the proliferation of fishing settlements and isolated fishermen's houses all the way from Kīhei to Honokahua and mentions the cultivation of ‘uala (*Ipomea batatas*, sweet potato) in the red lepo (sandy soil) near the shore. Handy (1940) points out that this coast is the most favorable on Maui for fishing and that kula lands (uplands) were ideal for the cultivation of sweet potato. According to Handy (1940:106), the ali‘i Kaka‘alaneo lived on Keka‘a Hill in Lāhainā District. Keka‘a became the capital of Maui during

Kaka‘alaneo’s reign and was also an area of intense cultivation. Fornander (1916, Vol. 5:540–41) discusses how Kaka‘alaneo planted kukui (*Aleurites moluccana*, candlenut) and ‘ulu (*Artocarpus* sp., breadfruit) at Lāhainā village.

The coastal and marine environments adjacent to the project area would have provided rich resources for traditional subsistence foragers and fishermen in the pre-Contact and early Historic Periods. A large number of fish species are found in the near-coastal waters: weke, surmullet (*Mulloidichthys auriflamma*); kūmū (goatfish, *Parupeneus prophyreus*); mamo (sergeant fish, *Abudefduf abdominalis*); manini (surgeonfish, *Acanthurus triostegus*); palani (surgeonfish, *Acanthurus bariene*); nenue (rudder or pilot fish, *Kyphosus fuscus*); kōkala (porcupine fish, *Diodon hystrix*); hinalea (wrasse, Family, Labridae); uhu (parrot fish, *Scarus perspicillatus*); ‘ala‘ihi (squirrel fish, *Holocentrus* sp.); kala (surgeonfish or unicorn fish, *Acanthurus* sp.); and nehu (anchovy, *Anchoviella purpurea*). In addition to a relatively high density of gastropods and pelecypods, including pipipi, black nerita (*Nerita picea)* and *Littorina pintado*), at least five species of sea urchin have been noted: *Centrechinus paucispinus*, *Tripneustes gratilla*, *Podophora atrata*, *Heterocentrotus mammillatus*, and *Echinometra mathaei* (Kirch 1973).

According to Thrum (1909), an infamous chief named Hua, who was born in Lāhainā and reigned prior to the 10th century, is credited with the construction of the first heiau (temple) on Maui. Hua is also referred to as Hua-a-Pohukaina and Hua-a-Kapuaimanaku, names by which his father was also known. Hua is known for the construction of two heiau in Lāhainā. Another Hua, two generations later, is credited with the construction of a third. Three additional heiau are said to date to, or just prior to, the reign of Kahekili (Thrum 1909).

Fornander (1969) discusses how Lāhainā figured prominently in battles between various island chiefs. In the early 1700s, wars between Alapa‘inui of Hawai‘i, in conjunction with Kamehamehanui of Maui, and Kauhi (Kamehamehanui’s brother) occurred. Alapa‘inui established his headquarters at Lāhainā village while the rest of his army occupied the coast extending from Honokowai to Ukumehame. With the pending arrival of Peleioholani from O‘ahu, who was to assist Kauhi, Alapa‘inui destroyed the kalo patches and broke down ‘auwai belonging to the followers of Kauhi in the vicinity of Lāhainā. Eventually the forces met, Fornander 1969, Vol. 2:140) writes:

> The fortune of the battle swayed back and forth from Honokowai to near Lahaina; and to this day heaps of human bones and skulls, half buried in various places in the sand, attest to the bitterness of the strife and carnage committed.

During the early 1930s, Winslow Walker conducted an island-wide survey of the Island of Maui. During this survey, Walker (1933:112-113) identified two heiau within the Paunau Ahupuaʻa: Waiie Heiau (Walker Site 9) and Luakona Heiau (Walker Site 10). Waiie Heiau (Walker Site 9), now totally destroyed, was located in Kapaulu District, south of Lahainaluna Road in a sugar cane field. Luakona Heiau (Walker Site 10) was located at the mauka (east) end of Kelawea Camp, north of Lahainaluna Road, in the traditional District of Kapaulu. At the time of Walker's (1930) survey, remnants of the walls and platform of Luakona Heiau still existed (Sterling 1998:30-34).

Places of refuge or puʻuhonua lands, where the blood of wrongdoers could not be shed, were an ancient Hawaiian concept. During the reign of Kamehameha I, as the ruler of the Hawaiian kingdom, "…the god Kukaʻilimoku and the lands sacred to this god were places of refuge" (Kamakau 1961:312). Kamakau (1964a:18-19) elaborates on the concept of puʻuhonua:

The concept (ʻano) of puʻuhonua came down from ancient times, and puʻuhonua lands had always been observed. They were sacrosanct and inviable lands; no blood of wrongdoers could be shed once they entered into these of puʻuhonua lands.

Lāhainā also played a crucial role in the intra-island warfare that led to island unification and the establishment of the capital of the Hawaiian Kingdom by Kamehameha I. In February of 1795, Kamehameha established his presence on Maui with the invasion of Lāhainā. Kamehameha's great fleet of war canoes landed in Lāhainā covering the coast from Launiupoko to Mala.

WAHI PANA (LEGENENDARY PLACES)

"Wahi Pana" can be defined as celebrated or noted places or locations (Pukui and Elbert 1986:313, 376), and refers to legendary places or landmarks of historical significance. These places of note have distinctive features (i.e., mountain peaks, streams, wind, rain, etc.) that are given specific names through which the history of an area is passed down from generation to generation through chants, legends, and songs.

Scattered amongst the agricultural and habitation sites were other places of cultural significance to the kamaʻāina of the district. At least six heiau were recorded in the vicinity of the ancient village of Lāhainā (old pronunciation of Lahaina), fishing koʻa (shrine) were present

along the beach and on the slopes above the bays, and petroglyphs were inscribed in many places whose meanings have yet to be fully understood (Thrum 1908, 1916, 1917; Walker 1930:103).

In addition to declaring the lands of his war god, Kukaʻilimoku, places of refuge, Kamehameha also declared his favorite wife, Kaʻahumanu, and her lands as places of refuge. The District of Lāhainā was associated with Kaʻahumanu, who inherited these lands from her husband Kamehameha. The Ahupuaʻa of Paunau was among the lands that became places where people who had broken a kapu (taboo) could be protected from the punishment death (Kamakau 1961:313; Kamakau 1964a:19).

Archival research produced several legends are associated with Paunau Ahupuaʻa, including the legend of the Hauola Stone. According to Jeanne Booth Johnson (1959 cited in Sterling 1998:34), the Hauola Stone was located "[J]ust over the seawall at the ocean end of Lahaina Power and Light." This version of the legend pertains to a girl, Hauola, whose gods turned her to stone to protect her from her enemies. Traditional healers "…used to send their patients to bathe in the sacred sea water at this stone, and it is reported that many were cured."

A later and slightly different version was printed in the Maui News on August 6, 1966 (cited in Sterling 1998:34). According to this account:

> The rock looks like a modern chair with a spacious seat and a small angular back is the healing rock, the front of which is a worn hollow. Hawaiians believed that ailing people had only to sit in the seat, dangle their legs in the water, and let the waves wash over them to gain health.
>
> Since this rock was a sacred place not likely to be disturbed, it was also used as a pohaku piko, or hiding place for the umbilical cords of newborn children. The Hawaiians believed that of an umbilical cord could be successfully hidden and left undisturbed its owner would grow up to be a chief.

The Lahaina Historical Guide (cited in Sterling 1998:34), describes the Hauola stone as located:

> Off the right-hand end of the stone wall that separates Wharf Street (the street in front of the Pioneer Inn) from the ocean is a cluster of large rocks which stand above the waves.

Lizards or moʻo are prominent figures in Hawaiian myths and legend. One such legend is associated with Mokuhinia Pond, located in Paunau Ahupuaʻa. The informant Moses Manu (cited in Sterling 1998:39) provides the following account:

> This moʻo, Kihawahine, was a moʻo on whom the parents of these chiefs relied and the place where Kihawahine lived was a pond lying at Lahaina, Maui, by the name of Mokuhinia [now Malu-ulu-o-Lele park behind Wainee (Waiola) Church]. The location of the tomb of the chiefess Nahienaena which stood in the pond in the east bank, was Mokuula, a little rock island. Below this was the den of the moʻo. This hold was called, from ancient times until this day Kalua o Kiha (the den of Kiha).

HISTORIC BACKGROUND

The pre-Contact Period in the Hawaiian Islands came to an end with the arrival of Captain Cook on the island of Kauaʻi in 1778. The years to follow would drastically alter the political, agricultural, and social foundation of the Hawaiian Kingdom. The destabilization of Hawaiian society was further intensified by the profound reformation of the traditional land system.

HISTORIC SETTING OF LAHAINA (1778 TO MID-1800S)

Western descriptions of Maui were given by Captain Cook and his men who were the first Europeans to record their impressions of the island, on November 26, 1778 (Beaglehole 1967: Part I, Vol. III). After returning from Alaska, they spotted Maui and sailed down a portion of the east side of the island. David Samwell, a surgeon on the Discovery, reported:

> …the ships lay to all day about 3 miles off shore, trading with the Natives who came off in their canoes in great number…. cited in Beaglehole 1967:1151).

It had been a time of war between Kalaniopuʻu, ruler of Hawaiʻi Island, and Kahekili, chief of Maui and Molokaʻi. During this season of the year (Makahiki), however, the fighting was temporarily suspended and Kahekili was free to visit the foreign ships. Samwell (cited in Beaglehole 1967:1151) describes the great King and the windward slopes calling Kahekili:

> a middle aged man... rather of a mean appearance..." and the land as "...mountainous, the sides of the hills are covered with trees...large open plains on which stand their houses & where they have their plantations of sweet potatoes, taro &c.

The leeward side of the island was dry and an early account (1786) suggests inhabitants were much poorer in health and resources at its southern end (La Perouse in Sterling 1998:222). However, further up the coast towards Lahaina, the population increased and the habitations situated in coconut groves became numerous. Lahaina Village, with access to mountain streams, was described in 1793 by Vancouver and Menzies (Menzies 1920:112) as:

> ...laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetables of the country and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields ...In short, the whole plantation was cultivated with such studious care and artful industry as to occupy our minds and attention with a constant gaze of admiration....

The war between Kahekili of Maui and Kalaniopu‘u of Hawai‘i Island had not ended with the death of Kalaniopu‘u in 1782, but was continued by his nephew, Kamehameha I. Vancouver was not as impressed as Menzies with the Lahaina landscape and was told it was the result of the continued disputes:

> To the ravage and destruction of *Tamaahmaah's* wars, the wretched appearance of the crops was to be ascribed of this they grievously complained, and were continually pointing out the damages they had sustained; the despoiled aspect of the country was an incontrovertible evidence of this melancholy truth. Most of the different tenements in the lands formerly cultivated, were now lying waste, their fences partly or intirely [sic] broken down, and their little canals utterly destroyed; nor was a hog or a fowl any where to be seen. By far the larger portion of the plain was in this ruinous state; and the small part that was in flourishing condition bore the evident marks of very recent labor (Vancouver 1984: 870).

After defeating Kahekili’s army and subjugating all but the island of Kaua‘i, Kamehameha moved his fleet of peleleu (war canoes) to Lahaina for a year to collect tribute (in 1802-1803). His headquarters was a two-story brick house near the landing, close to a section of the project area. The building was surrounded by kalo patches and fishponds, coconut, hala, and kou trees (The Maui Historical Society: 1964). The kalo patches stretched along the beach, behind which were huts, and behind them, a mulberry and cane plantation belonging to a Mr. Butler, the land having been a gift from Kamehameha I (Litten in Sterling 1998:19). To be able to supply his retinue with provisions, Kamehameha ordered the repair of the damage previously done to Lahaina and vicinity during the wars with Kahekili. Walls for the lo‘i were rebuilt and crops were again successfully grown.

There was also a heiau at the landing. L. R. Duperrey, cartographer with Louis Claude de Saulses de Freycinet, mapped the Lahaina Village in 1819 depicting points of interest: a) the observatory of Freycinet, b) the brick palace of Kamehameha I, c) heiau, d) Mr. Butlers house, e) kalo lo‘i and ‘auwai, f) wauke plantation, and g) sugar cane plantation (Figure 7).

Freycinet (cited in Kelly 1978:29) recorded:

> We immediately landed...to select an appropriate location for setting up our instruments...upon my request, was kind enough to tabou a platform in the neighborhood of a morai and of a red brick house, which was convenient.

In describing Lahaina Village Freycinet (cited in Kelly 1978:41) stated:

> ...the first thing we noticed upon our arrival at Raheina was a red brick structure. Standing right next to the landing point, it was an excellent guide for the vessels...to the south was the habitation of the priests and next to it a *morai* constructed on a pile of dry rocks and forming a sort of dike on the beach. a little farther up in the interior one comes across hand-dug reservoirs used for taro culture. They stretch along the coast for quite some distance and are fed by the streams brought there through artificial canals. The houses, instead of being grouped next to each other, are dispersed over a rather wide terrain....

Freycinet (cited in Kelly 1978:32) was impressed with the fertility of Lahaina:

> ...Here were found vast orchards of the paper mulberry, whole fields of bananas and of sugar cane of fine appearance, fields of taro and other vegetables fit for human food, enormous breadfruit trees scattered here and there, finally the fertility and freshness of the soil everywhere maintained by frequent irrigation and well husbanded.

Arago, draftsman and artist on Freycinet's voyage, recorded that Lahaina occupied approximately nine miles along the coast by three miles, inland (14.4 by 4.8 kilometers). He described the same orderly cultivated system of kalo, bananas, breadfruit, coconut, wauke and housesites. Arago (1823:119-120 in Handy and Handy 1972: 493) described Lahaina as:

> The environs of Lahaina are like a garden...little pathways sufficiently raises, and kept in excellent condition, serve as communications between the different estates. These are frequently divided by trenches …Every cabin has its enclosure, and every enclosure is well taken care of; it seems to suffice for the wants of the family...The space cultivated by the natives of Lahaina is about three leagues in length and one in its greatest breadth.

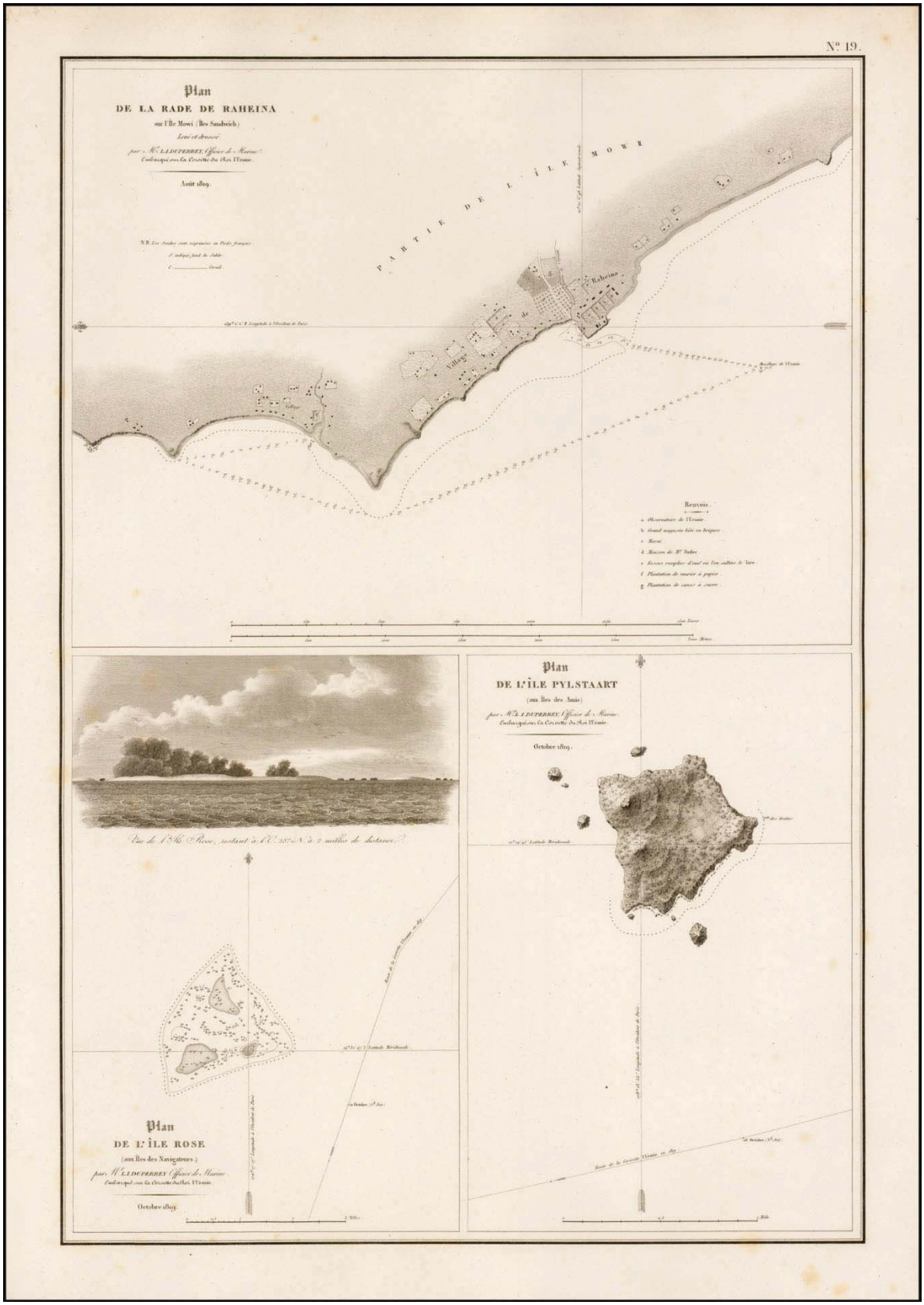


Figure 7: Plan de la Rade de Raheina [Map of Raheina (Lahaina) Bay] (Duperry 1826).

Kamehameha I died in 1819 in Kona and his oldest living son died four years later in London. This left Kamehameha's youngest son, Kauikeaouli, as reigning monarch (under the guidance of Ka‘ahumanu) at the age of nine years old. During the reign of Kauikeaouli, as Kamehameha III, Lāhainā became the capital of the Kingdom and favorite headquarters of the ali‘i.

Kamakau (1961:262) reported:

> Lāhainā was in those days a popular resort for the chiefs...None of these paid any attention to the word of God but amused themselves at their gatherings with liquor drinking, dancing, gambling, sensual indulgence, and all kinds of such devilish doings.

In 1823, the mother of the King and sacred wife of Kamehameha I, Keōpuolani, brought the Reverends Stewart and Richards and their families to Lāhainā. Land was eventually given to the missionaries along what was to become Front Street. The population of Lahaina was estimated at 2,300 around this time and consisted of 700 grass houses with a few permanent buildings (Belt Collins & Associates 1992). With the arrival of the missionaries and the conversion of several powerful ali‘i such as Ka‘ahumanu and Keōpuolani, a shift occurred, and Lahaina's new buildings began to reflect western influence. The first stone dwelling in Hawaii, located on Front Street in Lahaina and belonging to Rev. Richards, was completed in 1827. Clustered along or near Front Street, besides the mission houses occupied by the Stewarts' and Richards', and Baldwin's, were several other buildings, such as the Marine hospital, Seamen's Chapel and Reading Room. Dr. Baldwin constructed a medical office in conjunction to his residence on Front Street in 1834. By the late 1820s, stone houses were being built by many of the ali‘i on their land in Lāhainā, much of which now borders the current project area.

A fort was constructed in 1831-32 near the brick palace, where a sailor would drum at sundown as a signal for all the seamen to board their ships. In 1854 the old coral blocks that had been a part of the fort walls were dragged across Front Street to become a part of the new Hale Pa‘ahao or Lahaina Prison.

Whaling ships by the dozens filled the anchorage between spring and fall from the 1820s through the 1860s. Lahaina had already provided supplies, sailors, and recreation for countless voyagers participating in the trans-Pacific fur/sandalwood trade. The harbor in Honolulu required excessive port charges, unlike Lahaina (Belt Collins & Associates 1992). Because Lahaina was a roadstead, no pilot was needed to guide the ships, as was the case for Honolulu, and ships could come and go as they pleased. The ships' boats would travel up the canal (what is now Canal Street) and barter in the government-regulated market place which had a large grass house extending the entire length of the canal.

In 1825 there were already 19 schools in Lahaina with 380 students. The schools were only outnumbered by the 23 grog shops. By 1826, the school number had increased to 29, instructing 568 male and 570 female students. In spite of the law against selling ardent spirits, the number of grog shops in Lahaina had increased to 30 by the early 1830s. In 1846, 429 whaling ships anchored at Lahaina (Maui Historical Society 1971:7). Lahaina's constable expressed his frustration at trying to keep order:

> There are so many Beer shops here, and they have so many chances of selling spirits in their Beer without detection that do all I can, and use all the means in my power, I cannot get a fair chance to fine them (Maui Historical Society 1971:9).

The traditional subsistence economy had quickly changed to a market economy and Lahaina was at the center of activity. The buying and selling of produce had been strictly regulated under Kamehameha I. His successors, however, quickly gave into the pressure of the lesser chiefs to share in the bounty and their desire for exotic merchandise. Soon, free enterprise dominated commerce. In 1833, Brinsmade, Ladd, and Hooper in partnership with Hoapili the Governor of Maui, establish a large store and hotel in Lāhainā. By 1837, Pierce and Brewer owned a large trading house in Lahaina (Belt and Collins & Associates 1992).

Dr. Dwight Baldwin, a missionary doctor in the 1830s whose residence was the old Richard's house located on Front Street, recorded the main food items supplied to the ships were:

> ...water, hogs, goats, bananas, melons, pumpkins, onions, squashes, sweet potatoes, young turkeys, ducks, fowls and beef, all of which can be had in abundance; but the greatest article or which they come is Irish potatoes which grow plentifully in the interior of this island" (In Maui Historical Society 1971:7).

THE MĀHELE

During the mid-1800s, extreme modification to traditional land tenure occurred throughout all of the Hawaiian Islands. The transition from traditional Hawaiian communal land use to private ownership and division was commonly referred to as the Māhele (Division). The Māhele of 1848 set the stage for vast changes to land holdings within the islands as it introduced the foreign (western) concept of land ownership to the Islands. Although it remains a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kauikeaouli (Kamehameha III) established laws changing the traditional Hawaiian system of land tenue, which were intended to keep lands in the hands of the Hawaiians, but resulted in providing an opportunity for foreigners to obtain land (Kuykendall Vol. I, 1938:145 footnote 47, 152, 165–166, 170; Daws 1968:111; Kelly 1983:45; Kame‘eleihiwa 1992:169–170, 176).

The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were made available and private ownership was instituted, the makaʻāinana (commoners) were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

Once Article IV of the Board of Commissioners to Quiet Land Titles was passed in December 1845, the legal process of private land ownership was begun. The land division, called the Māhele, began in 1848. As stated above, the lands of the kingdom of Hawaiʻi were divided among the king (crown lands), the aliʻi and konohiki, and the government.

Once lands were made available and private ownership was instituted, native Hawaiians, including the makaʻainana (commoners), were able to claim land plots upon which they had been cultivating and living, through the Kuleana Act of 1850. The process for foreigners to acquire land was conducted through the Alien Landownership Act of 1850.

Oftentimes, foreigners were simply just given lands by the aliʻi. However, in the case of commoners, they would only make claims only if they had first been made aware of the foreign procedures (kuleana lands, land commission awards). These claims could not include any previously cultivated or currently fallow land, okipū, stream fisheries, or many other natural resources necessary for traditional survival (Kameʻeleihiwa 1992:295; Kirch and Sahlins 1992). Awarded parcels were labeled as Land Commission Awards (LCAs). If occupation could be established through the testimony of witnesses, the petitioners were issued a Royal Patent number and could then take possession of the property. Commoners claiming house lots in Honolulu, Hilo, and Lāhainā were required to pay commutation to the government before obtaining a Royal Patent for their awards (Chinen 1961:16).

According to the Waihona ʻAina (2019 Database), 71 LCAs were claimed within Paunau Ahupuaʻa. The Office of Hawaiian Affairs Kipuka Database (2019) indicates LCA 7713:26/Royal Patent 4475 is located within the current project area. Land Commission Award 7713/Royal Patent 4475, comprised of a total of 55 ʻāpana (land parcel), minus kuleana lands, was claimed by and awarded to Victoria Kamamalu (Appendix F).

This information is included in both the Title Report and the Deed, which confirms that the LCA 7713, ʻĀpana 26 was awarded to V. Kamamalu. The Title Report and the Deed also indicate that that a project area includes a portion of LCA 8524-B, which was awarded to Peke:

> All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Royal Patent Number 4475, Land Commission Award Number 7713, Apana 26 to V. Kamamalu and Royal Patent Number 5702, Land Commission Award Number 8542-B, Apana 1 to Peke) situate, lying and being at Lahaina, Island and County of Maui, State of Hawaii, being LOT A and thus bounded and described…

Numerous additional LCAs surround the current project area indicating that the area was widely used and valued during the pre-Contact and early Historic Periods. Land Commission Awards located adjacent to the project area, as shown in Figures 2 and 3, are shown in Table 1 and Table 2 and Figure 8.

Table 1: Land Commission Awards (LCA) within TMK: (2) 4-6-009 (All information based on Office of Hawaiian Affairs Kipuka Database 2019).

TMK: (2) 4-6-009:	LCA/RP	Claimant	Date Awarded	Notes (cited from OHA Kipuka Online Database (2019)
011	320/596	Kapolulo	1852	N/A
010	303:1/1831	Kuakamauna, E	1855	N/A
009	303:1/1831	Kuakamauna, E	1855	Verified in Buke Mahele vol.2 pgs.887-8. (Apana 1 of 3 in Panaewa).
008	8452.4.1/4388	Keohokalole, A	1858	Not shown in Figure 2
	5116			Not shown in Office of Hawaiian Affairs Kipuka Database 20019)
007	45/	Vonpfister, John R.		
057, 056, 055, 006	7713:27	Kamamalu, Victoria		In 1858 this area was deeded to John Boehle by Kamehameha IV Notes: Kam IV deed of 0.22 acres, Liber 11, pg.28.
029	7718/5575	Kamamalu, Victoria	1861	N/A
062	327/7193	Kaauwai, Z	1878	Per Buke Mahele this could possibly be Apana 1 or 2, vol.10 pgs.514-5 & vol.2 pgs.45-6, but boundaries are not clear on Reg1262. Needs More Research.

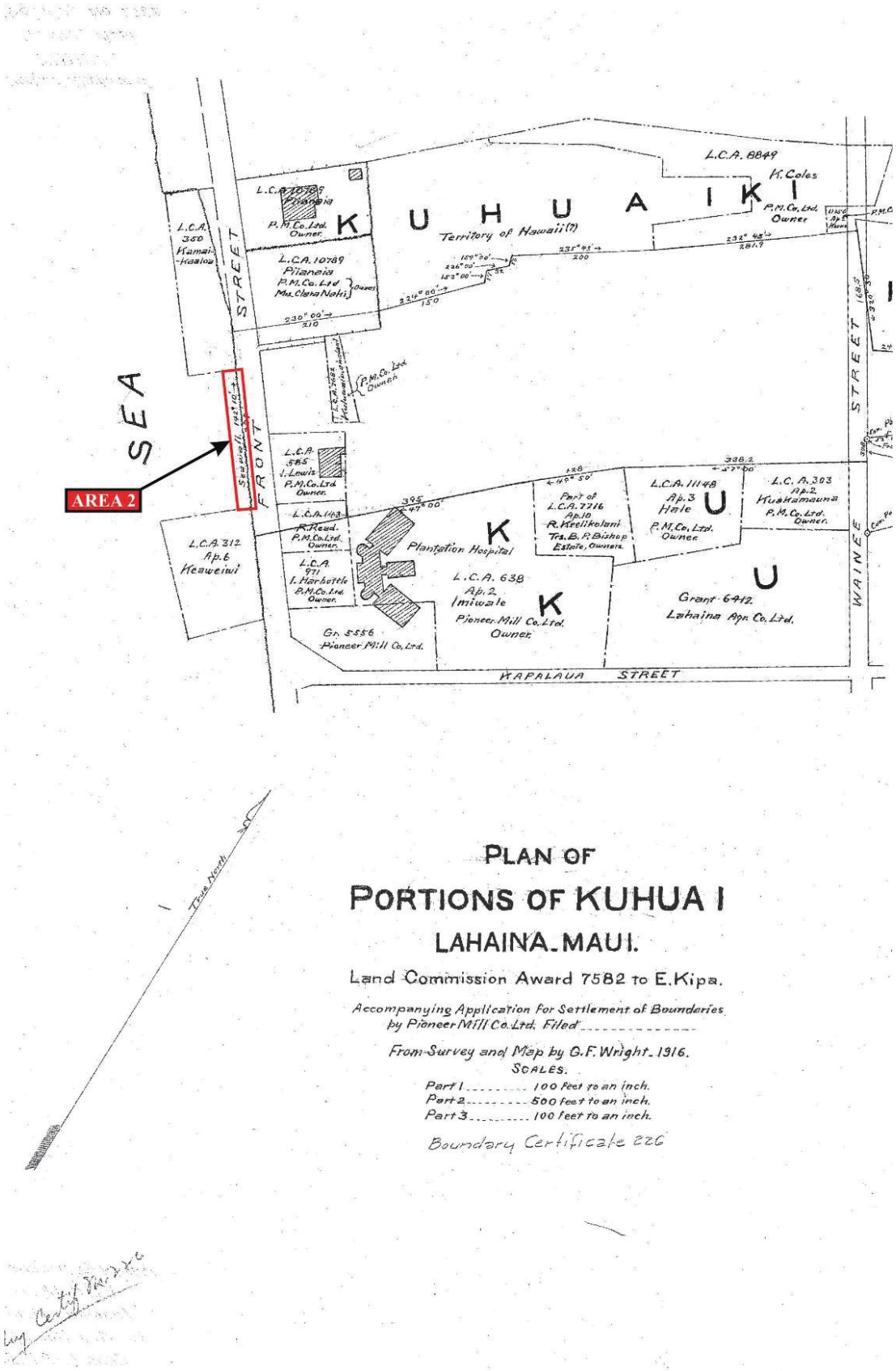


Figure 8: Historic Map Plan of Portions of Kuhua 1, Lahaina, Maui Land Commission Award 7582 to E. Kipa (G. F. Wright 1916; Reg. Map 2782).

Table 2: Land Commission Awards (LCA) within TMK: (2) 4-5-002 (All information based on Office of Hawaiian Affairs Kipuka Database 2019).

TMK: (2) 4-5-002	LCA/RP	Claimant	Date Awarded	Notes
004	10789:1/1114	Piianaia	1853	N/A
003	10789:2/656	Piianaia	1852	Granted 0.7 acres in 1865, Book 14. The details of this award have been erased from Reg1262, but adjacent LCAw 7682:1 to Huluwaimakalani, depicts the lands of Wm Ap Jones bordering to its north: Buke Mahele vol.10 pgs.504-5.
010	10789:2/656	Piianaia	1852	N/A
009	7716:10/8146	Keelikolani, Ruth	1902	N/A
	312/2650	Timoteo Keaweiwi	1856	ʻāpana 6

MID-1800S TO 1900S

Charles Wilkes visited Maui in 1841 as part of his scientific expedition in the Pacific region. When viewing Lāhainā, Wilkes (1845:4) recorded:

> The town of Lahaina is built along the beach for a distance of three-quarters of a mile: it is principally composed of grass houses, situated as near the beach as possible: it has one principal street with a few others running at right angles. After the king's palace, the fort is the most conspicuous object: its form is quadrangular. The longest side, facing the sea: it is of little account, however, as a defense, serving chiefly to confine unruly subjects and sailor.

Lahaina's commerce continued to expand with new ventures appearing frequently. A boarding house had been built in Lahaina by George W. Punchard to accommodate the transient population arriving in Lahaina and J. Armas opened a restaurant in 1843. An enterprising Milo Calkin built a store and office for ship chandlery and general merchandise and directed possible customers to Front Street by saying "the canal leads direct to the store" (Belt Collins & Associates 1992). The many retail businesses established in Lahaina by the 1840s included Dow Drugstore, Gilman and Company, and A.H. Koon with many more to come. Punchard, Bush, Makee, Mellish, Sheik Mohamet, Halstead, McIntyre, Banks and Chinaman had all applied for licenses to peddle foreign goods at Lāhainā.

The first official census was taken in Lahaina in 1846 and recorded 3,445 Hawaiians, 112 foreigners, 882 grass houses, 155 adobe houses, 59 stone and wooden houses, and 99 sheds or lānai used as houses, 528 dogs and some 600 seamen (Belt Collins & Associates 1992).

Economically, everything was booming in Lāhainā. Not only were the merchants supporting the whaling ships, but in California the gold rush had begun with Hawaiʻi supplying many

commodities, including, potatoes to the west coast. In 1850, 51,957 barrels of Irish potatoes and 43,923 barrels of sweet potatoes were exported from Lahaina to California (Belt Collins & Associates 1992).

By this time, Lahaina had two hotels, two bowling alleys, and a billiard room. Grass houses could also be rented for $4 dollars a month. As Lahaina prepared for another whaling season, it was recorded "victualers or better known as beer-shop keepers have commenced with great activity in cleaning up their houses for the fall season. No less than 15 or 20 of these licensed houses, besides several "sly" houses, two dance-houses and a native hula halau [school] in the lower part of town" were preparing for the sailors (Belt Collins & Associates 1992).

As the whaling industry began to wane, sugar production was on the rise. The increasing lack of sperm whales and the discovery of oil in Pennsylvania, which could produce cheap kerosene, seriously contributed to its decline. The last large fleet of whaling ships left Lahaina in 1860. As early as 1837, three sugar mills had been reported for Lahaina, two of which were owned by Hawaiians. The Lahaina Sugar Mill, owned by Judge Alfred W. Parsons, began operation in 1849. In the 1860s, opportunities for sugar increased. In 1861, James Campbell began a sugar plantation and eventually established a mill in Lāhainā. Because of the Māhele, land was easier to obtain, and vast areas were purchased for sugar cultivation. The Pioneer Mill Company owned 900 acres, which produced 2000 tons of sugar in 1884. By 1957, the Pioneer Plantation cultivated 4,710 acres of sugar producing 62,000 tons sugar (Belt Collins & Associates 1992).

Lahaina had become increasingly quiet at the end of the 19th century due to the exodus of the whalers and decreasing commerce to the gold fields. The Hawaiian capitol had been moved long ago to Honolulu by Kamehameha III and many had followed to this new thriving port as work opportunities lessened in Lāhainā. Diseases had also taken their toll. A measles and diarrhea epidemic occurred in 1849 and a smallpox epidemic broke out in 1854. To offset the population decline, Chinese, Japanese, and Filipino workers were imported. Lahaina prospered as a plantation town in the early part of the 20th century. With the arrival of statehood in 1959, Lāhainā, once again became a desirable destination for travelers (Belt Collins & Associates 1992).

PREVIOUS ARCHAEOLOGY

No archaeological studies were previously conducted in the project area. However, many archaeological projects have been conducted over the years in the general area, which primarily focused on improvements related to the Front Street area (Figure 9).

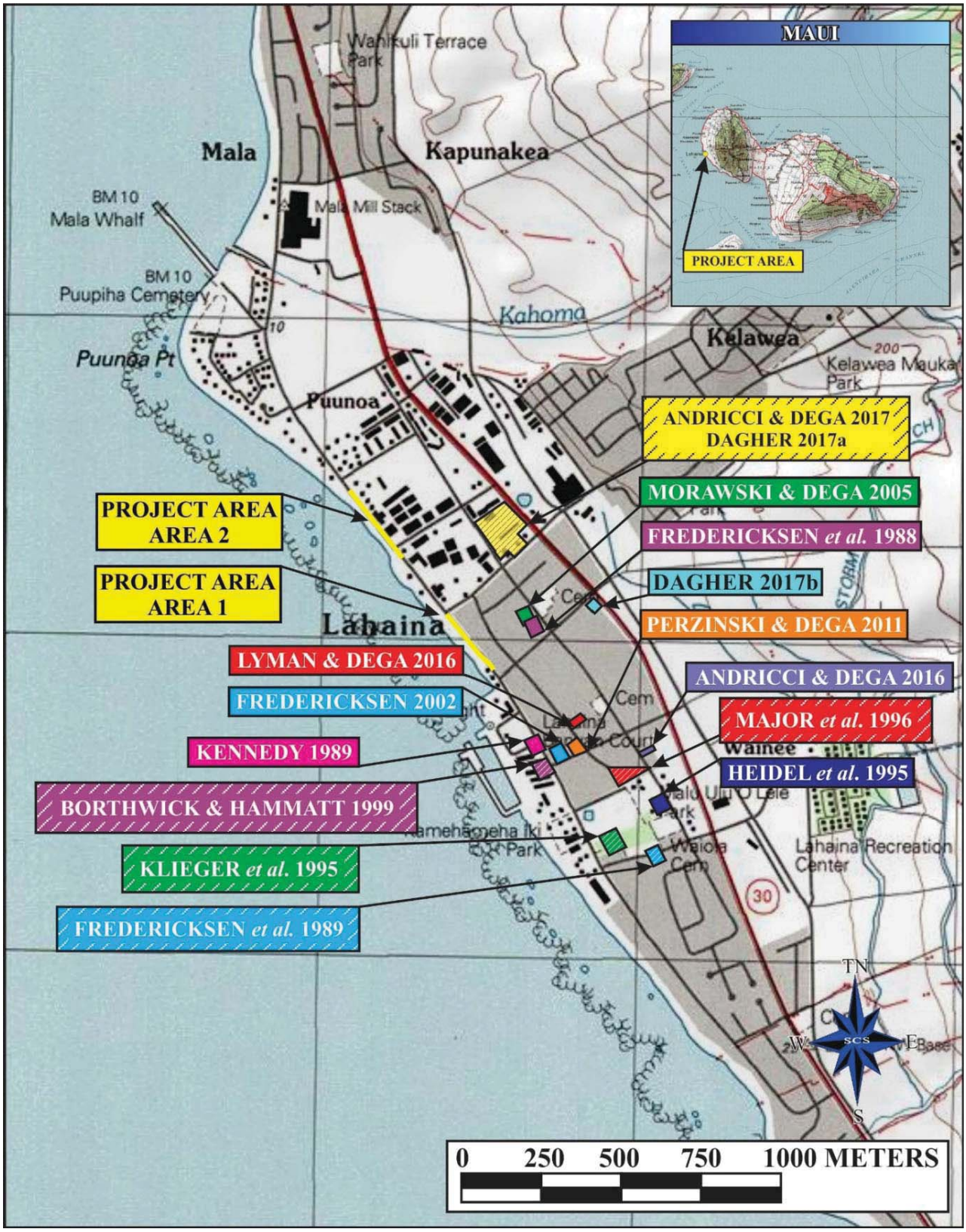


Figure 9: USGS Quadrangle (Lahaina, HI 1992: 1:24,000) Showing Previous Archaeology in the Vicinity of the Project Area.

Although no previous archaeological work was conducted in the proposed project area,, Scientific Consultant Services, Inc. (Dagher and Dega 2019) conducted a literature review and an archaeological field inspection of the proposed project area (Areas 1 and 2), which presents information on the seawall corridors and an overview of previous archaeological reports and documented archaeological sites in the vicinity. Mason Architects, Inc. (Mason n.d.) conducted an architectural study of the railing design in Area 1. The Mason (n.d.) study provides historic background on the construction of the seawall, within Area 1. According to Mason (n.d.), the Area 1 seawall was constructed in the early 1900s and a "metal pipe railing with a top and a mid-height horizontal railing only…appears to have been in place by the 1920s. Mason (n.d.) further states "by the 1930s a solid was constructed." The current seawall and railings were reconstructed to current form in in 1979. The Dagher and Dega (2020) found that the seawall within Area 2 was constructed prior to 1916.

The many archaeological projects conducted in the area resulted in the documentation of numerous traditional and post-contact sites. Most of these have been identified as habitation plots, lo‘i, burials, and refuse pits. The earliest archaeological investigation on the Island of Maui was conducted by Winslow Walker (1933), under the auspices of the Bernice Pauahi Bishop Museum. During this survey, Walker (1933:112-113) identified two heiau within the Paunau Ahupua‘a: Waiie Heiau (Walker Site 9) and Luakona Heiau (Walker Site 10). Waiie Heiau (Walker Site 9), now totally destroyed, was located in Kapaulu District, south of Lahainaluna Road in a sugar cane field. Luakona Heiau (Walker Site 10) was located at the mauka (east) end of Kelawea Camp, north of Lahainaluna Road, in the traditional District of Kapaulu. At the time of Walker's (1930) survey, remnants of the walls and platform of Luakona Heiau still existed (Sterling 1998:30-34).

In 1988, Paul H. Rosendahl, Inc. (Haun 1988, cited in Burgett et al. 1996) conducted a subsurface survey on the mauka (east) and makai (west) lands abutting Front Street. Excavations resulted in the identification of a cultural layer and a lo‘i field layer. Collected cultural materials included traditional artifacts, including volcanic glass and shell midden. Radiocarbon samples submitted for radiocarbon analysis yielded a date range of A.D. 1260 to 1640.

In 1988 and 1989, Xamanek Researches (Fredericksen et al. 1989:24) conducted an Archaeological Inventory Survey and subsequent Archaeological Data Recovery on TMK: (2) 4-6-009:021 (Fredericksen et al. 1988, Fredericksen et al.1989). This parcel, initially owned by Kamehameha IV and subsequently by the Roman Catholic Church, contained the Historic Aus Site (State Site 50-50-03-1797). State Site 50-50-03-1797 consisted of 10 subsurface pit features dating from the mid to late 19th Century. Subsequently the subsurface pits comprising State Site 50-50-03-1797 were interpreted as habitation features. According to Fredericksen et al. (1989), the Aus Site was generally utilized throughout the early post-Contact period (post-1778) and most likely

continuously until the late 1970s. During subsurface testing, a feature located within the upper stratum of Test Trench 9 that contained a recent refuse material dating to 1979, suggesting the Aus Site was use continuously into the Twentieth Century.

In 1989, Archaeological Consultants of the Pacific (Kennedy 1989) excavated a parcel (TMK: (2) 4-6-008:012), area which provided information about historic land use in the area. Construction materials and domestic wares dating from the late Historic Period - including red bricks, coral blocks, glass, and ceramics - were recovered.

In 1995, Under the Lahaina Restoration Foundation, archaeological work in Maluʻulu-o-lele Park (approximately 700 m south of the project area) identified Mokuʻula, the private residence of Kamehameha III, as previously located near Mokuhininia Pond (Klieger 1995). Through such archaeological undertakings, it became evident that architectural constructions, as well as other archaeological features of the royal occupation period, have been, in a number of cases, well preserved. In 1996, the Bernice Pauahi Bishop Museum (Major et al.1996) conducted historical background research and inventory survey on land once owned by Chief Pikanele during the mid-1800s. The project area was adjacent to Loko o Mokuhinia. During the survey, two archaeological sites were identified: a subsurface habitation area and pondfield and a plantation house dating from 1908.

In 1998, SCS (McGerty et al. 1998) conducted Archaeological Monitoring on Front Street, from Baker Street to Shaw Street (approximately 370 m west of the current project area, at its closest point), which led to the identification of both Traditional- and Historic-type features. A total of 13 archaeological sites were identified and recorded during monitoring. Habitation deposits with associated subsurface features including refuse pits, fire pits, shell midden, and postholes were identified and recorded. Artifacts associated with these features included basalt preforms, volcanic glass cores and debitage, various ornaments, and abraders. McGerty et al. (1998) also recovered Historic-type artifacts manufactured in the 19th and 20th Centuries, such as horseshoes, buttons, bricks, ceramics, slate, and glass bottles. Radiocarbon samples from a lower cultural stratum dated the site to A.D. 1450 to 1660, firmly within traditional times (McGerty et al. 1998). This same project also yielded burials relating to both pre-Contact (pre-1778) and Historic Periods.

In 1999, Cultural Surveys Hawai`i, Inc. (Borthwick and Hammatt 1999) recorded a cultural layer that included pre- and post-Contact features, which indicate prolonged use of the location. The site was located at the Lahaina Court House (approximately 640 m south of the current project area) and was subsequently assigned State Site 50-50-03-4754. (Fredericksen and Fredericksen 2000) documented a previously disturbed human burial (State Site 50-50-03-4978) directly across Front Street from the Lahaina Courthouse.

In 2001, Xamanek Researches (Fredericksen and Fredericksen 2001) identified four new archaeological sites (State Sites 50-50-03-4982, 50-50-03-4983, 50-50-03-4984, and 50-50-03-5174) with multiple components, during Archaeological Monitoring of improvements to King Kamehameha III Elementary School's electrical system. As these sites were identified during limited subsurface excavation relating to construction improvements the full spatial extent of these sites remains unknown. Nine in situ burials, a secondary burial, and ten probable burial features were identified during the course of the construction mitigation (Fredericksen 2001:12). In addition, previously disturbed human remains were identified at State Site 50-50-03-4984. State Site 50-50-03-4983 consisted of a remnant subsurface habitation layer with associated postholes and hearths in addition to burials. State Site 50-50-03-4982 overlays State Site 50-50-03-4983 and both of these sites were heavily impacted by construction of the school facilities. These sites are located within LCA 277, which awarded to William Charles Lunalilo. State Site 50-50-03-5174 consisted of a post-Contact 'ili'ili pavement with an associated refuse pit. This site is also located within LCA 277 and was interpreted to be associated with residences within this award parcel.

Radiocarbon samples submitted from State Site 50-50-03-4983 indicate occupation of that part of the site from the late pre-Contact period through early post-Contact times. State Site 50-50-03-4984 is located within LCA 10806.77 awarded to Kamehameha III and his sister Nahi'ena'ena and LCA 5320 awarded to Asa Ka'eo, kahili bearer for Kauikeaouli (2001:6). These LCAs were listed as house lots and 10806.77 was named Pa Halekamani by Nahi'ena'ena who lived in a traditional hale on the property. Asa Ka'eo testified that Halekamani contained seven houses and a fishpond. Please note the current project area is approximately distance 640 meters northwest of these archaeological sites, including the unknown extent of burials found at King Kamehameha III Elementary School.

In 2002, SCS (Calis 2002) conducted Archaeological Monitoring on a parcel on the other side of Lahainaluna Road. Archaeological deposits relating to Historic Period use of the area in the form of porcelain and glass artifacts dating from 1904 through the 1920s and 1930s were identified in subsurface contexts and subsequently designated as State Site 50-50-03-5180.

In 2002, Xamanek Researchers (Fredericksen and Fredericksen 2002), documented four Historic-type refuse pits and a waterworn pavement at TMK: (2) 4-6-008:053. The deposits subsumed under State Site 50-50-03-5203 were dated to the mid-20th Century.

In 2005, SCS (Morawski and Dega 2005) conducted an Archaeological Inventory Survey on approximately 12,365 square feet lot located on Waine'e Street adjacent to the Historic Aus site (State Site 50-50-03-1797). During the course of excavation one subsurface scatter and two subsurface pit features were recorded. Both the subsurface scatter collection and the pit features

contained Historic-type cultural materials likely related to habitation in the area during the late 1920s through the 1930s. These features were designated as State Site 50-50-03-5701.

From 2005 to 2007 SCS (Shefcheck and Dega 2007) conducted Archaeological Monitoring during subsurface construction work at the Maui Islander [TMK: 4-6-011:008]. No significant cultural deposits were identified during the course of this Monitoring program, and the subterranean soil deposits were found to consist singularly of sandy fill soils associated with previous development of the project area. The Maui Islander (currently called "Aina Nalu Lahaina Vacation Condos") site is adjacent and immediately south of the current project site.

In 2012, SCS (Medrano and Dega 2013) Inc. conducted an archaeological inventory survey-level investigation on several parcels of land totaling 1.02-acres in Lāhainā, Kuia Ahupuaʻa, District of Lāhainā, Island of Maui, Hawai'i [TMK: (2) 4-6-009: 036, 038, and 044]. No historic properties were identified.

In 2014, SCS (Lyman and Dega 2016) conducted an archaeological inventory survey-level investigation for the proposed demolition of historic structures and construction of a parking lot in Waineʻe Ahupuaʻa, Lāhainā District, Maui Island, Hawaiʻi [TMK: (2) 4-6-008:017]. No historic properties were identified.

Scientific Consultant Services, Inc. (Andricci and Dega 2017) conducted an archaeological inventory survey on 3.86 acres (36,780 sq. ft.), which included subsurface testing, for the Lahaina Square Redevelopment project in Lāhainā, Waine'e Ahupuaʻa, Lahaina District, Island of Maui, Hawai'i [TMK: (2) 4-5-006:001, 002, 007, and 008]. No historic properties were identified.

CONSULTATION

During the consultation process, SCS contacted thirty-five (35) individuals and organizations in an effort to obtain information which might contribute to the knowledge of traditional cultural activities that were, or are currently, conducted in the vicinity of the proposed project area. Consultation was conducted via e-mail, phone, and the U.S. Postal Service.

The initial letters of inquiry were sent between August 26 and November 12, 2019. Follow-up letters were sent to these individuals and organizations on October 18 - 19, 2019. Consultation was sought from:

1. Wilmont (Kamaunu) Kahaialii, community member
2. Kai Markell, Compliance Officer, Office of Hawaiian Affairs
3. Chris (Ikaika) Nakahashi, Cultural Historian, State Historic Preservation Division

4. Annella Amaral, President, Association of Hawaiian Civic Clubs

5. Silla Kaina, Cultural Ambassador, Montage Hotel at Kapalua Bay

6. Matthew Erickson, Hawaiian Civic Club, Lahaina Chapter

7. Kamika Kepaʻa, Native Hawaiian Preservation Council

8. Patty Nishiyama, Nā Kupuna O Maui

9. Clifford Naeʻole, Cultural Resource Advisor/Public Relations, Ritz-Carlton, Kapalua

10. Dr. Scott Fisher, Associate Executive Director of Conservation, Hawaii Island Land Trust

11. Edwin "Ekolu" Lindsey, Polanui HIU, Community Managed Marine Area and Maui Cultural Lands, Inc.

12. Thelma Shimaoka, Community Outreach Coordinator III, Office of Hawaiian Affairs

13. Roy Newton, Office of Hawaiian Affairs

14. Uʻilani Kapu, Lahaina Moku Representative, Aha Moku o Maui

15. Keʻeaumoku Kapu, CEO, Aha Moku O Maui, Inc.

16. Andrew "Kealana" Phillips, Burial Sites Specialist, State Historic Preservation Division

17. Snake Ah Hee, community member

18. Winnifred Lopez, community member

19. Tiare Lawrence, community member

20. Kumu Hula Kaponoai Molitau, cultural practitioner

21. Dane Maxwell, Lahaina District Representative, Maui/Lānaʻi Island Burial Council

22. Keoki Freeland, community member

23. Kimo Falkner, community member

24. Leimana DaMate, Executive Director, Aha Moku Advisory Committee
State of Hawaii, Department of Land and Natural Resources

25. Albert Perez, Executive Director, Maui Tomorrow Foundation

26. Lucienne de Naie, President, Maui Tomorrow Foundation

27. Maui Sierra Club

28. Leslie Kuloloio, community member

29. Blossom Feiteira, Maui Mokupuni Council

30. Foster Ampong, Descendant of Māhele Awardee (Keaweiwi , LCA 312, ʻĀpana 6) and member of Wailuku Moku, Aha Moku O Maui

31. Malihini Keahi-Heath, Lahaina resident

32. Lance Collins, West Maui Preservation Association

33. Michelle Anderson, community member and author

34. Princeslehuanani Kumaewakainakaleomomona, grew up on Wainee Street and currently applying for Descendancy status with the State Historic Preservation Division

35. Theo Morrison, Executive Director Lahaina Restoration Foundation

Scientific Consultant Services, Inc. initially submitted a newspaper notice announcing the preparation of a Cultural Impact Assessment in advance of the proposed Front Street Sidewalk, Railing and Seawall Project to the Office of Hawaiian Affairs via an email transmitted August 23, 2019 and again on August 26, 2019 for publication on the August 2019 issue of Ka Wai Ola. The newspaper notice provided the project name, locational details, including the Tax Map Keys, and stated SCS was seeking information on cultural resources and traditional, previously or on-going, cultural activities within or near the proposed project area. As the newspaper notice was not published in the August 2019 issue of the OHA newspaper, SCS re-submitted the notice for publication in the November 2019 issue (see Appendix C) via an email transmitted October 4, 2019.

CULTURAL IMPACT ASSESSMENT INQUIRY RESPONSES AND INTERVIEWS

Analysis of the potential effect of the project on cultural resources, practices or beliefs, the potential to isolate cultural resources, maintain practices or beliefs in their original setting, and the potential of the project to introduce elements that may alter the setting in which cultural practices take place is a requirement of the OEQC (No. 10, 1997). As stated earlier, this includes the cultural resources of the different groups comprising the multi-ethnic community of Hawaiʻi. The consultation process resulted in the receipt of written responses from ten (10) individuals and permission to include an in-person interview, which previously conducted in association with a nearby project.

RESPONSES

Based on the responses, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed. During the consultation process, SCS received written responses from ten (10) individuals, which are presented below:

ANDREW K. PHILLIPS, BURIAL SITES SPECIALIST, STATE HISTORIC PRESERVATION DIVISION

Andrew K. Phillips replied via e-mail dated August 29, 2019, which stated:

Sent it to the members of the MLIBC.

Concerns: Mr. Phillips did not express any concerns about the proposed project affecting traditional cultural practices or resources.

PRINCESLEHUANANI KUMAEWAKAINAKALEOMOMONA

Princeslehuanani Kumaewakainakaleomomona grew up on Wainee Street in Paunau Ahupuaʻa and is currently applying for Descendancy status with the State Historic Preservation Division. Princeslehuanani responded to SCS via an e-mail dated September 8, 2019, and made the following suggestions:

> Aloha Cathy,
>
> I finally sat and went over all projects for
> both Lahaina Seawalls.
> I could not be able to print, I would like to
> get a hard copy. Thank You
> My personal input...!!!
>
> 1). REMOVE ALL 10 COCONUT TREES
> and DONT REPLACE, it is future liability
> waiting to happen.
>
> 2). I would like to see ...ALL CARS REMOVED OFF OUR SACRED NATIONAL HISTORICAL FRONT STREET DISTRICT SITE, and turned into a WALKING SHORT DISTANCE DISTRICT. Instead of
> PLACING BOULDERS OF STONES INTO THE SHORELINES TO LATER ERODE, A FIRM SEAWALL FOUNDATION CAN BE PLACED ON THE SIDEWALK AS AN OTHER OPTION.
>
> 3). Time to be REMOVING these Huge Trees OFF FRONT STREET....NOT GOOD FOR FUTURE DRAINING AND CHOKE HUMAN WALKERS.... Best plant BUSH HEDGES INSTEAD.... gives color
> and easy to maintain.
>
> 4) Why ??? .....ARE WE USING WOOD AGAIN...???.... Is there other STRONGER FIBERGLASS DECK....that will last years into
> Our next FUTURE without YEARLY REPAIRS.
>
> 5) I would like to sit with you Kathy and go over my
> manaʻo.... to perhaps better understand me. I live on OAHU and I can meet up with you.
>
> Thank You Kindly
>
> Princeslehuanani
> Kumaewakainakaleomomona

Concerns: Princeslehuanani Kumaewakainakaleomomona did not specifically express concerns pertaining to traditional cultural practices or traditional resources. However,

Princeslehuanani did express concerns about the immediate environment and provided some suggestions (i.e., the removal of the existing trees and planting bushes instead, constructing a more permanent seawall foundation, rather than stacking boulders, and using fiber glass, rather than wood, for the railings). In addition, Princeslehuanani suggested that cars not be allowed within the project area, as it is located within the Historic Lahaina District (State Site 50-50-03-3001), and that this area could be a "walking district."

Note: Scientific Consultant Services, Inc. contacted Princeslehuanani Kumaewakainakaleomomona, via email, on November 19, 2019, to let her know that her manaʻo would appear in the text of this report exactly as she had sent them in her September 8, 2019 email and to offer to meet with Princeslehuanani as she had requested.

Princeslehuanani Kumaewakainakaleomomona sent a subsequent email, dated November 19, 2019, which stated:

> Aloha Cathy,
>
> I am happy to hear from you,
> yes, please add my manaʻo
> I share for our next 7 future
> generations to come.
>
> I do want to also share
> more on the traditional culture
> side at a later time as I was told
> back then as a child 50 years ago.
>
> I do live on Oahu and would like to
> sit and go over new Maps and ideas
> before the final draft of construction.
>
> I ask if I could also be at the ceremony
> of the Blessings when our Westside SeaWalls
> begin and finish.
>
> If I can be of any assistant to this project
> please always feel free to call me.
>
> Thank you kindly,
>
> Princeslehuanani
> Kumaewakainakaleomomona

Note: Scientific Consultant Services, Inc. responded to Princeslehuanani Kumaewakainakaleomomona, via a subsequent email, also on November 19, 2019, which stated:

> Aloha Princeslehuanani~

Nice to hear from you! Thank you for your off to share your knowledge of Hawaiian culture with me! We can meet at a later date, if you like. For the Front Street Sidewalk, Railings, and Seawall Project, if you would like to discuss the project before the final draft of construction and attend the blessing ceremony, I suggest you contact Richard Sato, of Sato & Associates Inc. His engineering company is based on Maui, but you can reach him at (808) 955.4441 or via email (sato@satoandassociates.com).

Enjoy the evening!

Mahalo and Aloha,

Cathy
Cathleen Dagher
Senior Archaeologist

CHRIS (IKAIKA) NAKAHASHI, CULTURAL HISTORIAN, STATE HISTORIC PRESERVATION DIVISION

Chris (Ikaika) Nakahashi responded via an e-mail dated September 3, 2019, in which Mr. Nakahashi said:

Aloha Cathy,

Mahalo for contacting me regarding the CIA for the proposed Lahaina Front Street Sidewalk, Railing and Seawall Project in the ahupuaʻa of Paunau, in the Moku of Lāhainā, Maui.

I recommend CSH (sic) to utilize the media (ex. OHA's Ka Wai Ola, Maui News, etc.) to solicit additional information for this CIA.

I recommend CSH (sic) to meet with:

•Keʻeaumoku Kapu – ʻAha Moku o Maui Inc.

I recommend CSH (sic) to meet with the native tenants and people that currently live or previously lived in the ahupuaʻa of Paunau on Maui for information about the cultural resources and practices for this CIA.

Please let me know if I can assist with anything else.

A hui hou,

Christopher "Ikaika" Nakahashi, M.S.
Cultural Historian
Department of Land & Natural Resources
State Historic Preservation Division

Concerns: Mr. Nakahashi did not express any concerns about the proposed project affecting traditional cultural practices or resources.

DR. SCOTT FISHER, ASSOCIATE EXECUTIVE DIRECTOR OF CONSERVATION, HAWAII ISLAND LAND TRUST

In an e-mail dated August 28, 2019, Dr. Fisher responded:

> Aloha Cathy,
>
> I am happy to meet with you if that would be helpful for your CIA; and you are also welcome to use any information I have provided in the past. I am heading to Madagascar to work with the US Forest Service on the 11th of September, but I will return in early October. I am happy to meet with you in October (and I may be on O'ahu on the 25th of October for our quarterly board meeting). Whatever works best for you. Just let me know the timing that works best for you.
>
> Mahalo
>
> Scott

Concerns: Dr. Fisher did not express any concerns about the proposed project affecting traditional cultural practices or resources.

Edwin "Ekolu" Lindsey, Polanui HIU, Community Managed Marine Area and Maui Cultural Lands, Inc.

In an email dated October 4, 2019, Mr. Lindsey provided the following comments and suggestions:

> Hi Cathy,
>
> Thank you for your email. I have sent this out to my family. I will let you know if there is anything they would like to share with you. If you don't hear from me, we have no comment. For now these are my comments, and it's probably beyond your purview.
>
> - Planters and trees to be removed. Replaced with the same tree? I just would like to see Hawaiian trees planted. But also I'm sure maintenance needs to be taken into consideration. Here are a few suggestions.
> - Ulu Tree
> - Kukui Nut
> - Loulu Palm
>
> I'm also concerned about the debris created from the work being done. I want to ensure the ocean (and all it represents as a cultural resource) is not impacted.
>
> That includes spraying down of walkways with water. All that will add to the turbidity and directly impact the already climate challenged ocean resources.
>
> That's all I have for now. If my family comes up with other pertinent information I would send you another email. Feel free to reach out if you have any other questions or need clarification.
>
> Mahalo,

Edwin "Ekolu" Lindsey
Maui Cultural Lands, Inc.

Concerns: Mr. Lindsey expressed concern that construction-related activities associated with this project, including spraying down of walkways with water and all activities that will add to the turbidity [of the ocean], will directly impact the cultural resources within the marine environment. Mr. Lindsey stated he would like Hawaiian trees planted in the project area and suggested planting Ulu (*Artocarpus* sp., breadfruit), Kukui Nut (*Aleurites moluccanus*, candlenut) and Loulu Palm (*Pritchardia hillebrandii*) trees within the project area.

Kimo Falkner, community member

Kimo Falkner provided the following comments via an email dated August 29, 2019:

Hi Cathy,

Our organization the Friends of Moku'ula was often consulted for comment on culturally sensitive issues in Lahaina. The organization, while technically still in existence, no longer is staffed and operates only as a curative body to store cultural data found at the Moku'ula site.

Therefore, I would be able to offer comments on this project.

I would suggest you contact other native Hawaiian organizations; Na Kupuna o Maui or Na Aikane o Maui for comment. You probably have already been in contact with them since they are the go-to cultural bodies in Lahaina.

Mahalo,

Kimo James 'Kimo' Falconer
President
MauiGrown Coffee, Inc.
MauiGrown Coffee Distributors, LLC

Concerns: Mr. Falconer did not express any concerns about the proposed project affecting traditional cultural practices or resources. However, he did suggest that SCS contact "Na Kupuna o Maui or Na Aikane o Maui for comment."

Theo Morrison, Executive Director Lahaina Restoration Foundation
In an email dated November 17, 2019, Theo Morrison provided the following comments:

Aloha Cathy,

You set (sic) me this a couple of months ago and I sent it out to my board. I do not know of any cultural practices except for fishing in the early morning which I assume will not be impacted by the improvements. We are VERY much in favor of improvements to this area. Are there any concept plans for the improvements that you know of?.....Do you know who the designer/engineer is for the project? Mahalo

Theo Morrison
Executive Director
Lahaina Restoration Foundation

Concerns: Ms. Morrison indicated in her comments that she did not know of any traditional cultural practices conducted in the area, with the exception of fishing, which she assumed would not be impacted by the proposed project.

Lucienne de Naie, President, Maui Tomorrow Foundation

Lucienne de Naie provided the following response via an email dated September 6, 2019:

> Mahalo Cathy
>
> Of course the Aha Moku Council for Lahaina should be consulted (Ke‘eaumoku Kapu and other moku members) also Michelle Anderson (who authored a book on the "Storied Places of West Maui". Lance Collins [his email address] who serves as staff for the West Maui Preservation Association could also direct you to individuals who have a historic perspective of the area. Lance could also put you in touch with Michelle, if she was willing to be interviewed.

Concerns: Ms. de Naie did not express any concerns about the proposed project affecting traditional cultural practices or resources. However, she did suggest additional individuals knowledgeable about the area to be contacted: Ke‘eaumoku Kapu and other moku members of Aha Moku Council for Lahaina, Michelle Anderson, and Lance Collins.

Michele Anderson, community member and author

Ms. Anderson replied via an email dated September 12, 2019:

> Hi Cathy-
>
> Sorry, I don't have any information on the seawall.
>
> Michelle Anderson

Concerns: Ms. Anderson did not express any concerns about the proposed project affecting traditional cultural practices or resources.

Lance Collins, West Maui Preservation Association

Mr. Collins provided the following response via an email dated September 20, 2019:

> Aloha Cathleen,
>
> I forwarded your letter to Michelle Anderson. I'd recommend connecting with Ke‘eaumoku Kapu and the Lindsey family to reach out to persons with information about traditional cultural practices of the area.
>
> Mahalo
>
> lance*

Concerns: Mr. Collins did not express any concerns about the proposed project affecting traditional cultural practices or resources. However, he did suggest SCS contact

Keʻeaumoku Kapu and the Lindsey family. Mr. Collins was kind enough to forward our SCS's letter to Michelle Anderson.

INTERVIEWS

The interviews, like the responses, provide an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed. During the consultation process, SCS conducted two interviews, which are summarized below.

DR. SCOTT FISHER, ASSOCIATE EXECUTIVE DIRECTOR OF CONSERVATION, HAWAII ISLAND LAND TRUST

Dr. Scott Fisher, Associate Executive Director of Conservation, Hawaii Island Land Trust, was interviewed by Ms. Dagher at the Maui Coffee Roaster, Kahului, on May 5, 201, for an earlier CIA (Dagher 2017), which was prepared for another project in Lahaina District. Dr. Fisher (August 28, 2019) graciously granted SCS permission to include the following excerpt from the Dagher (2017) CIA, where he discusses the cultural significance of the traditional District of Lāhainā:

> There were so many ahupuaʻa within Lahaina. Of the 212 ahupuaʻa on Maui, one third of them are in the Lahaina District. Which just by virtue of the fact that there are that many ahupuaʻa within such a small area, tells you that you are dealing with an area that was resource abundant – not just rich, but more than rich - abundant. That ties in with why you have Mokuhinia and Mokuʻula. It is an area where it is ideal for the cultivation of key crops like breadfruit and taro. You have abundant water, but sunny days. From an agronomist's perspective, Lahaina had incredible, not just marine resources, but also copiously abundant with agricultural resources.
>
> There are legends going back to Kakaʻalaneo and his son Kaululaau. You have these stories and you can infer from the descriptions of Kaululaau's activities that Lahaina was an environment extremely rich in subsistence resources. Kaululaau cut down breadfruit trees and incurred the wrath of the people, and his father in particular. This is what ended up getting Kaululaau exiled to Lānaʻi.
>
> Looking beyond the incident, you get an idea of what the environment was like, and the types and the quantities of available food resources during the time period in which Kakaʻalaneo and Kaululaau lived, during the 15th century, or maybe the late 14th century (i.e., several generations before Piʻilani).
>
> In terms of cultural practices, the main cultural practices [were] agriculture and the harvesting of marine resources. There are also significant spiritual and religious practices that occurred at Mokuʻula and Mokuhinia that are well known. Mokuʻula has been well-documented by P. Christiaan Klieger [see Klieger 1995].

There is so much written about Lahaina. It is the most important spiritual centers. On Maui, there were five major royal centers. Starting with Lahaina; Wailuku was for a time a major royal center; Waihee was a minor royal center; Kaupō for a short time; and then there was Hāna. The chiefs moved around a lot. The makaʻāinana moved mauka to makai and the aliʻi moved laterally to those royal centers, which happened to be mainly around the coast. But, Lahaina far and away surpasses all of the other royal centers, with the possible exception of Hāna. Lahaina was definitely the most important of the royal centers. The whaling industry was based in Lahaina.

What made Lahaina so special was that it was the center of worship of Kihawahine. Kihawahine was actually a daughter of –and this is where the myth and history get a little co-mingled. Piʻilani had four children: Kihaapiilani, Lonoapiilani, Piikea, and he had a daughter named Kalāʻaiheana, who apparently died fairly young, at least most of the stories seem to indicate that she died young. When she died she was kākūʻai, she was transfigured, into the lineage of the moʻo. And that is when Kalāʻaiheana became Kihawahine Mokuhinia Kalamaʻula Kalāʻaiheana, the moʻo Kihawahine. Those are her names, her full name. It starts off with Kihawahine Mokuhinia, Mokuhinia being the pond; Kalamaʻula is a wetlands on Molokaʻi. So, her name shows some sort of connection between Maui and Molokaʻi. To Dr. Fisher's knowledge, Kihawahine was the only moʻo who could go between islands. There are other stories that talk about Kihawahine and her travels between islands. There were said to be underwater lava tubes that connected the islands. According to the myths, Kihawahine traveled underwater and underground. So, Kihawahine existed long before Kalāʻaiheana, the daughter of Piʻilani and Lāʻieloheloheikawai. After Kalāʻaiheana died, she came to embody the deity Kihawahine. The kākūʻai process meant that from that time forward, Kihawahine was an ʻaumakua of anyone in the Piʻilani lineage. In "The People of Old," Kamakau (1964b) provides a detailed account of the kākūʻai process specifically for Kihawahine. According to Kamakau (1964b), the body would be laid out on the edge of the wetlands, as the body would surface, the water would bubble, like it was boiling, and the moʻo would partially arise out of the water and they would do this twisting motion. Once the bubbling/churning motion happens, the body is grabbed, [and] pulled back into and under the water. If the offering is accepted, you never see the body again. If the offering was not accepted, it would be spit back out onto the shore. Kamakau (1964b) provided such a vivid and detailed description of the kākūʻai process, Dr. Fisher always wondered if he had some personal experience. At Waiheʻe, there are people who have told of more recent experiences that they have had with Kihawahine. Dr. Fisher recounts the story that took place at Waiheʻe, during the 1950s. The wetlands were filled up, which happens quite a bit, and they saw a woman who was in the middle of the pond, struggling like she was in quicksand and she was trying to get out. So, this cowboy got off his horse and ran out there to help her and by the time he got there, she was gone. There are many legends about moʻo. Lahaina is sort of the node out of which there the worship of Kihawahine emanated. Dr. Fisher thinks this is a very important key to understanding the religious importance of Lahaina.

Concerns: Dr. Fisher did not express any concerns pertaining to the proposed project impacting traditional cultural practices or resources within or near the current project area.

FOSTER AMPONG,MEMBER OF AHA MOKU 0 MAUI, WAILUKU MOKU

Foster Ampong, a Descendant of Mahele Awardee, Keaweiwi, LCA 312 Ap. 6 and member of Aha Moku O Maui, Wailuku Moku, was interviewed by SCS Archaeologist Cathleen Dagher, B.A., on November 27,2019,via telephone, for the Front Street Sidewalk, Railing, and Sea Wall Cultural Impact Assessment.

Mr. Ampong said that not long ago, he and his son walked along the two sections of sea wall that are involved in this project. During their walk, ,Mr. Ampong talked to his son about their family kuleana lands in the area and their family history. Mr. Ampong expressed two concerns about the proposed Front Street project that the proposed project would involve dredging or other ground altering activities along the beach or the coastline and whether other individuals who might have kuleana lands in Lahaina were contacted. As part of his second concern, Mr. Ampong wanted to be sure SCS had included Ke'eaumoku Kapu, CEO of 'Aha Moku 0 Maui, Inc. in the consultation process of this project.

Mr. Ampong went on to say that both of these concerns had been addressed (i.e., that all of the people who should be contacted had been and that this project did not involve high impact work that was going to tear up the ground, mess up the shoreline ,or change anything.)

Mr. Ampong said that he did know that from time to time the people from the Lahaina area, not just from one or two ahupuaʻa, but people from the traditional Moku [districts] of Lahaina and Kāʻanapali continue to frequent that area to fish, even though it is right there on Front Street with all the tourists walking by. He said that people do come back and they still go to that beach. Depending on the season, the sand will come back and the beach will be built up and, alternately, the tides will wash the sands away and the beach will break down again. He remembers that when he was growing up that people did fish the area, as he did. That was one of the many areas where people fished in Lahaina where they were able to get their dinner, literally. When Mr. Ampong was growing up, people didn't fish for recreation. They fished to feed the familism. Ampong said that people fished this area for papio [papiopio or juvenile ulua or kingfish (*Caranx ignobilis*)] and ʻoama [juvenile weke or goatfish (*Mullidae* sp.)]. Mr. Ampong said he hasn't been there for a few years, but it was very prominent fishing area where kids, people who used to live in Lahaina,not just the Hawaiians, but people from the plantation generation, as well, all came there to fish. There were several fishing shops along Front Street where you could go buy your bait, your lead, your line, your bamboo pole. And people would fish throughout the whole Lahaina area, from Puamana all the way to Mala Wharf. Fishing was not just limited to between Puamana and Mala Wharf, people fished all along the entire Lahaina coast.

Concerns: Mr. Ampong expressed two concerns. His main concern was whether the proposed project would involve dredging or ground altering activities along the beach or the ocean. His second concern was whether other individuals who had kuleana lands in Lahaina were contacted, which included being sure that SCS had included Keʻeaumoku Kapu, CEO of Aha Moku o Maui, Inc. in the consultation process for this project.

Note: During the interview, Ms. Dagher stated that she had contacted Richard Sato,of Sato &

Associates, Inc., to inquire whether the proposed project involved dredging or other ground altering activities. Mr. Sato responded,in an email dated October 17, 2019,that the proposed project did not involve any excavation.

Ms. Dagher also related to Mr. Ampong,during the interview,that SCS had contacted a number of individuals,including Mr. Kapu and Kimo Faulkner,and organizations in an effort to reach individuals who were knowledgeable about cultural resource,traditional culturalpractices,and who had ties to kuleana lands in Paunau Ahupuaʻa.

Foster Ampong 1-6-2020 Date

CULTURAL IMPACT ASSESSMENT SUMMARY

This Cultural Impact Assessment was prepared in accordance with the Guidelines for Assessing Cultural Impacts (OEQC 1997:11-13). The Guidelines recommend that a CIA consult relevant individuals/organizations, conduct ethnographic interviews and archival and historical research, identify cultural resources and practices located within the project area or in proximity, and finally, assess the impact of the proposed action and its mitigation measures on the cultural practices or resources identified.

Letters of inquiry were sent to thirty-five (35) individuals and organizations that may have knowledge or information pertaining to the collection of cultural resources and/or traditional practices currently, or previously, conducted in the vicinity of the proposed project area. The consultation process resulted in SCS receiving ten (10) responses via e-mail. In addition, SCS received permission from Dr. Scott Fisher, Associate Executive Director of Conservation, Hawaii Island Land Trust, to include a previously conducted in-person interview (Dagher 2017). This interview was selected for its relevance to this project because it provides a good discussion on the cultural significance of the traditional District of Lāhainā.

It was expressed in several of the responses that SCS contact additional individuals (i.e., George "Keoki" Freeland, Kimo Falconer, Ekolu Lindsey, Theo Morrison, Princeslehuanani Kumaewakainakaleomomona, Michele Anderson, Uʻilani Kapu, and Keʻeaumoku Kapu.

Scientific Consultant Services, Inc. has contacted all of these individuals in an effort to include them in the consultation process and to include their manaʻo in this report. We have included the responses of those who responded to our queries in the Response section above. One individual suggested SCS meet with the "native tenants and people that currently live or previously lived in the ahupuaʻa of Paunau on Maui" for information about the cultural resources and practices for this CIA. To this end, SCS contacted thirty-five (35) individuals and organizations in a good

faith effort to include individuals knowledgeable about traditional cultural practices and cultural resources in Paunau Ahupuaʻa.

Another individual suggested SCS contact specific native Hawaiian organizations (i.e., Na Kupuna o Maui or Na Aikane o Maui) for comment. Scientific Consultant Services, Inc. sent Patty Nishiyama, Nā Kupuna O Maui, letters seeking information on traditional cultural practices and traditional resources, via USPS, on August 26, 2019 and September 19, 2019. However, SCS did not receive any response.

Five (5) individuals suggested that SCS contact Keʻeaumoku Kapu for information pertaining to traditional cultural practices and resources for this project. Scientific Consultant Services, Inc. contacted Mr. Kapu via four (4) emails transmitted on August 28, 2019; September 20, 2019; October 28, 2019; and November 13, 2019. However, Mr. Kapu did not respond. Please note that Mr. Kapu was contacted in his capacity as CEO of Aha Moku O Maui, Inc., but not in his capacity as cultural consultant of Na ʻAikane o Maui, Inc.

IDENTIFED CULTURAL PRACTICES

The purpose of a CIA is to identify the possibility of on-going cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. As stated elsewhere in this document, the Hawaii State Office of Environmental Quality Control (OEQC 1997:11) defines the geographical extent of the area under consideration for a Cultural Impact Assessment as the entire district or ahupuaʻa, in order to ensure that cultural practices that occur outside of the project area are included in the assessment. Thus, the identified traditional cultural practices and cultural resources discussed below are relevant to the current project

The project site was located in an area rich with traditional and customary practices during the pre-Contact and early Historic Periods. While Front Street now consists of historic buildings which house modern businesses, some native Hawaiians continue to use this area for the traditional cultural practices of fishing and gathering of marine resources.

One individual expressed concern about the runoff and debris created from the proposed repairs, as having the potential to impact "the ocean (and all it represents as a cultural resource). Another identified the cultural practice of fishing currently being conducted in the Lahaina area in the early morning. One cultural contact mentioned the traditional cultural practice of fishing in the traditional moku of Lāhainā and Kāʻanapali, as well as, specifically mentioning fishing in the coastal waters immediately adjacent to the current project area for papio [pāpiopio or juvenile ulua or kingfish (*Caranx ignobilis*)] and ʻoama [juvenile weke or goatfish (*Mullidae* sp.)] while growing

up in Lahaina. He continued to fish this area until he moved away as an adult. This person also recalled as a child seeing many other families fishing in this area for food to feed their families.

Marine resources continue to be important food items in the Hawaiian diet. Kirch (1985:199) states, "The sea and its resources were vital to the lives of the Pacific Islanders, and the Hawaiians were no exception…Fish and shellfish provided the mains source of protein in the Hawaiian diet." Kirch (1985:30) also points out that to native Hawaiians, the ocean and its resources are equally as important as the land and its resources, as shellfish, seaweed, and reef and deep sea fish continue to play an important role in the Hawaiian diet. Fishing and the gathering of marine resources are traditional cultural practices conducted during the pre-Contact to early post-Contact Period in Lahaina District. As stated elsewhere in this report, Handy (1940:159) discusses the proliferation of fishing settlements and isolated fishermen's houses all the way from Kīhei to Honokahua and points out that the out that Lahaina coast is the most favorable area on Maui for fishing. The abundance of resources, including marine resources, within Lahaina District was one of the primary attributes that drew the ali'i to the area and in turn, made Lahaina one of the main pre-Contact political centers on the Island of Maui. Fishing and the gathering of marine resources are on-going activities that continue to be practiced in the coastal regions of Paunau Ahupua'a, in which the project area is located, as these items continue to be important food items in the Hawaiian diet.

IDENTIFED CULTURAL RESOURCES

Two of the cultural contacts mentioned the vegetation in the project area, with one individual requesting the planting of native trees, specifically 'ulu (*Artocarpus* sp., breadfruit), kukui nut (*Aleurites moluccanus*, candlenut) and Loulu Palm (*Pritchardia hillebrandii*) within the project area.

Lāhainā is traditionally and historically known for its verdant and abundant groves of breadfruit. Sterling (1998) references Lāhainā as second only to Puna, Hawai'i as a favorable location for breadfruit cultivation. In mele (songs), Lāhainā is even referred to as ka malu ulu o Lele, "the breadfruit shade of Lele" (Handy 1940:190) and is referred to in numerous legends across the Hawaiian Islands (Neal (1965:303-304). Fornander (1916, Vol. 5:540–41) attests to the importance of these trees in his discussion of Kaka'alaneo planting kukui (Aleurites moluccana, candlenut) and 'ulu (Artocarpus sp., breadfruit) at Lāhainā village. Breadfruit trees were introduced to the Hawaiian Islands, from Tahiti, by the Polynesian explorers (Neal 1965:302). The vitamin-rich breadfruit was a staple of the Hawaiian diet. Traditionally, the breadfruit was baked or boiled and eaten; the wood was used to make kapa cloth and to manufacture canoes. Breadfruit continues to figure prominently in the native Hawaiian diet.

Traditionally, the kukui tree and kukui nuts were a valued resource used by the native Hawaiians for a variety of purposes (Neal 1965:505-506). The kukui nuts are contained within a "fleshy" cover. This covering and the roots of the kukui tree produced a black dye which was used by the native Hawaiians possibly for dying kapa cloth. Both the ripe (black) and unripe (white) kukui nut shells were used in lei making. The nuts themselves, which were quite oily, were dried, strung together on the mid-rib of a coconut leaf, and used as candles. Kukui nuts were also baked, pounded, seasoned with sea salt and chili peppers, and eaten as a relish ('inamona), while the raw kukui nuts served as a purge. The native Hawaiians also burned the kukui oil in lamps made form basalt, constructed canoes from the tree trunks, and the gum from the bark of the kukui tree was painted on kapa cloth to strengthen it (Neal 1965:506). The sap of the kukui tree also served multiple purposes: as fill for canoe seams, as lime used in catching birds, and as chewing gum (Neal 1965:302-303).

Kukui trees continued to be prominent in Lahaina during the Whaling Era, as well, as indicated in the Nomination Form for National Historic Places (updated in 1974; see Appendix A):

> Lahaina was at the height of its prosperity as a whaling port about I846, at which time about 400 ships a year visited the town to replenish their water and supplies. In that year the population of Lahaina numbered 3,557 persons, of whom 212 were foreigners. There were 1096 houses, mostly strung out along the kukui-shaded main street…

Traditionally, the Loulu Palm (Pritchardia hillebrandii), was a valued resource of the native Hawaiians. The unripe seeds, which taste similar to coconut meat, were gathered and used as a food resource. The native Hawaiian also collected the leaves, which were used for the thatching of roofs. In recent times, the leaves are used for making fans, umbrellas, hats, and baskets (Neal 1965:98).

IMPACT ASSESSMENT AND RECOMMENDATION

The Cultural Impact Assessment has reviewed historical research and information received from community members. This information has been analyzed for the potential effect of the project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place, as recommended by the OEQC Guidelines (1997).

The information obtained during historical research and during the consultation process indicates the proposed project area is located in an area rich with traditional and customary practices conducted during the pre-Contact and early Historic Period. One of the individuals who participated in the consultation process mentioned observing the on-going cultural practice of fishing, another mentioned the ocean "and all it represents as a cultural resource," and a third

provided information on the traditional cultural significance of the District of Lahaina. Thus, based on historical research and the above listed responses, it is reasonable to conclude that there is evidence of cultural practices related to Hawaiian rights related to gathering, access or other customary activities presently occurring in the project area or in the immediate vicinity.

As stated elsewhere in this report, the project area corridors are located within the Lahaina Historic District (State Site 0-50-03-3001), which encompasses more than 60 sites. The Lahaina Historic District was listed on the National Register of Historic Places on October 15, 1966; Ref. No. 66000302 (see Appendix A). This area has also been designated as a National Historic Landmark (see Figure 5). The district that is listed on the NRHP (NRHP Reference No. 66000302) is the much smaller Lahaina Historic District, which is located in the central on-land portion of the Landmark District. Maui County has divided the Lahaina National Historic District into Lahaina Historic Districts 1 and 2. The properties that make up the Lahaina Historic Landmark District are inventoried in a document titled Reconnaissance Level Survey Report, Lāhāina National Historic Landmark District, Lāhāina, Hawai‘i, prepared by AECOM (May 2016) for the County of Maui Planning Department. This information further attests to the cultural significance of the project area and provides additional supporting evidence that traditional cultural practices were conducted within close proximity to the project area corridors.

As stated elsewhere in this document, the Hawaii State Office of Environmental Quality Control (OEQC 1997:11) defines the geographical extent of the area under consideration for a Cultural Impact Assessment as the entire district or ahupua‘a, in order to ensure that cultural practices that occur outside of the project area are included in the assessment. Thus, the traditional cultural practices discussed above are relevant to the current CIA. In addition, the cultural resources [i.e., the ‘ulu (breadfruit, *Artocarpus* sp.), kukui nut (*Aleurites moluccanus*), candlenut; and loulu palm (*Pritchardia hillebrandii*)], which a cultural contact requested to be planted along Front Street is a reasonable and valid request, as these trees are native to the Lahaina area and continue to be used in cultural practices.

Based upon this review and analysis, sufficient information has been provided in this document to determine that traditional cultural practices were previously, and continue to be, conducted within the project area and within the surrounding environs. Thus, the potential exists for the proposed project to impact the on-going traditional cultural practice of procuring marine resources, including fishing, within the proposed project area, and possibly along the greater coastline of West Maui.

This determination has been substantiated by the culture-historical background, the summarized results of prior archaeological studies in the project area and in the neighboring areas,

and primarily in the concerns expressed by the cultural informants during the consultation process of the current CIA. Pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities may be affected by proposed Front Street Sidewalk, Railing, and Seawall Project, located in Paunau Ahupuaʻa, District of Lahaina, Maui Island, Hawaiʻi [TMK (2) 4-6-009 and 4-5-002].

The Environmental Assessment will address what efforts have been taken or have been proposed to mitigate the potential impacts to traditional resources and on-going traditional cultural practices, as well as the restoration of cultural resources within the proposed project area and the surrounding environs.

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APPENDIX A: NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM

Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATE: Hawaii
COUNTY: Maui
FOR NPS USE ONLY
ENTRY NUMBER | DATE

NATIONAL REGISTER OF HISTORIC PLACES

[redacted]

NATIONAL HISTORICAL LANDMARK - 1974 UPDATE

(Type all entries – complete applicable sections)

SEE INSTRUCTIONS

1. NAME

COMMON: Lahaina

AND/OR HISTORIC: Lahaina (Historic District)

2. LOCATION

STREET AND NUMBER: Lahaina is a port town on the west coast of Maui island; it is 27 miles by road from Kahului airport.

CITY OR TOWN:

STATE	CODE	COUNTY:	CODE
Hawaii	15	Maui	009

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
[x] District [ ] Building [ ] Site [ ] Structure [ ] Object	[ ] Public [ ] Private [x] Both	Public Acquisition: [ ] In Process [ ] Being Considered	[x] Occupied [ ] Unoccupied [x] Preservation work in progress	Yes: [ ] Restricted [x] Unrestricted [ ] No

PRESENT USE *(Check One or More as Appropriate)*

[ ] Agricultural	[x] Government	[x] Park	[ ] Transportation	[ ] Comments
[x] Commercial	[ ] Industrial	[x] Private Residence	[ ] Other *(Specify)*	
[x] Educational	[ ] Military	[x] Religious		
[ ] Entertainment	[x] Museum	[ ] Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: Various, State of Hawaii, County of Hawaii, Lahaina Restoration Foundation and numerous private owners.

STREET AND NUMBER:

CITY OR TOWN: | STATE: | CODE

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: State Office Building

STREET AND NUMBER:

CITY OR TOWN: Wailuku, Maui | STATE: Hawaii | CODE 15

RECEIVED JAN 21 1974 NATIONAL REGISTER

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: National Survey of Historic Sites and Bldgs., John A. Hussey, Regional Hist.

DATE OF SURVEY: July 17, 1962 [x] Federal [ ] State [ ] County [ ] Local

DEPOSITORY FOR SURVEY RECORDS: National Park Service, Washington, D.C.; also Theme XXI, Political and Military Affairs, 1865-1910, Special Study, Hawaii History, 1778-1910, USDI, NPS, 1962; 47th Mtg. Advisory Board, Oct. 15-17, 1962, at Hawaii Volcanoes National Park; Secretarial designation as Landmark:

STREET AND NUMBER:

CITY OR TOWN: Historic American Buildings Survey Nos. HA-9, 10, 11, 13, 37, 40, 41, 43 | STATE: | CODE

STATE: Hawaii
COUNTY: Maui
FOR NPS USE ONLY
ENTRY NUMBER
DATE

7. DESCRIPTION

CONDITION	(Check One)					
	☐ Excellent	☒ Good	☐ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One) ☒ Altered ☐ Unaltered			(Check One) ☐ Moved ☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL *(if known)* PHYSICAL APPEARANCE

For descriptions as to Lahaina conditions ca. 1962, see item 8.

1974 Update: The Board of Supervisors of the County of Maui, on April 21, 1967, following public hearings, passed on its second and final reading Ordinance No. 514 which established the Maui Historic Commission and /county/ Historic Districts Nos. 1 and 2 in the town of Lahaina. County historic districts 1 and 2 are shown on the "Lahaina Historic Districts Map," dated and revised March 22, 1967. A copy of this map is part of this update. Ordinance 514 explains that county historic district 2 "differs from /county/ District No. 1 in that there are no historic structures or sites within this district to be preserved or restored."

Ordinance 514 contains identical restrictions for county historic districts 1 and 2 on use, building heights, yard spacing and signs; provides for variances; and permits existing non-conforming uses to continue, but such may not be enlarged nor changed to other non-conforming use. (This last is the "grandfather" clause.)

Architectural controls within county historical districts 1 and 2 are exercised by the Maui County Historic Commission to preserve the prevailing historical atmosphere and architecture. County historical district boundaries generally run along street edges closest to the districts, i.e., the "near" side of streets, but in places cut through the interior of town blocks. Photograph No. 1 shows the architectural contrast between buildings inside and outside county historical district 2. County historic districts 1 and 2 include "downtown" Lahaina.

Vested interests in downtown Lahaina and its vicinity are held by the Lahaina Restoration Foundation, a private non-profit corporation; the Maui Historic Commission; Maui county agencies and elected and appointed county officials; State agencies and elected and appointed State officials; several Federal agencies; numerous landowners, some absentee; and the businessmen and residents of the Lahaina and West Maui area. In 1973 the climate of local support and opinion is wider and stronger than a decade before. Some of the Lahaina businessmen recently organized to further the historical project, hold weekly breakfast meetings, and are now (Dec. 1973) investigating the return of horses, wagons and carriages to Front Street.

The Lahaina Restoration Foundation, with statewide support from individuals and trusts, owns and/or operates several of the key historic features. It also has income-producing operations, such as admission fees and rentals from commercial use of some of its property. The Foundation has a paid staff and operates on a business basis. It sponsors and co-sponsors archeological and historical research; restorations (see photos 2 and 3), on-site

SEE INSTRUCTIONS

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

- [ ] Pre-Columbian
- [ ] 16th Century
- [ ] 18th Century
- [ ] 20th Century
- [ ] 15th Century
- [ ] 17th Century
- [x] 19th Century

SPECIFIC DATE(S) *(If Applicable and Known)*

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

Aboriginal	Education	Political	Urban Planning
Prehistoric	Engineering	Religion/Philosophy	Other *(Specify)*
Historic	Industry	Science	
Agriculture	Invention	Sculpture	
Architecture	Landscape Architecture	Social/Humanitarian	
Art	Literature	Theater	
Commerce	Military	Transportation	
Communications	Music		
Conservation			

STATEMENT OF SIGNIFICANCE

(1974) The American whalers, businessmen and missionaries who headquartered at the port town of Lahaina during many decades of the 19th century generated economic, cultural and governmental conditions which made great contributions to the Americanization of the Kingdom of Hawaii and the subsequent annexation of the islands by the United States. Lahaina preserves the atmosphere and architecture of a mid-19th century Hawaiian seaport.

(1972) "Lahaina preserves the atmosphere of a mid-19th century Hawaiian seaport. It is prominently associated with the American whaling industry in the Pacific, an important commercial activity that influenced the Americanization of Hawaii and its subsequent annexation by the United States. As the former capital of Maui, it was intermittently the residence of Hawaiian kings. American missionaries made Lahaina a center of activity and left important architectural influences." (The National Register of Historic Places, 1972, National Park Service, U. S. Department of the Interior, Washington, D. C., p. 121.)

(1962) "Significance: Perhaps no island town so well preserves the atmosphere of a mid-19th century Hawaiian seaport as does Lahaina; and thus it seems to be the key site for illustrating and commemorating one of the broad factors which resulted in the Americanization of Hawaii and which helped lead eventually to the annexation of the islands by the United States--the whaling industry. From about 1830 to about 1860 the semi-annual visits of the American whaling fleet to Lahaina and other Hawaiian ports constituted the dominant force in island economy, stimulating a diversified agriculture and a general trade which helped spread Western technology among the Hawaiian people. Also, the thirsting of thousands of seamen for liquor and women resulted in annual struggles with the authorities attempting to enforce the missionary induced "blue laws," a long campaign which the forces of law and order eventually won, with important effects upon the social and political conditions in the islands. The vital and long-continued need of the whalers for bases in the islands was one of the primary factors bringing Hawaii to the attention of the United State Government. In addition, Lahaina was the royal residence

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Alexander, Mary C., Dr. Baldwin of Lahaina, Berkeley, 1953.

Apple, Russell A., "Crime and punishment in mid-nineteenth century Hawaii" and "The Monarchy's jails at Lahaina," mss. Lahaina Restoration Foundation, Lahaina, 1971.

Community Planning Inc., Proposal for the historical restoration and preservation of Lahaina, Honolulu, 1961.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES	
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds
NW	20° 52' 39"	156° 42' 17"		° ' "	° ' "
NE	20° 53' 28"	156° 41' 06"			
SE	20° 51' 50"	156° 39' 50"			
SW	20° 51' 01"	156° 41' 00"			

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 1,671 (water: 1,333 ac.; land: 338 ac.)

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
Hawaii	15	Maui	009
STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY	CODE

RECEIVED JAN 21 1974 NATIONAL REGISTER

11. FORM PREPARED BY

NAME AND TITLE: Russell A. Apple, Pacific Historian

ORGANIZATION: Hawaii Group, National Park Service, USDI

DATE: Dec. 21, 1973

STREET AND NUMBER: Suite 512, 677 Ala Moana Blvd.

CITY OR TOWN: Honolulu

STATE: Hawaii 96813

CODE: 15

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☐ State ☐ Local ☐

Name _____

Title _____

Date _____

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date _____

ATTEST:

Keeper of The National Register

Date 9-13-74

SEE INSTRUCTIONS

GPO 928-379

7. DESCRIPTION - page 1 of 6

interpretation (see photo 4) and purchase of historic sites and buildings. The Maui county planning department has assigned a planner part-time to Lahaina matters and has provided him with an office in the historic Court House (see photo 5). An architectural style-book, which includes signs and alphabets, has been published to guide new construction within the county historic districts. The Commission meets regularly.

Architectural character of Front Street (see photo 6) within the county historic districts has been retained, and new construction (see photos 7 and 8) along this street continues the architectural theme. This is also true of the more inland parts of the county historical districts, but Front Street has the advantage of the adjacent Pacific ocean, with intermittent unobstructed views of the anchorage, the channel, and Lanai island. The last corner lot along Front Street to the north within county historical district 2 is vacant (see photo 9), and only the front 100 feet of this corner lot lies within county historic district 2. The last corner lot along Front Street to the south within county historical district 1 is undergoing development (see photo 10) as a shopping center under a "grandfathered" zoning situation. On that portion of the property just outside the historical district a high-rise condominium is under construction. Further along Front Street to the east (see photo 11) landscaped single-family dwellings predominate, with those on the right in photo 11 fronting on the ocean. The shopping center/condominium when completed will dominate this portion of Front Street when seen from the anchorage and from the nearby sites of Hawaiian royal dwellings and grounds within county historical district 1.

Inland within the county historical districts are a few "grandfathered" architectural non-conformities, but the mid-19th century atmosphere and architecture prevails. Much of the inland parts of the county historical districts consists of single-family homes, a county park, churches, cemeteries and grounds. Across the quiet tree-lined streets, adjacent but outside the county historical districts, are many single-family homes, a few of modern architecture, some open lots, churches, and some fields of sugarcane. Almost all roofs are well below treetops. There is much greenery in the large yards. The atmosphere of the residential areas of the town is quiet and peaceful in contrast to downtown Lahaina, with its businesses, parking problems, and relative throngs. From the inland perimeters of the county districts are many places where vistas of the West Maui mountains (see photo 12) are customary. Most of the town blocks inland and on the sides of the boundaries of the county historical districts contribute to the historical atmosphere of Lahaina in 1973.

7. DESCRIPTION - page 2 of 6

During a great portion of the 19th century, Lahaina was frequently one of the residences of the kings and paramount chiefs of the Kingdom of Hawaii. During the first and middle thirds of the century, the area which is now in the southern part of Maui county historic district 1 contained the persons, events, structures and buildings which give Lahaina importance for the themes of "royal residence and capital during much of the critical period when Hawaii was changing from a feudal autocracy to a constitutional monarchy." During the middle third of the century, when the theme of "whaling" became dominant, the focus of activity shifted slightly north, centered around the fort and missionary structures. Some structures from this middle period are still standing, but the county park, armory, and school are among the modern uses of the sites of the royal residences and grounds. The theme center for "whaling" is in the center along the waterfront of the county historic districts, but the theme center for "royalty and government change" lies adjacent to the southern boundary of the districts. This theme center receives county legal protection only on one side. Its other side is already threatened (see photo 10).

In his 1962 study, Dr. Hussey indentified nine structures as included among the principal historic structures and sites then visible. Those and additional ones are listed in Lahaina, A Walking Tour of Historic and Cultural Sites, a copy of which is included in this 1974 update. Additional information is presented below.

Baldwin House: House and grounds restored as historic house museum (see photo 3) and operated by the Lahaina Restoration Foundation. Admission fee.

Masters Reading Room: House and grounds restored (see photo 2); adaptive interior used as office of Lahaina Restoration Foundation. The building was started in 1833 by the missionaries to provide a place for ships' officers to read periodicals, such as hometown newspapers. Adjacent to Baldwin House.

Old Prison: (see photo 14) The standing cell block was destroyed by fire and rebuilt in the late 1960's. The entrance gate house was also rebuilt at that time by the County of Maui. It is open daily. Historical research done in 1971.

Court House: Traffic court still operates on second floor; county planning and other county departments have offices in the building. The cellar (for art classes) and part of the first floor (for sales room) are leased to an art studio.

7. DESCRIPTION - page 3 of 6

Hale Aloha: The standing walls are roofless and still deteriorating. However, the county has purchased the property from the Wainee Church, and restoration is imminent. To protect the historic mortared walls, the new roof will be supported on pillars independent of the walls.

U. S. Marine Hospital: Purchased in 1973 by the Lahaina Restoration Foundation; historical research done in 1973. Restoration planned by Foundation.

Pioneer Hotel: New construction in 1965, which matches the 1901 waterfront wing, added two sides and two wings to the block. Of the two new wings, the lower floors are businesses and the upper are hotel rooms. The original wing retains offices, restaurant and bar. See photo 8 for the new wing which faces the Court House square.

Anchorage: About 100 ships anchored at any one time in the Lahaina roadstead during the spring and fall seasons of the peak whaling period 1843-1854. This is a fair estimate based on records as shown by Kuykendall, Vol. I, pp. 307-308. Average depth of water was considered as 60 feet to give an average anchor chain length of 270 feet; making an effective radius from a point over the anchor of 220 feet to bow of ship. A ship was considered to average 100 feet in length to give an anchorage radius of 320 feet to make the anchorage circle for each ship have a diameter about 225 yards. See bibliography in item 9 for additional sources. The boundaries of the anchorage portion of the landmark were determined with the help of the Aids to Navigation Branch, Operations Division, 14th Coast Guard District, U. S. Department of Transportation.

The Carthaginian I and the Carthaginian II: The first Carthaginian, a barkentine replica, was purchased by the Lahaina Restoration Foundation in 1966 after it appeared in the movies "Hawaii" and "The Hawaiians." It was docked in front of the Pioneer Inn, contained whaling exhibits, and was a major source of income for the Foundation. Tickets to it were included with most package tours to Hawaii, which included Lahaina or the resort area immediately to the north--Kaanapali. On Easter Sunday 1973, enroute to Honolulu for drydock maintenance, the Carthaginian was destroyed after it foundered on the Lahaina reef. A 93-foot, ca. 1930, German built schooner was purchased in Denmark for about $21,00 and sailed to Lahaina on her diesel engines to become Carthaginian II. Photo 15 shows it in arrival condition. It will be re-rigged as a two-masted brig with square sails and made into a museum ship by the Foundation. Neither the steel-hulled Carthaginian II nor its wharf conform to mid-19th century Hawaiian whaling

7. DESCRIPTION - page 4 of 6

seaport authenticity, but potential income from the ship as a museum will support activities which will advance the theme.

Historic American Buildings Survey: Buildings covered by plans are indicated by "(X)," by historical data "(H)," and by photographs "(P)."

HABS NO.	Identification
HA-9	Court and Custom House (X) (P)
HA-10	Hale Aloha (X) (H) (P)
HA-11	U. S. Marine Hospital (X) (H) (P)
HA-13	Master's Reading Room (X) (P)
HA-37	Old Prison (P)
HA-40	CHee Kung Tong HQ (P) - as per HABS & WALKING TOUR BROCHURE HE#
HA-41	Pioneer Inn (P)
HA-43	Baldwin House (P)

BOUNDARY CONSIDERATIONS

For the Setting

The setting for historic downtown Lahaina consists of near - and far-sight zones. The near zone is much of the rest of Lahaina town. The far zone inland is sloping agricultural land which blends into the backdrop of the West Maui mountains, with summits about five miles away; the far zone seaward crosses the Auau Channel to the backdrop of Lanai island, almost eight nautical miles away. This setting of interrelated architectural, scenic, rural, natural and marine attributes is part and parcel of the history which led to National Historic Landmark designation in 1962 and the passing of Maui County Ordinance 514 in 1967. The entire existing complex of town, land and water gives Lahaina national value to present and future Americans.

7. DESCRIPTION - page 5 of 6

Natural and visual boundaries enclose the "setting" of Lahaina as a National Historic Landmark. These boundaries are the summits of the mountains behind the town; the island of Lanai across the channel; to the north--Puunoa point on the waterfront; and to the south--Makila point on the waterfront. Within these visual limits lie the natural attributes which made Lahaina a 19th century town, royal residence, and international seaport.

For Landmark Boundaries

The landmark boundaries include the following considerations: (1) inclusion of historic sites, buildings, objects and archeological features that comprise Maui County Historic District 1; (2) inclusion of the architectural elements that comprise Maui County Historic District 2; (3) the anchorage without which Lahaina would not have been a seaport; (4) the waterfront along which ships' boats once landed (see photo 13); (5) sufficient town blocks outside the Maui County Historic Districts to include the "near-" sight zone of the setting. These blocks are a major part of the environment which gives Lahaina character and from which , over which and through which downtown Lahaina and the "far-" sight zone of tne setting may be viewed as in historic times.

~~Ideally, to preserve the character of a 19th century Hawaiian seaport, but beyond the scope of the Federal Government, a universal building height restriction and land use control should be exercised within the boundaries of Lahaina as a National Historic Landmark. Increasingly more architectural control should be exercised the closer downtown Lahaina is approached. While a landscaped "A" frame house could be permitted near the inland landmark boundary, a home closer to the historic Baldwin House should conform to a more appropriate style.~~

VERBAL DESCRIPTION OF LANDMARK BOUNDARIES

Hawaii terms used: Makai--seaward; toward the ocean
Mauka--inland; toward the mountains

Beginning at a point of land on Puunoa Point, near the makai end of Ala Moana Street (a point of land further identified as having the geographical coordinates of 20° 53' 09" north latitude and 156° 41' 25" west longitude); then proceeding easterly along the southern edge of Ala Moana Street for a distance of approximately 768 feet to the mauka edge of

7. DESCRIPTION - page 6 of 6

Front Street; thence along the mauka edge of Front Street in a southerly direction approximately 800 feet to the northeast corner of the intersection of Front and Kenui Streets; thence easterly along the northern edge of Kenui Street approximately 1,045 feet to the intersection of Kenui Street with Honoapiilani Highway; then along the makai edge of Honoapiilani Highway in a southerly direction approximately 2,460 feet to the southwest corner of the intersection of Honoapiilani Highway and Lahainaluna Road; thence easterly along the southern edge of Lahainaluna Road approximately 380 feet to the southwest corner of the intersection of Lahainaluna Road and Mill Street; then southerly along the makai edge of Mill Street approximately 4,720 feet to the northwest corner of the intersection of Mill Street and Kauaula Road; thence westerly along the northern edge of Kauaula Road approximately 640 feet to the northwest corner of Kauaula Road and Honoapiilani Highway; thence southerly along the makai edge of Honoapiilani Highway approximately 2,410 feet to the intersection of Honoapiilani Highway with the northern edge of the bed of Kauaula stream; thence westerly along the northern edge of Kauaula stream bed approximately 860 feet to the northerly and seaward point of land of Makila Point (a point of land further identified as having the geographical coordinates of 20° 51' 45" north latitude and 156° 40' 21" west longitude); thence southwest (at 225° by compass from true north) for a distance of one statute mile; thence at 335° by compass from true north for a distance of approximately one and two-fifths statute miles; thence northeast (at 45° by compass from true north) for a distance of approximately one statute mile to point of beginning; enclosing a total area of approximately 1,671 acres, of which approximately 338 are acres of land and 1,333 are acres of ocean and tidal lands. Precise boundaries, as described above, are recorded on a copy of U. S. Geological Survey map: Lahaina Quadrangle, Hawaii, 7.5 minute series (Topographic), 1956; and the land boundaries on a copy of a more detailed map of Lahaina entitled "Lahaina Historic Districts Map" as revised March 22, 1967, to which an extension has been attached, scale of one inch equals 200 feet. Both maps on file with the Historical and Architectural Services Division, Office of Archeology and Historic Preservation, National Park Service.

JAN 2 1 1980

8. SIGNIFICANCE - page 1 of 7

and capital during much of the critical period when Hawaii was changing from a feudal autocracy to a consitutional monarchy, and it was associated with many of the key events of that transition.

"According to tradition, Lahaina was from time immemorial a favorite residence of Maui kings and chiefs and a convenient port for inter-island travelers. The powerful Kahekili, ruler of all the islands except Hawaii, lived here until his death in 1794; and Kamehameha the Great landed here to begin his final conquest of Maui. By that time the port had become a well-known point of call for trading and exploring vessels, whose captains found the open roadstead a safe and convenient anchorage. For a couple of decades after 1812 it was an important shipping point for the sandalwood trade.

"A new era of prominence and activity for Lahaina began in December, 1819, when Kamehameha II moved his residence here for several months. From then until 1843 Lahaina was a frequent, though not continuous, royal residence and capital. In 1819, also, the first American whaling ships reached the islands, and by 1822 there were 34 whalers making Hawaii a base of refreshment. From that time the number increased rapidly. Although Honolulu was originally the port most favored by the whalers, Lahaina often surpassed it in the number of recorded visits, particularly from about 1840 to 1855. Another event which was to have much effect upon the growth and social structure of Lahaina was the arrival of the first missionaries in the islands during 1820. The first missionaries to become established at Lahaina, the Rev. C. S. Stewart and the Rev. William Richards, arrived in 1823 accompanied by Queen Mother Keopuolani. These three factors--political prominence, visits of whaling ships, and the development of a particularly influential mission under the protection of some of the most powerful chiefs of the land, resulted, as one writer has somewhat exuberantly said, in starting Lahaina "off to a historical romp that probably will never be equalled.

"The great event of 1823 was the death of Keopuolani at Lahaina. Within an hour before "joining the Great Majority" she had been baptized as a Christian, an occurrence which proved a great stimulus to increasing the influence of the missionaries. King Kaumualii of Kauai was, at his special request, buried beside Keopuolani in 1824. The bodies of Kamehameha II and his queen were brought back from London in 1824 and interred at Lahaina until they were later moved to the royal tomb in Honolulu. When Kamehameha III ascended the throne, he settled upon Lahaina as his home and seat of government.

Meanwhile, the missionaries were making rapid advances, drawing thousands of Hawaiians to worship and persuading the chiefs, especially the able governor of Maui, Chief Hoapili, to institute regulations against the sale of liquor and against visits to ships by island women. These restrictions were considered too rigorous by the "sea-bittered" sailors who swarmed ashore seeking pleasure, and in 1825 the crew of the English whaler Daniel rioted through

8. SIGNIFICANCE - page 2 of 7

the town for three days, twice threatening the lives of the Rev. Richards and his wife. Two years later the crew of another English whaler, the John Palmer, actually fired their cannons at the Richards' house to force the release of their American captain who had been detained by the authorities in an effort to obtain the return of four 'base women' who had been illegally enticed aboard the vessel. These difficulties with unruly seamen lasted as long as Lahaina remained a whaling port, but the Hawaiians, by controlling liquor and enforcing curfews, maintained the upper hand, and Lahaina was known as a more orderly port than Honolulu. Even so, one minister in the late 1840's described the town as 'one of the breathing-holes of hell.'

"Lahaina, as the island capital, was associated with many of the most important political developments in the kingdom during the reigns of Kamehameha II and Kamehameha III. Here Kaahumanu, Queen Regent, promulgated the famous laws based on the Ten Commandments. Here the first Hawaiian Legislature met in 1840, and the first written constitution was promulgated at Lahaina during the same year. Since much of this evolution from feudalism was undertaken upon the advice of the Rev. Mr. Richards, it perhaps is not too much of an exaggeration to say that Lahaina at this time was 'the cradle of Hawaiian democracy.' But after the seizure of the islands by the British during 1843, it was decided that the capital should be at Honolulu, and Lahaina was relegated to the position of an occasional royal residence.

"Lahaina was at the height of its prosperity as a whaling port about 1846, at which time about 400 ships a year visited the town to replenish their water and supplies. In that year the population of Lahaina numbered 3,557 persons, of whom 212 were foreigners. There were 1096 houses, mostly strung out along the kukui-shaded main street, 10 schools, a seamen's chapel, 1 main church with 5 or 6 district churches, and a number of public buildings. 'About 500 native families,' it was reported, 'eat at the table in the style of civilization.'

"By 1862 the whaling industry was in a definite and permanent decline. The effect of Lahaina was marked. Prosperity ended, prices fell, cattle and crops were a drag on the market, and ship chandleries and retail stores began to wither. The town subsided to a lower level of economic importance, and life revolved around the sugar mill, later known as the Pioneer Mill Company, which was established about 1860-1861, and around several other mills and plantations which sprung up from time to time in the vicinity. By 1885, when Charles Warren Stoddard visited Lahaina, the town was 'a charming, drowsy and dreamy village.'

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NATIONAL REGISTER

8. SIGNIFICANCE - page 3 of 7

"The principal historic structures and sites till visible include the following:

"1. Baldwin House. This handsome two-story home, built of coral blocks, with a two-story wing, is located on Front Street at Dickenson Street; it and the 42360-square-foot lot on which it stands are owned by the H. P. Baldwin Estate.

"The missionaries at Lahaina were given a tract of land for residence purposes by the local nobility in 1823, and the Rev. William Richards moved into a two-story stone dwelling (since destroyed) there in 1827. In 1823 Ephriam and Julia Spaulding arrived in Lahaina to join the mission staff, and in 1834 Spaulding started construction of the main section and 'cook house' of the present Baldwin House adjoining the Richards dwelling. Completed early in 1835, the house was occupied by the Spauldings until 1836, when they left Lahaina due to poor health. Dr. Dwight Baldwin and his family moved into the house when the Spauldings left and occupied it until Dr. Baldwin was transferred to Honolulu in 1868 (some sources say the Baldwins lived in the house until 1871). During this long occupancy the structure became known as the 'Baldwin House.'

"Dr. Baldwin, in addition to serving as pastor of the Hawaiian church at Lahaina and, for a time, as seamen's chaplain, was a medical doctor; and he was government physician for the islands of Maui, Molokai, and Lanai. It was his duty to greet visitors to the Lahaina mission and the nearby Lahainaluna Seminary; and guests were thus frequent. He renovated the structure extensively in 1847-1849 and added the right wing as a dispensary and office.

"Dr. Baldwin's son, Henry P. Baldwin, was born in this house and later acquired extensive interests on the Island of Maui. The house has remained in the Baldwin family to the present time. It served an important part in Hawaiian social and cultural development when Mrs. Henry P. Baldwin sponsored a community center there which included a kindergarten, night-school, circulating library, language school, and high school. Used until lately as a community center, clinic, and Girl Scout headquarters, it now (April, 1962) appears to be closed but is kept in excellent condition. It is one of the oldest and best preserved missionary dwellings.

"2. Old Spring House. Located 200 feet south of the Baldwin House and set well back from Front Street at the rear of a later frame structure, this small stone building is privately owned.

"It is said to have been built by the Rev. William Richards in 1823 to enclose a spring to supply water not only for his own dwelling nearby but

for the entire community and for ships anchored off the town. According to local tradition, a hand pump here was visited by crews of sailors who 'constantly rolled huge casks for water.' The Spring House apparently is thus one of the few remaining physical links with the whaling era.

"3. Court House. This solid, two-story stone building stands on Wharf Street, in the 1.94-acre square bounded by Wharf, Hotel, Front, and Canal Streets; it is owned by the State of Hawaii.

"In 1858 a violent windstorm damaged the governor's house and the Hale Piula, the former palace which housed the government offices. A survey early in that year resulted in a recommendation that a new building to house the customs offices and courts should be built on the site of the old stone fort. Funds were appropriated for the 'Lahaina Court and Custom House and Government Offices,' and the new building was reported as nearly complete by December, 1859. In addition to the offices mentioned above, it contained the governor's office, post office, and 'a room in which to starve the jury into unaminity.' The building was extensively rebuilt in 1925, with a considerable change in its appearance. The basic structure remains, however. Still housing about the same types of offices as when it was first erected, it serves as a link with the days of the kingdom. The Court House Square is famed today for its banyan tree, planted by the sheriff of Lahaina in 1873 and proclaimed today as 'Hawaii's largest.'

"4. Old Prison (Hale Paahao), This one-story jailhouse, built of heavy planks, stands at the corner of Wainee Street and Prison Road in grounds 0.82 acre in extent surrounded by a high wall of coral blocks. It is owned by the County of Maui.

"In addition to ordinary criminals, the authorities at Lahaina generally had on their hands a number of boisterous seamen who had run afoul of the law in one way or another during their periods of 'refreshment' ashore. During the 1830's and 1840's prisoners usually were confined in the fort which stood on the seaward side of the present square. The most common cause of incarceration was failure to obey the sundown curfew. Liberty expired with the setting of the sun when, said one visitor during the 1840's, the sailors, drunk or sober, 'must be off to their ships, or into the fort,' and he painted a vivid picture of the reeling seamen hustling along to the shore 'caressed and hung upon by native girls, who flock here in the ship season, from other parts, to get the ready wages of sin.'

"In 1851 the fort physician complained that conditions for prisoners were unhealthful, and evidently as a result construction of a new prison was

started in 1852. The main cell block, built of planks, was constructed in that year, but the wall around the grounds, built of coral blocks from the old fort, was not erected until about 1854. Prisoners performed much of the labor. The original cell house burned in 1958; and it and the wooden gate house were reconstructed in 1959 and now present a fine appearance. The prison is open to the public as an historical exhibit.

"5. Wainee Church and Cemetery (Waiola Cemetery and Church). The present church structure (1953) and the old cemetery occupy a tract of 2.45 acres on Wainee Street, between Chapel and Shaw Streets. The property is owned by the Waiola Protestant Church.

"For several years after the American Board missionaries reached Lahaina in 1823, services were held in temporary structures. In 1828 the chiefs, led by Hoapili, proposed to build a new stone church, and the present site was selected. The cornerstone was laid on September 14, 1828, for this 'first stone meeting-house built at the Islands.' Dedicated on March 4, 1832, this large, two-story, galleried Wainee Church was twice destroyed by Kauaula winds and once, in 1894, by a fire of incendiary origin. The present church structure was dedicated in 1953, at which time the name was changed to Waiola.

"The adjoining cemetery is said to date from 1823. It contains the body of Keopuolani, wife of Kamehameha the Great and mother of Kamehameha II and Kamehameha III. She was largely responsible for the overthrow of the kapu system, and her early interest in Christianity was of much assistance in the founding of the Protestant missions. She is said to have been the first convert of the missionaries in the islands. Other prominent Hawaiian nobles interred here include Governor Hoapili, King Kaumualii, Princess Nahienaena, Queen Kalakua, and Governess Liliha. Here too is buried the Rev. William Richards, the pioneer missionary and advisor to the Hawaiian monarchy. Seeing his grave near that of the nobles, a visitor late in the 1840's was constrained to write, 'There they lie in the burying-ground, hard by together, the missionary teacher and the converted heathen.'

"6. Hale Aloha. This dilapidated stone building stands behind the Episcopal Cemetery in about the center of the large block bounded by Wainee, Hale, and Chapel Streets and Prison Road. It is best reached from Wainee Street. It stands on a 15900-square-foot tract owned by Waiola Protestant Church.

"The predecessor of this building, known as the Hale Halewai, or Hale Lai, is sometimes said to have been built as early as 1823; and it, instead of the Wainee Church, is occasionally claimed as the first stone church in the island. At any rate, this 'sectional' meetinghouse was in bad condition

by 1855, and the church voted to rebuild completely, the walls being 'too old fashioned to be tolerated in these go-ahead days.' The present building, called 'Hale Aloha,' was completed in 1858 and was 'the largest sectional meeting house of its time.' In 1860 the government fitted it out for use as an English Church. The building is now in a ruinous condition.

"7. United States Marine Hospital. On the landward side of Front Street, between Kenui and Baker Streets, about 0.6 mile north of the Baldwin House (Dickenson St.). It is owned by the Bernice P. Bishop Estate.

"In 1842 Captain John Stetson was appointed first American vice consular agent in Lahaina. Probably it was shortly thereafter that a marine hospital was established for sick and injured American merchant seamen At any rate, Herman Melville noted that one of his shipmates was discharged from the Achusnet at Lahaina on May 29, 1843, and died in the United States Marine Hospital of a 'disreputable disease.' The hospital could accommodate about 60 men. In 1865 the structure was sold to the Episcopal Church and became a school for girls, and during the 1870's it was turned into a vicarage and served as such for more than 30 years.

"The exterior walls of the two-story stone structure have been covered with shingles but the front verandahs running the length of both stories still remain, and the building retains its historical integrity. It is used as a residence and is in fair condition. It is an important link with the days of Lahaina's maritime glory.

"8. Roman Catholic Church (Maria Lanakila First Catholic Church). At Wainee and Dickenson Streets, this building is still an active Catholic Church. It and the adjoining cemetery occupy a tract of 3.091 acres.

"The first resident Roman Catholic priests arrived at Lahaina on April 21, 1846. A church was built on the present site that same year, but it was replaced by a new structure in 1858. The present concrete church, erected in 1927-1928, was built on the same foundation and is almost a replica of the older frame structure, it is said that the original ceiling was retained in the new building.

"9. Pioneer Hotel. This picturesque frame structure stands on the corner of Wharf and Hotel Streets; it is (1958) owned by Mr. Alan Freeland and is under lease to the Lahaina Hotel Incorporation.

"Built in 1901 and therefore not strictly connected with Lahaina's most significant era, this well-known hotel is nevertheless a key part of

the Lahaina scene. The description of the hotel in one guide book - 'a large box of a building . . . with a wide balcony and decorative wooden railing' - may be accurate, but it fails to convey the tropical atmosphere of Lahaina's first hotel.

"Condition of the Site: Lahaina today is a quiet plantation town which is beginning to stir with new life as recent harbor developments bring additional recreational and commercial boating activity and as nearby newly built resorts increase tourist visits. Despite the fact that surviving historic structures are relatively few, the town preserves much of the atmosphere of a Hawaiian native village and of a mid-19th century island port. The magnificant natural setting, with its backdrop of purple mountains and foreground of blue sea, remains unspoiled; and palms and other trees shade the streets and homes as they did in missionary days. However, paved streets, curbs, new buildings in contemporary architectural styles, and other developments are cumulatively making their effects felt and causing the historic scene to fade.

"Recognizing the economic and cultural benefits of the town's historic heritage, the County of Maui and a cooperating organization, the Lahaina Restoration Committee, have obtained by contract from a planning firm a study of the historical values and a program for restoration. The proposal, presented early in 1961, called for a restoration district which covers 31.79 acres, including all of the principal historic sites except the Marine Hospital. On August 18, 1961, the county adopted an interim zoning ordinance which set aside about 8 1/4 acres as the Lahaina Historic District. Within this area are the Court House, Pioneer Hotel, Baldwin House, and the Spring House." (John A. Hussey, Regional Historian; July 17, 1962; from National Survey of Historic Sites and Buildings, Forms 10-317 and 317a)

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Form 10-300a
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
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1832 Lahaina inset on Chart of the Sandwich Islands, A. Arrowsmith. Fig. 31 in Healy.

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Hawaii	
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ENTRY NUMBER	DATE

(Number all entries)

9. MAJOR BIBLIOGRAPHICAL REFERENCES - page 2 of 2

1838 Drawing of Lahaina, ca. 1838, as seen from Lahainaluna, p. 15 in Community Planning, Inc., entry in bibliography above.

1841 Lahaina Roads, U. S. Exploring Expedition (Wilkes). Fig. 41 in Healy.

1843 Artwork from panorama, Russell-Purrington, in Whaling Museum, New Bedford, Mass. Postcard reproduction in Jane Silverman collection, Honolulu.

1853 Drawing of Lahaina, Feb. 9, 1853, in letter of Cornelia Bishop to her father; in Tessie Shaw Fisher collection, Hawaiian Mission Childrens Society, Honolulu.

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APPENDIX B: EXAMPLE LETTER OF INQUIRY

SCIENTIFIC CONSULTANT SERVICES, Inc.
1347 Kapiolani Blvd., Suite 408 Honolulu, Hawai`i 96814

Aloha kāua,

Scientific Consultant Services, Inc. (SCS) is seeking information on cultural resources and traditional, previously or on-going, cultural activities within or near the proposed Lahaina, Front Street Sidewalk, Railing and Seawall Project area. The proposed project consists of repairing two segments (Area 1 and Area 2) of seawall and associated features area located in Historic Lahaina Town, along the southwest (makai) edge of Front Street, Lahaina, Paunau Ahupua'a, Lahaina (Lāhainā) District, Maui Island, Hawai'i' [TMK: (2) 4-6009 and 4-5-002; Figures 1 through 4]. Both Area 1 and Area 2 are owned by the County of Maui.

The subject property is located within the Lahaina National Historic Landmark, National Park Service (NPS reference number 66000302) (State Site 50-50-03-3001; Figure 4). The Lahaina Historic District encompasses more than 60 Sites and was nominated for placement on the National Register of Historic Places on December 29, 1962 (updated in 1974).

The proposed project Area 1, the southern-most project corridor segment, will extend approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. The proposed work within project at Area 1 will consist of repairing the damaged wave deflector that projects over the seawall, replacing the wood rails, reconstructing the damaged concrete sidewalk and removing and replacing the planters and trees.

The proposed project Area 2, the northern-most project area segment, will extend approximately 730 feet (222 meters) north from Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The proposed work within Area 2 will consist of replenishing the boulder fill fronting the seawall and general repairs to the seawall and sidewalk.

The purpose of this Cultural Impact Assessment (CIA) is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources or traditional cultural practices associated with the project area and the surrounding ahupua'a. In an effort to promote responsible decision-making, the CIA will gather information about the project area and its surroundings through research and interviews with individuals that are knowledgeable about the area in order to assess potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the proposed project. We are seeking your kōkua and guidance regarding the following aspects of our study:

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Neighbor Island Offices • Hawai`i Island • Maui • Kaua`i

- General history as well as present and past land use of the project area
- Knowledge of cultural resources which may be impacted by future development of the project area (i.e. historic and archaeological sites, as well as burials)
- Knowledge of traditional gathering practices in the project area, both past and ongoing Cultural associations of the project area, such as legends, traditional uses and beliefs
- Referrals of kūpuna or elders and kamaʻāina who might be willing to share their cultural knowledge of the project area and the surrounding ahupuaʻa
- Due to the sensitive nature regarding iwi kūpuna or ancestral remains discovered, manaʻo regarding nā iwi kūpuna will be greatly appreciated
- Any other cultural concerns the community has related to Hawaiian cultural practices within or in the vicinity of the project area.

The CIA is in compliance with the Hawaiʻi Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law and in accordance with the State of Hawaiʻi Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawaiʻi on November 19, 1997 (and revised in 2012).

According to the Guidelines for Assessing Cultural Impacts (Office of Environmental Quality Control 2012:12):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs...

Enclosed are maps showing the locations of the proposed project area. Please contact me within 30 days at (808) 597-1182 or via e-mail (cathy@scshawaii.com) with any information you would like to share or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist

APPENDIX C: NEWSPAPER NOTICE PUBLISHED IN KA WAI OLA NOVEMBER 2019 ISSUE

LAHAINA

Scientific Consultant Services, Inc. (SCS) is preparing a Cultural Impact Assessment in advance of the proposed Lahaina, Front Street Sidewalk, Railing and Seawall Project. We are seeking information on cultural resources and traditional, previously or on-going, cultural activities within or near the proposed project area, located along the southwest (ma kai) edge of Front Street, from Lahainaluna Road to just north of Dickenson Street and from Baker Street to just south of Pāpalaua Street, in Historic Lahaina Town, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi [TMK: (2) 4-6009 and 4-5-002]. The proposed project area corridor is located on lands owned by the County of Maui. The project area is within the Lahaina National Historic Landmark, National Park Service (NPS reference number 66000302) (State Site 50-50-03-3001).

APPENDIX D: EXAMPLE FOLLOW-UP LETTER

SCIENTIFIC CONSULTANT SERVICES, Inc.
1347 Kapiolani Blvd., Suite 408 Honolulu, Hawai`i 96814

Aloha kāua,

This is the follow-up letter to our August 26, 2019, letter which was in compliance with the statutory requirements of the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i, on November 19, 1997.

Scientific Consultant Services, Inc. (SCS) is seeking information on cultural resources and traditional, previously or on-going, cultural activities within or near the proposed Lahaina, Front Street Sidewalk, Railing and Seawall Project area. The proposed project consists of repairing two segments (Area 1 and Area 2) of seawall and associated features area located in Historic Lahaina Town, along the southwest (makai) edge of Front Street, Lahaina, Paunau Ahupuaʻa, Lahaina (Lāhainā) District, Maui Island, Hawaiʻi [TMK: (2) 4-6009 and 4-5-002]. Both Area 1 and Area 2 are owned by the County of Maui.

The subject property is located within the Lahaina National Historic Landmark, National Park Service (NPS reference number 66000302) (State Site 50-50-03-3001; Figure 4). The Lahaina Historic District encompasses more than 60 Sites and was nominated for placement on the National Register of Historic Places on December 29, 1962 (updated in 1974).

The proposed project Area 1, the southern-most project corridor segment, will extend approximately 730 feet (222 meters) south from Lahainaluna Road to just north of Dickenson Street, within TMK: (2) 4-6-009. The proposed work within project at Area 1 will consist of repairing the damaged wave deflector that projects over the seawall, replacing the wood rails, reconstructing the damaged concrete sidewalk and removing and replacing the planters and trees.

The proposed project Area 2, the northern-most project area segment, will extend approximately 730 feet (222 meters) north from Baker Street to just south of Papalaua Street, within TMK: (2) 4-5-002. The proposed work within Area 2 will consist of replenishing the boulder fill fronting the seawall and general repairs to the seawall and sidewalk.

The purpose of this Cultural Impact Assessment (CIA) is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources or traditional cultural practices associated with the project area and the surrounding ahupuaʻa. In an effort to promote responsible decision-making, the CIA will gather information about the project area

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and its surroundings through research and interviews with individuals that are knowledgeable about the area in order to assess potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the proposed project. We are seeking your kōkua and guidance regarding the following aspects of our study:

- General history as well as present and past land use of the project area
- Knowledge of cultural resources which may be impacted by future development of the project area (i.e. historic and archaeological sites, as well as burials)
- Knowledge of traditional gathering practices in the project area, both past and ongoing Cultural associations of the project area, such as legends, traditional uses and beliefs
- Referrals of kūpuna or elders and kamaʻāina who might be willing to share their cultural knowledge of the project area and the surrounding ahupuaʻa
- Due to the sensitive nature regarding iwi kūpuna or ancestral remains discovered, manaʻo regarding nā iwi kūpuna will be greatly appreciated
- Any other cultural concerns the community has related to Hawaiian cultural practices within or in the vicinity of the project area.

The CIA is in compliance with the Hawaiʻi Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law and in accordance with the State of Hawaiʻi Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawaiʻi on November 19, 1997 (and revised in 2012).

According to the Guidelines for Assessing Cultural Impacts (Office of Environmental Quality Control 2012:12):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs...The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs...

Please contact me within 30 days at (808) 597-1182 or via e-mail (cathy@scshawaii.com) with any information you would like to share or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist

APPENDIX E: FOSTER AMPONG'S SIGNED INFORMATION RELEASE FORM

INFORMATION RELEASE FORM

I, the undersigned, personally participated in an interview with Cathleen Dagher, B.A., of Scientific Consultant Services, Inc., on November 27, of the year 2019. The interview was conducted by telephone.

I understand that the information I have provided to Scientific Consultant Services, Inc., shall be submitted as part of a Cultural Impact Assessment report prepared in advance of the proposed Lahaina, Front Street Sidewalk, Railing and Seawall Project, located in Historic Lahaina Town, Paunau Ahupua'a, Lahaina (Lāhainā) District, Maui Island, Hawai'i [TMK: (2) 4-6009 and 4-5-002]. This information will be subject to publication which will be submitted to the public for general review.

I have read the summary of the interview and the information is true and accurate to the best of my knowledge. By signing this release form, I am providing my approval for the release of the information to Scientific Consultant Services, Inc., for the purpose outlined above (i.e., making the contents of this interview available for publication to the general public).

Print Name: Foster Aungong

Signature: [signature]

Release Dated: 1-6-2020

APPENDIX F: LAND COMMISSION AWARD 7713 (ROYAL PATENT 4475)

Number: 07713*M

Claim Number:	**07713*M**
Claimant:	**Kamamalu, Victoria**
Other claimant:	
Other name:	
Island:	**Maui**
District:	**Lahaina, Wailuku, Hamakualoa**
Ahupuaa:	**Waihee, Paunau, Aki, Kelawea, Moalii, Kalua, Haiku, Makapuu, Kawela, Onouli, Kaumanu, Kahalehili, Kaeleku, Honokolani, Kawaipapa, Niumalu, Palemo, Pakakia, Kahuakamalii, Ihuula, Oloewa, Papalauhau, Mokae, Puekahi, Puuiki, Kapohoe, Pukuilua, Kaou, Hal**
Ili:	

Apana:	**55**	Awarded:	**1**
Loi:		FR:	
Plus:		NR:	**440v5,569v5**
Mala Taro:		FT:	**408v3**
Kula:		NT:	**650v1**
House lot:		RP:	**4475**
Kihapai/Pakanu:		Number of Royal Patents:	**1**
Salt lands:		Koele/Poalima:	**No**
Wauke:		Loko:	**No**
Olona:		Lokoia:	**No**
Noni:		Fishing Rights:	**No**
Hala:		Sea/Shore/Dunes:	**No**
Sweet Potatoes:		Auwai/Ditch:	**No**
Irish Potatoes:		Other Edifice:	**No**
Bananas:		Spring/Well:	**No**
Breadfruit:		Pigpen:	**No**
Coconut:		Road/Path:	**No**
Coffee:		Burial/Graveyard:	**No**
Oranges:		Wall/Fence:	**No**
Bitter Melon/Gourd:		Stream/Muliwai/River:	**No**
Sugar Cane:		Pali:	**No**
Tobacco:		Disease:	**No**
Koa/Kou Trees:		Claimant Died:	**No**
Other Plants:		Other Trees:	
Other Mammals:	**No**	Miscellaneous:	

No. 7713*M, Victoria Kamamalu, Land Division, See Page 569
N.R. 440-444v5

Opukaula, `Ili, Waimano, Ewa, Oahu
Kilauluna, `Ili, Waimano, Ewa, Oahu
Hananau, `Ili, Waimano, Ewa, Oahu
Kanenelu, `Ili, Waimano, Ewa, Oahu
Pohe, `Ili, Waimano, Ewa, Oahu
Kaulu, `Ili, Waimano, Ewa, Oahu
Kapuna, `Ili, Waimano, Ewa, Oahu
Poupouwela, `Ili, Manaiki, Ewa, Oahu
Kapaloa, `Ili, Waiawa, Ewa, Oahu
Panio, `Ili, Waiawa, Ewa, Oahu
Kuhialoko, `Ili, Waiawa, Ewa, Oahu
Kahoaiai, `Ili, Waiawa, Ewa, Oahu
Papaa, `Ili, Waiawa, Ewa, Oahu
Kaohai, `Ili, Waiawa, Ewa, Oahu
Kalona, `Ili, Waiawa, Ewa, Oahu
Kuhiawaho, `Ili, Waiawa, Ewa, Oahu
Kapuaihalulu, `Ili, Waiawa, Ewa, Oahu

2.
Haleaka, `Ili, Waiawa, Ewa, Oahu
Piloaumoa, `Ili, Waiawa, Ewa, Oahu
Kionaole, `Ili, Waiawa, Ewa, Oahu
Hanakehau, `Ili, Waiawa, Ewa, Oahu
Kapopou, `Ili, Waiawa, Ewa, Oahu
Kalimukele, `Ili, Waiawa, Ewa, Oahu
Kumuulu, `Ili, Waiau, Ewa, Oahu
Hapuna, `Ili, Kalihi, Kona, Oahu
Waiaula, `Ili, Kalihi, Kona, Oahu
Kalaepohaku, `Ili, Kapalama, Oahu
Kauluwela, `Ili, Honolululu land, Oahu
Kanewai, `Ili, Waikiki, Oahu
Kapaakea, `Ili, Waikiki, Oahu
Komoawaa, `Ili, Waikiki, Oahu
Waialae, `Ili, Waikiki, Oahu

3.
Halawa, Ahupua`a, Koolau, Molokai

Kaa, Ahupua`a, Lanai

Kelawea, Ahupua`a, Lahaina, Maui
Moalii, Ahupua`a, Lahaina, Maui
Aki, Ahupua`a, Lahaina, Maui
Paunau, Ahupua`a, Lahaina, Maui
Waihee, Ahupua`a, West Puali, Maui
Kalua, `Ili, Wailuku, Maui
Haiku, Ahupua`a, Hamakualoa, Maui
Makapuu, Ahupua`a, Hana, Maui
Kawela, Ahupua`a, Hana, Maui
Onouli, Ahupua`a, Hana, Maui
Kaumanu, Ahupua`a, Hana, Maui
2 Kahalehili, Ahupua`a, Hana, Maui
3 Kaeleku, Ahupua`a, Hana, Maui
Honokalani, Ahupua`a, Hana, Maui
Kawaipapa, Ahupua`a, Hana, Maui
5 Niumalu, Ahupua`a, Hana, Maui
2 Palemo, Ahupua`a, Hana, Maui
3 Pakakia, Ahupua`a, Hana, Maui

2 Kahuakamalii, Ahupua`a, Hana, Maui
Ihuula, Ahupua`a, Hana, Maui
Oloewa, Ahupua`a, Hana, Maui
4 Papalauhau, Ahupua`a, Hana, Maui
4 Mokae, Ahupua`a, Hana, Maui
Puekahi, Ahupua`a, Hana, Maui
Puuiki, Ahupua`a, Hana, Maui
3 Kapohoe, Ahupua`a, Hana, Maui
Pukuilua, Ahupua`a, Hana, Maui
2 Kaou, Ahupua`a, Hana, Maui
Halehana, Ahupua`a, Hana, Maui
Kaukuhalahala, Ahupua`a, Hana, Maui
2 Piapia, Ahupua`a, Hana, Maui
Koakapuna, Ahupua`a, Hana, Maui
Kawaalua, Ahupua`a, Hana, Maui
Pueokahi, Ahupua`a, Hana, Maui
Pueokauiki, Ahupua`a, Hana, Maui
Pohakanele, Ahupua`a, Hana, Maui
Ahuakaio, Ahupua`a, Hana, Maui
Kihapuhala, Ahupua`a, Hana, Maui
Papahawahawa, Ahupua`a, Hana, Maui
Muolea, Ahupua`a, Hana, Maui
Puuhaoa, Ahupua`a, Hana, Maui
Kahalawe, Ahupua`a, Hana, Maui
Ohia, Ahupua`a, Hana, Maui
Kolokole, Ahupua`a, Hana, Maui
Kapuuomahuka, Ahupua`a, Hana, Maui
Mahulua, Ahupua`a, Hana, Maui
Poopoo, Ahupua`a, Hana, Maui
Lapalapaiki, Ahupua`a, Hana, Maui
Waieli, Ahupua`a, Hana, Maui
Paihala, Ahupua`a, Hana, Maui
Kalihi, Ahupua`a, Hana, Maui
Kakiweka, Ahupua`a, Hana, Maui
Kailihiakoko, Ahupua`a, Hana, Maui
Puukohola, Ahupua`a, Hana, Maui
Kahalawe, Ahupua`a, Hana, Maui
Puaaluu, Ahupua`a, Hana, Maui

Kahua, Ahupua`a, Kohala, Hawaii
Honokane, Ahupua`a, Kohala, Hawaii
Holualoa 1,2, Ahupua`a, Kona, Hawaii
Kahaluu, Ahupua`a, Kona, Hawaii
Keopunui, Ahupua`a, Kona, Hawaii
Keauhou, Ahupua`a, Kona, Hawaii
Honuaino, Ahupua`a, Kona, Hawaii
2 Honokua, Ahupua`a, Kona, Hawaii
Haukalua 1, 2, Ahupua`a, Kona, Hawaii
Pakini, Ahupua`a, Kau, Hawaii
Keauhou, `Ili, KapapalaKau, Hawaii
Kahuai, Ahupua`a, Puna, Hawaii
Kauhaleau, Ahupua`a, Puna, Hawaii
Kauaea, Ahupua`a, Puna, Hawaii
Piopio, Ili in Waiakea, Puna, Hawaii
Kalalau, Ahupua`a, Puna, Hawaii
Honohononui, `Ili in Waiakea, Puna, Hawaii
Pahoehoe, Ahupua`a, Puna, Hawaii
Onomea, Ahupua`a, Puna, Hawaii
Alae, Ahupua`a, Puna, Hawaii
Kekelani, `Ili in Waimanu, Hamakua, Hawaii
Kuilei, Ahupua`a, Puna, Hawaii

N.R. 569v5
0No. 7713, Victoria Kamamalu, from page 440

Victoria Kamamalu's lands in the Mahele by the Mo`i, in the month of January 1848, continued:

Huleia, a district of Kauai, however, the Government cattle shall graze there.
Makaweli, Ahupua`a, Kona, Kauai
Places unsuitable for the soldiers and the fort
Maunalua, `Ili, Waimanalo, Koolaupoko, Oahu
Pahoa, `Ili, Waianae, Waianae, Oahu
Kaluanui, Ahupua`a, Koolauloa, Oahu
Kawailoa, Ahupua`a, Waialua, Oahu
Paalaa, Ahupua`a, Waialua, Oahu
Kaelepulu, `Ili, Kailua, Koolaupoko, Oahu
Kikiwelawela, `Ili, Kaneohe, Koolaupoko, Oahu

F.T. 408-411v3
No. 7713, V. Kamamalu
No. 10474, N. Namauu
No. 7716, R. Keelikolani
No. 7714B, M. Kekuaiwa
No. 7712, M. Kekuanaoa [7712B]
A True Copy
(Sig). A. G. Thurston
Clerk Interior Department.
Copy of the Division of Lands agreed upon in Privy Council August 27, 1850

Kekuanaoa and his children to receive Fee simple titles for those lands here set off to them- they resigning to the Gov. all title to the other lands granted them in the Buke Mahele.

No. 7713, Ko Victoria Kamamalu mau aina ma ke ano Alodio

Honokane, Ahupuaa, Kohala, Hawaii
Kahua, Ahupuaa, Kohala, Hawaii
Keopu, Ahupuaa, Kona, Hawaii
2 Holualoa, Ahupuaa, Kona, Hawaii
Kahaluu, Ahupuaa, Kona, Hawaii
Keauhou, Ahupuaa, Kona, Hawaii
Honuaino, Ahupuaa, Kona, Hawaii
Honokua, Ahupuaa, Kona, Hawaii
Pakini, Ahupuaa, Kau, Hawaii
Keauhou, Ili is Kapapala, Kau, Hawaii
Kahuwai, Ahupuaa, Puna, Hawaii
Kauwalehau, Ahupuaa, Puna, Hawaii
Kauaea, Ahupuaa, Puna, Hawaii
Honohononui, ili o Waiakea, Hilo, Puna, Hawaii
Piopio, ili o Waiakea, Hilo, Puna, Hawaii
Kalalau, Ahupuaa, Puna, Hawaii
Pahoehoe, Ahupuaa, Hilo, Hawaii
Alae, Ahupuaa, Puna, Hawaii
Onomea, Ahupuaa, Puna, Hawaii
Kuilei, Ahupuaa, Hamakua, Hawaii
Kekelani, ili no Waimanu, Hamakua, Hawaii

Kalua, Ahupuaa, Wailuku, Maui
Waihee, Ahupuaa, Puali, Kom. [Komohana]

Aki, Ahupuaa, Lahaina, Maui

Paunau, Ahupuaa, Lahaina, Maui
Kelawea, Ahupuaa, Lahaina, Maui

Halawa, Ahupuaa, Koolau, Molokai

Kaa, Ahupua, Kona, Lanai

Maunalua, ili no Waimanalo, Koolaupoko, Oahu
Kaelepulu, ili no Kailua, Koolaupoko, Oahu
Kikiwelawela, Ahupuaa, Heeia, Koolaupoko, Oahu
Kaluanui, Ahupuaa, Koolauola, Oahu
Kawailoa, Ahupuaa, Wailalua, Oahu
Paalaa, Ahupuaa, Waialua, Oahu
Waiawa, Ahupuaa, Ewa, Oahu
Pahoa, ili no Waianae, Waianae, Oahu
He mau ili ma Waimano, Ewa, Oahu
Poupouwela, ili in Mananaiki, Ewa, Oahu
Kumuulu, no Waiau, Ewa, Oahu
Kapuna no Kalihi, Kona, Oahu
Waiaula no Kalihi, Kona, Oahu
Kalaepohaku no Honolulu, Kona, Oahu
Kauluwela no Honolulu, Kona, Oahu
Kapaakia no Waikiki, Kona, Oahu
Komowaa no Waikiki, Kona, Oahu
Kanewai no Waikiki, Kona, Oahu
Waialae no Waikiki, Kona, Oahu

Makaweli, Ahupuaa, Kauai
Huleia, Puna, Kauai
Kikiaola, Waimea, Kauai

Ko ke Aupuni hapakolu loko o ko V. Kamamalu mau aina. Makapuu, Kawela, Oniuli, Kaumanu, 2 Kahalehili, Kaeleku, Honokalani, Kawaipapa, 5 Niumalu, 2 Palemo, 2 Pakakea, Nahuakamaii, Ihuuloi, Hoewaa, 2 Papauhau, Hamoa, 3 Mokae, Puekahi, Puuiki, 3 Pohue, Pukuilua, Haou, Halehana, Kaukuhalahala, Peapea, Koakupuna, Kawalua, Pueokauiki, Pohakanele, Ahuakaio, Kihapuhala, Papahawahawa, Muolea (The above ahupuaa in Hana, Maui) Moalii Ahupuaa Lahaina Maui.

F.T. 538-539v3
No. 7713, M. Kekuanaoa (for Victoria), 1 April 1854, Counter the government

A. Paki, sworn, for the Government, Knows that the fish pond called "Kawa", in Honolulu, was broken up in the year 1847 & the materials of the wall taken to help to construct the wall or breakwater erected by the Government on the west side of the harbor. The Government got permission from M. Kekuanaoa to take the materials of the wall of "Kawa" to make the Breakwater. He did not give the Government any portion of the soil of "Kawa," or of "Kaakaukukui." The land on which now stands the Government slaughter House, occupied by John Meek, is a portion of the ili of "Kalui."[?] I do not know what title the Government has to that place, but I have heard that Kekualoa had given it to the Government - this I state as hearsay only.

G.P. Judd, sworn, for Government, says, I was the Hawaiian Minister of Finance in the year 1847, and remember when the wall was built from the present lime kiln House running over to the land of sea & Sumner, Known as Kohololoa." It was built to prevent the filling up of the Harbor of Honolulu. It was thought advisable to remove a part of the wall of a fish pond in "Kawa," which I supposed belonged to the Government. Finding, however, that it was claimed by M. Kekuanaoa, for Victoria, Mr. Young and I applied to him for the privilege of removing it, which he granted to us, and accordingly it was removed under the direction of Piikoi and the stones put into the new wall first named, and my impression is that we built a new partition wall for the Governor's fishpond. I will not be certain however. Piikoi will know. Piikoi ran a plow through the fish pond to give direction to the stream and divert it from the harbor. I never knew of any definite cession of the fish pond or other land to the Government, but I think Kekuanaoa consented that the Government should divide the fish pond, in Privy Council. I didn't know that he claimed the land where the wall runs from the Lime Kiln, but I don't recollect that he said anything particular about it.

See P. 548. [about Pearl Harbor]

F.T. 548v3
No. 7713, M. Kekuanaoa (V. Kamamalu), Aprila 19, 1854, counter the Government, from page 538

Keone Ana, sworn says, I have nothing to testify to in reference at the claim of M. Kekuanaoa in Kaakuukukui, pertaining to the wall built to protect the harbor from filling in, which wall runs from the Lime Kiln to Sea & Sumner's land.

I am sure he gave it to Government in 1847, but I will not swear anything about it until I have laid the matter before the Privy Council, as to "Kaliu," he said he had nothing to say.

To page 555

F.T. 555-557v3
No. 7713, M. Kekuanaoa (for V. Kamamalu) from page 538, counter the Government

Keoni Ani, sworn, presents a plan which he says was made by Order of the King in Council, in the year 1848, perhaps, and placed in my charge, as minister of the Interior. The plan shows two rows of lots laid out from the Beach seaward. The Government built the wall or breakwater in the year 1847, I think. The Government claimed no more land as I understood the matter than what is shown on the plan. When the wall was built by the Government no opposition was made to its erection by any private party. The wall was erected by the Government to prevent the harbor from being filled up with the mud washed down by the Nuuanu River. When this wall was built the wall of the loko called "Kawa" was taken down and the size of the loko reduced. After the wall was built, this plan was made by the Government and laid before the Privy Council, who resolved to sell the lots as laid out for the benefit of the Treasury. Two of the lots were accordingly disposed of with the approval of the Privy Council, to Louis Gravier. After that, a proposition was made in Privy Council to sell some of the lots to a steam boat company, but at the suggestion of M. Kekuanaoa, the proposition was dropped. Kekuanaoa advising the Council that they were disposing of the Government property too fast. After the report of a committee appointed by the Privy Council on the subject of the filling up of the harbor, the Council resolved to remove the wall of the loko called "Kawa" and M. Kekuanaoa assented.

I do not know to whom the land really belonged. I have always seen this, that when the government wanted a piece of land for their purposes, the konohikis have always given their consent. A. Paki, who had charge of Kaliu, and M. Kekuanaoa, who had charge of Kaakaukukui were both in Privy Council at the time referred to. I consider that the place where this wall is built belonged to the Government previous to that time, because by law, the papakoa and the harbor belongs [sic] to the Government. All the chiefs were in Council at the time these things were transacted. The place where the wall is built is papa koa, perhaps, mud perhaps.

Iona Kapena, sworn, says the names of the land lying between the wall of the Government and the loko called "Kawa" are Kaakaukukui and Kaliu. I pointed out the boundary line between Kaakaukukui and Kaliu a few days ago to Messers Lee and Robertson. The boundary has been well known to me ever since I was a boy. The breakwater or wall is built on the land of Kaakaukukui.

M. Kekuanaoa states that he never understood before that the Government meant to take this place now in dispute. I have heard the testimony of Young, who says the Government took it. I gave my consent to the Government to remove the wall of Kawa and for the materials, but I did not intend that the Government should take away any part of Kaakaukukui.

N.T. 598-599v3
No. 7713, V. Kamamalu - protest

M. Kekuanaoa and Mahuka were the persons who settled the land of V. Kamamalu with objections to C. Kanaina's rights to that property over which there was a dispute. Below are the statements of witnesses clarifying their /two/ rights.

Kumuhonua, sworn, I have seen the place over which there is a dispute between C. Kanaina and V. Kamamalu, Kaanaenui is the name. I have seen that it is the center for Waialae. The boundaries as I have seen from Kaiahaki to Kauhaki, from there to Pohakuaumiumi, then to Kaananiau and run directly to Puukuaka; from there to Kalohupale; Kapahulu is on this side and from there run directly to Kupikipikio point.

Mt. Leahi is for Kapahulu.

The boundaries of the land Kekio: on the mauka direction of Makahuna road is the taro land, detached and following to the sea of Kapua and the coconut grove.

Poo wahine: I am a native of Waiale and since I was very young and at the time of Kahekili, I have known that place over which there is a dispute. Keanaenui is the name and it is the center of Waialae. I have known the boundaries as they are at Kuialauahi to Aumeume Rock, to Kaananiau, to Mount Kuaka and from there to Kalahu to the lae of Kupikipikio. Those are the boundaries which separate Waialae from Kapahulu. Mt Leahi is for Kapahulu.

The land Kekio runs from mauka of Makahuna Street, then separated to the extreme makai to the sea and the coconut grove.

Kuapuu, sworn, I am a land child of Waialae and I have seen the boundaries of Waialae as they were pointed out to me by my parents, from Kuahaki to Kauhaki, therefrom to Aueume Rock and so on just as Poo has related here.

The boundaries of Kekio run from mauka of Makahuna road, then it separates until the extreme makai of Kapua sea and a road called Kukii. The report given of this survey is imperfect because he had taken Waialae's pasture.

Kaula, sworn, I have not been a native very long, but I have heard the same thing from my older brother whose name is Hanakinau, as the reports given by those people above. I had heard these things after the death of Kaahumanu I.

Hehea, sworn, I am a land child of Waialae and have seen the boundaries of Waialae exactly as those witnesses have related above.

The boundaries of the land, Kekio by name, of Keekapu, are exactly as the statements given

N.T. 373-375v10
No. 7713, Victoria Kamamalu, Waianae, 17 August 1854

Testimony on the boundary between the ahupuaa of Waianae and the ili of "Pahoa."

Nahinu, sworn, says the ili of Pahoa is but small. The loko, makai, belongs to this ili. The boundary of the piece is dispute runs along to the eastward of an enclosure belonging to Kaapuiki, and up through the coconut grove and along a stone wall to some hau trees, and then up mauka and across to the east corner of the land, and from thence running makai to the loko.

This ili consists of three pieces, first, the fish pond; second, the piece which I have tried to describe; third, the mauka piece undisputed.

I learned these boundaries from my ancestors who lived here from ancient times.

Cross examined. I accompanied Kekuanaoa and M. Hopkins when they suspected [inspected?] the boundary line in question. I saw the marks made at that time on the coconut trees by order of Kekuanaoa, in presence of M. Hopkins. The line marked out by them on the northwest side, runs farther mauka than that described by me in my testimony.

Ohule, sworn, says he knows the middle Mana of Pohao about which the present dispute exists. It is only of late that I have heard that the boundary was disputed. This middle piece is bounded: Mauka by a stone wall. The western boundary runs up through the coconut grove and then runs to the southward, and then at the corner of what used to be a wauke patch, turns seaward and runs down to the hau trees and the stone wall. I was born on this land. The land on which stand the church and parsonage belongs to the ahupuaa of Waianae.

Kaapuiki, sworn, says when I came here to live, the boundaries of the middle piece of Pahoa were nearly the same as have been described by the preceding witnesses. Afterwards, when the law was made to restore the ancient boundaries of all the lands, Kulepe, the then tax officer, gave to "Pahoa" the land now claimed by Victoria, on the southeast side of the coconut grove, and disputed by the King. I was luna of Waianae when that arrangement was made by Kulepe. I was under Kekuanaoa. The people who live on the disputed land formerly went to the labor days on Waianae," but of late they labor on "Pahoa."

Kulepe, sworn, says, "Pahoa" consists of two pieces; the fish pond forming the part of the mauka piece. I have lived here about 15 years. I was appointed tax officer of Waianae in 1841. In 1850, the boundaries of the makai piece of "Pahoa" were pointed out to me by three kamaainas, who are all now dead. In the same year, Hopkins and Kekuanaoa came down here but I did not accompany them when they went round this land. I do not know anything myself of the true boundary, except what I heard from these kamaainas in 1850. About 1841, I restored a lihi of "Pahoa," which lies between the fish pond and the stone wall, and was claimed for "Pahoa," on account of some coconut trees. This was the only lihi of "Pohoa" restored by me. The people who formerly lived on the land now in dispute used to do konohiki labor for the ahupuaa of "Waianae."

Molea, sworn, confirms in full, the testimony of Nahinu and Ohule.

[Award 7713; (Maui) R.P. 4475; Kalua Waihee Wailuku, 1 ap. (Ap. 23); Iliaina; Puali Waihee Wailuku; R.P. 4475; Paunau Lahaina; 1 ap.; ahupua`a (Ap. 26); Aki Lahaina; 1 ap.; ahupua`a (Ap. 25); Kelawea Lahaina; 1 ap.; ahupua`a (Ap. 27); (Island of Hawaii) R.P. 4475; Keopu, Honuaino, Holualoa, Keauhou Kona and Keauhou Kau, Kuilei Hamakua, Honokane & Kahua Kohala, Honohononui, Piopio, Kalalau; Kekelani, R.P. 4475 & 6856, Kahaluu; R.P. 6857, Honokua; R.P. 6865, Haukalua; R.P. 4475, 6883 & 8220, Kauaea R.P. 6884, Kahuwai Puna; R.P. 4475 & 6887 Pakini nui Kau; R.P. 4475 & 8117 Onomea; R.P. 4475 & 8199 Kaueleau; R.P. 4475 &

6860 Pahohoe Hilo; R.P. 4475 & 6864 Alae Hilo; (Molokai) R.P. 4475 Halawa, Molokai 1 ap. Ahupuaa; (Oahu) R.P. 227 Kamoaaa, Waikiki; no R.P. for Kanewai Manoa; R.P. 4475, Waialaenu, Maunalua, Waiawa, Poupouwela, Mananaiki, Hapuna & Waialua Kalihi; Waimano, Waiau; R.P. 4475 & 7834, Kalaepohaku Kapalama; R.P. 4475 & 7805 Kaluanui; R.P. 4775 & 7793, Kauluwela; R.P. 4475 & 7789, Kapaakea; R.P. 4475, Kikiwelawela Heeia, Kawailoa Waialua, Paalaa Waialua, Kaelepulu Koolaupoko; (Lanai) R.P. 4475, Kaa; (Kauai) Kikiaola Waimea, R.P. 4476 Makaweli; R.P. 4477, Haiku, Nawiliwili, Niumalu; R.P. 4480, Kalapaki, R.P. 4481, Hanamaulu; R.P. 4482 Kipu & Mahaulepu; See 7713 for Oahu, Kauai, Lanai, Hawaii and Molokai]

DRAINAGE REPORT

APPENDIX

G

PRELIMINARY
DRAINAGE REPORT
FOR
FRONT STREET
SIDEWALK, RAILINGS, AND SEAWALL REPAIRS

Lahiana, Maui, Hawaii
County of Maui DPW Job No. 19-28

Prepared for

County of Maui
Department of Public Works
Engineering Division

Prepared by

Sato & Associates, Inc.
2046 South King Street
Honolulu, Hawaii

September xx, 2019

PROJECT LOCATION

The project is located on Front Street in historic Lahaina town on the southwest coast of the Island of Maui. Area-1 which is located on the Makai (ocean) side of Front Street, between Lahainaluna Road and Dickenson Streets. Area-2 is also located on the Makai side of Front Street between Papalaua Street and Baker Street. Area-1 is within a portion of Tax Map Key (TMK) (2) 4-6-009 while Area-2 is within a portion of TMK (2) 4-5-002. A map of the project's location can be found in the Exhibits.

PROJECT DESCRIPTION

AREA – 1

The scope of work for Area-1 involves repairs to an existing Concrete and Stone Masonry Seawall topped by a wooden railing with concrete pilasters and concrete walkway. Scattered at various locations within the walkway are concrete benches embedded in raised stone planters, wooden bollards, light poles and miscellaneous street signs. The seawall, sidewalk, railing, planters, benches and bollards are in desperate need of structural repair due to extensive deterioration caused by wave impact and exposure to the salt environment.

Repairs will involve the removal and reconstruction of the seawall's concrete wave deflector and the top portion of the concrete walkway which are spalling and delaminating. Existing raised planters and concrete benches will also be demolished and reconstructed. A detailed description of the proposed improvements for Area-1 can be found in the *Final Report, Front Street Sidewalk, Railing and Seawall Repairs* [1]

AREA – 2

Front Street in this area is protected by a CRM wall which extends approximately 2 feet above the adjacent concrete sidewalk. In front of the CRM wall there is a stacked boulder wall which protects the CRM wall from wave action. In localized areas throughout the length of the seawall, wave action has displaced boulders in the stacked boulder wall causing undermining of the CRM wall. With further displacement, there will be an increased potential for further undermining of the CRM wall and Front Street during future high surf or storm events.

There has been opposition to other recent engineered shoreline erosion protection projects in Maui County. Since the majority of the CRM seawall is in fair condition, it was decided to rehabilitate the seawall rather than reconstructing a new engineered wall. It is envisioned that repairs will involve placing basalt boulders to rebuild deteriorated sections of the unstacked boulder wall. Undermined portions of the CRM wall will also be filled with smaller sized rocks. Additional information regarding the existing condition and proposed fix can be found in the Final Report, *Front Street Sidewalk, Railing and Seawall Repairs, Area* 2[2]

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[1] Final Report, Front Street Sidewalk, Railing and Seawall Repairs, prepared by Sato and Associates, Inc., July 2017.

[2] Final Report, Front Street Sidewalk, Railing and Seawall Repairs, Area 2, prepared by Sato and Associates, Inc., July 2017.

FLOOD HAZARD

Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA), indicate that the project sites are located within Zone X. Zone X is categorized as an area determined to be outside the 0.2% annual chance floodplain. Refer to Exhibit 2.

EXISTING DRAINAGE CONDITIONS

AREA-1

As described earlier, the scope of this project involves repairs to the seawall, surrounding concrete walkway, and landscape planter areas. The existing walkway above the seawall is sloped such that runoff will sheet flow toward the ocean. Runoff from the existing raised planters percolates into the ground. Runoff from paved street areas which front the project, sheet flows along the curb line on both sides of Front Street. The runoff is than collected by existing drain inlets than piped to various outlet locations along the shoreline.

For the purposes of this study, runoff for each area type, i.e. pavement, concrete walkway, landscaping was calculated separately as opposed to calculating the runoff using all the different surfaces collectively. Under existing conditions, runoff from the paved roadway, concrete walkway, and landscape areas was calculated to be 2.13, 0.82, and 0.03 cubic feet per second (cfs) respectively. The total runoff produced for the impacted area fronting Area 1 is 2.98 cfs.

AREA-2

Unlike Area-1, the runoff from the existing concrete walkway fronting Area-2 sheet flows toward the roadway. Following the slope of the roadway, runoff from both the walkway and pavement areas flows along the curb line where it is eventually collected by existing drain inlets or catch basins and eventually flowing into the ocean. Runoff from the walkway and paved roadway fronting Area 2 was calculated to be approximately 1.96 cfs, (0.40 and 1.56 cfs respectively). No concentrated runoff is generated from the stack boulder wall.

DRAINAGE CONDITIONS AFTER COMPLETION OF REPAIRS

AREA-1

Since the scope of this project is limited to repair of the spalling concrete walkway, deteriorating wave deflector of the seawall, and redesign of landscape areas fronting the seawall, no increase in runoff is anticipated. Once repairs are completed, runoff from roadway, walkway, and new landscaped islands fronting the project area was calculated to be 2.97 cfs (2.12, 0.82, and 0.03 cfs respectively). The slightly lower runoff is due to a slight increase in landscaped areas.

AREA - 2

There will be no increase in runoff caused by repairs to the CRM and stacked boulder seawall. Both the existing concrete walkway and paved roadway area fronting the work area will remain as in its current condition. No increase in impervious area is anticipated.

SUMMARY

Proposed repairs for both Areas 1 and 2 are not expected to increase storm runoff. As stated earlier, work in Area 1 will be limited to replacement of the spalled sidewalk, reconstruction of landscaped planters, and the seawall's wave deflector and railings. Repairs for Area 2, will be limited to replenishment of boulders in the stacked boulder seawall and filling of voids under the CRM wall that was created by exposure to wave action when the boulders in the wall were displaced.

EXHIBITS

Exhibit 1- Location Map

Exhibit 2 - Flood Hazard Map

Exhibit 3- Existing Runoff Conditions- Area 1

Exhibit 4- Post Repair Runoff Conditions – Area 1

Exhibit 5- Existing Runoff Conditions – Area 2

Exhibit 6 - Proposed Repair – Area 2

Front Street
Papalaua Street
AREA 2
Old Lahaina Center
Wainee St
Honoapiilani
Wahie Ln
Front Street
Lahainaluna Rd
OCEAN
AREA 1
Front Street
Dickenson St
Wainee St
HAIKU
LUI
MAKAWAO
PUKALANI
KULA
HANA
NORTH
LOCATION MAP
1" = 200'-0"
GRAPHIC SCALE

National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

EXHIBIT 2

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

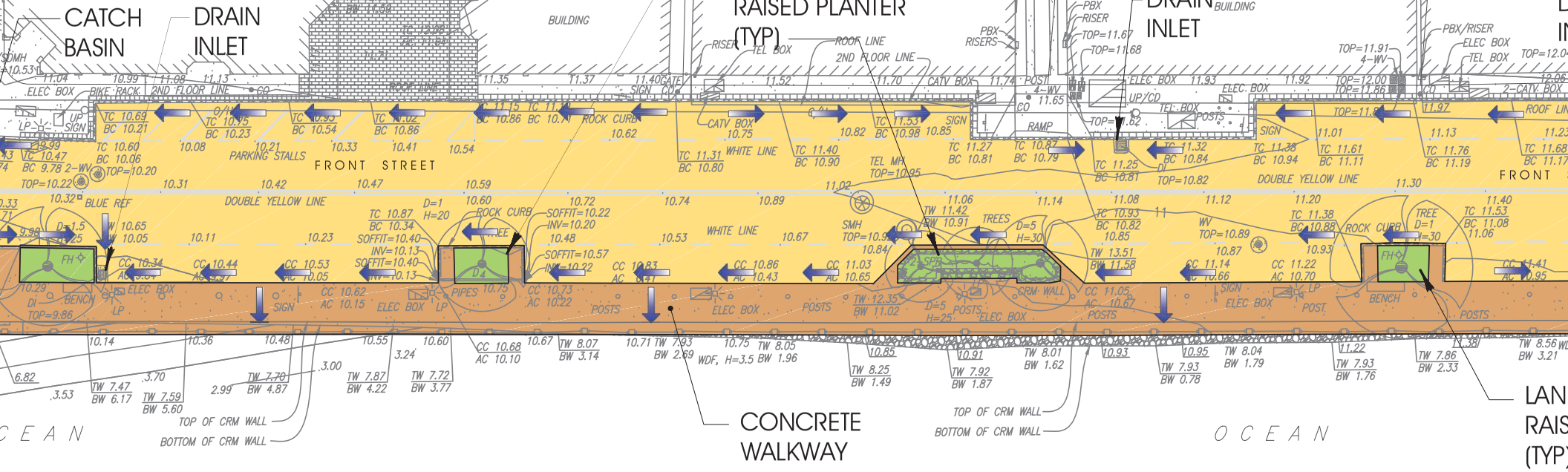
N

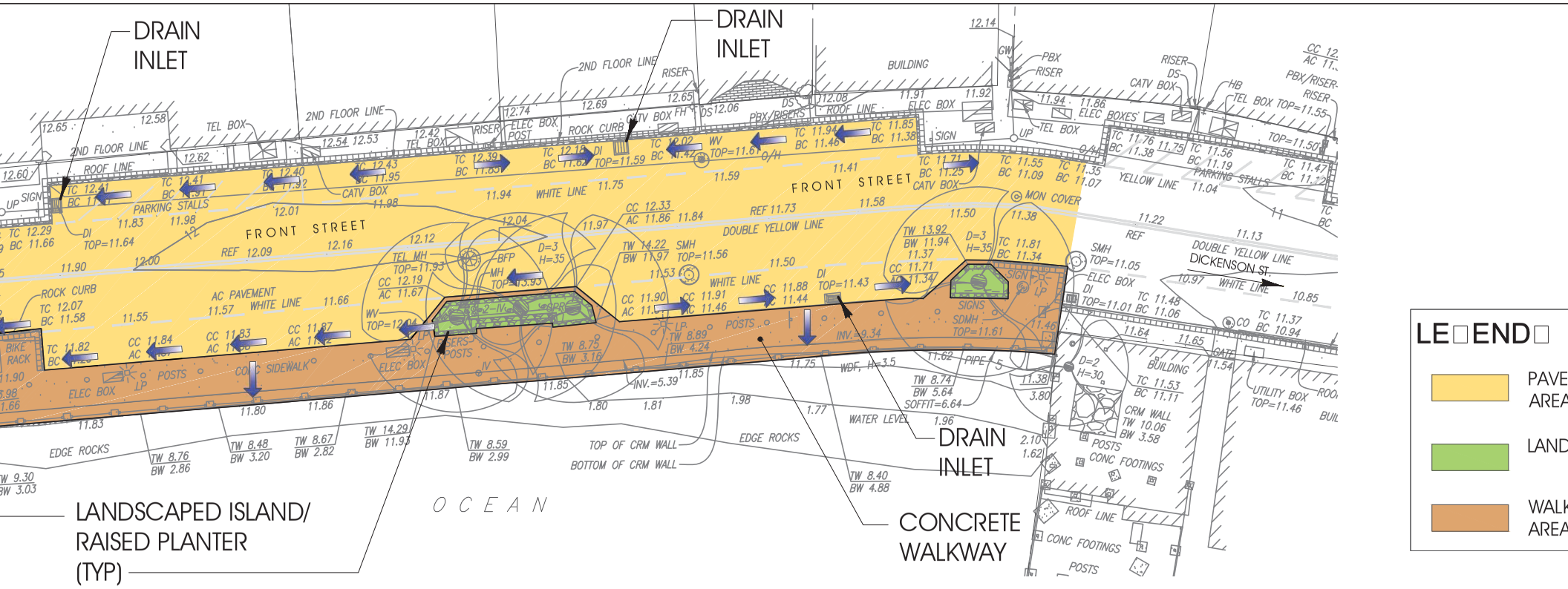
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

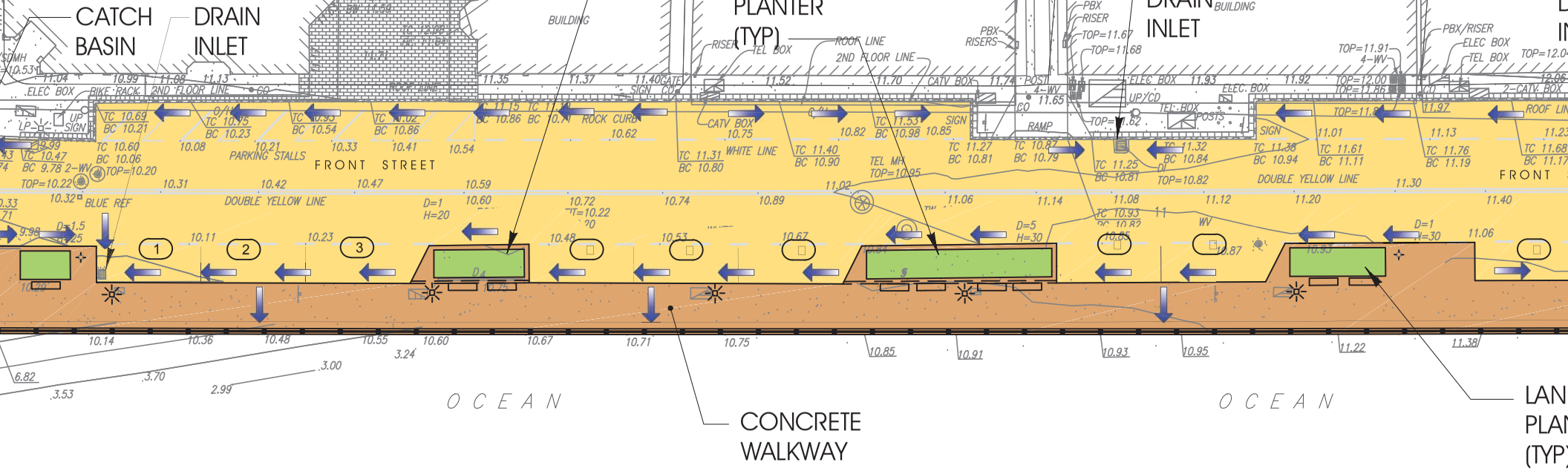
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

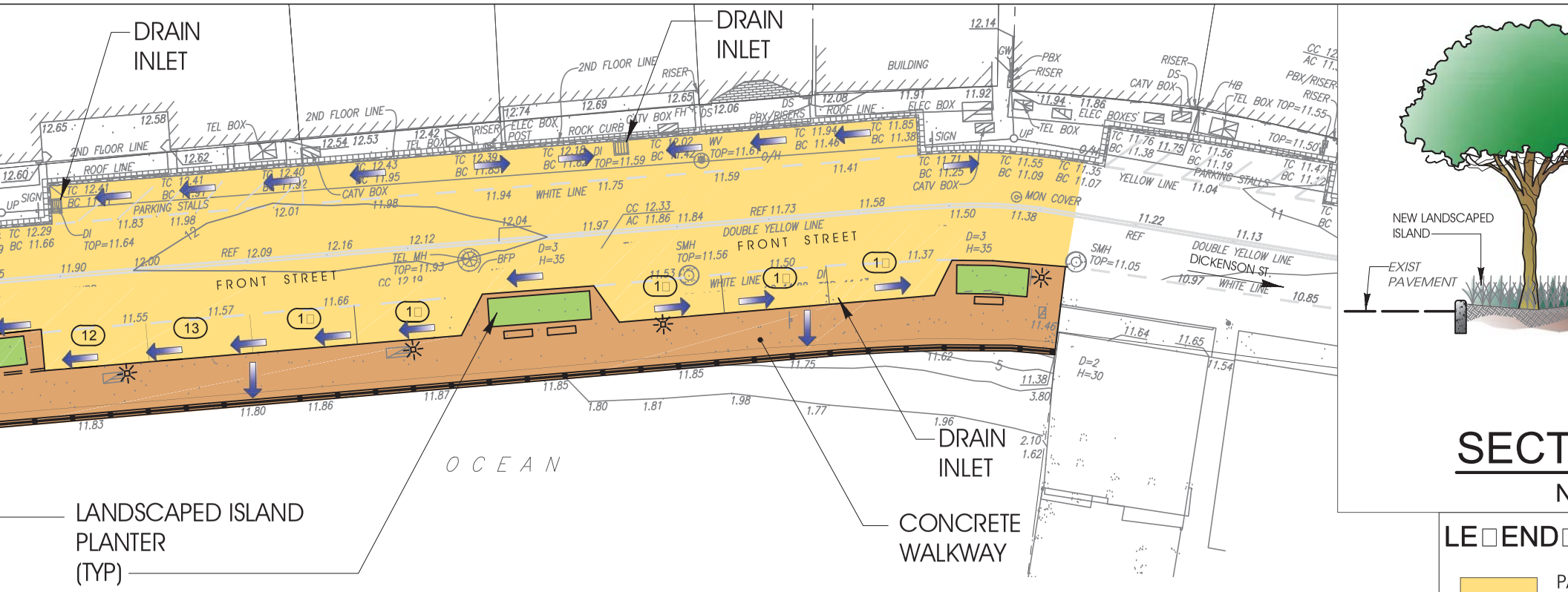
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2019 at 10:12:37 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


CATCH BASIN
DRAIN INLET
RAISED PLANTER (TYP)
DRAIN INLET
FRONT STREET
PARKING STALLS
DOUBLE YELLOW LINE
WHITE LINE
ROCK CURB
BUILDING
2ND FLOOR LINE
ROOF LINE
CONCRETE WALKWAY
TOP OF CRM WALL
BOTTOM OF CRM WALL
OCEAN


DRAIN INLET
DRAIN INLET
FRONT STREET
PARKING STALLS
DOUBLE YELLOW LINE
WHITE LINE
YELLOW LINE
DICKENSON ST.
AC PAVEMENT
ROCK CURB
EDGE ROCKS
WATER LEVEL
TOP OF CRM WALL
BOTTOM OF CRM WALL
LANDSCAPED ISLAND/ RAISED PLANTER (TYP)
CONCRETE WALKWAY
OCEAN
LEGEND
PAVE AREA
LAND
WALK AREA





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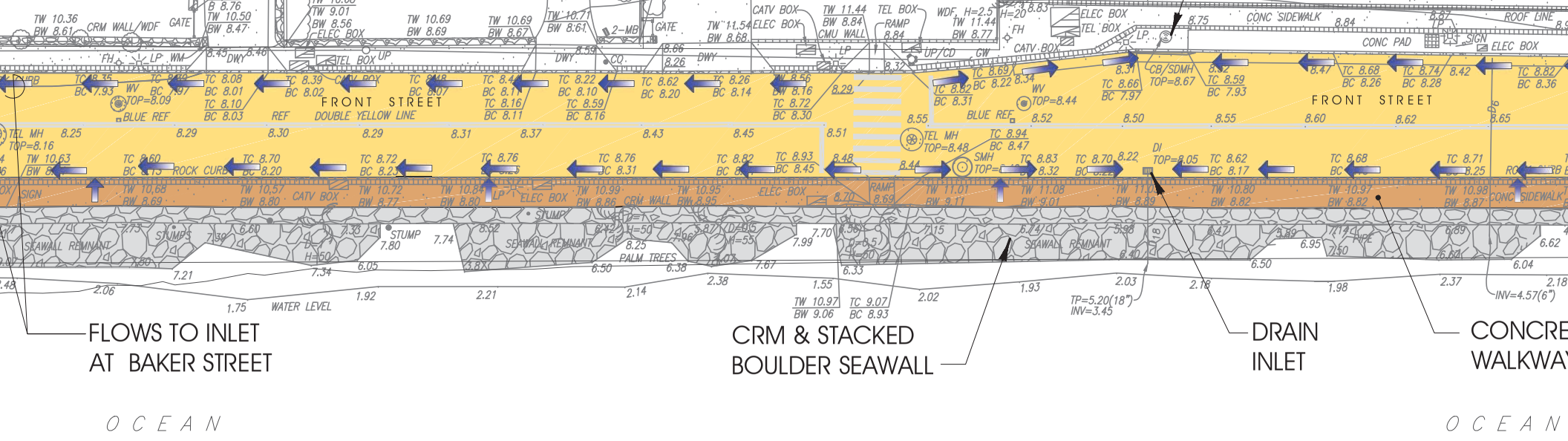
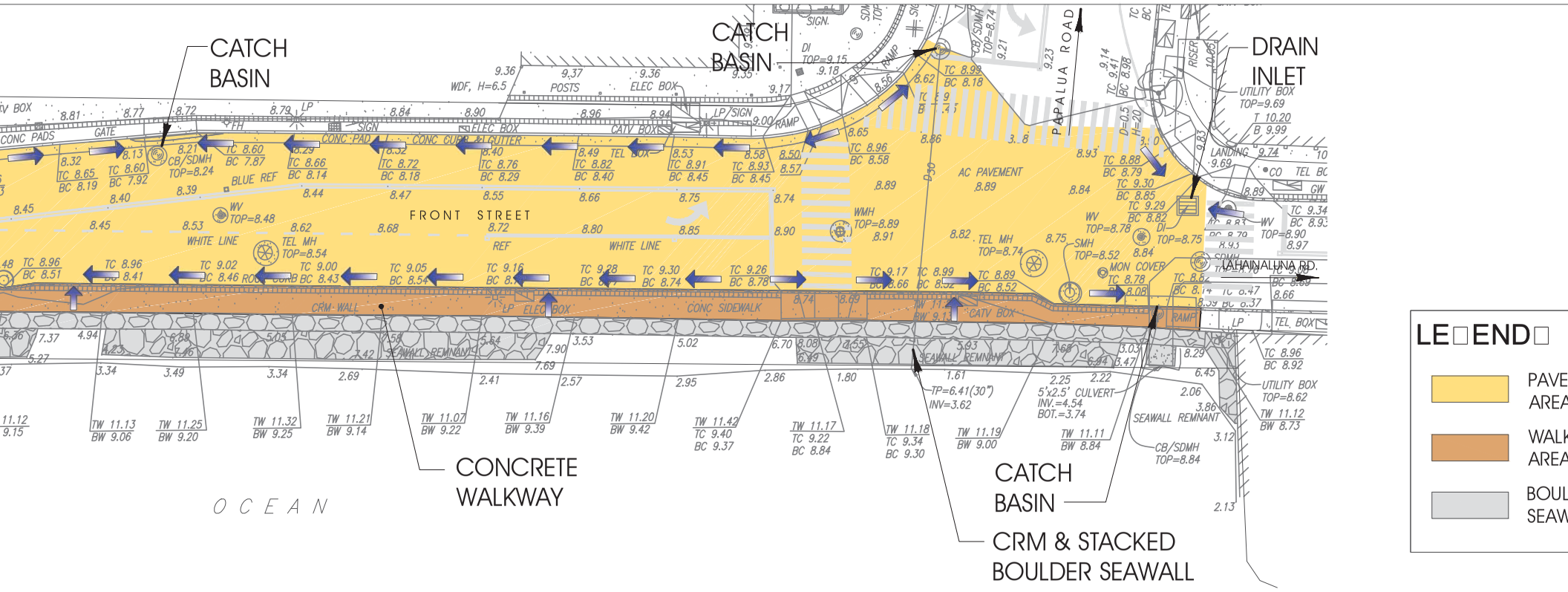
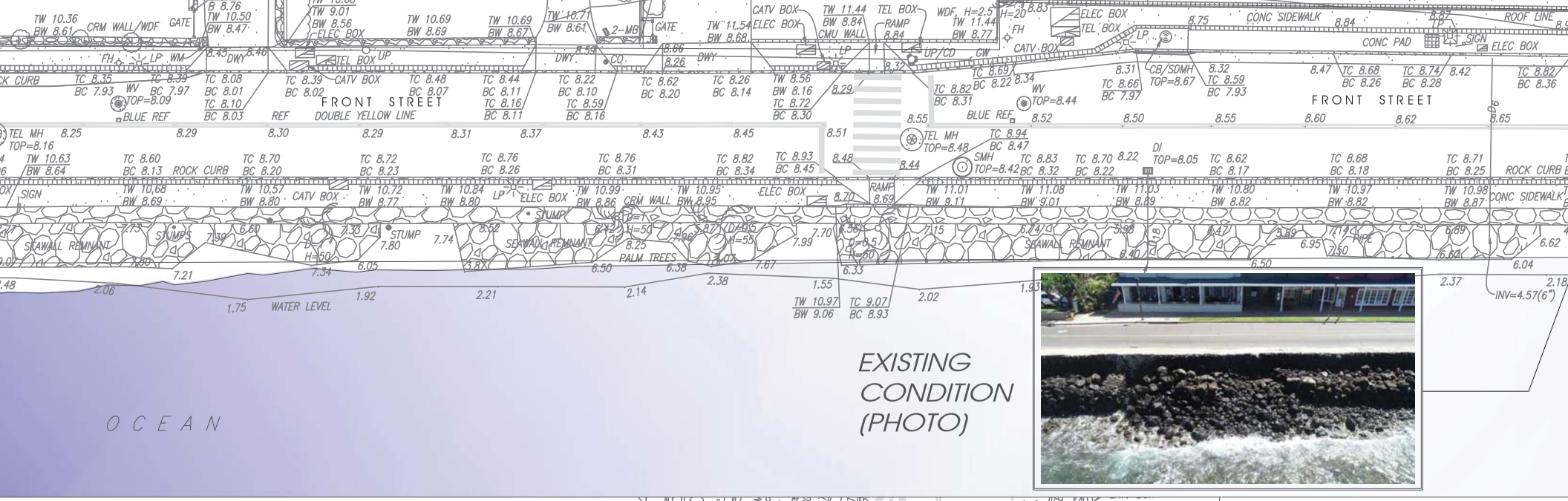
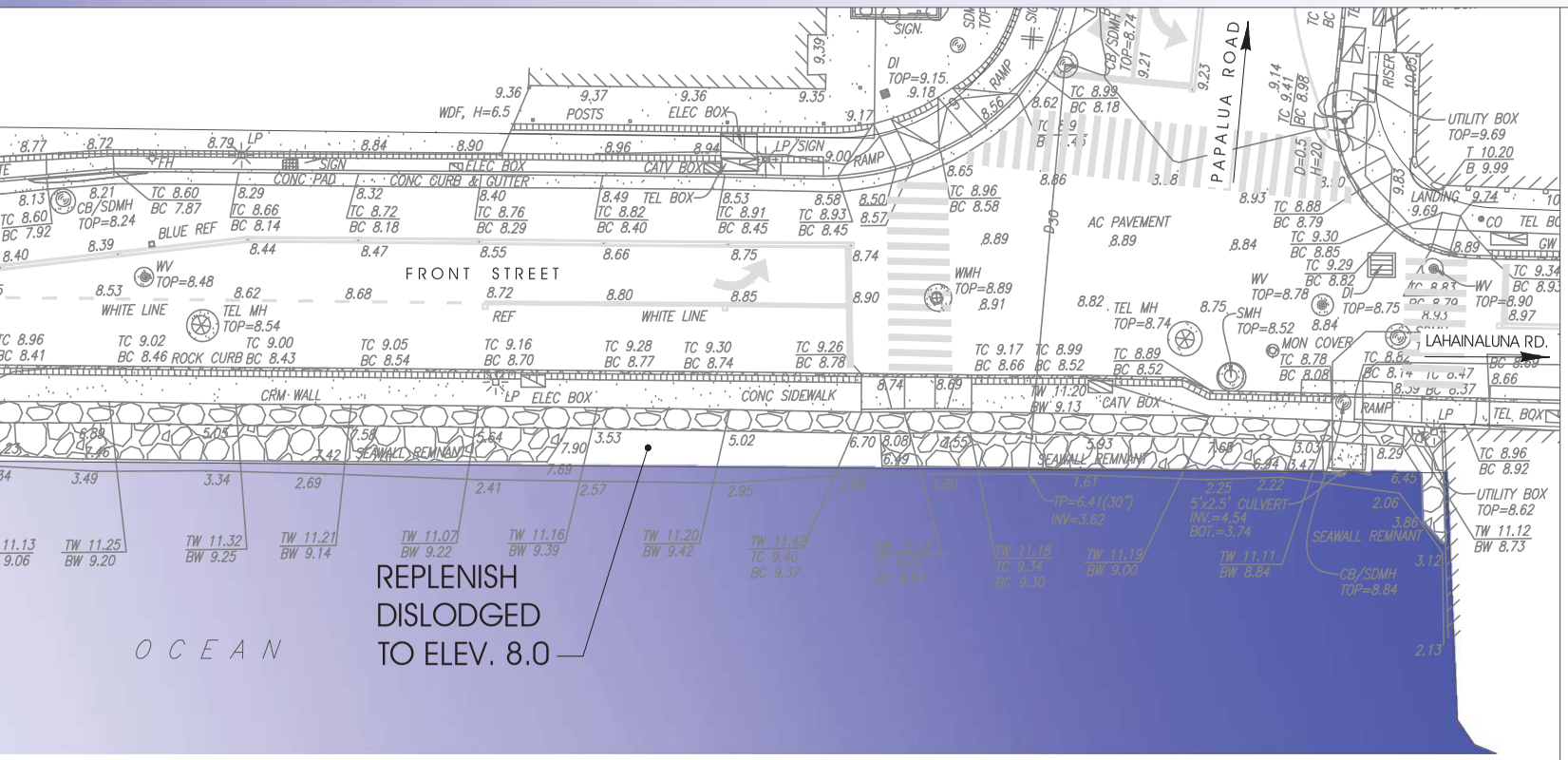
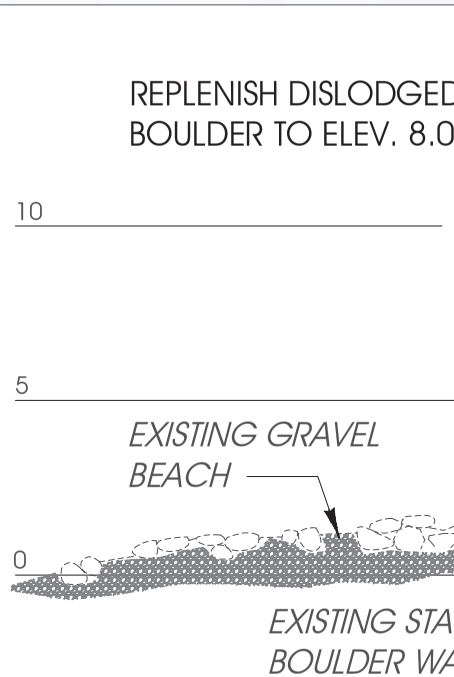

FLOWS TO INLET
AT BAKER STREET
CRM & STACKED
BOULDER SEAWALL
DRAIN
INLET
CONCRE
WALKWAY
FRONT STREET
OCEAN
OCEAN


CATCH
BASIN
CATCH
BASIN
DRAIN
INLET
CONCRETE
WALKWAY
CATCH
BASIN
CRM & STACKED
BOULDER SEAWALL
FRONT STREET
PAPALUA ROAD
LAHAINALUNA RD.
OCEAN
LE□END□
PAVE
AREA
WALK
AREA
BOUL
SEAW







NORTH

PROPOSED REPAIR - AREA 2

1" = 30'-0"

TYPICAL
SEAWALL RE

NOT T

APPENDICIES

Appendix A- Runoff Calculations

HYDROLOGIC DESIGN CRITERIA

Calculations for existing and post repair conditions, were based on the County of Maui's Drainage Standards as outlined in Design criteria for the proposed drainage system is based on the methods outlined in "Titles MC-15, Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui."

For purposes of these calcultaions the Rational Method was used as follows:

Rational Method: Q = CiA

Q	=	Peak flow runoff rate (cfs)
C	=	Runoff coefficient
I	=	Intensity (in/hr)
A	=	Area (acre)

Runoff Coefficient (C)

The runoff coefficient (C) was determined from Table 1 and 2, as follows:

Pavement	C=0.95
Conc. Walkways	C=0.85
Landscaped Areas	C=0.30

Time of Concentration (Tc)

Overland flow time was determined from Plate 1, using hydraulic length, slope, and ground characteristics to the intake point.

Rainfall Intensity (i)

Recurrence Interval (I) - 10 year-1 hour Storm Event I= 1.8"

Rainfall intensity (i) determined using Plate 2, comparing the time of concentration (Tc) and 10 year-1hour rainfall (I)

STORM RUNOFF CALCULATIONS, EXISTING RUNOFF SUMMARY

PROJECT: Front Street Sidewalk, Railings, and Seawall Repair
LOCATION: Lahaina, Maui, Hawaii

Tm = 10 YEARS 1-HR. RAINFALL = 1.8 INCHES CALCULATIONS BY: MI
CHECKED BY: MI

AREA 1	OVERLAND FLOW TIME			i (IN./HR.)	A (SQ. FT.)	A (ACRES)	Q (CFS)	C VALUE	GOES TO
	LENGTH (FEET)	SLOPE (FT/FT)	Tc (MIN.)	10YR			10 YR		
Paved	285	0.4%	7.5	4.2	23271.000	0.534	2.13	0.95	Drain Inlets/Ocean
Conc. Walk	18	2%	5	4.6	9112.000	0.209	0.82	0.85	Ocean
Landscaped	15	1%	7	4.1	954.000	0.022	0.03	0.30	Percolates into Ground
						TOTAL	**2.98**		

AREA 2	OVERLAND FLOW TIME			i (IN./HR.)	A (SQ. FT.)	A (ACRES)	Q (CFS)	C VALUE	GOES TO
	LENGTH (FEET)	SLOPE (FT/FT)	Tc (MIN.)	10YR			10 YR		
Paved	440	0.15%	11	3.6	19867.000	0.456	1.56	0.95	Drain Inlets/Ocean
Conc. Walk	6	2%	5	4.6	4443.000	0.102	0.40	0.85	Drain Inlets/Ocean
						TOTAL	**1.96**		

Revised on 8/22/2019, MI
Printed on 8/22/2019

STORM RUNOFF CALCULATIONS, POST-DEVELOPMENT RUNOFF SUMMARY

PROJECT: Front Street Sidewalk, Railings, and Seawall Repair
LOCATION Lahaina, Maui, Hawaii

Tm = 10 YEARS 1-HR. RAINFALL = 1.8 INCHES CALCULATIONS BY: MI
CHECKED BY: MI

AREA 1	OVERLAND FLOW TIME			i (IN./HR.)	A (SQ. FT.)	A (ACRES)	Q (CFS)	C VALUE	GOES TO
	LENGTH (FEET)	SLOPE (FT/FT)	Tc (MIN.)	10YR			10 YR		
Paved	285	0.4%	7.5	4.2	23170.000	0.532	2.12	0.95	Drain Inlets/Ocean
Conc. Walk	18	2%	5	4.6	9155.000	0.210	0.82	0.85	Ocean
Landscaped	15	1%	7	4.1	1012.000	0.023	0.03	0.30	Percolates into Ground
						TOTAL	**2.97**		

Revised on 8/22/2019, MI
Printed on 8/22/2019

MEETING SUMMARY FROM FEBRUARY 2020 COMMUNITY MEETING

APPENDIX

H

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

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

May 15, 2020

MEETING MEMORANDUM

Date of Meeting: February 13, 2020

From: Kauanoe Batangan, Senior Associate
Munekiyo Hiraga

Subject: Community Meeting for Front Street Sidewalk, Railings and Seawall Repairs Project

Participants: Rowena Dagdag-Andaya, Director, Department of Public Works (DPW)
Kristi Ono, DPW
Richard Sato, Sato & Associates, Inc. (SA)
Charles Schuster, SA
Mike Miyabara, Miyabara Associates
Kauanoe Batangan, Munekiyo Hiraga (MH)
Charlene Shibuya, MH

Meeting Purpose: Inform the Public and Receive Comment on the Proposed Options for Repairs to Front Street Seawalls and Sidewalk Area

1. Meeting was advertised via the following methods:

    a. Public Announcement at West Maui Tax Payers Association meeting on January 8, 2020
    b. Maui County notification system was utilized to publicize the event
    c. Two (2) news publications, Lahaina News and Maui Now, provided an overview of the project and publicized the community meeting
    d. C. Shibuya hand delivered 130 fliers to merchants along Front Street on February 8, 2020.

2. Eighteen members of the public attended the meeting. See **Exhibit 1**.

3. Meeting began with welcoming remarks by Director Dagdag-Andaya. C. Shibuya then gave a presentation that provided an overview of the project, including the project team, current conditions of the project area, proposed repair work, design considerations, required permitting, and projected timelines. See **Exhibit 2**. Questions were then taken from the group as a whole, and then the audience broke out for discussions specific to Area 1 and Area 2.

4. Questions and comments were solicited for the two (2) project areas. Responses were captured via notes on various poster boards, comment forms, and by staff who noted key conversation points. See **Exhibit 3** for poster boards with public comments.

5. General Comments (excluding design consideration data captured on poster boards):

    a. Many people wanted more information on construction plans and traffic impacts. There were requests for alternative parking (to replace parking on Front Street) during construction.

    b. There were several questions related to homelessness and drug use, which are outside of the project scope. Responses focused on designing the streetscape with safety considerations, such as sight lines and benches that are uncomfortable to sleep on, while referring citizens to contact appropriate social service providers.

    c. There was a strong preference for the use of native shade trees and groundcover. Several people requested that the future trees produce less seeds and nuts, which can cause people to trip and are safety hazards.

    d. There were requests for work in Area 2 to be done during the day since there are residential units just north and across the street from the proposed worksite.

    e. Most people support the proposed project. There weren't comments opposing the repair work, there were differences of opinion on what the attendees wanted the repairs to look like.

6. Seven (7) official comment forms were submitted. See **Exhibit 4**. Several comment forms were taken home for later use or for distribution to others and more comment forms may be submitted in the future.

Kauanoe Batangan
Senior Associate

KB:tn
Enclosures
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Community Meetings\021320 Meeting Memo.doc

FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR

LAHAINA CIVIC CENTER

COMMUNITY MEETING – Thursday, February 13, 2020

5:00 p.m. – 7:30 p.m.

Participant Sign-In Sheet

(PLEASE PRINT CLEARLY)

	Name	Email	Mailing Address
1	ROBIN RITCHIE		
2	Silla Kaine		
3	Orphea U. Kaina		
4	Becky LENNON		
5	Denise Black		
6	Ashley DAVIS		
7	~~Theo Morrison~~		
8	Theo Morrison		
9	Anna Barbeau		
10	Jen Mather		
11	Joe Pueschel		
12	Angela Lucero		
13	Paul LAob		
14	Roxy Brandel		
15	LISA AGDEPPA		
16			
17			

EXHIBIT 1

	Name	Email	Mailing Address
18	Mike Tinch		
19	Richard Sargent		
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	Name	Email	Mailing Address
41	Paula + Brian Schwarz		
42	Penny Dakuku		
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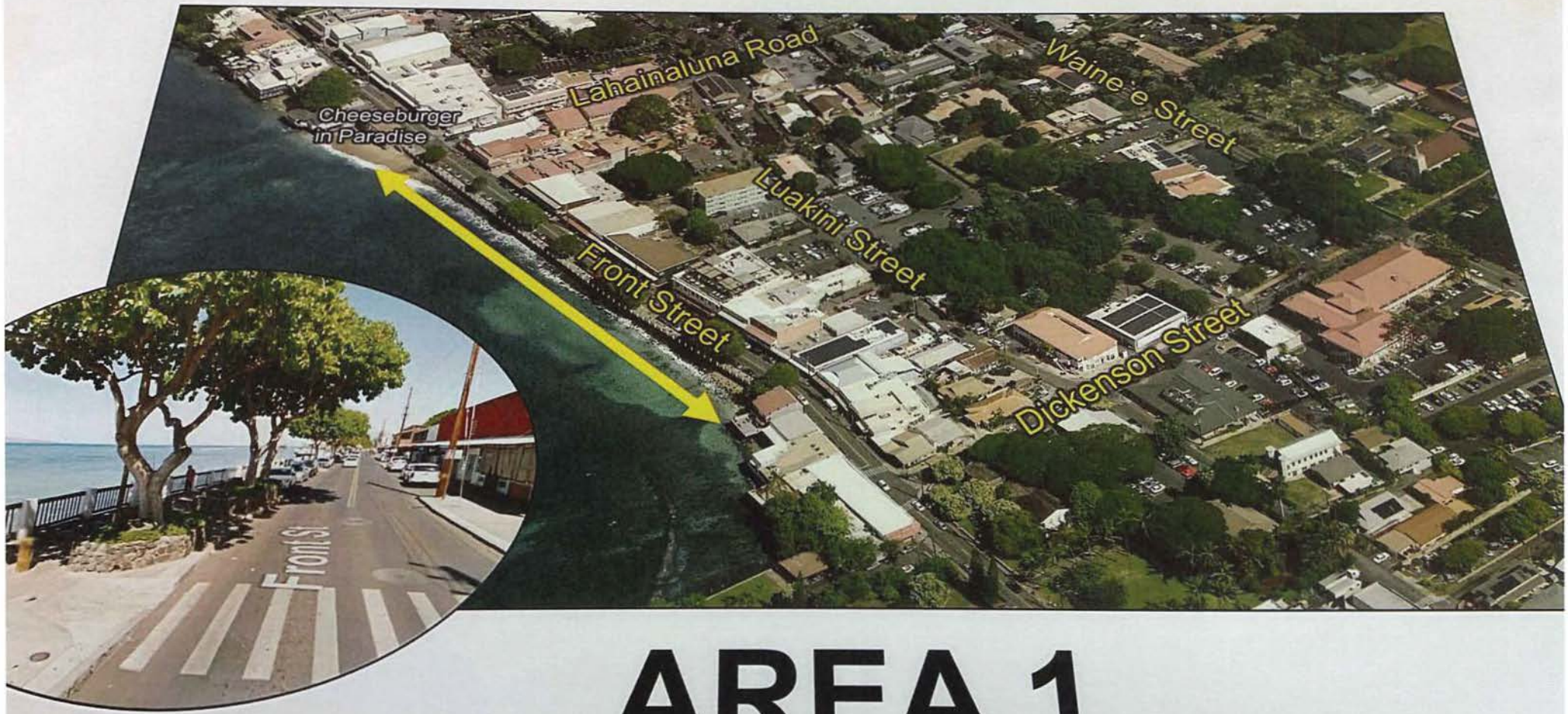
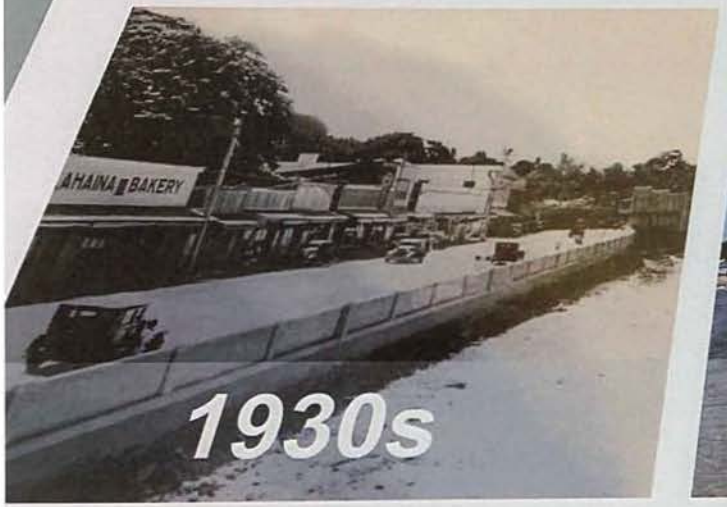
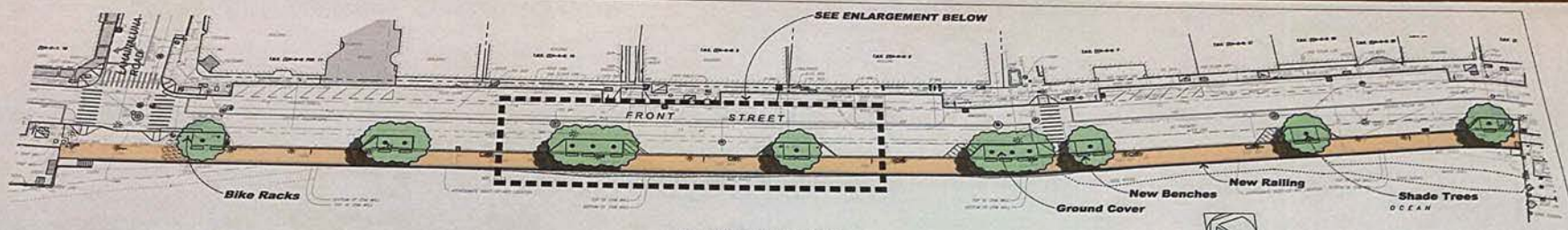


AREA 1

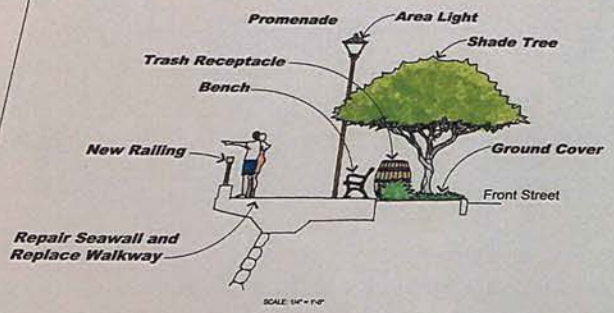
DICKENSON STREET TO LAHAINALUNA ROAD

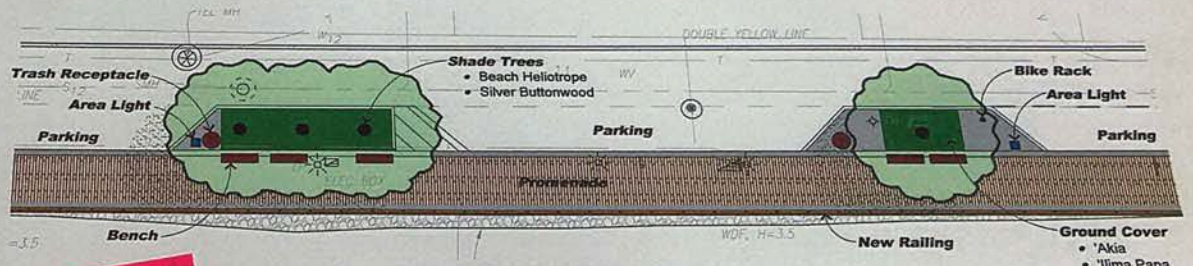
AREA 1-
HISTORICAL PHOTOS





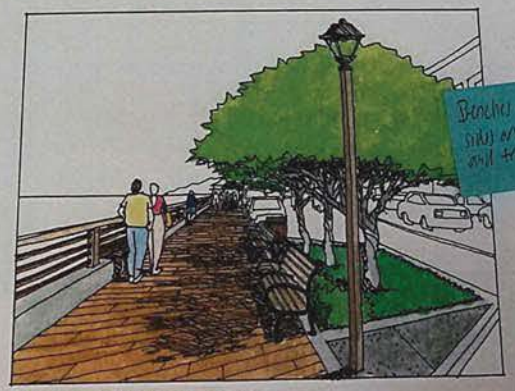
LANDSCAPE PLAN





ENLARGEMENT

Existing Conditions



Benches on 4 sides around gray still here

Proposed Improvements

FRONT STREET SIDEW
RAILING AND SEAWALL RE

SATO & ASSOCIATES, INC.
MASON ARCHITECTS
MIYABARA ASSOCIATES LLC
ECM, INC.
MUNEKIYO HIRAGA

Front Street, Lahaina
Febru

RAILING OPTIONS

Horizontal Rails with Curb

Horizontal Rails

Vertical Rails

AREA LIGHTING OPTIONS

No Gizzy anything

WALKWAY OPTIONS

Concrete Wood Plank Finish

Concrete Rock Salt Finish

Native plants and trees

Beach Heliotrope
(Messerschimidia argentea)

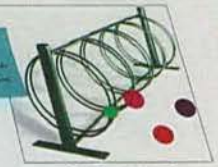
Silver Buttonwood
(Conocarpus erectus)

Akia
(Wikstroemia uva-ursi)

'Ilima Papa
(Sida fallax)

BIKE RACK OPTIONS

Period



Contemporary

This is silly — no more NO

Period

Contemporary

This is the best bench

TRASH RECEPTACLE OPTIONS

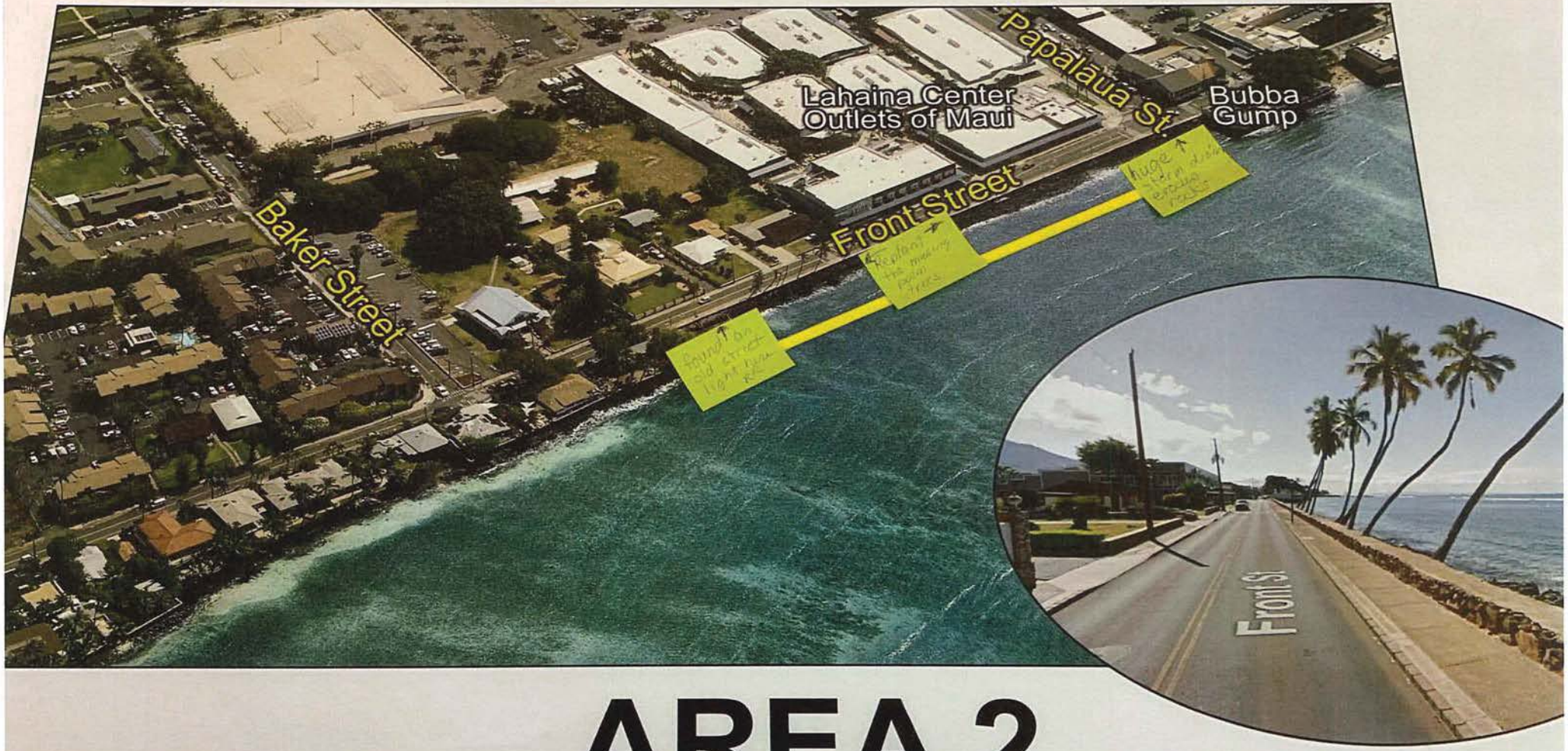
Period

Contemporary

FRONT STREET SIDEWA
RAILING AND SEAWALL REP

SATO & ASSOCIATES, INC.
MASON ARCHITECTS
MIYABARA ASSOCIATES LLC
ECM, INC.
MUNEKIYO HIRAGA

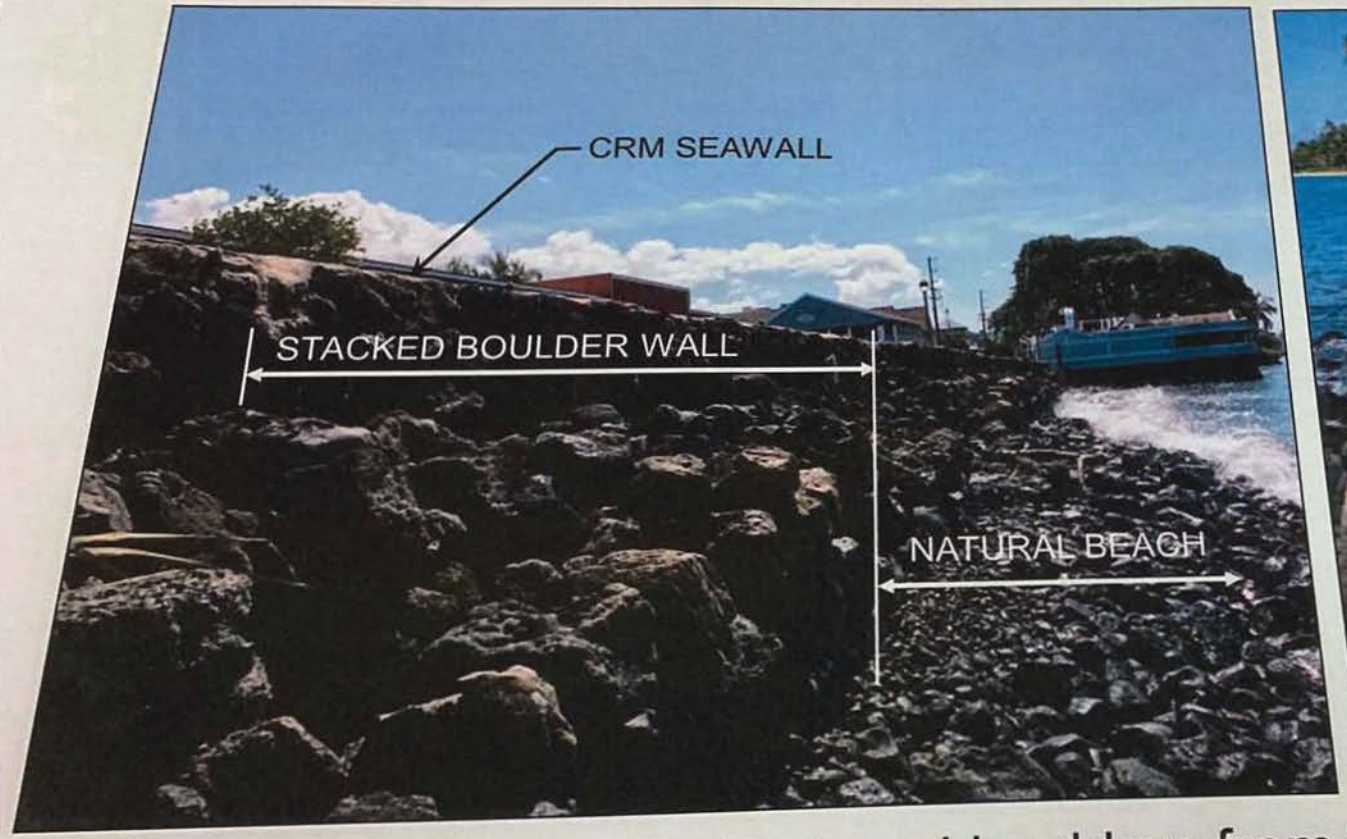
Front Street, Lahaina, H
Februa



AREA 2

PAPALAUA STREET TO BAKER STREET

EXISTING CONDITIONS

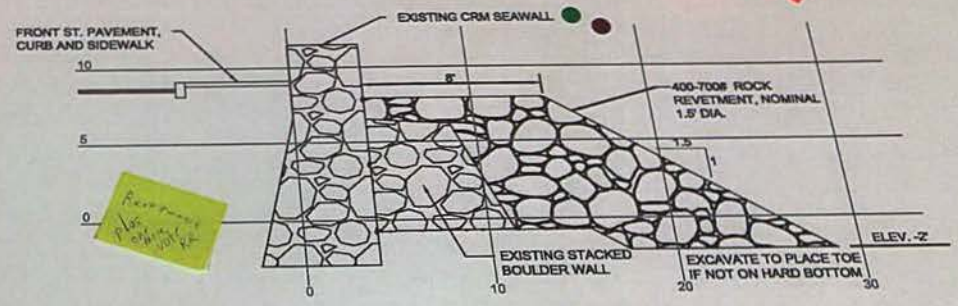


Wave action has displaced boulders from the stacked wall.

AREA 2 - SEAWALL REPAIR OPTIONS

REVETMENT

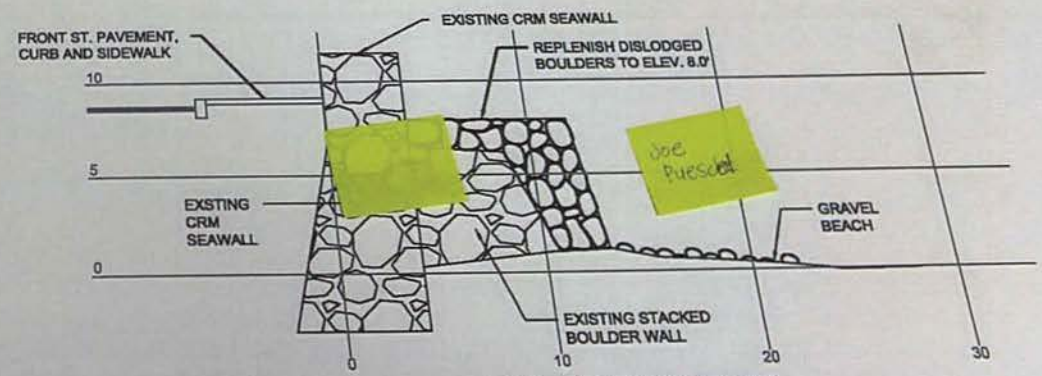
Stack large boulders to build shoreline protection and grout with concrete.



REVETMENT

REPLENISHMENT

Replenish dislodged boulders



REPLENISHMENT

TATUS QUO (DO NOTHING)

Poster Board Notes

Area 1

Landscape Plan Slide 1 of 2

- No benches homeless vendor problem
- Benches on 4 sides around grass and tree

Landscape Plan Slide 2 of 2

- Railing Options – 15 votes for vertical Rails, none for horizontal rails or horizontal rails with curb. Note: vertical would be a deterrent for climbing
- Area Lighting Options – 6 votes for green, 1 vote for black, and 2 votes for brown. Note: lighting should match new lights at harbor front
- Walkway options – 8 votes for concrete wood plank finish, none for concrete rock salt finish
- Landscape options, trees – 3 votes for beach heliotrope, 1 vote for silver buttonwood. Notes: Native trees please; give us this tree! (silver buttonwood)
- Landscape options, groundcover – 1 vote for akia, 2 votes for 'ilima papa
- Bike Rack Options – 6 votes for period, 4 votes for contemporary. Note: keep the bike racks plain and simple like we have
- Bench Options – 8 votes for period, 4 votes for contemporary. Notes: Not green but this (period); this is silly – no, no, no (period); people are concerned about benches being monopolized by homeless/slept on (period); this is the best bench (contemporary)
- Trash Receptacle Options – 11 votes for period, 2 votes for contemporary

Area 2

Ariel view Slide

- Notes: Found an old street light here RR (pointing to northern most end of project area); replant the missing palm trees; huge storm drain erodes rocks (pointing to intersection of Front Street and Papalaua Street.

Existing Conditions Slide

- Notes: curious to the # of years added by revetment/replenishment vs. status quo. Angela L?

EXHIBIT 2

Seawall Repair Options Slide

- Revetment – 3 votes. Notes: Look out for crabs! During the construction; take care of them.
- Replenishment – 1 vote.

County of Maui, Department of Public Works

Front Street Railing, Sidewalk, and Seawall Repair Project

Community Meeting Comments (from comment forms received) – February 13, 2020

me	Address	Affiliation	Phone No.	Email	Comments
Anna			667-7873	Annamaui2008@yahoo.com	My idea of wood-like molded plastic benches for longevity I now cannot be bcs Historical District (no plastic?) Encourage parking @ Outlets – poss. Free (make arrangement of Outlets as "it will encourage shopping @ Outlets" before & af easy walk to Front St. PLEASE endemic/indigenous trees – salt resistant – dry zone.
Richard	802 Front Street Lahaina, HI 96761	Sargent's Fine Art	667-4030 250-6221	dick@sargentsfineart.com	In the past we've had very poor lighting along the sidewalk Mak darkness discourages visitors from walking down that side of th In order to not only light the area properly but also to encourage visitors we would colored lighting shining into the waters and at time giving Lahaina a more welcome, festive appearance. Muc water front of Toronto. This would be environment friendly and any negative effects on the flora, fauna or the night sky and wou a safer promenade for locals and visitors alike.
ul					1) People need sleep please no night work. During ____ time p throw rocks and bottles at electric generator 2) Drain needs lowering on street 3) Revetment needs to be on Makai area
obin		40 year resident			Replant coco palms in area #2. Remove all benches around pla Homeless live there. Area #1. If you have street lights the peop beaches will break the lighting so they can sleep. Storm drains regular cleaning out or redirecting to another area. Raw sewer into ocean under buildings. When getting quotes have one year contract with penalties for c bonus for completing early. Have parking limits enforced so employees stop parking on Fro
n, Peg					Keep the simple plane benches.

ame	Address	Affiliation	Phone No.	Email	Comments
Penny		Long-Term Resident (50+ yrs)			1. Protect the Kou trees. It has taken almost 25 years to get th Shade is a priority in Lahaina. 2. Trees also provide the ambience of the town. Lahaina's old trees are essential to its charm. 3. Maintain as much of the wood/rock look as possible. It prov Also metal heats up. 4. A group of miscreats hang out on benches. Instead of white the area with sterile looking improvements, let's move those pe the area and maintain our historical ambience.
Paula					Make sure benches have something to stop homeless from sle them. Homeless will break light fixtures so need to have a way lights.

MEETING SUMMARY FROM MARCH 2020 MEETING WITH LAHAINA RESTORATION FOUNDATION AND FRONT STREET BUSINESSES

APPENDIX

I

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

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

May 15, 2020

MEETING MEMORANDUM

Date of Meeting: March 6, 2020

From: Kauanoe Batangan, Senior Associate
Munekiyo Hiraga

Subject: Meeting with Merchants re Front Street Sidewalk, Railings and Seawall Repairs Project

Participants: Kristi Ono, Department of Public Works (DPW)
Theo Morrison, Lahaina Restoration Foundation (LRF)
Kauanoe Batangan, Munekiyo Hiraga (MH)
Representatives from Front Street Businesses

Meeting Purpose: Present Proposed Project to Affected Business Owners and Receive Comment on the Proposed Project Improvements

1. Meeting was arranged and hosted by T. Morrison and LRF.

2. Thirty-five members of the public attended the meeting. See **Exhibit 1**.

3. Meeting began with welcoming remarks by T. Morrison. K. Ono then gave a presentation that provided an overview of the project, including a description of the project area, current conditions, proposed repair work, design considerations, required permitting, and projected timelines. PowerPoint slides were not utilized as they have been in previous meetings. Instead, the poster boards originally created for the 2/13/20 community meeting were used. See **Exhibit 2**. Questions were then taken from the group as a whole, and later, the audience was able to break out for discussions specific to Area 1 and Area 2.

4. Questions and comments were solicited for the two (2) project areas. Responses were captured via notes on various poster boards, comment forms, and by K. Ono and K. Batangan who noted key conversation points. Refer to

Exhibit 2 for poster boards with public comments. Note that the dots indicating public preference are a combination of votes from the community meeting on 2/13/2020 at the Lahaina Civic Center and the 3/6/2020 meeting with Front Street Merchants.

5. General Comments (excluding design consideration data captured on poster boards):

Area 1:

a. Please consider a shuttle service for employees who need to work in the affected areas during the construction period. Note that the owner who requested this service also stated that his employees are prohibited from utilizing street parking in deference to customers.
b. Consider providing colored lights in the ocean because it looks attractive.
c. The horizontal rails will allow children to climb up and over the railing.
d. During heavy storms, ponding along the curb is a problem.

Area 2:

a. Homeless people live in the concrete box culvert. Please install a grate at the outlet to prevent entry.
b. Add more coconut trees.
c. Request that construction take place during the day since there are people living nearby and restaurants fronting the project area.

Other:

a. Please install a railing similar to Area 1 south of the Bubba Gump restaurant where there is a low rock wall fronting the beach. This may prevent people from loitering and sleeping.

6. Two (2) official comment forms were submitted. See **Exhibit 3**. Note that all twenty (20) comment forms were taken and most people were seen writing on them. More comment forms may be submitted by mail to Munekiyo Hiraga in the future

Kauanoe Batangan
Senior Associate

KB:lh
Enclosures
Cc: Kristi Ono, Department of Public Works (w/attachments)
Richard Sato, Sato & Associates, Inc. (w/attachments)
Charles Schuster, Sato & Associates, Inc. (w/attachments)
K:\DATA\Sato\FrontSt Sidewalk PERMITTING\Community Meetings\3.6.20 mtg invitation.doc

FRONT STREET SIDEWALK, RAILING, AND SEAWALL REPAIR

OLD LAHAINA CENTER

COMMUNITY MEETING – Friday, March 6, 2020

Participant Sign-In Sheet

(PLEASE PRINT CLEARLY)

	Name	Email	Mailing Address
1	Karen Bennett		
2	Dave Douglas		
3	LISA ANDEMPA		
4	Brian Yano		
5	Leilani Rodrigue		
6	Teri Dodson		
7	Bonnie McGinnm		
8	GARY SAVAGE		1004
9	Haden the ARTIST		
10	ANNE STRATHMANN		
11	Chris Almeroth		
12	JERRY KONITANO		
13	DAVID ALLARE		
14	Johanna van Gelder		
15	NICOLE BALANGUE - LAC		
16	Kym ESPINOSA		
17	Greg Ames		
18	Mousa Hassan		

	Name	Email	Mailing Address
19	Robert B Hartman		
20	SHARON K. FUNIK		
21	AUBREY STEPHANE		
22	Jen Mather		
23	CONNIE SUTHERLAND		
24	Tawika Freitag		
25	TODD Winn		
26	Tamburra Gavrick		
27	David Yamashiro		
28	John Lindquist		
29			
30			
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	Name	Email	Mailing Address
42	Kim Jacoby		
43	Barb Newton		
44	Tiffany Winn		
45	Sean Arnold		
46	Brian Olnik		
47	Bunt Burkhalter		
48	Penny Wakeda		
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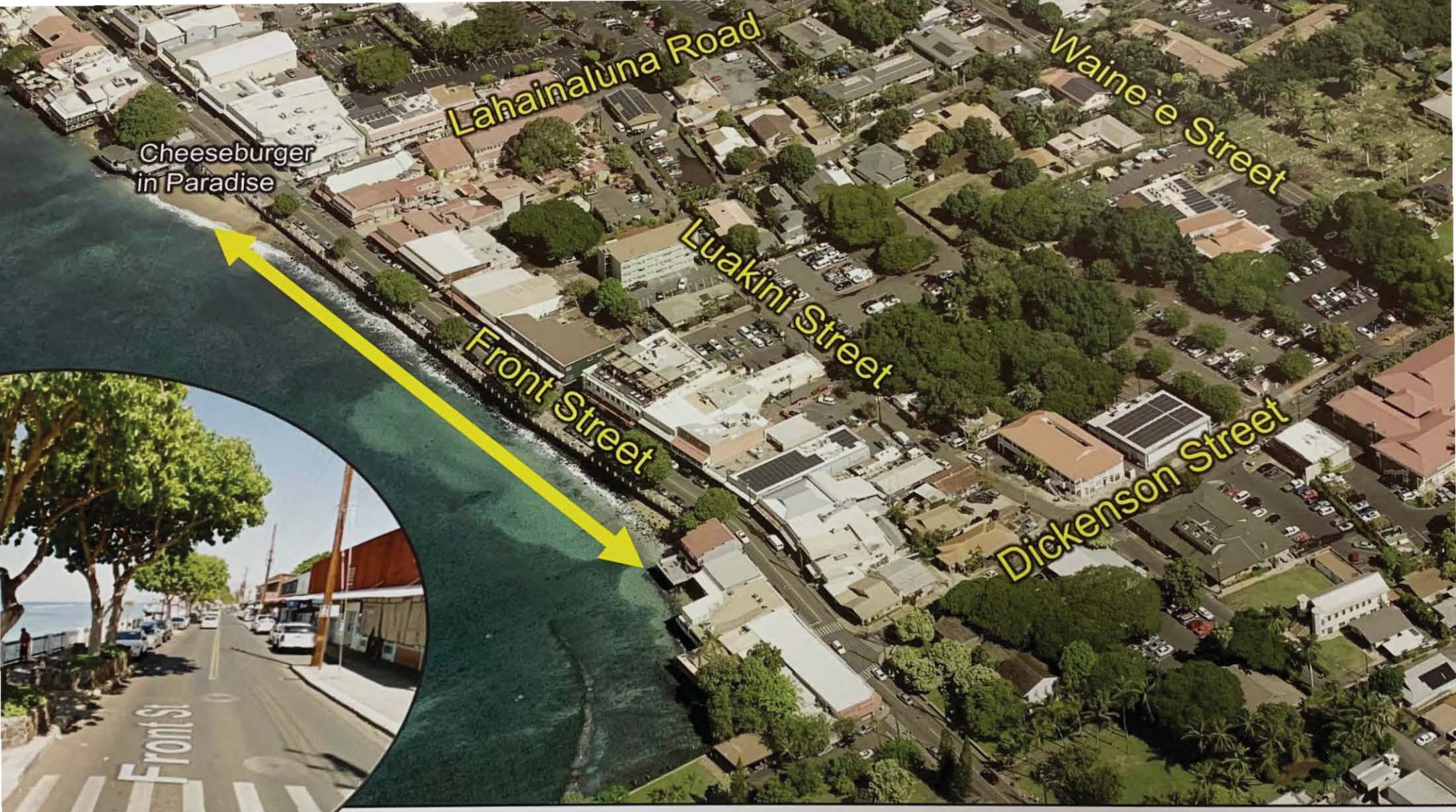
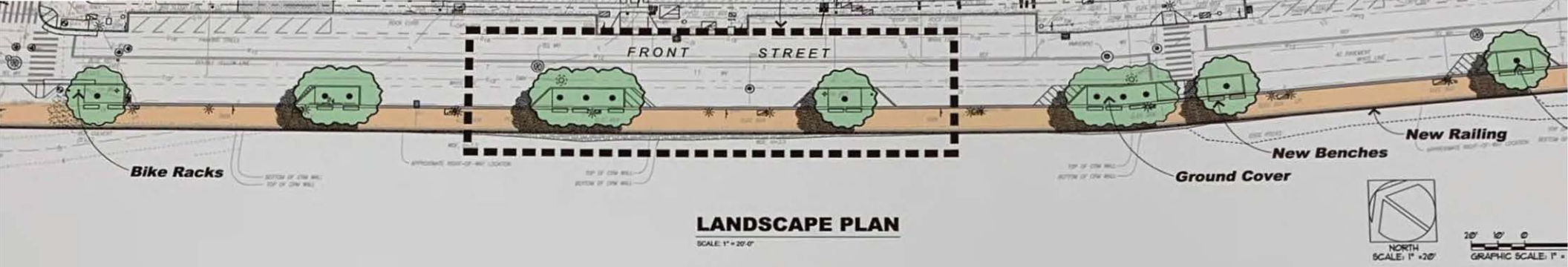


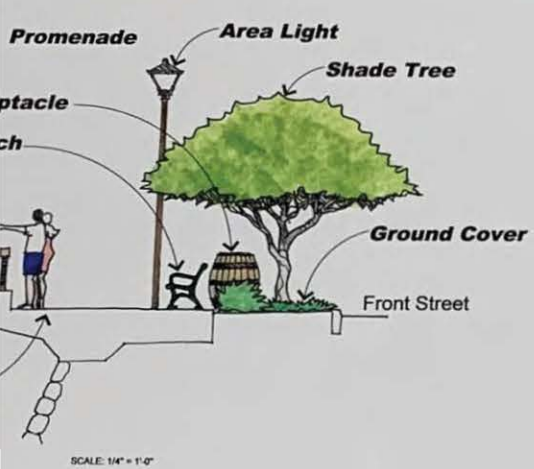
AREA 1

DICKENSON STREET TO LAHAINALUNA ROAD

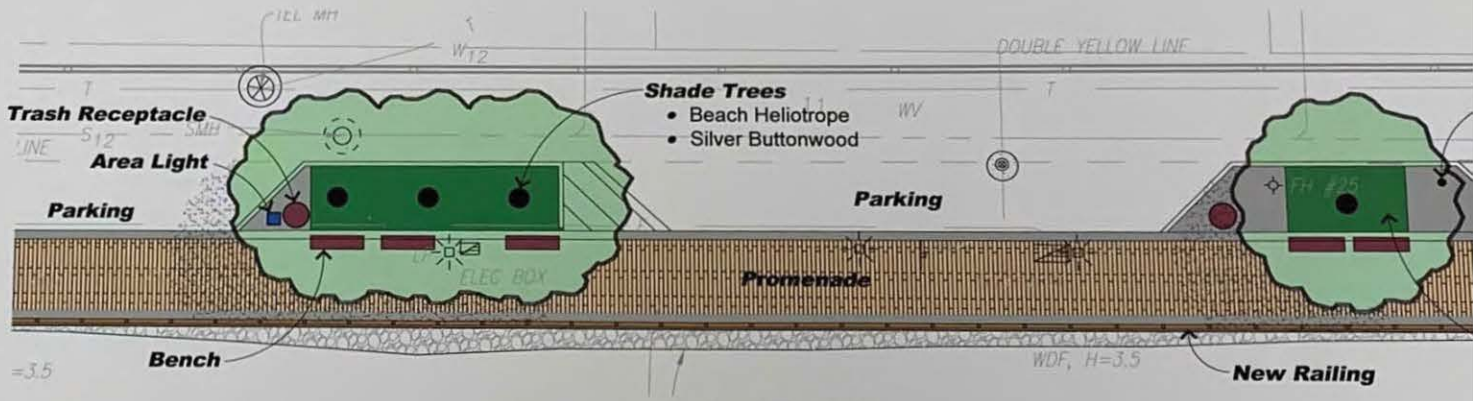


LANDSCAPE PLAN

SCALE: 1" = 20'-0"



SCALE: 1/4" = 1'-0"



ENLARGEMENT

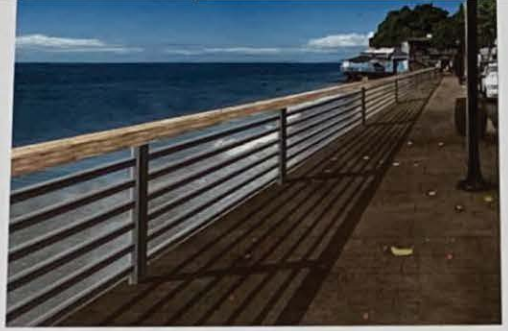
SCALE: 1/8" = 1'-0"

NORTH
SCALE: 1/8" =1'-0"

8' 4' 0
GRAPHIC SCAL

FRONT

Rails with Curb



Horizontal Rails

Vertical Rails

No Green anything no green!

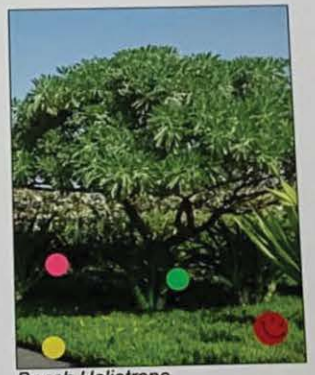
TIONS

l Plank Finish

Concrete Rock Salt Finish

Contemporary

LANDSCAPE OPTIONS



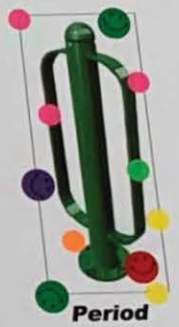
Beach Heliotrope
(Messerschimidia argentea)

Silver Buttonwood
(Conocarpus erectus)

Akia
(Wikstroemia uva-ursi)

'Ilima Papa
(Sida fallax)

BIKE RACK OPTIONS

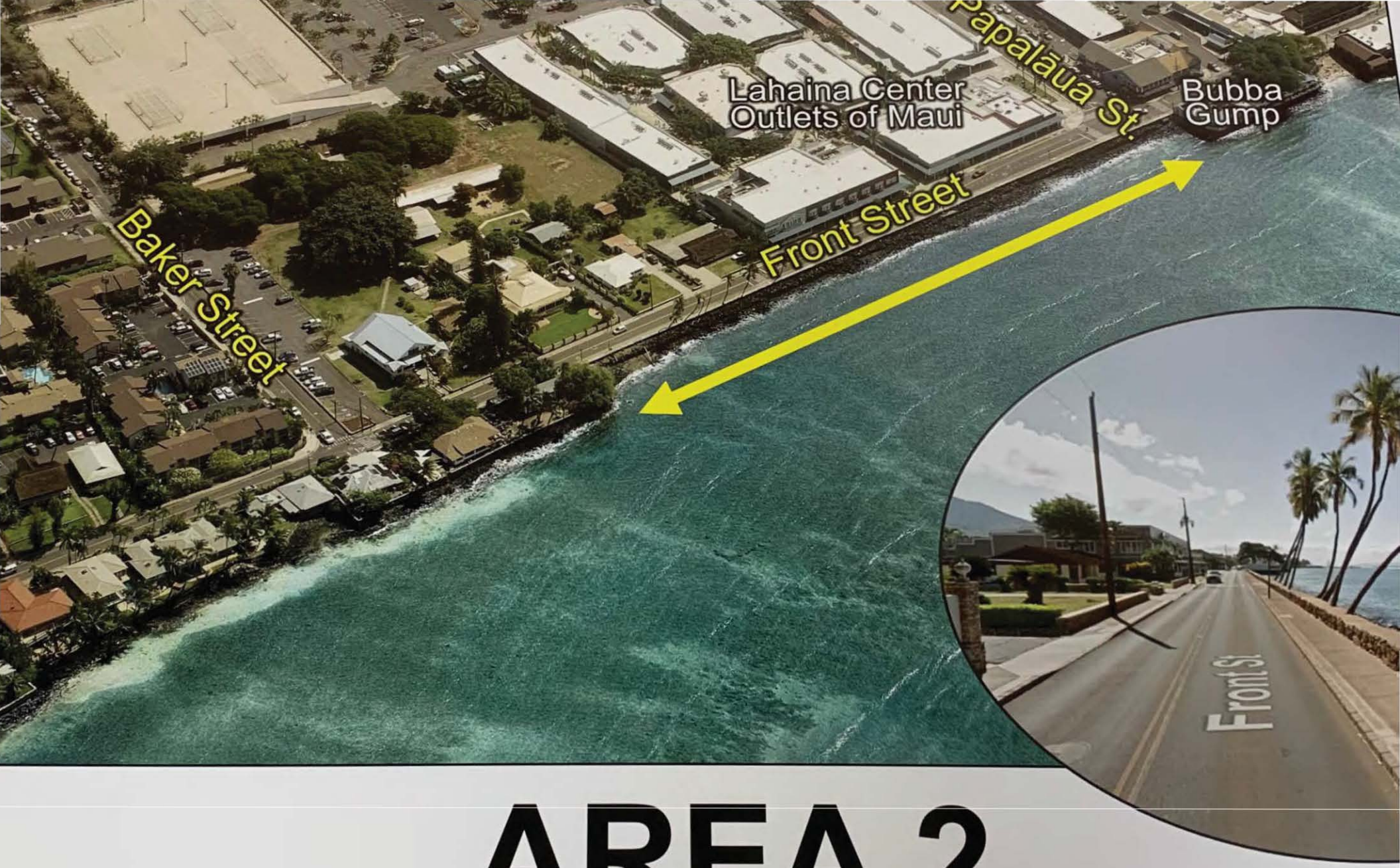


Period

TRASH RECEPTA

Period

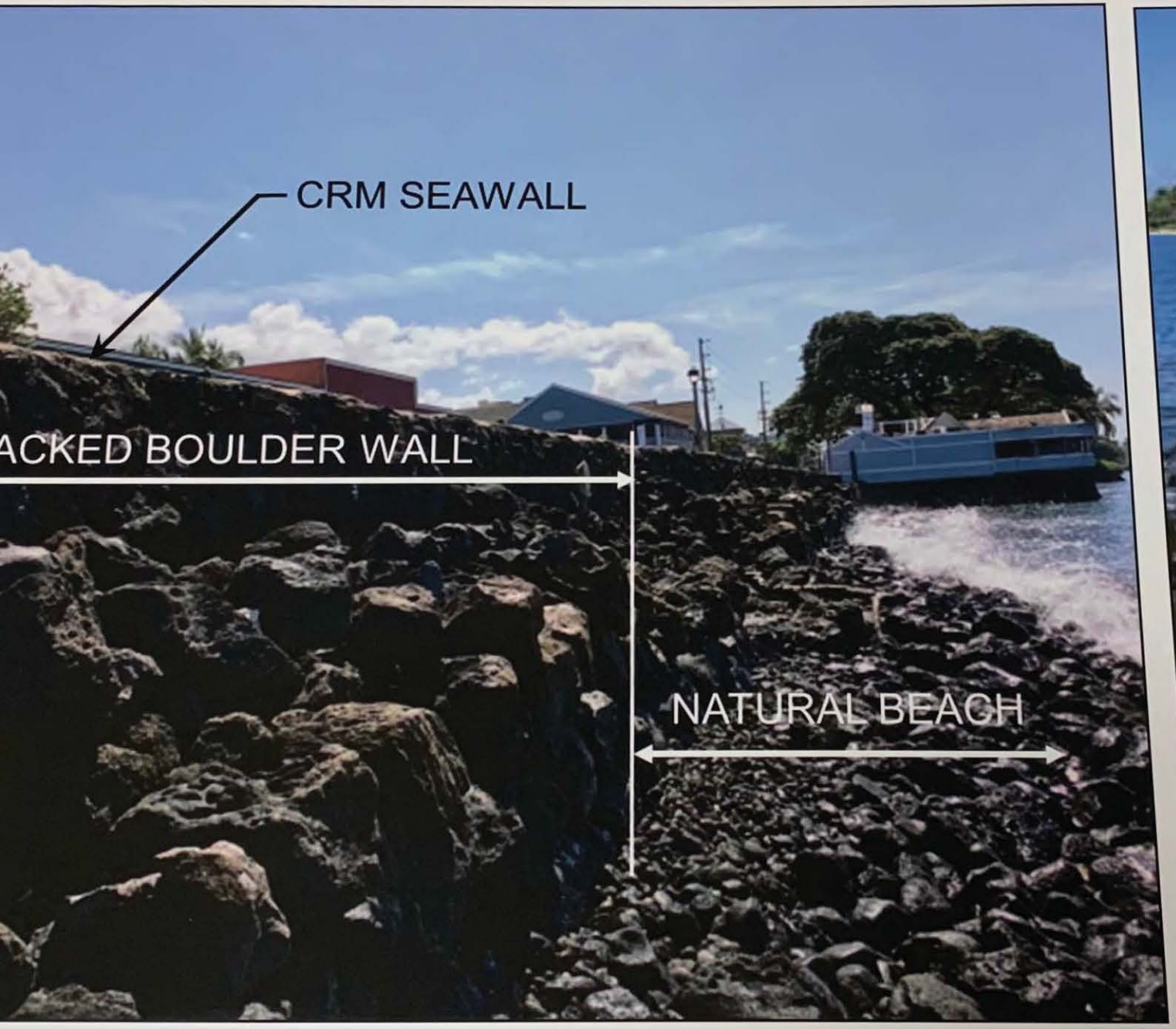
FR
RAILIN



AREA 2

PAPALAUA STREET TO BAKER STREET

EXISTING CONDITIONS

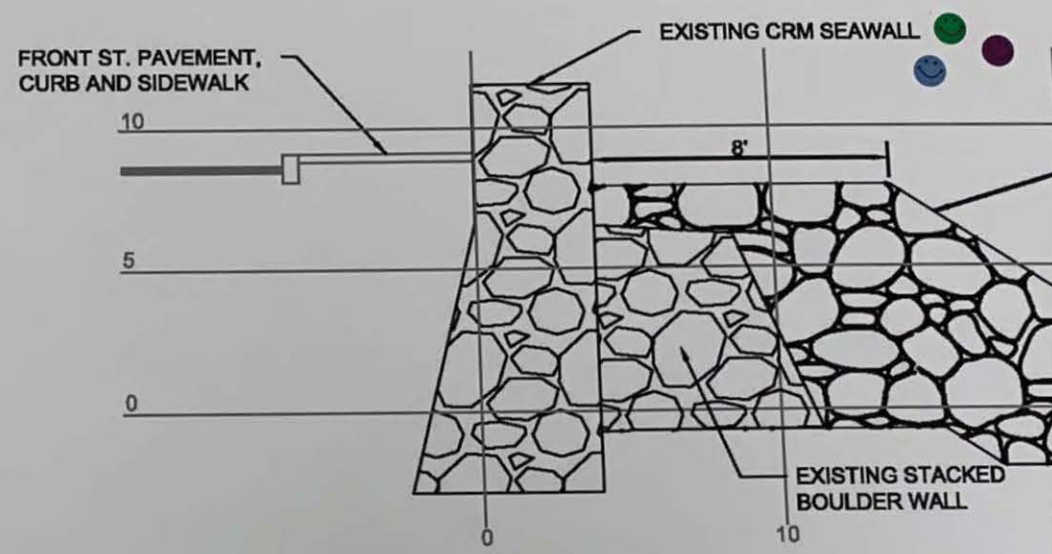


ve action has displaced boulders from the stacked wa

- SEAWALL REPAIR OPTIONS

ENT

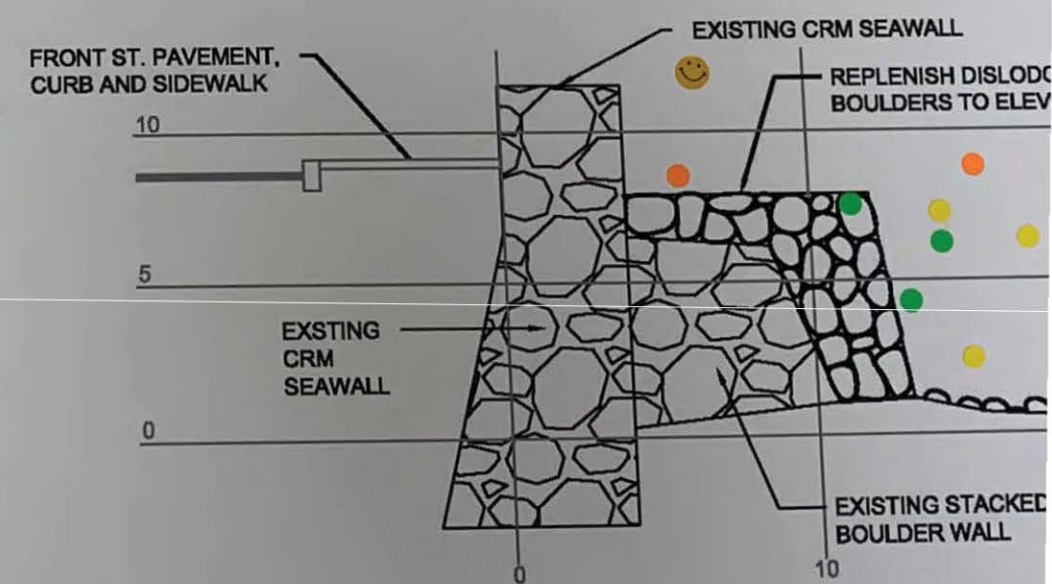
boulders to build shoreline
nd grout with concrete.



REVETMENT

SHMENT

islodged boulders



REPLENISHME

QUO (DO NOTHING)

COMMENT FORM

COUNTY OF MAUI, DEPARTMENT OF PUBLIC WORKS
FRONT STREET RAILING, SIDEWALK, AND SEAWALL REPAIR PROJECT

Community Meeting at Old Lahaina Center
March 6, 2020

Name: Gary Savage **Affiliation:** L A C

Address: **Phone No.:**

Alternate No:

Email Address:

Please write any comments you wish to share on the proposed project below.

Sea Wall repairs
Keep the trees

Please submit your comments by the end of the meeting or, if you wish, you may email your comments to: planning@munekiyohiraga.com or mail the form to the address provided on the back of the form.

Should you have any questions, please feel free to contact Kauanoe Batangan at 244-2015.

EXHIBIT "3"

COMMENT FORM

COUNTY OF MAUI, DEPARTMENT OF PUBLIC WORKS
FRONT STREET RAILING, SIDEWALK, AND SEAWALL REPAIR PROJECT

Community Meeting at Old Lahaina Center
March 6, 2020

Name: Kim Jacoby **Affiliation:** Gallery Director

Address: [redacted]

Email Ad [redacted]

Please write any comments you wish to share on the proposed project below.

Suggest in addition to more street lights to light the dark areas along the ocean in Phase One that colored lights going into the water along the waterfront would be a draw for our town. It would attract manatees & other fish and add a unique & creative experience. This has been done in many waterfront areas around the world such as Victoria & Toronto etc. These soft colored lights would not impact birds, turtles or others research has showed.

Please submit your comments by the end of the meeting or, if you wish, you may email your comments to: planning@munekiyohiraga.com or mail the form to the address provided on the back of the form.

Should you have any questions, please feel free to contact Kauanoe Batangan at 244-2015.

MUNEKIYO HIRAGA

Planning. Project Management. Sustainable Solutions.