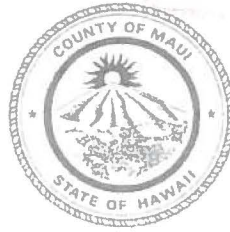


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AUG - 8 2020



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.
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TAMARA L. FARNSWORTH
Environmental Protection &
Sustainability Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

July 31, 2020

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

**SUBJECT: LOWER MAIN STREET SEWER UPGRADE PROJECT
TMK (2)3-4-021 TO 024 (ROADWAYS)
WAILUKU, MAUI, HAWAII**

Dear Mr. Kawaoka:

With this letter, the County of Maui, Department of Environmental Management hereby transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the Lower Main Street Sewer Upgrade Project situated at Tax Map Keys (2)3-4-021:Roadway, (2)3-4-022:Roadway, (2)3-4-023:Roadway, and (2)3-4-024:Roadway in Wailuku, on the island of Maui, for publication in the next available edition of the Environmental Notice.

Attached is an Adobe Acrobat PDF file of the FEA-FONSI and a zip file that contains the shapefile of the project's location.

Should you have any questions, please contact Scott Rollins at (808) 270-7417.

Very truly yours,

Digitally signed by Eric Nakagawa
DN: cn=Eric Nakagawa, o=County of Maui,
ou=Director of Environmental Management,
email=eric.nakagawa@co.maui.hi.us, c=US
Date: 2020.07.20 12:01:43 -1000

ERIC A. NAKAGAWA, P.E.
Director of Environmental Management

cc: Linda Schatz, Schatz Collaborative
Tessa Munekiyo Ng, Munekiyo Hiraga
Darren Unemori, Warren S. Unemori Engineering, Inc.
Scott Rollins, DEM-WWRD

From: webmaster@hawaii.gov
To: [HI Office of Environmental Quality Control](#)
Subject: New online submission for The Environmental Notice
Date: Thursday, July 30, 2020 7:46:40 AM

Action Name

Lower Main Street Sewer Upgrade Project

Type of Document/Determination

Final environmental assessment and finding of no significant impact (FEA-FONSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

Wailuku, Maui

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

(2)3-4-021:Roadway; (2)3-4-022:Roadway; (2)3-4-023:Roadway; (2)3-4-024:Roadway

Action type

Agency

Other required permits and approvals

Construction permits; Chapter 11-46, Community Noise Control (as applicable); NPDES (as applicable)

Proposing/determining agency

County of Maui, Department of Environmental Management

Agency contact name

Scott Rollins

Agency contact email (for info about the action)

Scott.Rollins@co.maui.hi.us

Agency contact phone

(808) 270-8230

Agency address

2050 Main Street, Suite 2B
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United States
[Map It](#)

Was this submittal prepared by a consultant?

Yes

Consultant

Munekiyo Hiraga

Consultant contact name

Tessa Munekiyo Ng

Consultant contact email

planning@munekiyohiraga.com

Consultant contact phone

(808) 983-1233

Consultant address

305 High Street, Suite 104
Wailuku, Hawaii 96793
United States
[Map It](#)

Action summary

The County of Maui, Department of Environmental Management, Wastewater Reclamation Division, proposes to increase the capacity of an existing 12-inch sewerline within the Lower Main Street right-of-way, between Ainahou Place and Hala Place, near Waena Street. The capacity improvements will be accomplished through the installation of approximately 1,950 lineal feet of 15-inch sewerline running parallel to the existing 12-inch sewerline. Upon completion, both the 12-inch and 15-inch lines will provide active transmission capacity for additional upstream generated flows. The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including the Kehalani, Waiolani, and Waikapu areas of Wailuku.

Construction of the proposed sewerline improvement project is anticipated to begin in the fourth (4th) quarter of 2020, with an approximately 9-month construction duration. The estimated construction cost of the project is \$2.5M.

Reasons supporting determination

See Chapter VIII of the Final EA.

Attached documents (signed agency letter & EA/EIS)

- [Legacy-Lower-Main-Sewerline.August-2020.FINAL-EA.pdf](#)
- [Legacy-Lower-Main-Sewerline.071920.FONSI-LETTER-FROM-DEM.pdf](#)

Shapefile

- The location map for this Final EA is the same as the location map for the associated Draft EA.

Action location map

- [Legacy-Lower-Main-Sewerline.TMKs_SHAPE.zip](#)

Authorized individual

Tessa Munekiyo Ng

Authorization

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



Final Environmental Assessment

LOWER MAIN STREET SEWER UPGRADE PROJECT

Prepared for:

**County of Maui,
Department of Environmental Management**

Approving Agency:

**County of Maui,
Department of Environmental Management**

August 2020

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Planning. Project Management. Sustainable Solutions.



Final Environmental Assessment

LOWER MAIN STREET SEWER UPGRADE PROJECT

Prepared for:

**County of Maui,
Department of Environmental Management**

Approving Agency:

**County of Maui,
Department of Environmental Management**

August 2020

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CONTENTS

	<u>Page</u>
Executive Summary	iv
List of Acronyms	vi
I. PROJECT OVERVIEW.....	1
A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP.....	1
B. PROPOSED ACTION.....	1
C. PURPOSE AND NEED FOR PROJECT.....	5
D. REGULATORY CONTEXT.....	5
1. Chapter 343, Hawaii Revised Statutes.....	5
E. PROJECT COST AND IMPLEMENTATION SCHEDULE.....	5
II. DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION MEASURES.....	6
A. PHYSICAL SETTING	6
1. Surrounding Land Use.....	6
2. Climate	7
3. Greenhouse Gas Considerations	7
4. Topography and Soil Conditions	8
5. Agricultural Productivity Considerations.....	11
6. Flood and Tsunami	13
7. Streams and Wetlands	13
8. Flora and Fauna.....	13
9. Archaeological Resources	16
10. Cultural Resources	18
11. Air Quality.....	20
12. Noise Quality.....	21
13. Scenic and Open Space Resources	21
B. SOCIO-ECONOMIC ENVIRONMENT	22
1. Land Use Community Character	22
2. Population	23
3. Economy	23
4. Housing.....	24
C. PUBLIC SERVICES.....	24
1. Solid Waste Collection and Disposal.....	24
2. Police, Fire, and Medical Facilities	25
3. Educational Facilities	26
4. Recreational Facilities.....	27

D.	INFRASTRUCTURE	27
1.	Roadways	27
2.	Water.....	28
3.	Wastewater	29
4.	Drainage System	29
5.	Electric, Telephone, and Cable	30
E.	CUMULATIVE AND SECONDARY IMPACTS.....	30
III.	RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS.....	32
A.	STATE LAND USE DISTRICTS.....	32
B.	HAWAI'I STATE PLAN	32
C.	STATE FUNCTIONAL PLANS	60
D.	COUNTYWIDE POLICY PLAN	64
E.	MAUI ISLAND PLAN.....	87
F.	WAILUKU-KAHULUI COMMUNITY PLAN	127
G.	COUNTY ZONING.....	131
H.	HAWAI'I COASTAL ZONE MANAGEMENT PROGRAM	131
1.	Recreational Resources	133
2.	Historic/Cultural Resources	134
3.	Scenic and Open Space Resources	134
4.	Coastal Ecosystem	135
5.	Economic Use.....	135
6.	Coastal Hazards	136
7.	Managing Development.....	137
8.	Public Participation	137
9.	Beach Protection.....	138
10.	Marine Resources.....	138
IV.	ALTERNATIVES TO THE PROPOSED ACTION.....	140
A.	PREFERRED ALTERNATIVE.....	140
B.	SEWERLINE REPLACEMENT ALTERNATIVE	140
C.	NO ACTION OR DEFERRAL OF ACTION ALTERNATIVES.....	140
V.	SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED	141
VI.	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES.....	142
VII.	LIST OF PERMITS AND APPROVALS	143
VIII.	SIGNIFICANCE CRITERIA ASSESSMENT	144

IX.	PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS.....	147
X.	LETTERS LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS	176
XI.	REFERENCES	i

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List of Figures

	<u>Page</u>
Figure 1. Regional Location Map	2
Figure 2. Project Location Map	3
Figure 3. Lower Main Street Photographs	4
Figure 4. Soil Association Map	9
Figure 5. Soil Classification Map.....	10
Figure 6. Agricultural Lands of Importance to the State of Hawai'i	12
Figure 7. Flood Insurance Rate Map	14
Figure 8. Tsunami Evacuation Zone Map.....	15
Figure 9. State Land Use District Map	33
Figure 10. Community Plan Map	128
Figure 11. Digital Zoning Map	132

List of Tables

	<u>Page</u>
Table 1. Relation Between the Lower Main Street Sewerline Capacity and Improvement Project and the State Functional Plans.....	61

List of Appendices

Appendix A.	Preliminary Engineering Plans
Appendix B.	Draft Archaeological Monitoring Plan
Appendix B-1.	State Historic Preservation Division Acceptance Letter of Draft Archaeological Monitoring Plan
Appendix C.	Cultural Impact Assessment

Executive Summary

Project Name:	Proposed Lower Main Street Sewer Upgrade Project
Type of Document:	Final Environmental Assessment
Legal Authority:	Chapter 343, Hawai'i Revised Statutes
Determination:	Finding of No Significant Impact (FONSI)
Applicable Environmental Assessment review "Trigger":	Use of County Funds and Roadway Right-of-Way
Location:	Maui Island Wailuku TMK No. (2) 3-4-021: Roadway; (2) 3-4-022: Roadway; (2) 3-4-023: Roadway; (2) 3-4-024: Roadway
Landowner:	County of Maui
Applicant:	County of Maui Department of Environmental Management 2050 Main Street, Suite 2B Wailuku, Hawai'i 96793
Approving Agency:	County of Maui Department of Environmental Management 2050 Main Street, Suite 2B Wailuku, Hawai'i 96793
Consultant:	Munekiyo Hiraga 305 High Street, Suite 104 Wailuku, Hawai'i 96793 Contact: Tessa Munekiyo Ng, AICP Phone: (808) 983-1233
Project Summary:	The County of Maui, Department of Environmental Management (DEM), Wastewater Reclamation Division, proposes to increase the capacity of an existing 12-inch sewerline within the Lower Main Street right-of-way, between Ainahou Place and Hala Place, near Waena Street. The capacity improvements will be accomplished through the installation of approximately 1,950 lineal feet of 15-inch sewerline running parallel to

the existing 12-inch sewerline. Upon completion, both the 12-inch and 15-inch lines will provide active transmission capacity for additional upstream generated flows. The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including the Kehalani, Waiolani, and Waikapu areas of Wailuku.

Construction of the proposed sewerline improvement project is anticipated to begin in the fourth (4th) quarter of 2020, with an approximately 9-month construction duration. The estimated construction cost of the project is \$2.5 million.

List of Acronyms

AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai'i
AMP	Archaeological Monitoring Plan
amsl	Above Mean Sea Level
BMP	Best Management Practice
CIA	Cultural Impact Assessment
CO2 EQ	Carbon Dioxide Equivalent
DEM	Department of Environmental Management
DOE	Department of Education
DWS	Department of Water Supply
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
HAR	Hawai'i Administrative Rules
HC&S	Hawaiian Commercial & Sugar Company
HCZMP	Hawai'i Coastal Zone Management Program
HRS	Hawai'i Revised Statutes
IAL	Important Agricultural Lands
LCA	Land Commission Award
MIP	Maui Island Plan
NPDES	National Pollutant Discharge Elimination Permit
PVC	Polyvinyl Chloride
SHPD	State Historic Preservation Division
SSO	Sanitary Sewer Overflow
SSSPP	Site Specific Spill Prevention Plan
UGB	Urban Growth Boundary
USDA	United States Department of Agriculture
WKWRF	Wailuku-Kahului Wastewater Reclamation Facility



PROJECT OVERVIEW



I. PROJECT OVERVIEW

A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP

The County of Maui, Department of Environmental Management (DEM) Wastewater Reclamation Division proposes the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street between Ainahou Place and Hala Place, near Waena Street in Wailuku, Maui, Hawai'i. See **Figure 1** and **Figure 2**. The proposed action is intended to provide additional wastewater transmission capacity along this segment of the County's wastewater transmission system. Upon completion, both the 12-inch and new parallel 15-inch lines will provide active transmission capacity. The proposed project will be located within the Lower Main Street right-of-way, which is a County-owned facility. Specifically, the project will be located within TMK Nos. (2) 3-4-021: Roadway, (2) 3-4-022: Roadway, (2) 3-4-023: Roadway, and (2) 3-4-024: Roadway.

Lower Main Street connects Main Street and Waiale Road to the south to Kahului Beach Road to the north. In the vicinity of the proposed sewerline installation, Lower Main Street is a two-lane, two-way roadway. With the exception of a short segment at the Waena Street approach, there are no curbs, gutters, or sidewalks along this stretch of Lower Main Street. Various commercial, light industrial, and multi-family residential uses line Lower Main Street in the vicinity of the proposed project. See **Figure 3**.

The project site is located within the State Land Use "Urban" district. While the proposed project will not involve work on properties outside of the right-of-way, it is noted that lands along Lower Main Street in the vicinity of the sewerline installation are designated "M-1, Light Industrial" and "B-2, Business Community".

B. PROPOSED ACTION

The proposed project involves the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street between Ainahou Place and Hala Place. See **Appendix "A"**. Hala Place intersects Lower Main Street approximately 100 feet to the west of the Waena Street-Lower Main Street intersection. Ground disturbance will include 1,950 feet (approximately 594.4 meters) of linear trenching to a depth of approximately 6 to 11 feet (1.8 to 3.4 meters) below the existing road surface. Once the sewerline is installed and the trench backfilled, the pavement will be restored to pre-construction conditions.

Minor adjustments to existing water lines and drainlines will be made as the sewerline is installed. Specifically, a bend may need to be spliced into a short section of an existing water main near Ainahou Place; protective concrete jackets may need to be installed on existing waterlines crossed by the new sewerline in certain locations; and approximately

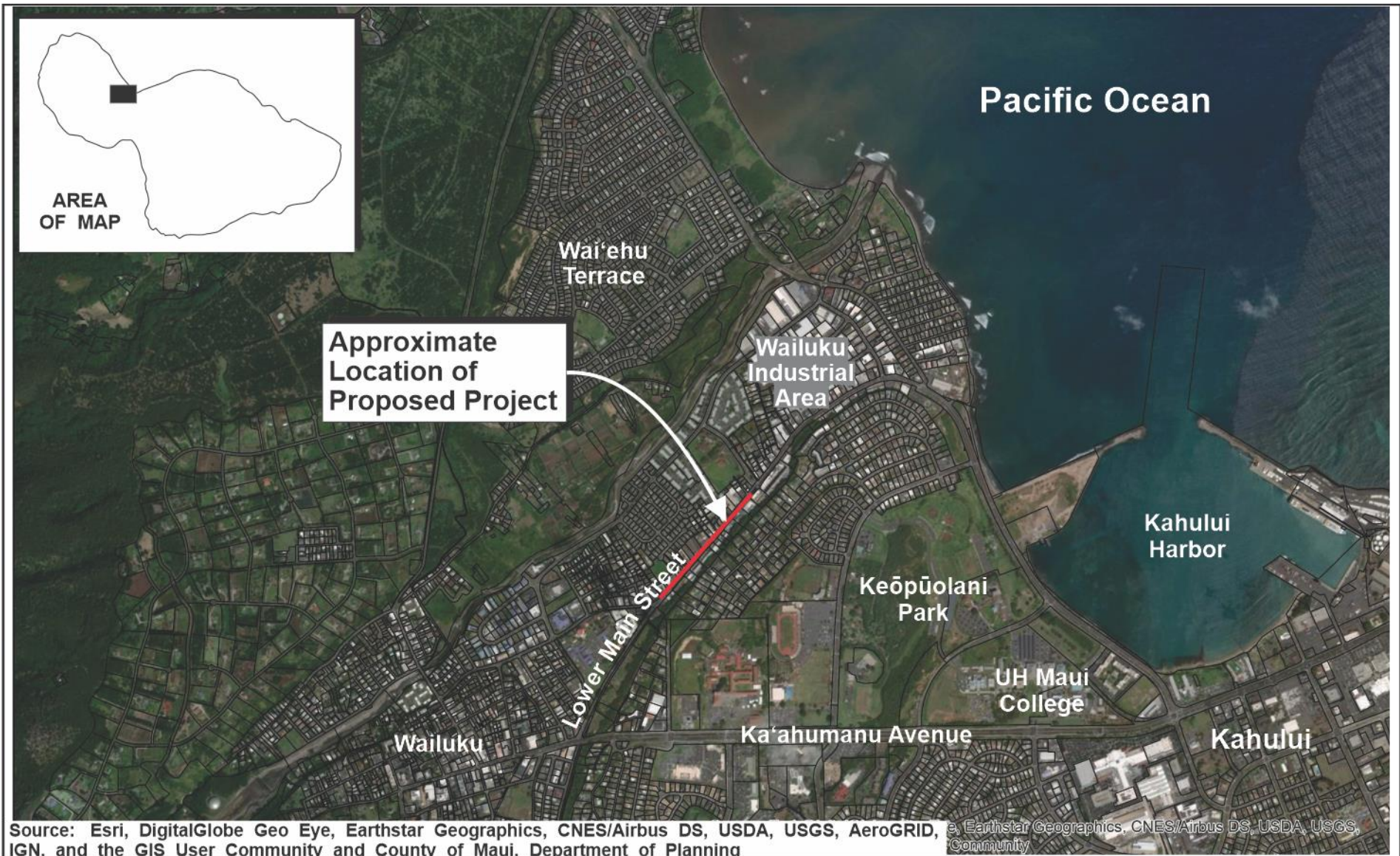
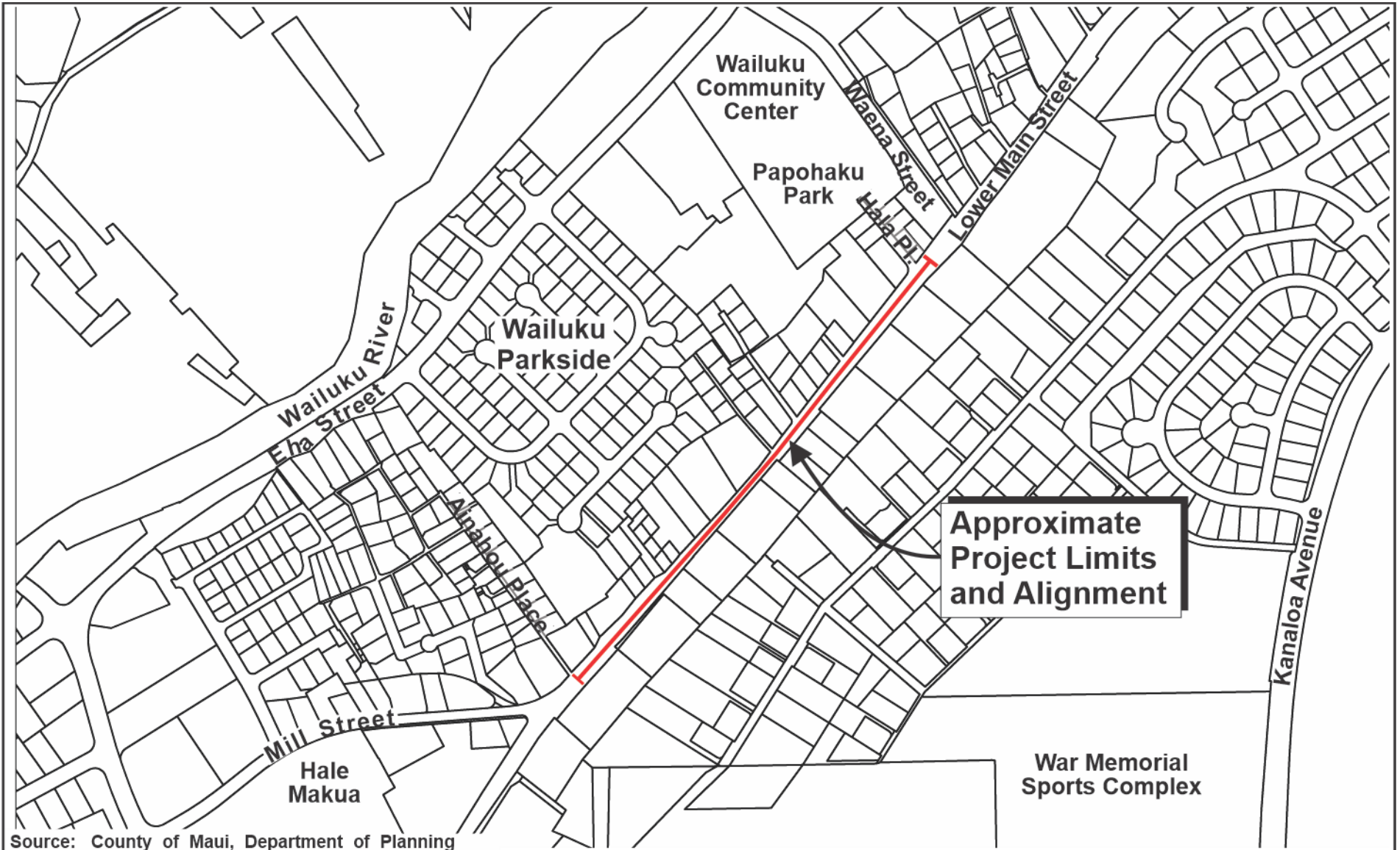


Figure 1 Lower Main Street Sewer Upgrade Project
Regional Location Map



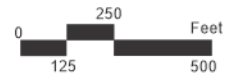
Prepared for: County of Maui, Department of Environmental Management





Source: County of Maui, Department of Planning

Figure 2 Lower Main Street Sewer Upgrade Project
Project Location Map



Prepared for: County of Maui, Department of Environmental Management



Legacy/LMain Sewerline/Applications/Figures/Property Location



**Photo Looking West Along
Lower Main Street**



**Photo Looking East Along
Lower Main Street**

Source: Munekiyo Hiraga

Figure 3 **Lower Main Street Sewer Upgrade Project**
Lower Main Street Photographs

Prepared for: County of Maui, Department of Environmental Management



Legacy/LMain Sewerline/Applications/Figures/Street Photos

200 lineal feet of existing drainline near Hala Place will need to be relocated to make room for the new sewerline.

C. PURPOSE AND NEED FOR PROJECT

The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including the Kehalani, Waiolani, and Waikapu areas of Wailuku.

D. REGULATORY CONTEXT

1. Chapter 343, Hawaii Revised Statutes

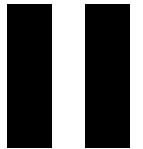
The proposed project includes the use of County lands and funds, which is a trigger for Chapter 343, Hawai'i Revised Statutes (HRS). As such, an Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS, and Chapter 200.1 of Title 11, Hawai'i Administrative Rules (HAR), Environmental Impact Statement Rules. Accordingly, this document addresses the project's technical characteristics and environmental impacts and alternatives, and advances findings and conclusions relative to the significance of the project. The DEM is the approving agency for the EA.

E. PROJECT COST AND IMPLEMENTATION SCHEDULE

The cost of the sewerline replacement project is approximately \$2.5 million. The project will be initiated in the fourth quarter of 2020 and is anticipated to take approximately nine (9) months to complete. Legacy Wailuku LLC, developers of the Wailuku Apartment Rental Housing project, has partnered with the DEM to support the design of the sewerline project. The DEM has obtained funding for and will construct the sewerline improvement project.



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



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

A. PHYSICAL SETTING

1. Surrounding Land Use

a. Existing Conditions

The proposed action involves the installation of approximately 1,950 lineal feet of a parallel sewerline within the Lower Main Street right-of-way, between Ainahou Place and Hala Place, near Waena Street.

Lower Main Street within the project limits is characteristically business/commercial, with apartment uses located along the western extent of the project limits. A Hele Service Station and office building is located near the Lower Main Street-Ainahou Place intersection. In addition, office uses, restaurants, small shops, auto-body repair, and mortuary uses can be found along this roadway segment. Beyond the immediate vicinity of the Lower Main Street corridor are single-family and multi-family residential uses along Eha Street (to the north), with single-family residential uses along the plateau-top bordering Liholiho Street to the south.

In a broader land use context, the Mill Yard light industrial subdivision is located along Mill Street, approximately 2,000 feet to the west of the Lower Main Street-Ainahou Place intersection, while the County's Papohaku Park and the Velma McWayne Santos Community Center are located along Waena Street near the eastern terminus of the project.

b. Potential Impacts and Mitigation Measures

The 1,950 lineal feet segment of new 15-inch sewerline is located in the midst of Wailuku's urban fabric, within the Maui Island Plan's Urban Growth Boundary. As a subsurface infrastructure element, the proposed action is not anticipated to have an adverse impact on surrounding land uses.

In the context of existing and future land use, the proposed project is not anticipated to have an adverse effect on the surrounding urban landscape.

2. Climate

a. Existing Conditions

Maui's climate is relatively consistent throughout the year. The island's climate varies as the terrain changes. Characteristic of Maui's climate, the project site experiences mild and uniform temperatures year-round, moderate humidity and consistent northeasterly trade winds.

Average temperatures at the project site (based on temperatures recorded at Kahului Airport) range from the low 60s to high 80s (Fahrenheit). August and September are historically the warmest months, while January and February are the coolest. Annual precipitation rainfall average is approximately 20 to 30 inches per year (County of Maui, Office of Economic Development, 2018). Winds blow predominantly out of the north-northeasterly direction.

b. Potential Impacts and Mitigation Measures

The proposed action will occur within the Lower Main Street right-of-way. The proposed project is not anticipated to have an adverse effect on climate, nor is it anticipated to be affected by climate change parameters such as sea-level rise. The project site is located approximately 0.75 mile from the coastline.

3. Greenhouse Gas Considerations

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, 2007). Within the State of Hawai'i, 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 Greenhouse Gas Reporting Program (40 Code of Federal Regulations 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 Maui Electric Company's Kahului Power Plant, Maalaea Power Plant, and the Central Maui Landfill (U.S. EPA, 2017).

b. Potential Impacts and Mitigating Measures

The proposed action involves the installation of a subsurface sewer utility line intended to improve the capacity of the County's Lower Main Street wastewater transmission system.

The proposed action will involve consumption of fuel for construction equipment, vehicles, and machinery during the construction period. This usage is not anticipated to be substantial or excessive within the context of the action's benefits over the lifetime of the project. In the context of its long-term effects, the proposed new sewerline segment is not a source or new energy consumption which will place added demand on fossil fuel-burning power sources. In this regard, the proposed action is not considered to have an adverse impact upon GHG metrics.

4. Topography and Soil Conditions

a. Existing Conditions

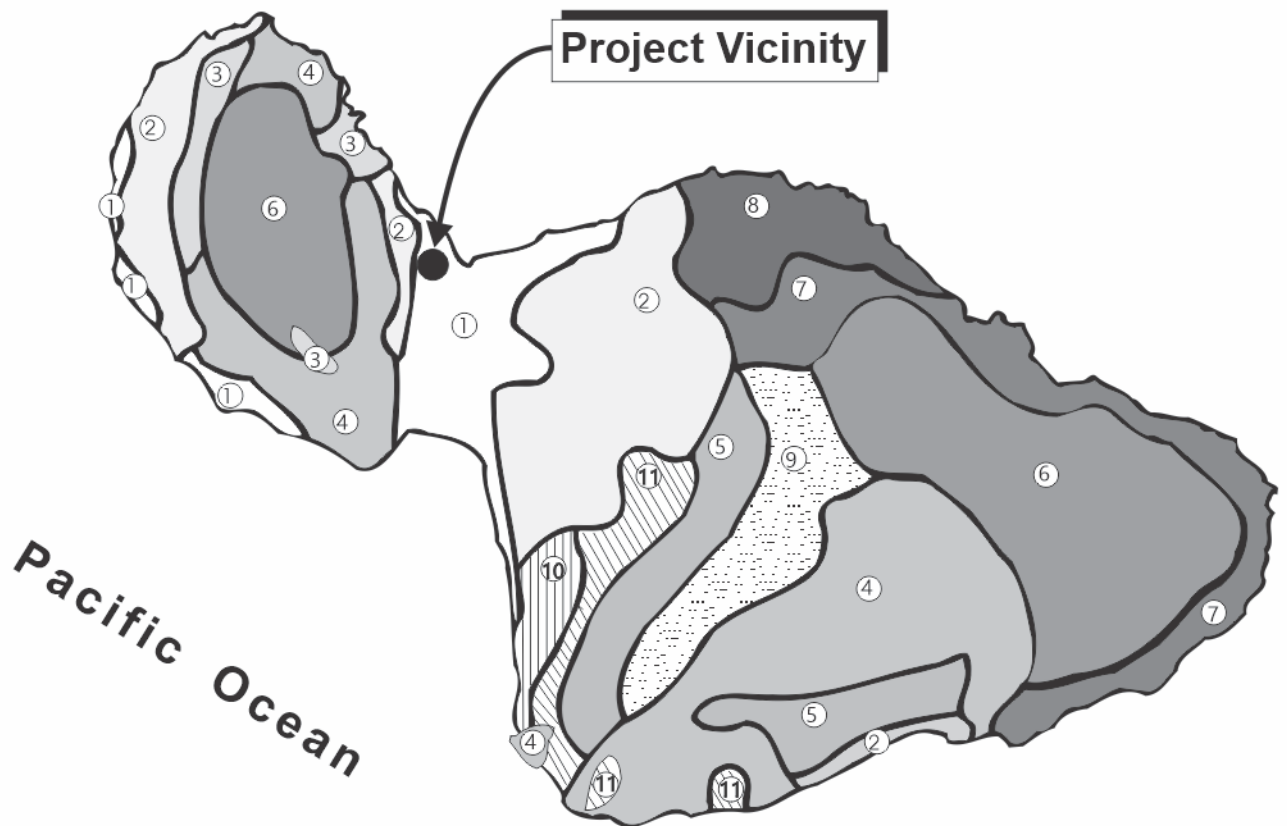
The existing terrain along the project corridor slopes gradually downslope from the Lower Main Street-Ainahou Place intersection to the Lower Main Street-Hala Place intersection. Elevations along the roadway segment range from approximately 150 feet above mean sea level (amsl) at the Lower Main Street-Ainahou Place intersection to approximately 90 feet amsl at the Lower Main Street-Hala Place intersection.

Underlying the project site and surrounding area are soils belonging to the Pulehu-Ewa-Jaucus association. According to the Soil Survey of Islands of Kaua'i, O'ahu, Maui, Moloka'i, and Lāna'i, State of Hawai'i, prepared by the United States Department of Agriculture Soil Conservation Service, these soils are characterized as having a slight to moderate erosion hazard (USDA, 2006). See **Figure 4**.

Soils underlying the Lower Main Street corridor is lao cobbly clay, 3-7 percent slope (USDA, 2006). See **Figure 5**. These soils are well-drained and are found on valley fill and alluvial fans. This soil is nearly level to moderately sloping.

LEGEND

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



Source: USDA Soil Conservation Service

Figure 4 Lower Main Street Sewer Upgrade Project Soil Association Map

NOT TO SCALE



Prepared for: County of Maui, Department of Environmental Management



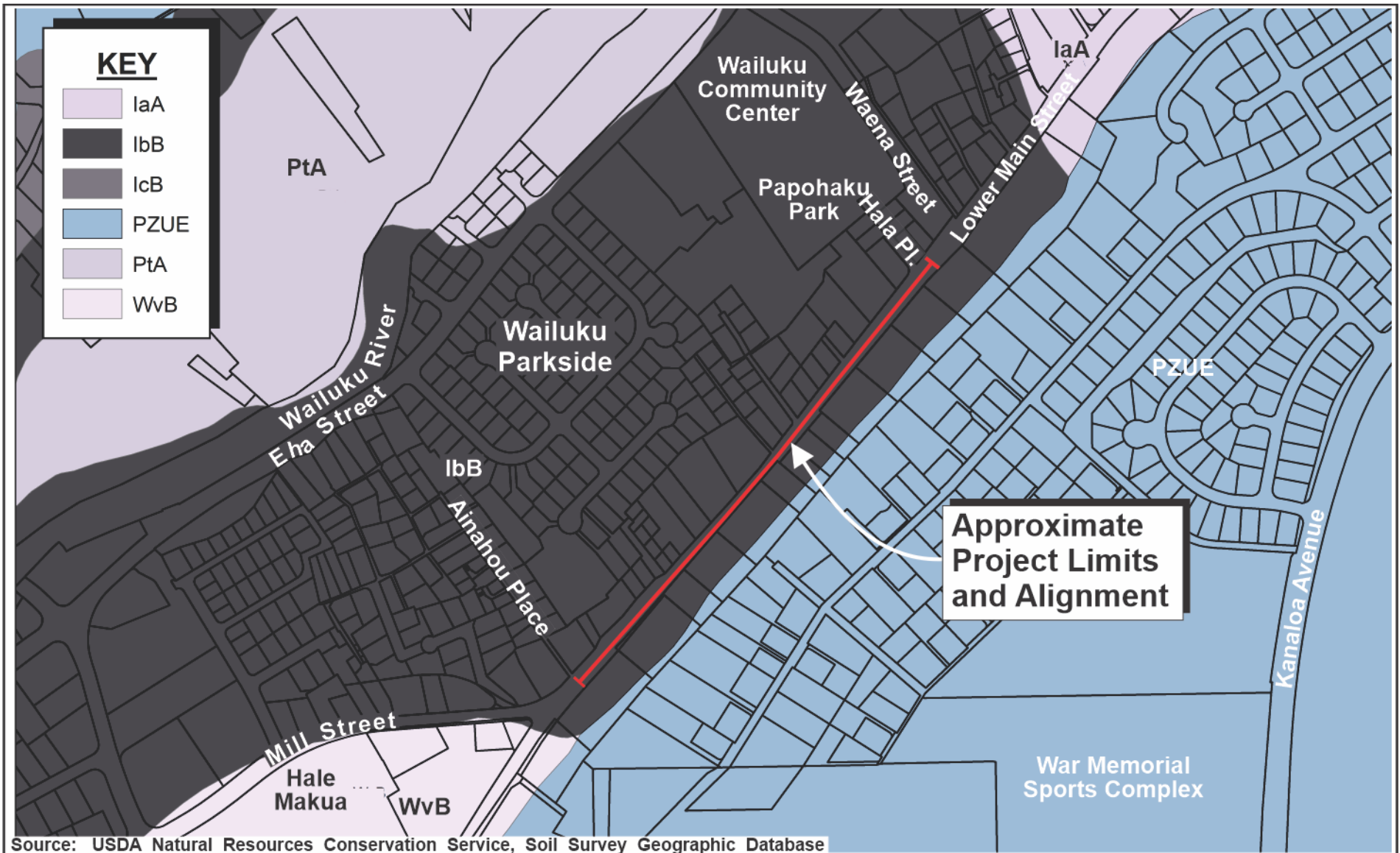
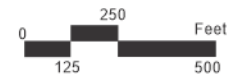


Figure 5 Lower Main Street Sewer Upgrade Project
Soil Classification Map



b. Potential Impacts and Mitigation Measures

The roadway corridor has been previously graded to enable construction of abutting properties and paved roadway areas. Best management practices (BMPs) will be implemented during construction to minimize impacts from soil erosion resulting from wind and water (e.g., dust and silt fencing, watering for dust control, etc.). The underlying soils do not pose limitations with respect to project constructability for the sewerline improvement project. The proposed project is not anticipated to have an adverse effect on topography and soils.

5. Agricultural Productivity Considerations

a. Existing Conditions

In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawai'i (ALISH). The classification system is based primarily, but not exclusively, on the soil classification of the land. The three (3) categories are "Prime", "Unique" and "Other Important" agricultural lands, with all remaining lands identified as "Unclassified".

"Prime" agricultural lands have soil quality, growing season, and moisture supply needed to produce sustained high yield crops economically. "Unique" agricultural lands possess a combination of soil quality, growing season, and moisture supply to produce sustained high yields of specific crops. "Other" important agricultural lands are lands that have not been rated "Prime" or "Unique" agricultural lands that are also of statewide or local importance for agricultural use.

As previously stated, the project site is located in an area of Wailuku that contains existing development. These areas have not been utilized for agricultural purposes for multiple decades. As such, the proposed sewerline capacity improvement project site is located within the ALISH's "Unclassified" land area. See **Figure 6**. There is no agricultural productivity value associated with the project corridor.

b. Potential Impacts and Mitigation Measures

The proposed action will occur within an urban roadway corridor. There are no adverse impacts to agriculturally productive lands as a result of the proposed project.

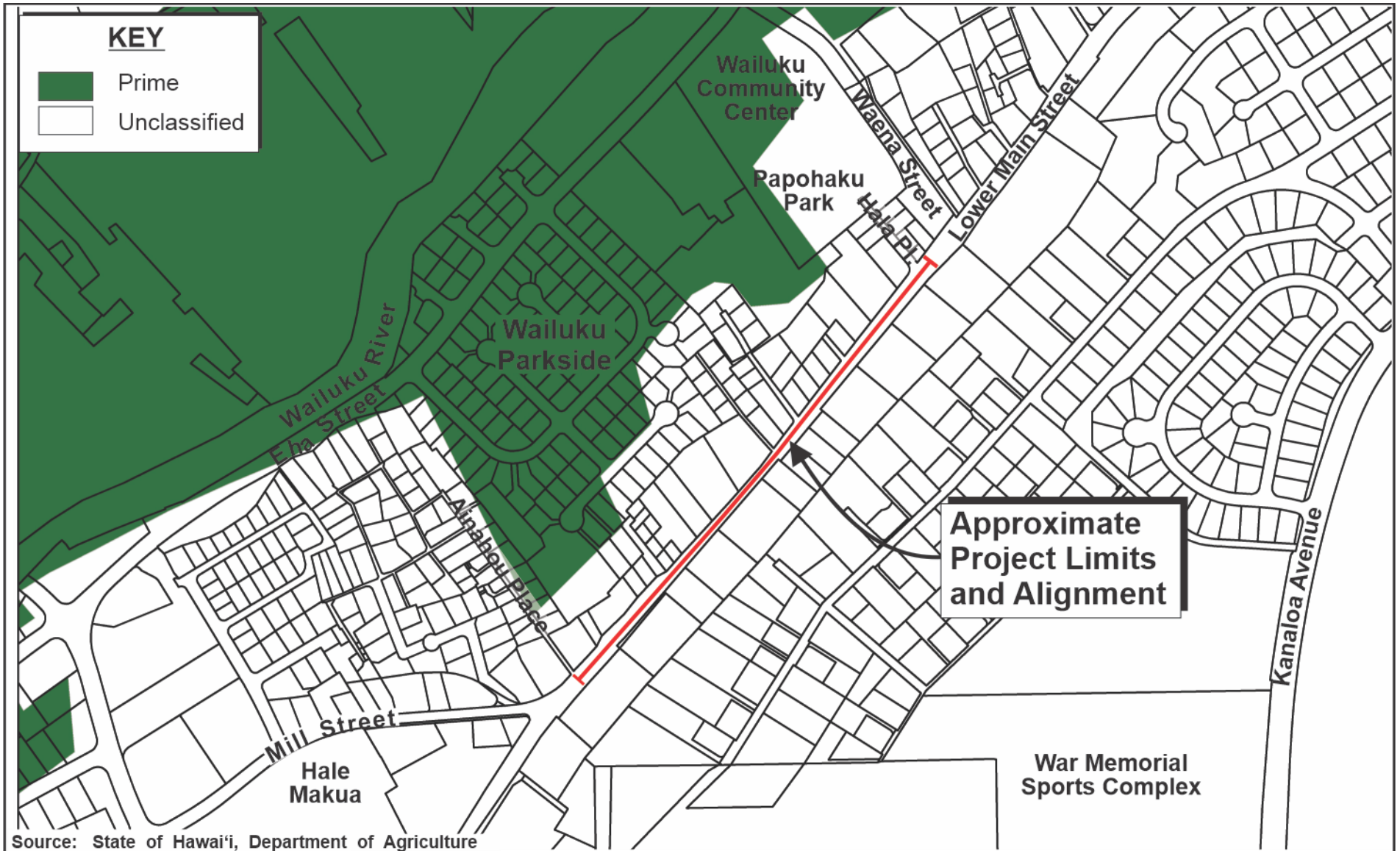
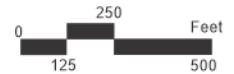


Figure 6

Lower Main Street Sewer Upgrade Project
 Agricultural Lands of Importance to the State of Hawai'i



6. **Flood and Tsunami**

a. **Existing Conditions**

The Flood Insurance Rate Map (FIRM) indicates the project site is situated in Flood Zone X, outside both the floodplain. See **Figure 7**. Flood Zone X (unshaded) represents areas outside of the 0.2 percent annual chance flood plain. Lower Main Street, in the vicinity of the proposed project, does not experience significant local flooding problems. The project corridor is also located outside of the tsunami evacuation zone and the extreme tsunami evacuation zone. See **Figure 8**.

b. **Potential Impacts and Mitigation Measures**

The installation of the 15-inch parallel sewerline within the Lower Main Street right-of-way will not alter the finished grade of the roadway, nor will it alter drainage patterns along the roadway segment. The roadway surface and conditions will be restored to pre-construction conditions. No adverse impacts to flooding will result from the sewerline improvement project. Accordingly, adverse impacts associated with flooding are not anticipated as a result of the proposed action.

7. **Streams and Wetlands**

a. **Existing Conditions**

There are no streams, wetlands, or other waterbodies abutting or in the vicinity of the sewerline project. The Wailuku River is located approximately 1,500 feet to the north of the sewerline replacement project location.

b. **Potential Impacts and Mitigation Measures**

The proposed sewerline project is located in the midst of the urbanized Wailuku area. Appropriate BMPs will be used during construction to ensure that the proposed action will not have a direct impact upon the Wailuku River.

8. **Flora and Fauna**

a. **Existing Conditions**

Lower Main Street, between Ainahou Place and Hala Place, is a fully developed collector road. This segment of Lower Main Street encompasses paved shoulders with sidewalks provided near the

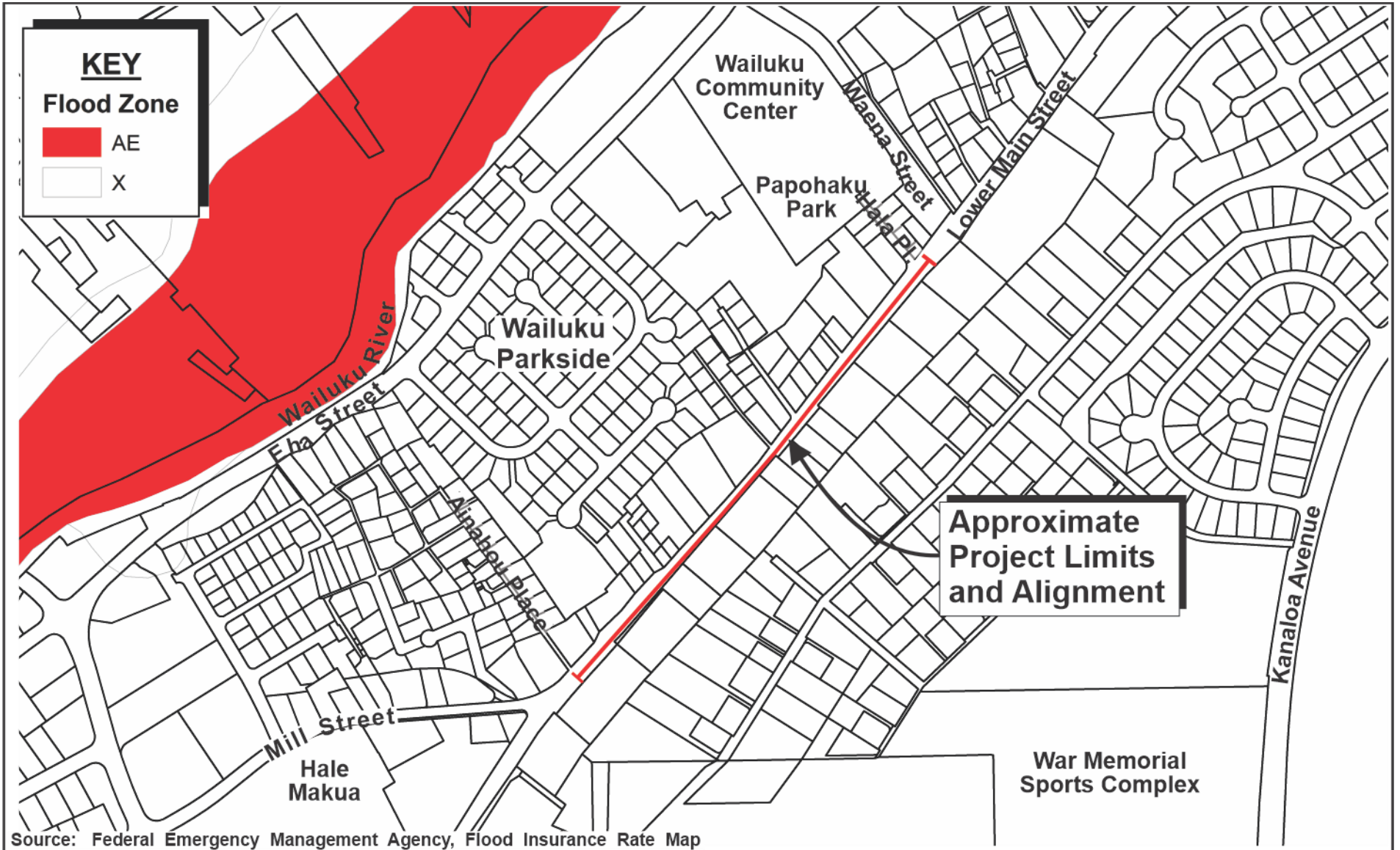
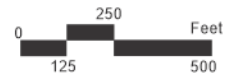


Figure 7

Lower Main Street Sewer Upgrade Project
 Flood Insurance Rate Map



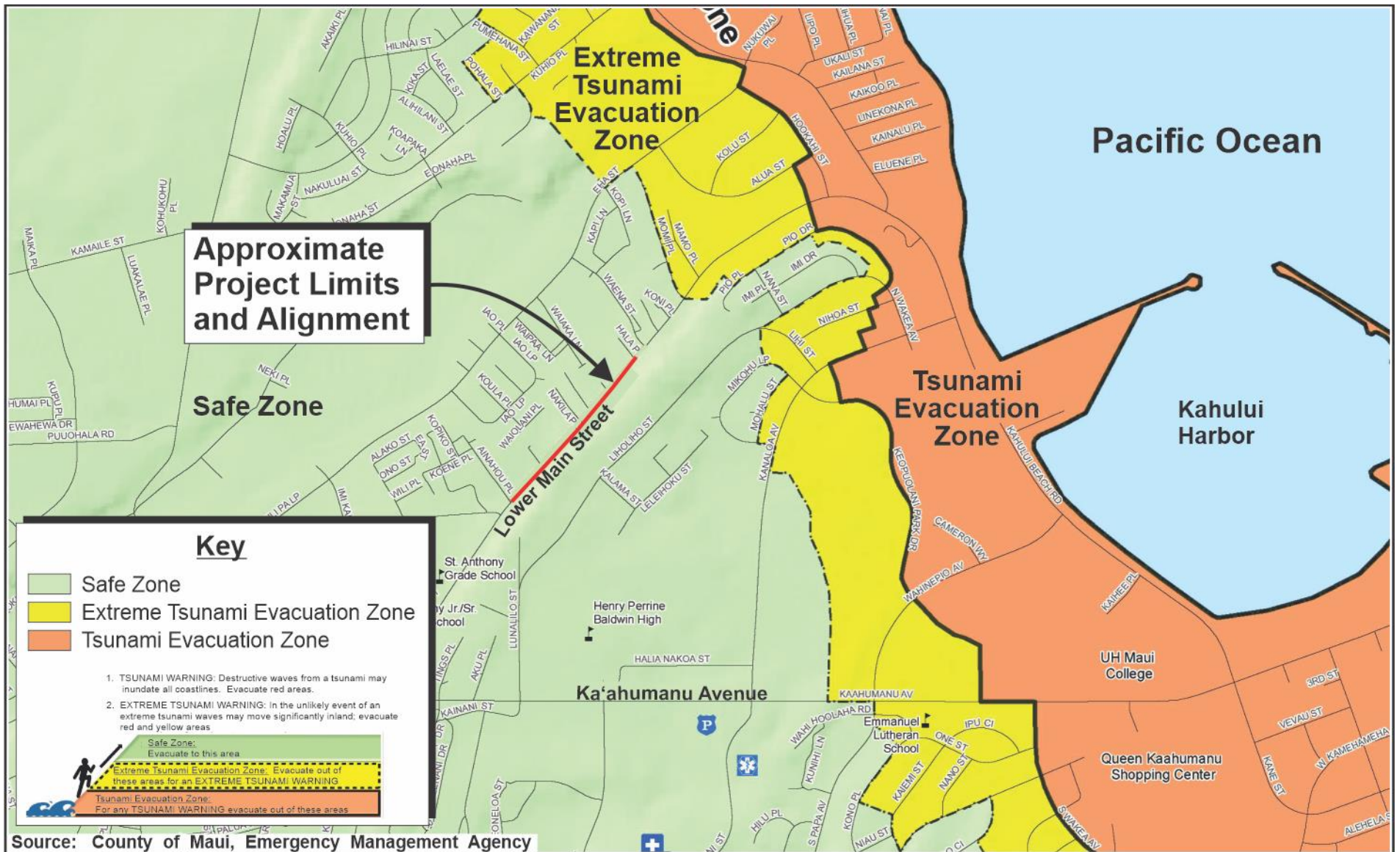


Figure 8 Lower Main Street Sewer Upgrade Project Tsunami Evacuation Zone Map



intersection of Waena Street. There is no comprehensive landscape treatment along this section of roadway, with landscape plantings occurring within the adjacent private properties. Refer to **Figure 3**. This roadway segment is not located in the vicinity of habitats of rare, threatened, or endangered species.

b. Potential Impacts and Mitigation Measures

The proposed sewerline capacity improvement project is not located in an area which hosts habitats for rare, threatened, or endangered species of flora and fauna. Construction limits for the sewerline project will occur within the existing travelway and is not anticipated to impact adjoining properties and their landscaping.

9. Archaeological Resources

a. Existing Conditions

The Lower Main Street corridor has been extensively altered through previous construction. No historic properties have been previously documented within the current project area. Human burials and buried habitation features and cultural layers have been documented within the sand hill area on the southeastern side of Lower Main Street near the boundary of the project area. No historic properties have been previously documented in the vicinity of the project area on the northern side of Lower Main Street.

b. Potential Impacts and Mitigation Measures

A review of previous archaeological studies conducted within the project area parcel and the immediate vicinity indicates that there is a potential to encounter buried historic properties including traditional and historic cultural layers and deposits as well as human burials. As such, onsite archaeological monitoring will be conducted for all project related ground-disturbing activities in order to identify and document any subsurface archaeological historic properties. See **Appendix “B”**.

The DEM consulted with the Maui/Lānaʻi Islands Burial Council at its October 16, 2019 meeting and requested that the Council support a recommendation for onsite archaeological monitoring during project construction. The Office of Hawaiian Affairs was also sent a request for consultation letter on the proposed approach to complete onsite monitoring during construction.

A Draft Archaeological Monitoring Plan (AMP) was submitted to the State Historic Preservation Division (SHPD) for review and acceptance. Refer to **Appendix “B”**.

By letter dated January 27, 2020, the SHPD accepted the draft AMP as meeting the minimum requirements of Hawai'i Administrative Rules (HAR) §13-279-4. The draft AMP provides a detailed background of the project area's archaeological investigations and land use. The draft AMP indicates that there is potential to encounter subsurface historic properties similar to or associated with the previously identified sites identified in the immediate vicinity of the project area. Additionally, the AMP stipulates the following:

- i. A coordination meeting will be conducted between the construction team and monitoring archaeologist prior to construction activities so the construction team is aware of the plan
- ii. Onsite monitoring will be conducted for all ground disturbing activities. One (1) monitor is required for each piece of ground altering machinery during this project
- iii. The archaeological monitor shall have the authority to temporarily halt all activity in the area in the event of a potential historic property being identified, or to record archaeological information for cultural deposits or features
- iv. If non-burial historic properties are identified, documentation shall include, as appropriate, recording stratigraphy using U.S. Department of Agriculture (USDA) soil descriptions, GPS point collection, recordation of feature contents through excavation or sampling of features, screening of features, representative scaled profile drawings, photo documentation using a scale and north arrow, and appropriate laboratory analysis of collected samples and artifacts. Additionally, photographs and profiles of excavations will be collected from across the project area even if no significant historic properties are encountered
- v. If human remains are identified, work will cease in the vicinity and the find shall be secured, and provisions outlined within the Hawai'i Revised Statutes (HRS) §6E-43 and HAR §13-300-40, and any SHPD directives, shall be followed
- vi. Collected materials not associated with burials will be temporarily stored at the archaeological firm's office/laboratory unit appropriate curation facility is selected, in consultation with the landowner and the SHPD
- vii. Any changes in these provisions shall occur only with written approval from the SHPD

10. Cultural Resources

a. Existing Conditions

A Cultural Impact Assessment (CIA) was prepared by Cultural Surveys Hawai'i to consider the effect of the project on cultural beliefs, practices, and resources. See **Appendix "C"**.

The project corridor is located within the ahupua'a of Wailuku, which is home to the urban centers of Kahului and Wailuku and the sacred 'Īao Valley. The Wailuku Ahupua'a was included in the traditional 'okana (subdistrict) of Nā Wai Eha, or "The Four Streams". The streams of Wailuku include the perennial 'Īao Stream, also known as Wailuku River. Various legends and early accounts of the Wailuku ahupua'a indicate that a notable population of long-settled, pre-contact Hawaiians inhabited the Wailuku area. In ancient times, Wailuku, specifically the area around Kahului Bay, was known as a chosen gathering and residential site for Maui ali'i. Wailuku was the site of Kalanihale, the royal palace of the ruling chief of Maui, Kahekili.

Kalo cultivation was prolific in Wailuku and in ancient times, the Wailuku District was the largest continuous area of wet-taro cultivation in the islands. The high degree of cultivation within the Wailuku ahupua'a and its near neighbors give evidence that a substantial population would have been established there during the pre-Contact period.

The Organic Acts of 1845 and 1846 initiated the process of the Māhele—the division of Hawaiian lands—that introduced private property into Hawaiian society. Land Commission Awards (LCAs) in Wailuku Ahupua'a were more commonly awarded in the western portion of the ahupua'a while only two (2) LCAs were awarded within the eastern portion, reflecting the settlement patterns in the area. Although almost 300 individual parcels were awarded by the Land Commission for Kuleana Lands within the ahupua'a of Wailuku, these claims represented lands which were located in the upland portion of the ahupua'a. The project site is not located within an LCA.

During the American Civil War in the 1860s, Hawaiian sugar prices rose significantly, leading to the formation of 12 large sugar plantations on the island of Maui; the most of any Hawaiian Island. Beginning in 1878, the first steam locomotive of the Kahului and Wailuku Railroad had been set up on three (3) miles of track at the Kahului Harbor, and in 1879 began to run between the sugar mills of Wailuku and the Port of Kahului. In short order, the Hawaiian Commercial & Sugar Company (HC&S) plantation of

Claus Spreckels ran steam locomotives through their fields to move harvested cane to a mill in Spreckelsville and thence to the Kahului Harbor for shipment. The project site is in the Lower Main Street section of the town of Wailuku, in an area once known for the route of the railroad connecting Wailuku with the Port of Kahului.

In 1905, the Honolulu Iron Works constructed a new sugar mill for the Wailuku Sugar Company on a site located just north of the St. Anthony's Church and School, adjacent to the County of Maui Papohaku Park. Many homes and buildings in Wailuku town date from the 1920s; the heyday of prosperity of the Wailuku Sugar Company. Many private and public buildings in Wailuku have plantation-inspired architectural and historical significance. The Wailuku Sugar Company was making a profit at the time of statehood in the late 1950s but cut its last cane crop in 1988. After that it tried diversifying under the name Wailuku Agribusiness, planting macadamia groves and building the Maui Tropical Plantation in Waikapū. Refer to **Appendix "C"**.

b. Potential Impacts and Mitigation Measures

Throughout the preparation of the CIA, 89 Hawaiian organizations, agencies, and community members were contacted. Of the ten (10) people that responded, two (2) kama'āina (Native-born) and/or kūpuna (elders) participated in formal interviews for more in-depth contributions to the CIA. Based on the information gathered from the cultural and historical background and the community consultation, the CIA made the following recommendations:

1. Although the area is well-developed, the presence of archaeological monitors during earth moving activity was strongly recommended.
2. It was recommended that ground penetrating radar not be used to identify burials as it will ultimately lead to extraction.
3. Archaeological monitoring with a monitor on site at all times during ground disturbing activities is recommended.
4. Precautions should be taken to prevent a main break which could result in raw sewage seeping into Wailuku Stream.
5. Boring is not recommended as a method of digging. Scraping or controlled digging is recommended instead to limit inadvertent disturbance of iwi kupuna.

6. Project construction workers and all other personnel involved in the construction and related activities should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease and the SHPD will be notified pursuant to HAR §13-280-3.
7. In the event that iwi kūpuna are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.

Refer to Appendix “C”.

The proposed project will be implemented in accordance with the recommendations of the CIA. As previously mentioned, an AMP has been prepared and accepted by the SHPD. Boring/directional drilling will not be used to install the new Lower Main Street sewerline because of the archaeological concerns noted. Pipeline installation will, instead, rely on convention trenching using a hydraulic excavator operated under the supervision of a trained, professional archaeological monitor. The General Contractor will be required to prepare and obtain a “Site Specific Spill Prevention Plan” (SSSPP) from the Department of Environmental Management, Wastewater Reclamation Division prior to construction. The SSSPP will include a Prevention Plan that details the special precautions that will be taken to avoid pipeline damage and sewage spills as well as a Reaction Plan identifying the resources and equipment kept at hand and the procedures to be taken to contain and immediately clean up an inadvertent spill, should one occur.

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 attributed to vehicular traffic on the surrounding roadways. Windblown dust from surrounding fallow agricultural lands (to the north) is another source of indirect emissions in the region. These sources, however, are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources. Overall, the air quality in the region is considered good.

b. Potential Impacts and Mitigation Measures

In the short term, construction-related activities for the proposed sewerline capacity improvement project will be the primary source of airborne pollutants affecting the surrounding area. Site work involving excavation and backfilling operations will generate fugitive dust. Appropriate BMPs, such as frequent watering of exposed surfaces and regular maintenance of construction equipment will be utilized to minimize air quality impacts associated with project construction.

The proposed action is not anticipated to generate adverse long-term air quality impacts.

12. Noise Quality

a. Existing Conditions

The project site is located along Lower Main Street, an area consisting of small businesses, retail outlets, restaurants, apartments, and auto repair shops. As a result, vehicular traffic along the surrounding Lower Main Street contributes to the existing background noise levels along the project corridor. The character of noise generated in the project vicinity is, therefore, similar to other town core areas.

b. Potential Impacts and Mitigation Measures

Ambient noise conditions may be temporarily affected by construction activities. Heavy construction machinery, such as backhoes, dump trucks, front-end loaders, and material-transport vehicles are anticipated to be the dominant noise-generating sources during the construction period of the proposed project.

In order to mitigate noise impacts, demolition and construction will be limited to daylight hours. Project-related noise will be minimized through use of applicable BMPs, such as proper maintenance of construction equipment and properly muffled equipment. In the long term, the proposed project is not anticipated to have adverse impacts up on noise conditions.

13. Scenic and Open Space Resources

a. Existing Conditions

The West Maui Mountains, Haleakalā, Kahului Bay, and the Pacific Ocean define the scenic resources in Central Maui. North of the project site is

Papohaku Park while Keopuolani Park is located to the southeast. As well, the Wailuku River provides open space relief for Wailuku's urban core.

Lower Main Street, between Ainahou Place and Hala Place, is not considered a scenic view corridor. However, vehicles heading southwest, towards Old Wailuku Town will have a partial view of the West Maui Mountains. Vehicles heading toward Kahului may also have a view of the Pacific Ocean.

b. Potential Impacts and Mitigation Measures

The proposed project involves the subsurface installation of approximately 1,950 lineal feet of sewerline and will not have an impact on scenic and open spaces resources.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Land Use Community Character

a. Existing Conditions

From a regional perspective, the sewerline capacity improvement project limits fall within the urbanized area of Wailuku. The Lower Main Street project corridor is characterized by business/commercial uses, with a few apartment residences.

Lower Main Street itself is a secondary connector for Wailuku and Kahului, with the roadway transitioning to Kahului Beach Road at its eastern extent. Traffic along this roadway, therefore, includes a mix of vehicles, including passenger cars and commercial trucks. In the vicinity of the project, signalized intersections include those at Mill Street and at Waena Street.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is an infrastructure improvement designed to provide increased wastewater transmission capacity for projects located in upstream areas such as Kehalani and Waikapu. Upon completion, the projects will not result in new above ground structures which will alter the character of this area of Wailuku Town. The proposed action is not anticipated to have an impact on land use and community character.

2. Population

a. Existing Conditions

In 2018, the population of Maui County was 167,207 residents, an increase of 8.0 percent since 2010, when the resident population stood at 154,834 (County of Maui, Office of Economic Development, 2018). The population of Maui County is projected to grow to approximately 189,900 by 2030 (State Department of Business, Economic Development, and Tourism, 2018).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not a population generator and is not anticipated to result in adverse impacts on the region's or island's population parameters.

3. Economy

a. Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry. Much of the larger hotel and resort facilities are in South Maui and West Maui, with non-resort, smaller hotels located in Central Maui.

The economy of Wailuku is anchored by government services, with County and State agency offices occupying the civic center portion of town, near the High Street-Main Street intersection. With access to government offices, professional services such as engineering, architectural, and accounting offices are located nearby. The Maui Memorial Medical Center is approximately 1.5 miles southeast of the project site, with medical and dental offices also encompassed by Wailuku's urban fabric. With large surrounding residential areas serving the island's residents, Wailuku continues to be a vibrant small town environment, which has transitioned beyond the sugar plantation era when surrounding lands were cultivated in sugar cane.

Hawai'i'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 Hawai'i, and across the nation and world. Stay-at-home regulations and travel quarantines aimed to curb the spread of COVID-19 virus in Hawai'i have caused many businesses to shut down or drastically reduce operations. Unemployment claims have soared. By the end of May 2020, unemployment in the State

reached 23.4 percent, compared to just 2.7 percent in February 2020 (Department of Labor and Industrial Relations, 2020).

b. Potential Impacts and Mitigation Measures

On a short-term basis, the project will generate construction and construction-related employment. In the long term, the project is not anticipated to have adverse impacts on employment and related local economic parameters.

4. Housing

a. Existing Conditions

While the proposed action is not associated with a specific housing proposal, an agreement between the County of Maui's Department of Environmental Management and Legacy Wailuku LLC has been formulated and executed to facilitate implementation of this needed infrastructure upgrade project. Legacy Wailuku, LLC proposes the development of 324 affordable and market-rate apartment rental units at Tax Map Key No. (2)3-5-001:064, at the corner of Kuikahi Drive and Waiale Road. The proposed sewerline capacity improvement project will provide the needed capacity to accommodate wastewater flows from the Legacy Wailuku Affordable Rental Housing Project, as well as other housing projects which are envisioned in the future.

b. Potential Impacts and Mitigation Measures

The proposed action will provide the needed wastewater system upgrades to enable provision of the 324 rental units being provided by Legacy Wailuku LLC. As well, the proposed project will allow other housing projects to be developed in upstream locales, including Kehalani, Waiolani, and Waikapu. From a housing standpoint, therefore, the proposed action is viewed as an infrastructure component which will facilitate the future provision of housing for Maui residents.

C. PUBLIC SERVICES

1. Solid Waste Collection and Disposal

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui on a weekly basis. Residential solid waste collected by

County crews are disposed at the County's Central Maui Landfill located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies. A privately operated green waste recycling facility, Maui Earth Compost Company, is situated at Pulehu Road and Hansen Road, while Eko Compost is operated at the Central Maui Landfill.

b. Potential Impacts and Mitigation Measures

Construction-related waste will be disposed in accordance with policy and practices established by the Solid Waste Division to ensure that there are no adverse impacts to the County's Central Maui Landfill.

Upon completion, the proposed sewerline project will not be a new solid waste generator. There are no adverse impacts anticipated to the County's collection system or disposal capacities attributed to the proposed action.

2. Police, Fire, and Medical Facilities

a. Existing Conditions

Police protection for the Wailuku-Kahului region is provided by the Maui Police Department located at the Wailuku Station headquartered on Mahalani Street approximately 0.8 mile southeast of the project site. The Maui Police Department provides investigative services, uniform patrol services, technical support, and traffic services as stated in its mission to protect the residents of Maui County.

Fire prevention, protection, rescue, and emergency services for the Wailuku-Kahului region are provided by the Maui County Department of Fire and Public Safety. The department has two (2) stations to service the Wailuku-Kahului region, both in proximity of the project site. The Wailuku station is located in Wailuku town approximately one (1) mile southwest of the project site and the Kahului station is located on Dairy Road in Kahului approximately four (4) miles southeast of the project site.

Maui Memorial Medical Center is managed by Kaiser Permanente and is the only major medical facility on the island. Acute, general, and emergency care services are provided by the 214-bed Maui Memorial Medical Center facility located on Mahalani Street, Wailuku, about one (1) mile southeast of the subject property.

In addition, Kaiser, Maui Medical Group, Maui Medical Clinic, and other medical clinics and health care providers service the island of Maui. These

facilities are located in Wailuku and Kahului. Dental and other medical offices are also located within the Wailuku-Kahului region to serve its residents and visitors.

b. Potential Impacts and Mitigation Measures

The proposed sewerline project is located within service areas for police, fire, and medical facilities and is not anticipated to adversely impact these services. During construction, appropriate traffic control measures, including use of a flag person, as appropriate, will be utilized. Such measures will ensure the smooth flow of traffic, including emergency vehicles.

3. Educational Facilities

a. Existing Conditions

The State Department of Education (DOE) operates several schools in the Wailuku-Kahului region. Public school facilities within the Wailuku-Kahului District area include: two (2) high schools, Henry Perrine Baldwin High and Maui High (grades 9 to 12); two (2) intermediate schools, Iao Intermediate and Maui Waena Intermediate School (grades 6 to 8); and six (6) elementary schools (Grades K to 5), Wailuku Elementary, Waihe'e Elementary, Pōmaika'i Elementary, Kahului Elementary, Lihikai Elementary, and Pu'u Kukui Elementary School.

The area is also served by several privately operated schools providing education for elementary, intermediate, and high school students. Privately operated schools serving the Wailuku-Kahului region include St. Anthony School (grades K to 12), Kaahumanu Hou Christian School (grades K to 12), Emmanuel Lutheran School (K to 6), and Maui Adventist School (grades 1 to 8).

The University of Hawai'i-Maui College is a four-year college located on Ka'ahumanu Avenue in Kahului.

b. Potential Impacts and Mitigation Measures

As the project is limited to the installation of a 15-inch parallel sewerline, the proposed action is not considered to be a population generator. No adverse impacts on school facilities in the surrounding area are anticipated.

4. Recreational Facilities

a. Existing Conditions

Within the Wailuku-Kahului Community Plan Region, there are many recreational activities, including shoreline and boating activities at the Kahului Harbor and adjoining beach parks, and organized recreational activities provided/offered at County Parks. Within close proximity of the project site is Wells Park and the Wailuku Elementary School Park. The 'Īao Valley State Park is approximately three (3) miles west of the project site. Other Maui County-owned parks within the Wailuku-Kahului region are the Kehalani Mauka Park, the Velma McWayne Santos Community Center, Papohaku Park, War Memorial Athletic complex, the 65-acre Maui Regional Park, Maui Lani Parkway Park, Sakamoto Swimming Pool, and Keōpūolani Regional Park. All of these County-owned recreational facilities are located in proximity to the project site.

In addition, there are several golf courses in the Wailuku-Kahului region. These include the Kahili and Kamehameha Golf Courses, The Dunes at Maui Lani Golf Course, and the Maui County-owned Waiehu Golf Course. These golf courses are approximately three (3) to five (5) miles from the project site.

b. Potential Impacts and Mitigation Measures

The proposed action involves the installation of a 15-inch parallel sewerline, which is not deemed a population generator. Therefore, adverse impacts to recreational resources are not anticipated.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

Lower Main Street, between Ainahou Place and Hala Place, is a two-way, two-lane roadway, with paved shoulders. Multiple driveways connect to Lower Main Street. Separate turning lanes are provided at the Mill Street approach and the Waena Street approach. The posted speed limit at this segment of Lower Main Street is 20 miles per hour. Traffic utilizing Lower Main Street may also utilize Eha Street, which is a parallel roadway between Imi Kala Loop and Waiehu Beach Road.

b. Potential Impacts and Proposed Mitigation Measures

The proposed action involves the addition of an approximately 1,950 ft. segment of parallel sewerline along Lower Main Street, between Ainahou Place and Hala Place. During construction traffic, controls will be implemented to ensure smooth and safe passage of vehicles and pedestrians through the construction zone. Refer to **Appendix “A”**.

The traffic control plan proposes two (2) scenarios:

- (1) When at least one (1) lane of the street can safely be kept open to public traffic, construction work would occur Monday-Friday during the off-peak hours between 8:30 AM and 3:00 PM.
- (2) If construction reaches a segment of Lower Main Street where the street is physically too narrow to allow public traffic to safely traverse the work zone, Lower Main Street will be closed to through traffic between 8:30 PM and 5:30 AM and a detour via Eha Street used to enable construction work to take place at night.

Upon completion, the roadway will be restored to pre-construction conditions, with no anticipated adverse impacts to traffic operations.

2. Water

a. Existing Conditions

The segment of Lower Main Street in which the sewerline replacement is to occur contains 6-inch and 12-inch waterlines which run parallel to the sewerline segment to be replaced. There is horizontal separation between the waterline and sewerline.

b. Potential Impacts and Mitigation Measures

Minor adjustments to waterlines will be made as the new sewerline is installed. Specifically, a bend may need to be spliced into a short section of an existing water main near Ainahou Place and protective concrete jackets may need to be installed on existing waterlines crossed by the new sewerline in certain locations. During construction, the contractor will undertake excavation and installation in a manner directed by construction documents so as not to affect domestic water systems. In the long term, the project will not impact water demand or facility requirements.

3. Wastewater

a. Existing Conditions

Wastewater flows generated in the region is treated at the County of Maui, Department of Environmental Management's (DEM) Wailuku-Kahului Wastewater Reclamation Facility (WKWWRF), located on Amala Place in Kahului. The WKWWRF provides secondary treatment for municipal sewage from Central Maui and has a capacity of treating 7.9 million gallons per day of wastewater based on average dry weather flow conditions. There is an existing 12-inch gravity sewerline within Lower Main Street between Ainahou Place and Hala Place.

b. Potential Impacts and Mitigation Measures

The proposed action involves the installation of approximately 1,950 lineal feet of 15-inch, polyvinyl chloride (PVC) pipe. The DEM has determined that this transmission capacity improvement is needed to accommodate additional upstream flows generated by projects in the Kehalani, Waiolani, and Waikapu areas, including the proposed Wailuku Affordable Rental Housing Project, located along the south side of Kuikahi Drive, between Waiale Road and Honoapiilani Highway. The proposed action is considered a system improvement to eliminate a transmission constraint along Lower Main Street.

Prior to construction, the General Contractor will be required to prepare and obtain approval of a SSSPP from the DEM, Wastewater Reclamation Division before work can begin. The SSSPP will include a Prevention Plan describing special precautions to be taken to avoid pipeline damage and sewage spills as well as a Reaction Plan identifying the resources and equipment to be kept at hand and procedures to be followed to contain and immediately clean up an inadvertent spill, should one occur despite the precautions taken.

In the long term, the proposed project action will increase sewage flow capacity and eliminate/minimize the possibility of sanitary sewer overflows (SSO's) and the environmental effects resulting from such events.

4. Drainage System

a. Existing Conditions

There is no existing drainage system within Lower Main Street within the project limits, except for an existing 24-inch and 36-inch drainlines near the

intersection of Lower Main Street and Hala Street. These drainlines continue in an easterly direction.

b. Potential Impacts and Mitigation Measures

Approximately 200 lineal feet of existing drainline near Hala Place will need to be relocated to make room for the new sewerline. The proposed action will not affect drainage patterns or runoff amounts.

5. Electric, Telephone, and Cable

a. Existing Conditions

There are existing overhead electrical, telephone, and cable transmission lines along Lower Main Street, which are adjacent to the project site.

b. Potential Impacts and Mitigation Measures

Construction for the proposed project will occur within the travelway of Lower Main Street. Coordination with and plans review by the respective utility companies will be undertaken to ensure that there are no conflicts between the project and other utility systems falling within the roadway right-of-way. Adverse impacts to these utility systems are not anticipated.

E. CUMULATIVE AND SECONDARY IMPACTS

Pursuant to the Hawai'i Administrative Rules, Chapter 200.1, Section 11-200.1-2, entitled Environmental Impact Statement Rules, a cumulative impact means:

...the 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 impacts” or “indirect impacts” are defined by Title 11, Chapter 200.1, HAR as:

...effects that are caused by the action or are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems including ecosystems.

The proposed action is a system improvement to the wastewater transmission system to eliminate a transmission constraint along a segment of Lower Main Street. The proposed action does not increase the overall capacity of the WKWRF, nor is it part of a larger wastewater system upgrade project. There are no other related wastewater facility improvements that would yield cumulative impacts. The sewerline improvement is needed to accommodate additional upstream flows in the Kehalani, Waiolani, and Waikapu areas. The Kehalani, Waiolani, and Waikapu areas are included in the Maui Island Plan's Urban Growth Boundary and Small Town Growth Boundary. The proposed action will improve sewer flows to benefit existing and future development in communities in the Central Maui region. The provision of adequate sewer facilities allows for development in proximity to capacity-based infrastructure systems. Significant adverse secondary impacts are not anticipated as a result of the proposed action.

**RELATIONSHIP TO
GOVERNMENTAL PLANS,
POLICIES, AND CONTROLS**



III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

This section discusses the relationship between the proposed action and State and County land use plans, policies, and controls for the Central Maui region.

A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205, Hawai'i Revised Statutes (HRS), all lands in the State have been placed into one (1) of four (4) major land use districts by the State Land Use Commission. These land use districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is located within the "Urban" district. See **Figure 9**. The proposed project is consistent with the "Urban" designation.

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 addressed herein. Below is an analysis of the project's applicability to Part I and Part III of the Hawai'i State Plan.

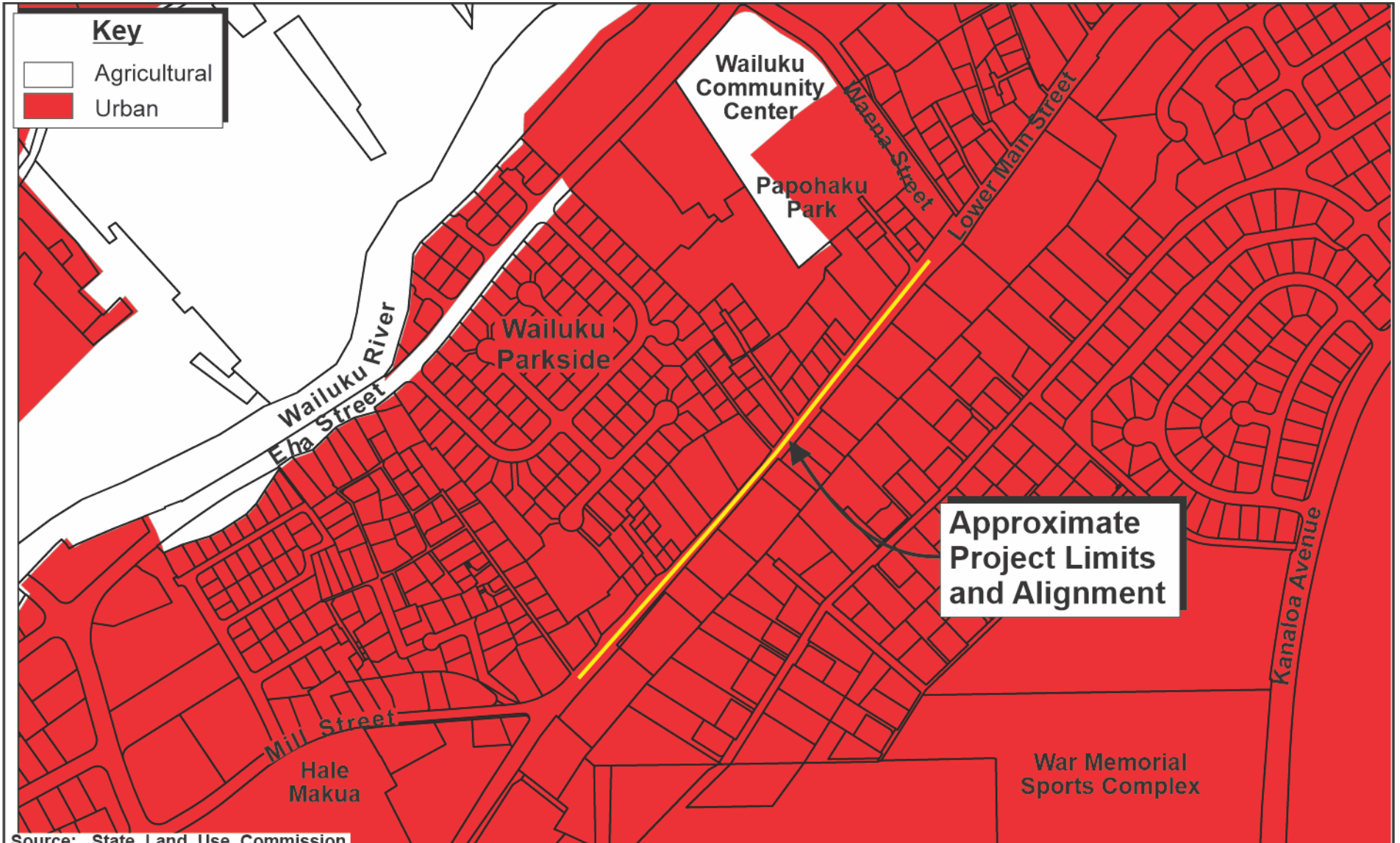
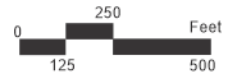


Figure 9

Lower Main Street Sewer Upgrade Project
State Land Use District Map



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			
<p>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: 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.</p> <p>(1) 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.</p> <p>(2) 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.</p>			
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: The proposed sewerline upgrade will increase the capacity of the sewer transmission system to accommodate existing and future population growth anticipated in the region.			
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:			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			✓
<u>Policies:</u>			
(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.			✓

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
(16) Provide equal employment opportunities for all segments of Hawaii's population through affirmative action and nondiscrimination measures.			✓
(17) Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.			✓
(18) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy, particularly with respect to emerging industries in science and technology.			✓
(19) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			✓
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: Not applicable.			
Chapter 226-7 Objectives and policies for the economy -- agriculture.			
Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			✓
(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.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies	S	N/S	N/A
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: Not applicable.			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
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.			✓

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
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.			✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.			✓
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.			✓
Analysis: Not applicable.			
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			✓

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
not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products;			✓
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			✓
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			✓
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			✓
(6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people;			✓
(7) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			✓
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			✓
(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.			✓

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: Not applicable.			
Chapter 226-10.5 Objectives and policies for the economy – – information industry.			
Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.			✓
Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawaii and between Hawaii and the world, and make high speed communication available to all residents and businesses in Hawaii;			✓
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth and innovation in Hawaii's economy;			✓
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawaii;			✓
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawaii, using technology to communicate with their headquarters, offices, or customers located out-of-state;			✓
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;			✓
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;			✓
(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.	✓		

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
<u>Policies:</u>			
(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.			✓
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			✓
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.			✓
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.	✓		
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.			✓
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.	✓		
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.			✓
<i>Analysis:</i> The project makes prudent use of Hawaii's land based resources by providing upgraded sewer service in close proximity to existing and future urban uses, primarily residential, commercial, and industrial centers. An environmental assessment is being carried out to ensure that the proposed project does not adversely impact Hawai'i's unique and fragile environmental resources. In the long term, the proposed project would increase sewage flow capacity and eliminate/minimize the possibility of sanitary sewer overflows (SSO's) and the environmental effects resulting from such events.			
Chapter 226-12 Objective and policies for the physical environment -- scenic, natural beauty, and historic resources.			
<u>Objective:</u> 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.	✓		
<u>Policies:</u>			
(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.			✓

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: Archaeological monitoring will be undertaken in accordance with the archaeological monitoring plan approved by the State Historic Preservation Division.			
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			
Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives.	✓		
(1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.	✓		
(2) Greater public awareness and appreciation of Hawaii's environmental resources.			✓
Policies:			
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.			✓
(2) Promote the proper management of Hawaii's land and water resources.	✓		
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.	✓		
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.			✓
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			✓
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.			✓
(7) Encourage urban developments in close proximity to existing services and facilities.	✓		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.			✓
Analysis: The upgrade of the sewerline along Lower Main Street will accommodate the sewage needs of existing and future development in the region. The provision of adequate sewer facilities prevents the degradation of water resources, while encouraging urban development in proximity to capacity-based infrastructure systems.			
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	S	N/S	N/A
Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.	✓		
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.	✓		
Analysis: The upgrade of the sewerline along Lower Main Street will accommodate the wastewater transmission needs of existing and future development in the region. Legacy Wailuku, LLC's participation in the project advances the value of public-private partnership in project development and implementation.			
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: The proposed project is an upgrade to the County wastewater system that connects to the Wailuku-Kahului Wastewater Reclamation Facility. The proposed upgrade will provide improved sewer transmission services to accommodate existing and future development in the region.			
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.			✓

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

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
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			✓
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.			✓
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
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;			✓

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

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(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 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.			✓
<i>Analysis:</i> As noted previously, the proposed project is an upgrade to the County wastewater system that connects to the Wailuku-Kahului Wastewater Reclamation Facility. The proposed upgrade will provide improved sewer transmission services to accommodate existing and future development in the region including affordable housing and other residential development.			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
<u>Objectives:</u> 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.			✓
<u>Policies:</u>			
(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.			✓

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
(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 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: The upgrade of the sewerline along Lower Main Street will provide improved sanitary facilities to accommodate the needs of existing and future development in the region.			
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.			

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
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 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.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
(7) 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.			✓
Analysis: Not applicable.			
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.			✓

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: 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 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.			✓
<u>Policies (Public Safety):</u>			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓
(2) Encourage increased community awareness and participation in public safety programs.			✓
<u>Policies (Public Safety-Criminal Justice):</u>			
(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.			✓
<u>Policies (Public Safety – Emergency Management):</u>			
(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.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
Policies:			
(1) 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.			✓
(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: The upgrade of the sewerline along Lower Main Street will provide improved sanitary facilities by the County of Maui to accommodate existing and future development in the region.			

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

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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.			✓
(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.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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.			✓
(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.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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.			✓
(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,			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
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.			
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.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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.			✓
(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 is in keeping with HRS 226-104 Priority Guidelines on Population, Growth, and Land Resources. The project will improve wastewater transmission services to accommodate existing and future development within the Wailuku region. The project represents a public-private partnership as the Wailuku Affordable Apartment Housing project has partnered with the County to support the design of the project.			
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.			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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 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			✓

HAWAII STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES	S	N/S	N/A
(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 sustainable Hawaii.			✓
Analysis: Not applicable.			
CHAPTER 226-109: Climate change adaptation			
Priority guidelines and principles to promote climate change adaptation shall include:			
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;			✓
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			✓
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;			✓
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			✓
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			✓
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			✓
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			✓
Analysis: Not applicable.			

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 Hawai'i State Plan

Table 1 provides an assessment of the relationship between the proposed action and each of the 13 Functional Plans.

Table 1. Relation Between the Lower Main Street Sewerline Capacity and Improvement Project and the State Functional Plans

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
1	Agriculture Functional Plan (1991)	Department of Agriculture	Continued viability of agriculture throughout the State	The proposed project does not involve lands designated as "Agricultural" nor Important Agricultural Lands (IAL). The project site is an existing County roadway. The proposed action does not contravene the objectives and policies of this functional plan.
2	Conservation Lands State Functional Plan (1991)	Department of Land and Natural Resources	Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry	The proposed project will not utilize any State Conservation lands. Similarly, the project is located inland, and not near the coastline. Best Management Practices (BMPs) will be implemented to prevent adverse impacts to downstream properties and the shoreline.
3	Education State Functional Plan (1989)	Department of Education	Improvements to Hawaii's educational curriculum, quality of educational staff, and access to adequate facilities	The proposed project will not create new demands on public education facilities. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
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	The proposed action will result in the creation of jobs through the construction period.
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	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.

Table 1. Relation Between the Lower Main Street Sewerline Capacity and Improvement Project and the State Functional Plans (continued)

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
6	Health State Functional Plan (1989)	Department of Health	Improve health care system by providing for those who don't have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
7	Higher Education Functional Plan (1984)	University of Hawaii	Prepare Hawaii's citizens for the demands of an increasingly complex world through providing technical and intellectual tools	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
8	Historic Preservation State Functional Plan (1991)	Department of Land and Natural Resources	Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai'i	Archaeological monitoring pursuant to an Archaeological Monitoring Plan approved by the State Historic Preservation Division will be conducted during construction.
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	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
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'	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.

Table 2. Relation Between the Lower Main Street Sewerline Capacity and Improvement Project and the State Functional Plans
(continued)

No.	State Functional Plan	State Coordinating Agency	Purpose	Analysis
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 action is not anticipated to contravene the objectives and policies of this functional plan.
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	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
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	There will be temporary traffic disruptions during construction. The project is limited to the installation of an underground sewerline and is not a generator of traffic. In this regard, the proposed action does not contravene the objectives and policies of this functional plan.

D. 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 Maui Island Plan as well as for updating the nine (9) 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 in nature. 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 guidelines 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 how 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 ahupua'a.			✓
(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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
Implementing Actions:			
(a) Develop island-wide networks of greenways, watercourses, and habitat corridors.			✓
Analysis: Not applicable.			
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.			✓
(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: Not applicable.			
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.			✓

COUNTYWIDE POLICY PLAN			
(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(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.			✓
<u>Implementing Actions:</u>			
(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.			✓
<i>Analysis:</i> The project will employ BMPs to prevent impacts from construction, including temporary erosion control, stormwater management and dust control. No identified sensitive habitats of flora and fauna species are found on the project site. The proposed project is not anticipated to have adverse impacts on the natural environment. In the long term, the proposed project eliminates/minimizes the possibility of sanitary sewer overflows from human and extreme weather events which are more likely to occur with global warming.			
<u>Objective:</u>			
(4) Educate residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.			✓
<u>Policies:</u>			
(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.			✓
<i>Analysis:</i> Not applicable.			
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
<u>Goal:</u> 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.			✓
<u>Objective:</u>			
(1) Perpetuate the Hawaiian culture as a vital force in the lives of residents.			✓
<u>Policies:</u>			
(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 ahupua'a and moku management practices.			✓
(d) Encourage the use of traditional Hawaiian architecture and craftsmanship.			✓
(e) Promote the use of the Hawaiian language.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(f) Recognize and preserve the unique natural and cultural characteristics of each ahupua'a 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 ahupua'a or district.			✓
(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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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: Not applicable.			
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.			✓

COUNTYWIDE POLICY PLAN			
(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(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.			✓
(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 Hawai'i 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 Hawai'i'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.			✓

COUNTYWIDE POLICY PLAN			
(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(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.			✓
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 Hawai'i'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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
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.			

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
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.			✓
(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: The proposed upgrade of the sewerline will accommodate future development in the region, including the Wailuku Apartment Rental Housing project which is intended to address the island's workforce housing needs.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
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.			✓
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: The proposed upgraded wastewater transmission system will accommodate future development in the region, including workforce housing units.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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 upgrade of the wastewater transmission infrastructure will increase the system's capacity to accommodate future development within existing communities in the region.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(c) Capitalize on Hawai'i'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.			✓
(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 kama'aina 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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
(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: Not applicable.				
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: <ul style="list-style-type: none"> • Health and wellness industry; • Sports and recreation industry; • Film and entertainment industry; • Arts and culture industry; • Renewable-energy industry; 	<ul style="list-style-type: none"> • 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: Not applicable.				

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
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.			✓
(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: Not applicable.			
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: Not applicable.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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: Not applicable.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
Analysis: Not applicable.				
Objective:				
(3) Improve opportunities for affordable, efficient, safe, and reliable air transportation.				✓
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:				

COUNTYWIDE POLICY PLAN			
(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(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.			✓
(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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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: The project will upgrade and improve County wastewater transmission capacity to accommodate future development in the region. In the long term, the proposed project improves the Wailuku wastewater system collection and transmission system with environmentally sound outcomes. The proposed project increases wastewater flow capacity in the Wailuku area, thereby, eliminating or minimizing the possibility of sewer overflows during extreme weather events.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.	✓		
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: The project project involves upgrades to the County wastewater system along Lower Main Street to increase system capacity to accommodate existing and future development in the Wailuku, Waikapu, and Kehalani areas which are approved or designated for future growth.			
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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 project involves upgrades to the County wastewater system along Lower Main Street to increase system capacity to accommodate future growth in the Wailuku and Waikapu areas.			
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.			✓
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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)		S	N/S	N/A
Analysis: The proposed upgrades to the County wastewater system along Lower Main Street to increase system capacity will accommodate future development in the Wailuku and Waikapu areas having appropriate urban growth land use designations.				
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.				✓
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.				✓

COUNTYWIDE POLICY PLAN			
(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
	S	N/S	N/A
(c) Establish and enhance urban forests in neighborhoods and business districts.			✓
Analysis: Not applicable.			
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.			✓
(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 sunseting 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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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 Lana'i and Moloka'i 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.			✓

COUNTYWIDE POLICY PLAN (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(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.			✓
(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.			

E. 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*

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 the Urban Growth Boundary (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 a roadway corridor of the UGB of the MIP's Wailuku-Kahului region. It is further noted that the subject property is "Outside of Protected Areas" in the MIP. The sewerline project will improve sewer flows for existing and future development within the Kehalani, Waiolani, and Waikapu areas, which are within the UGB and small town growth boundary of 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, Hawai’i 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.			✓
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
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
2.3	Enhance the island's historic, archaeological, and cultural resources.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis:</i> Not applicable.				
<u>SHORELINE, REEFS, AND NEARSHORE WATERS</u>				
<u>Goal:</u>				
2.2	An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.			✓
<u>Objective:</u>				
2.2.1	A more comprehensive and community-based CZM program.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
<u>Policies:</u>			
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-Kina'u Natural Area Reserve, Honolua-Mokulē'ia 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.			✓
<u>Objective:</u>			
2.2.2 Improved reef health, coastal water quality, and marine life.			✓
<u>Policies:</u>			
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.			✓
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.			✓

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.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.			✓
<u>Objective:</u>				
2.2.3	Water quality that meets or exceeds State Clean Water Act standards.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
2.2.4	Acquire additional shoreline lands and shoreline access rights.			✓
<u>Policies:</u>				
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.			✓
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: Not applicable.				
<u>WATERSHEDS, STREAMS, AND WETLANDS ISSUES</u>				

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
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 ahupua'a 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 ahupua'a 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 Hawai'i 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.			✓
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.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
2.3.3.c	Where applicable, require developers to provide a wetland protection buffer and/or other protective measures around and between development and wetland resources.			✓
<u>Objective:</u>				
2.3.4	Greater preservation of native flora and fauna biodiversity to protect native species.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
2.3.5	Limited development in critical watershed areas.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
2.3.6	Enhance the vitality and functioning of streams, while balancing the multiple needs of the community.			✓
<u>Policies:</u>				
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 ahupua'a.			✓
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.			✓
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 lo'i, and maintain adequate flows for the production of healthy kalo crops.			✓
Analysis: Not applicable.				
<u>WILDLIFE AND NATURAL AREAS</u>				

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
<u>Goal:</u>				
2.4	Maui's natural areas and indigenous flora and fauna will be protected.			✓
<u>Objective:</u>				
2.4.1	A comprehensive management strategy that includes further identification, protection, and restoration of indigenous wildlife habitats.			✓
<u>Policies:</u>				
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).			✓
<u>Objective:</u>				
2.4.2	A decrease in invasive species through programs and partnerships that eradicate undesirable species and protect native habitat.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
2.4.3	Greater protection of sensitive lands, indigenous habitat, and native flora and fauna.			✓
<u>Policies:</u>				
2.4.3.a	Secure an interconnected network of sensitive lands, greenways, watercourses, and habitats.			✓
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			✓

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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.				
<u>SCENIC RESOURCES</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				
2.5.1	A greater level of protection for scenic resources.			✓
<u>Policies:</u>				
2.5.1.a	Protect views to include, but not be limited to, Haleakalā, Īao Valley, the Mauna Kahalawai (West Maui Mountains), Pu'u Ō'la'i, Kaho'olawe, Molokini, Moloka'i, and Lāna'i, 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.			✓
2.5.1.e	Protect scenic resources along Maui's scenic roadway corridors.			✓
<u>Objective:</u>				
2.5.2.	Reduce impacts of development projects and public-utility improvements on scenic resources.			✓
<u>Policies:</u>				
2.5.2.a	Enforce the policies and guidelines of the SMA regarding the protection of views.			✓

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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: Not applicable.				
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;			✓
	(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:				

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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.			✓
<u>Objective:</u>				
3.1.3	A more coordinated emergency response system that includes clearly defined and mapped evacuation routes.			✓
<u>Policy:</u>				
3.1.3.a	Identify and expand shelter facilities and evacuation routes away from areas susceptible to natural hazards.			✓
<u>Objective:</u>				
3.1.4	A more educated and involved public that is aware of and prepared for natural hazards.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis:</i> Not applicable.				
<u>CHAPTER 4 – ECONOMIC DEVELOPMENT</u>				
<u>ECONOMIC DIVERSIFICATION</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				
4.1.1	A more diversified economy.			✓
<u>Policies:</u>				
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			✓

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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.				✓
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: Not applicable.					
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.				✓

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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 kama'āina 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.				✓
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.					

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<u>AGRICULTURE</u>				
<u>Goal:</u>				
4.3	Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.			✓
<u>Objective:</u>				
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.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
4.3.2	Maintain or increase agriculture's share of the total island economy.			✓
<u>Policies:</u>				
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.			✓
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.			✓
<u>Objective:</u>				
4.3.3	Expand diversified agriculture production at an average annual rate of 4 percent.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis:</i> Not applicable.				
<u>EMERGING SECTORS</u>				

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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.			✓
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.				
<u>SMALL BUSINESS DEVELOPMENT</u>				
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.			✓

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<u>Policies:</u>				
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.			✓
<i>Analysis:</i> Not applicable.				
<u>HEALTH CARE SECTOR</u>				
<u>Goal:</u>				
4.6	Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.			✓
<u>Objective:</u>				
4.6.1	Expand the economic benefits of the health care sector.			✓
<u>Policies:</u>				
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.			✓
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.			✓
<u>Objective:</u>				
4.6.2	Be more efficient in the delivery of health care services and in minimizing health care costs.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				

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4.6.3.	Expand Maui's alternative health care services, including spiritual practices.			✓
<u>Policies:</u>				
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.				
<u>EDUCATION AND WORKFORCE DEVELOPMENT</u>				
<u>Goal:</u>				
4.7	Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.			✓
<u>Objective:</u>				
4.7.1	Improve preschool and K-12 education to allow our youth to develop the skills needed to successfully navigate the 21st century.			✓
<u>Objective:</u>				
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;			✓
	(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 Hawai'i 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.			✓
<u>Objective:</u>				
4.7.2	Encourage an increase in the number of certificate recipients and associate, bachelors, and graduate degrees conferred.			✓
<u>Policies:</u>				

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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 Hawai'i 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.			✓
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.			✓

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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.			✓
<u>Objective:</u>				
5.1.2	Better monitoring, evaluation, and refinement of affordable housing policy in conjunction with the economic cycle.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
5.1.3	Provide affordable housing, rental or in fee, to the broad spectrum of our island community.			✓
<u>Policies:</u>				
5.1.3.a	Consider regulations that can help keep affordable housing available at affordable rents.			✓
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.			✓
<u>Objective:</u>				
5.1.4	Provide infrastructure in a more timely manner to support the development of affordable housing.	✓		
<u>Policies:</u>				
5.1.4.a	Prioritize the development of infrastructure that supports the development of affordable housing.	✓		

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable			S	N/S	N/A
5.1.4.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.			✓	
<u>Objective:</u>					
5.1.5	A wider range of affordable housing options and programs for those with special needs.			✓	
<u>Policies:</u>					
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.			✓	
<u>Objective:</u>					
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.			✓	
<u>Policies:</u>					
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.			✓	
<u>Objective:</u>					
5.1.7	Increased preservation and promotion of indigenous Hawaiian housing and architecture.			✓	
<u>Policies:</u>					
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 lā'au lapa'au.			✓	
<i>Analysis:</i> The proposed project will upgrade wastewater infrastructure to increase capacity of the transmission system to accommodate future housing development, including affordable housing, in consonance with the MIP's goal, objectives, and policies for housing.					
CHAPTER 6 – INFRASTRUCTURE AND PUBLIC FACILITIES					
SOLID WASTE					
<u>Goal:</u>					

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	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.			✓
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.	✓		

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.2.1.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.			✓
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: The proposed project will make certain improvements to the County wastewater collection system (on Lower Main Street) to accommodate existing and anticipated increase in wastewater flow generated by existing and future developments. Legacy Wailuku LLC, developers of the Wailuku Apartment Rental Housing Project, is participating in the design funding for the proposed action.				
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:				

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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.			✓
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.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
6.4.2	Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.			✓
<u>Policies:</u>				
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.			✓
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 <i>Central Maui Pedestrian & Bicycle Master Plan</i> (March 2012), when consistent with the MIP.			✓
<u>Objective:</u>				
6.4.3	An island-wide, multimodal transportation system that respects and enhances the natural environment, scenic views, and each community’s character.			✓
<u>Policies:</u>				
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.			✓
<u>Analysis:</u> Not applicable.				
<u>TRANSIT</u>				
<u>Goal:</u>				
6.5	An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.			✓
<u>Objective:</u>				

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	An integrated transit system that better serves all mobility needs of Maui's residents and visitors.			✓
<u>Policies:</u>				
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.			✓
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.			✓
<u>Objective:</u>				
6.5.2	Plan for a more diversified and stable funding base to support transportation goals.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis:</i> Not applicable.				
<u>PARKS</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				

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6.6.1	More effective, long-range planning of parks and recreation programs able to meet community needs.			✓
<u>Policies:</u>				
6.6.1.a	Support, consistent with the MIP, the implementation of open-space and recreational plans, such as the <i>Pali to Puamana Parkway Master Plan</i> and the <i>Upcountry Greenways Master Plan</i> .			✓
6.6.1.b	Utilize the ahupua'a 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 lo'i 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.			✓
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-Kīna'u and La Perouse-Keone'ō'io Bay to Kanaloa Point region.			✓
<u>Objective:</u>				
6.6.2	Achieve parks and recreation opportunities to meet the diverse needs of our community.			✓
<u>Policies:</u>				
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.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.6.2.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.			✓
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 Pu'unēnē.			✓
6.7.1.f	Adequately plan and fund public safety facilities (fire, police, ambulance, civil defense) to meet community needs.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
6.7.1.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: Not applicable.				
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.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
<u>Policies:</u>				
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.				
<u>HEALTH CARE</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				
6.9.1	Greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
6.9.2	An expansion of long-term care facilities and long-term care alternatives to meet the needs of our aging population.			✓
<u>Policies:</u>				
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.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
Objective:				
6.9.3	More support to home-care and community-based programs so they become alternatives to traditional nursing homes.			✓
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:				

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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.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
6.10.3	Increased use of clean, renewable energy.			✓
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
6.10.4	More efficient distribution of power throughout the island while preserving island beauty.			✓
<i>Analysis:</i> Not applicable.				
<u>HARBORS AND AIRPORT</u>				
<u>Goal:</u>				
6.11	Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.			✓
<u>Objective:</u>				
6.11.1	Upgraded harbor facilities to handle larger volumes of freight and passengers and additional small boat harbors.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
<u>Policies:</u>			
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:			✓
(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.			✓
<u>Objective:</u>			
6.11.2 Establish more economically thriving and environmentally sensitive small boat harbors accommodating resident and business activity, including fishing, recreation, and tour boats.			✓
<u>Policy:</u>			
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).			✓
<u>Objective:</u>			
6.11.3 Upgraded airport facilities and navigation aids to serve the needs of passengers, freight movements, and general aviation.			✓
<u>Policies:</u>			
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).			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
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.				
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
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
7.1.3	Support and facilitate connectivity between communities.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis: Not applicable.</i>				
<u>RURAL AREAS</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				
7.2.1	Reduce the proliferation and impact of residential development outside of urban, small town, and rural growth boundaries.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
<u>Policies:</u>				
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.			✓
<u>Objective:</u>				
7.2.2	More appropriate service/infrastructure standards to enhance and protect the island's rural character and natural systems.			✓
<u>Policies:</u>				
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.			✓
<i>Analysis: Not applicable.</i>				
<u>URBAN AREAS</u>				
<u>Goal:</u>				
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.			✓
<u>Objective:</u>				
7.3.1	Facilitate and support a more compact, efficient, human-scale urban development pattern.			✓
<u>Policies:</u>				
7.3.1.a	Ensure higher-density compact urban communities, infill, and redevelopment of underutilized urban lots within Urban Growth Boundaries.			✓

Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable	S	N/S	N/A
7.3.1.b Maintain a distinct separation between communities, such as but not limited to, Wailuku and Waikapū; Wailuku and Waihe'e; Pukalani and Makawao; Pukalani and Kula; Makawao and Hāli'imaile; Lahaina and Kā'anapali; Kīhei and Mā'alaea; and Mā'alaea 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.			✓
<u>Objective:</u>			
7.3.2 Facilitate more self-sufficient and sustainable communities.			✓
<u>Policies:</u>			
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.			✓
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.			✓

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.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.			✓
<u>Objective:</u>			
7.3.3 Strengthen the island's sense of place.			✓
<u>Policies:</u>			
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.			✓
<u>Objective:</u>			
7.3.4 Strengthen planning and management for the visitor industry to protect resident quality of life and enhance the visitor experience.			✓
<u>Policies:</u>			
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.			✓
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.			✓

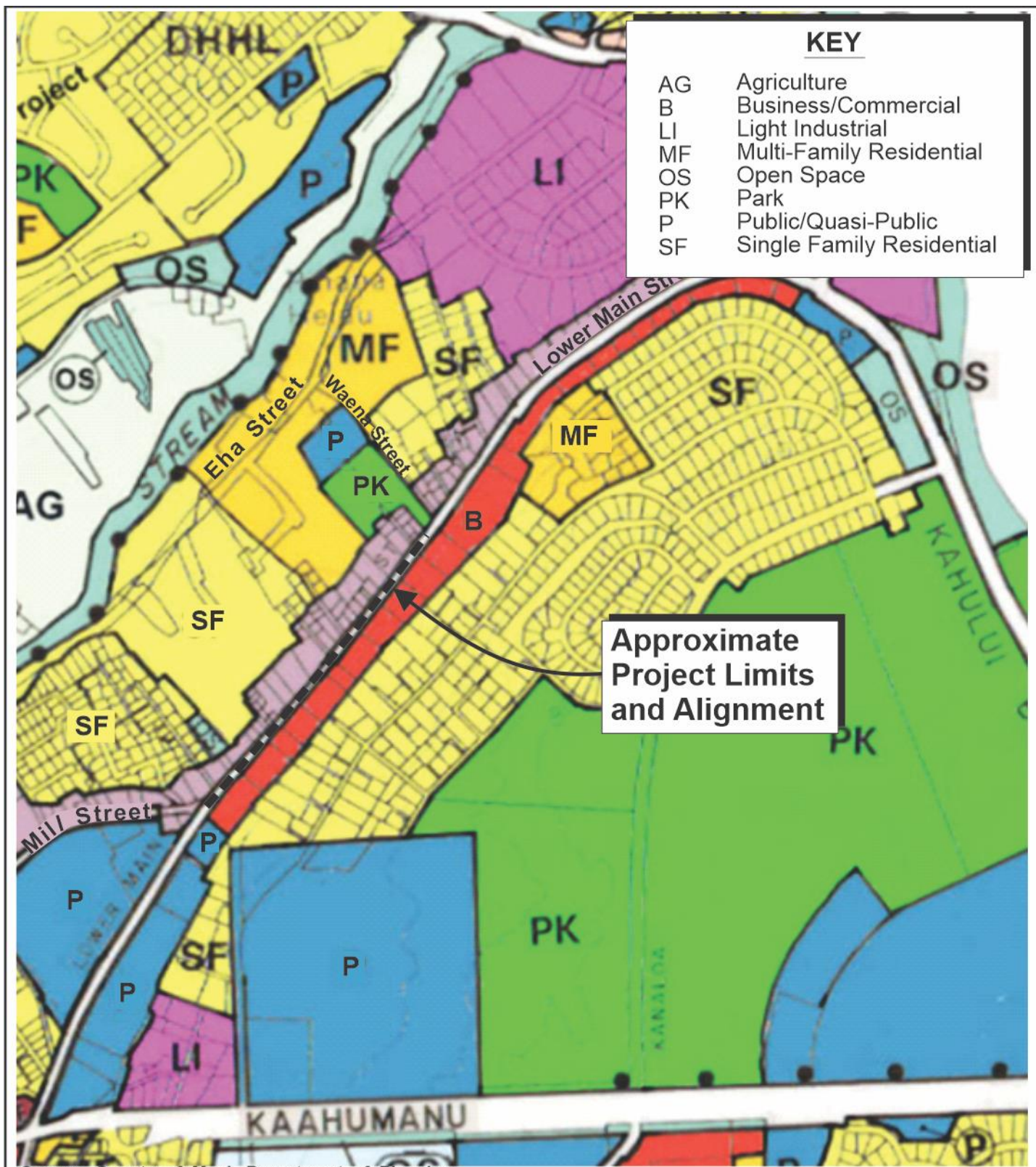
Maui Island Plan Goals, Objectives and Policies Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
7.3.4.d	Limit large-scale resort development to the four existing resort destination areas of Wailea, Mākena, Kapalua and Kā'anapali. "Large Scale Resort" is defined as complexes 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: Not applicable.				
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.			✓
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.			✓

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.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: The project is located in the UGB. The proposed project involves upgrading the sewer transmission system along a segment of Lower Main Street to increase capacity to accommodate future developments in the UGB and STB. The proposed action is consistent with the MIP's directed growth strategies.				
<u>RURAL GROWTH AREA</u>				
<u>Goal:</u>				
8.2	Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations.			✓
<u>Policies:</u>				
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.			✓
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.			✓

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.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.				
<u>PROTECTED AREA POLICY</u>				
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.				

F. WAILUKU-KAHULUI COMMUNITY PLAN

The project site is located within the Wailuku-Kahului Community Plan region, one (1) of nine (9) community plan regions established in the County of Maui. Each region's growth and development is guided by a Community Plan. The County's Community Plan reflects current and anticipated conditions in the Wailuku-Kahului region and advances planning goals, objectives, policies, and implementation considerations to guide decision-making in the region. The primary purpose of the Community Plan is to outline a detailed agenda for carrying out these policies and objectives. The Wailuku-Kahului Community Plan was adopted by the County of Maui through Ordinance Number 3061, and became effective on June 5, 2002. The Community Plan land use map designates the subject property as a roadway right-of-way (Lower Main Street). See **Figure 10**.



Source: County of Maui, Department of Planning

Figure 10 Lower Main Street Sewer Upgrade Project
Community Plan Map

NOT TO SCALE



Prepared for: County of Maui, Department of Environmental Management



The Wailuku-Kahului Community Plan identified the upgrading and expansion of public infrastructure as one of the major problems in the community plan region. The proposed upgrade of the sewer transmission line within Lower Main Street will increase capacity through the transmission system to accommodate future developments, such as but not limited to, approved affordable housing projects on Wai'ale Road.

The proposed project is consistent with the following goals, objectives and policies of the Wailuku-Kahului Community Plan as outlined below.

CULTURAL RESOURCES

Goal:

Identification, protection, preservation, enhancement, and where appropriate, use of cultural practices and sites, historic sites and structures, and cultural landscapes and view plants that:

- *Provide a sense of historic and define a sense of place for the Wailuku-Kahului region*

Objectives and Policies:

- *Preserve the character and integrity of historic sites in the Wailuku-Kahului region.*
- *Require development projects to identify all cultural resources located within the project area as part of initial project studies. Further, require that all proposed activity include recommendations to mitigate potential adverse impacts on culture resources.*
- *Preserve and restore historic roads, paths, and water systems as cultural resources, and support public access.*

Implementing Actions:

Require development projects to identify all cultural resources located within or adjacent to the project area and consult with individuals knowledgeable about such cultural resources prior to application as part of the County development review process. Further, require that all proposed activity include recommendations to mitigate potential adverse impacts on cultural resources including site avoidance, adequate buffer areas, and interpretation. Particular attention should be directed toward dune areas, known and probable pre-contact habitation areas, and other sites and areas listed in No. 5 below, with review by the Cultural Resources Commission, where appropriate.

Establish recognition of culturally sensitive areas such as Naniloa Bridge, Waiale Bridge, and burial and habitation sites along Lower Main Street and Kahului Beach Road.

Significant Wailuku-Kahului region sites and areas include the following:

- *Habitation and burial sites along Lower Main Street corridor*

Discussion and Response: Historic preservation consultation with the SHPD was undertaken pursuant to Chapter 6E, HRS and a Cultural Impact Assessment (CIA) was prepared for the project. Archaeological monitoring pursuant to a SHPD approved AMP will be implemented during construction. Should human remains be encountered work shall stop in the immediate area of the find, the area will be secured, and the SHPD contacted. As appropriate, mitigation measures shall be incorporated into the project.

LAND USE

Goal:

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

Objectives and Policies:

Upon adoption of this plan, allow no further development unless infrastructure, public facilities, and services needed to service new development are available prior to or concurrent with the impacts of new development.

Discussion and Response: The proposed upgrade to the sewer transmission line in Lower Main Street will increase transmission capacity to the Wailuku-Kahului Wastewater Reclamation Facility (WKWWRF) and accommodate future development within the Wailuku region, including approved affordable housing projects.

INFRASTRUCTURE

Goal:

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

LIQUID AND SOLID WASTE

Objective and Policy:

- *Coordinate sewer system improvement plans with future growth requirements, as defined in the Community Plan.*

Discussion and Response: As noted previously, the proposed upgrade to the sewer transmission system along a segment of Lower Main Street will increase transmission capacity to the WKWRF and accommodate future development within the Wailuku region, including approved affordable housing projects.

PLANNING STANDARDS

Cultural Resources

Require development to identify significant cultural resources located within the project area as part of initial project studies. Further, require all proposed activity to include recommendations to mitigate potential adverse impacts on cultural resources.

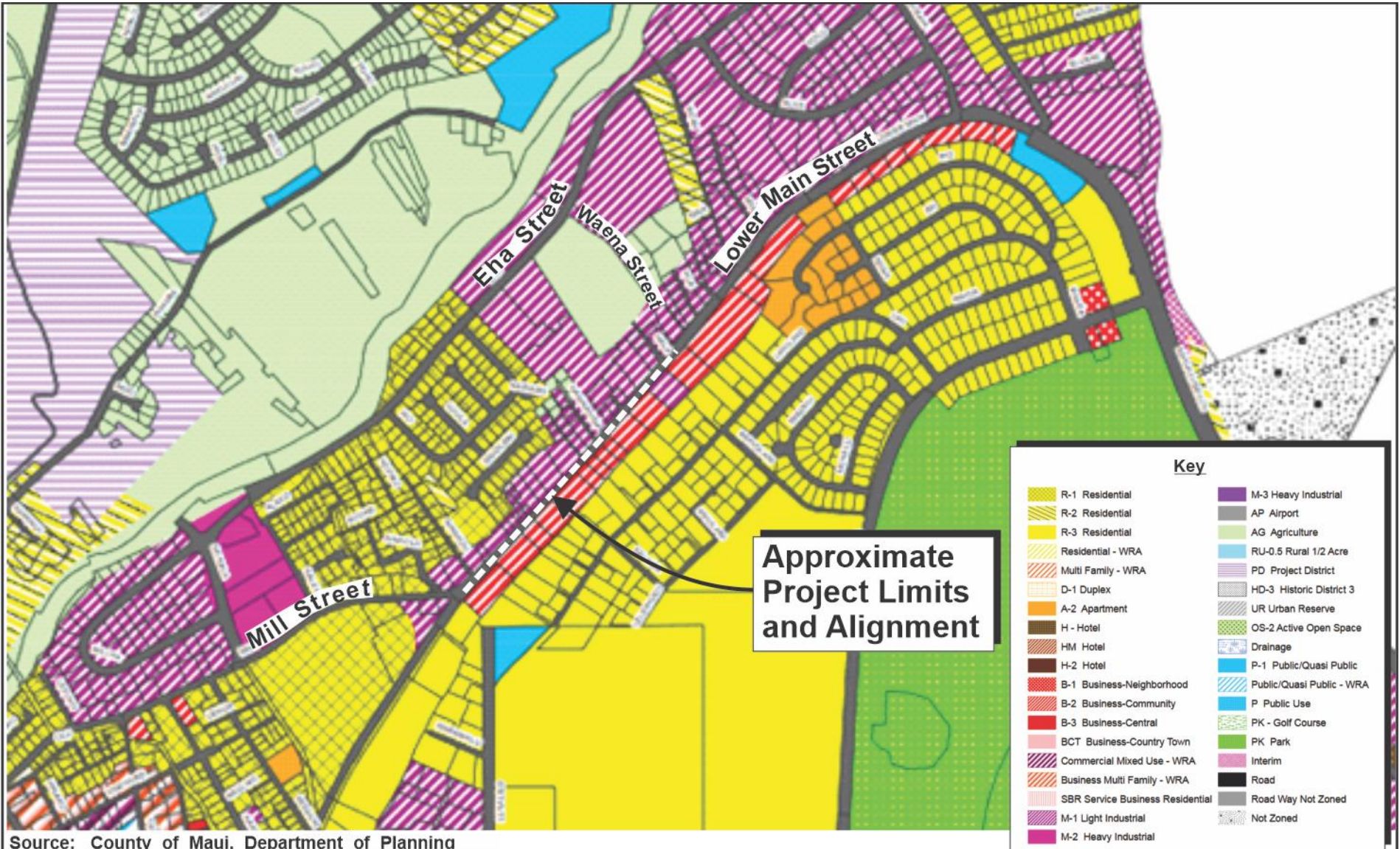
Discussion and Response: As noted previously, historic preservation consultation with the SHPD was undertaken pursuant to Chapter 6E, HRS and a Cultural Impact Assessment (CIA) was prepared for the project. Archaeological monitoring pursuant to a SHPD approved AMP will be implemented during construction. Should human remains be encountered work shall stop in the immediate area of the find, the area secured, and the SHPD contacted. As appropriate, mitigation measures shall be incorporated into the project.

G. COUNTY ZONING

The project site is identified as a roadway (not zoned) on the digital zoning maps adopted by the County of Maui through Ordinance No. 4883 effective on October 6, 2018. See **Figure 11**.

H. HAWAI'I COASTAL ZONE MANAGEMENT PROGRAM

The Hawai'i Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawai'i's coastal zone. Although the subject property is not within the County of Maui's Special Management Area, the applicability of coastal zone management considerations applies to all lands in the State of Hawaii and, as such, has been reviewed and assessed as follows.



Source: County of Maui, Department of Planning

Figure 11 Lower Main Street Sewer Upgrade Project
Digital Zoning Map

NOT TO SCALE



Prepared for: County of Maui, Department of Environmental Management



1. **Recreational Resources**

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

- a. *Improve coordination and funding of coastal recreational planning and management; and*
- b. *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
 - i. *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - ii. *Requiring replacement of coastal resources having significant recreational value including, but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*
 - iii. *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
 - iv. *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
 - v. *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
 - vi. *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
 - vii. *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
 - viii. *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 project site is located inland and away from the coastline. The proposed action is not expected to impact coastal recreational opportunities or affect existing public access to and along the shoreline.

2. Historic/Cultural 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: A CIA and archaeological consultation were carried out for the proposed project. Archaeological monitoring pursuant to a SHPD approved AMP will be implemented during construction.

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: As indicated previously, the project is not located on or near the shoreline and represents an upgrade to the underground sewer transmission line

in the Lower Main Street right-of-way. As such, the proposed project will not adversely impact coastal scenic and open space resources.

4. Coastal Ecosystem

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 project is located inland, away from coastal ecosystems and is, therefore, not anticipated to have adverse impacts on coastal/shoreline resources, including reefs and marine resources. The proposed project does not include any stream diversions or channelization. Appropriate Best Management Practices (BMPs) will be utilized to ensure that construction runoff is appropriately retained, minimizing any impact on coastal waters.

5. Economic Use

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 proposed project is not a coastal dependent development. The project site is located inland from the shoreline. The proposed project will stimulate the economy through the generation of construction jobs. The proposed project does not contravene the objective and policies for economic use.

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 project site falls within Zone X, an area of minimal flooding. Adverse impacts to hazard-sensitive areas are not anticipated as the project site is not located within a flood hazard district and is not located near the shoreline. In addition, the project site is located outside of tsunami evacuation areas.

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: Opportunities for agency and public review of the proposed action are provided pursuant to Chapter 343, HRS. The DEM has, and will continue to engage the public through the project planning and design processes. Consultation has also occurred through the CIA process in which 89 Hawaiian organizations, agencies, and community members were contacted.

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: Opportunities for agency and public review of the proposed action are provided through the comment processes pursuant to Chapter 343, HRS. Consultation has also occurred through the CIA process in which 89 Hawaiian organizations, agencies, and community members were contacted.

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 project site is located inland, away from the shoreline and is not anticipated to impact shoreline processes.

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: The project is located inland, away from the ocean and is, therefore, not anticipated to have an impact on marine resources.



**ALTERNATIVES TO THE
PROPOSED ACTION**

IV



IV. ALTERNATIVES TO THE PROPOSED ACTION

The following is a discussion of the various development alternatives that have been considered by the Applicant as part of the planning process.

A. PREFERRED ALTERNATIVE

The preferred alternative, as described in Chapter I of this Environmental Assessment, involves the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street between Ainahou Place and Hala Place. The proposed project is a necessary upgrade that will improve sewer flows and benefit communities in the region, including the Kehalani, Waiolani, and Waikapu areas of Wailuku.

B. SEWERLINE REPLACEMENT ALTERNATIVE

As noted previously, the proposed project is a necessary upgrade to improve sewer flows in the region. The preferred alternative involves installing a parallel line to increase sewer flow in this segment of Lower Main Street. An alternative to installing a parallel line would be direct replacement of the existing 12-inch line with a larger diameter pipe. However, the sewerline replacement alternative is impractical as there would be no ability to safely divert existing wastewater flows upstream of the pipe segment being replaced while it is under construction.

C. NO ACTION OR DEFERRAL OF ACTION ALTERNATIVES

The “No Action” or “Deferral of Action” alternatives is not considered fitting as leaving the existing sewerline in place prevents additional sewer connections from upstream developments, including those providing affordable products for local residents.



**SUMMARY OF ADVERSE
ENVIRONMENTAL EFFECTS
WHICH CANNOT BE
AVOIDED**



V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Assessment of construction-related impacts, noise and air quality impacts, and potential impacts on the physical and socio-economic environment, as well as a Cultural Impact Assessment were carried out as part of the environmental assessment documentation process. Additionally, archaeological monitoring will be undertaken during construction in accordance with an archaeological monitoring plan approved by the State Historic Preservation Division. The proposed development is anticipated to have limited, unavoidable construction-related impact on the environment, as described in Chapter II.

In the short term, construction associated with the proposed project will have a temporary impact on air quality from dust generation and discharge of exhaust from construction equipment during trenching activities. Appropriate BMPs will be incorporated to mitigate adverse construction-related impacts, including but not limited to, watering of exposed surfaces and regular maintenance of construction equipment.

Installation of the proposed parallel sewerline will also generate unavoidable short-term noise impacts. The use of properly maintained construction equipment will mitigate noise impacts caused by equipment. The incorporation of State Department of Health construction noise limits and curfew times are measures to mitigate noise impacts caused by construction activities.

The project will provide access and related traffic control measures to ensure that project-related traffic impacts can be mitigated.

**IRREVERSIBLE AND
IRRETRIEVABLE
COMMITMENT OF
RESOURCES**

VI

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed sewerline replacement project will involve the commitment of energy, labor fiscal and material resources. As an infrastructure upgrade action, the project will not create new population demands which could place added burden to public services and facilities. The expected benefit of the proposed action, when weighed against resource commitments, are not considered adverse, particularly in the context of enabling the provision of new housing inventory for Maui residents.



**LIST OF PERMITS AND
APPROVALS**

VII



VII. LIST OF PERMITS AND APPROVALS

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

State of Hawai'i, Department of Health

1. Chapter 11-46, Community Noise Control, as applicable
2. National Pollution Discharge Elimination System (NPDES) Permit, as applicable

County of Maui

1. Construction Permits (i.e., Work to Perform, Grading)



**SIGNIFICANCE
CRITERIA ASSESSMENT**

VIII



VIII. SIGNIFICANCE CRITERIA ASSESSMENT

The “Significance Criteria”, defined in Section 7 of the Chapter 11-200.1 of the Hawai’i Administrative Rules (HAR), were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following criteria and analyses are provided.

1. **Irrevocably commit a natural, cultural, or historic resources.**

There are no known rare, threatened, or endangered species of flora, fauna, avifauna, or important habitats located within the project site. As mentioned previously, archaeological monitoring will be undertaken in accordance with an archaeological monitoring plan approved by the State Historic Preservation Division (SHPD).

2. **Curtails the range of beneficial uses of the environment.**

The proposed sewer transmission upgrade project will occur within the existing Lower Main Street right-of-way. There are no direct adverse impacts anticipated beyond the spatial limits of the right-of-way. In this regard, the proposed action is not anticipated to curtail the range of beneficial uses of the environment.

3. **Conflicts with the State’s environmental policies or long-term environmental goals established by law.**

The proposed action does not conflict with long-term goals and policies of State environmental laws, including, but not limited to, Chapter 343, Hawai’i Revised Statutes (HRS) and Chapter 344, HRS. This environmental document has been prepared in accordance with Chapter 11-200.1, HAR, “Environmental Impact Statement Rules”.

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

The proposed action will have a beneficial effect on the local economy during construction. In the long term, the proposed project will allow for the continued provision of housing at upstream residential locations requiring connection to the County’s wastewater system.

5. **Has a substantial adverse effect on public health.**

No adverse impact to public health or welfare is anticipated as a result of the proposed action.

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

The sewerline improvement is needed to accommodate additional upstream flows in the Kehalani, Waiolani, and Waikapu areas. The Kehalani, Waiolani, and Waikapu areas are included in the Maui Island Plan's Urban Growth Boundary and Small Town Growth Boundary. The proposed action will improve sewer flows to benefit existing and future development in communities in the Central Maui region. The provision of adequate sewer facilities allows for development in proximity to capacity-based infrastructure systems. Significant adverse secondary impacts are not anticipated as a result of the proposed action.

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

No substantial degradation of environmental quality resulting from the action is anticipated. Best Management Practices (BMPs) and appropriate erosion control measures will be utilized during the construction period. The scope of the project will be limited to the Lower Main Street right-of-way. In the long term, the proposed project action will increase sewage flow capacity and eliminate/minimize the possibility of sanitary sewer overflows (SSO's) and the environmental effects resulting from such events.

8. **Is individually limited but cumulatively has substantial adverse effects upon the environment or involves a commitment for larger actions.**

The proposed action is a stand-alone project, and does not represent a commitment to a larger action. There are no anticipated cumulative impacts associated with the proposed action.

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

No rare, threatened, or endangered species of flora, fauna, avifauna, or important habitats are identified within the Lower Main Street right-of-way. The project will not have an adverse effect on rare, threatened, or endangered species, or its habitat.

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

Construction activities may pose a temporary short-term impact on air and noise quality; however, impacts will be mitigated through the use of BMPs. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will be mitigated by limiting construction to daylight work hours. Utilizing approved BMPs, adverse impacts to water quality are not anticipated.

In the long term, the proposed action is not anticipated to have a significant adverse impact on air and water quality or ambient noise levels.

11. **Has 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.**

According to the Federal Emergency Management Agency's Flood Insurance Rate Maps currently in effect, the project site falls within Zone X, an area of minimal flooding.

The project site is situated inland and is not anticipated to have any adverse impact upon coastal waters or resources, beaches, estuaries, or other fresh water bodies. The project site is located outside of the tsunami inundation zone and sea level rise exposure areas.


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

The proposed sewerline project is a subsurface infrastructure upgrade action. As such, there will be no post-construction visual evidence of the work completed. The project is located inland away from coastal and open space areas and will not substantially affect coastal scenic or open space resources.

13. **Requires substantial energy consumption or emit substantial greenhouse gas.**

The proposed action will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in the long-term consumption of energy resources, nor will it emit substantial greenhouse gases.

In summary, the proposed sewerline project will take place within the limits of the Lower Main Street right-of-way and is not anticipated to have a significant adverse impact on the physical, cultural, and socio-economic environments. Based on the preceding analysis in this EA document, and in accordance with the significance criteria set forth herein, the proposed project has been determined to qualify for a finding of no significant impact (FONSI).



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

IX

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

The following agencies, organizations, and individuals were consulted during preparation of the Draft Environmental Assessment (EA). This Chapter addresses early consultation comments received from these agencies, organizations, and individuals.

FEDERAL

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

7. State of Hawai'i
Department of Business, Economic
Development & Tourism
Office of Planning
235 S. Beretania Street, 6th Floor
Honolulu, Hawai'i 96813

State Agencies

2. Arthur "Joe" Logan, Adjutant General
Hawai'i State Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816

8. State of Hawai'i
Department of Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816

3. Gill Keith-Agaran, Senator
Hawai'i State Senate
Hawai'i State Capitol, Room 221
415 S. Beretania Street
Honolulu, Hawai'i 96813

9. Christine Kishimoto, Superintendent
State of Hawai'i
Department of Education
P.O. Box 2360
Honolulu, Hawai'i 96804

4. Troy Hashimoto, Representative
House of Representatives
Hawai'i State Capitol, Room 431
415 S. Beretania Street
Honolulu, Hawai'i 96813

10. William Aila, Jr., Interim Chair
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805

5. Curt Otaguro, Comptroller
State of Hawai'i
Department of Accounting and General
Services
1151 Punchbowl Street, #426
Honolulu, Hawai'i 96813

11. Bruce Anderson, Director
State of Hawai'i
Department of Health
1250 Punchbowl St., Room 325
Honolulu, Hawai'i 96813

6. Mike McCartney, Director
State of Hawai'i
Department of Business, Economic
Development & Tourism
P.O. Box 2359
Honolulu, Hawai'i 96804

12. Suzanne Case, Chairperson
State of Hawai'i
Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawai'i 96809

13. Alan Downer, Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai'i 96707
14. Jade Butay, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813
15. Craig Hirai, Executive Director
State of Hawai'i
Hawai'i Housing Finance and Development Corporation
677 Queen Street
Honolulu, Hawai'i 96813
16. State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817
17. Mary Alice Evans, Director
State of Hawai'i
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804
21. Michele Chouteau McLean, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793
22. Rowena Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai'i 96793
23. Marc Takamori, Director
County of Maui
Department of Transportation
David Trask Building, Suite 102
2145 Kaohu Street
Wailuku, Hawai'i 96793
24. Jeffrey Pearson, Director
County of Maui
Department of Water Supply
200 South High Street, 5th Floor
Wailuku, Hawai'i 96793
25. Herman Andaya, Emergency Management Officer
County of Maui
Emergency Management Agency
200 South High Street
Wailuku, Hawai'i 96793

Maui County Agencies

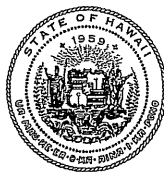
18. David Thyne, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732
19. Lori Tshako, Director
County of Maui
Department of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793
20. Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2F
Wailuku, Hawai'i 96793
26. County of Maui
Maui County Cultural Resources Commission
2200 Main Street, Room 315
Wailuku, Hawai'i 96793
27. Kay Fukumoto, Coordinator
County of Maui
Office of Economic Development
2200 Main Street, Suite 305
Wailuku, Hawai'i 96793
28. Michael Victorino, Mayor
County of Maui
Office of the Mayor
200 South High Street
Wailuku, Hawai'i 96793
29. Tivoli Faaumu, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

- | | | | |
|-----|--|-----|--|
| 30. | Yuki Lei Sugimura, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 41. | Pamela Tumpap, Executive Director
Maui Chamber of Commerce
95 Mahalani Street, Suite 22A
Wailuku, Hawai'i 96793 |
| 31. | Keani Rawlins-Fernandez, Council Vice
Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 42. | Michael Grider, Manager, Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawai'i 96733 |
| 32. | Kelly King, Council Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 43. | Wailuku Community Association
40 Hoana Street
Wailuku, Hawai'i 96793 |
| 33. | G. Riki Hokama, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 44. | Dana Hall
2087 Wells Street
Wailuku, Hawai'i 96793 |
| 34. | Tasha Kama, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 35. | Alice Lee, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 36. | Mike Molina, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 37. | Tamara Paltin, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 38. | Shane Sinenci, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 39. | Debbie Cabebe, Chief Executive Officer
Maui Economic Opportunity
99 Mahalani Street
Wailuku, Hawai'i 96793 | | |

Maui County Organizations

40. Hawaiian Telecon
60 South Church St
Wailuku, Hawai'i 96793

DAVID Y. IGE
GOVERNOR



SEP 02 2019

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)19.188

AUG 29 2019

Ms. Tessa Munekiyo Ng, AICP
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Ng:

Subject: Chapter 343, Hawaii Revised Statutes, Early Consultation Request for
Proposed Lower Main Street Sewer Line, Wailuku, Maui, Hawaii

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 at 586-0488.

Sincerely,


for CURT T. OTAGURO
Comptroller

c: Mr. Wade Shimabukuro, DAGS-MDO



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

April 17, 2020

Curt T. Otaguro, Comptroller
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

**SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i**

Dear Mr. Otaguro:

Thank you for your letter of August 29, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that the Department of Accounting and General Services does not have any comments on the proposed action at this time.

Thank you again for being a part of the early consultation process.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management

K:\DATA\Legacy\Main Sewerline\Applications\ECL\Response Letters\DAGS.doc

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

August 30, 2019

Munekiyo & Hiraga
Attn: Ms. Tessa Munekiyo Ng, AICP
Vice President
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@munekiyohiraga.com

Dear Ms. Munekiyo:

SUBJECT: Early Consultation Request for Proposed **Lower Main Street Sewer Line**
located at Wailuku, Island of Maui; TMK: (2) 3-4-Variou

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 Engineering Division on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

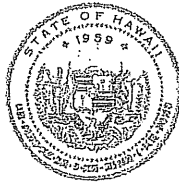
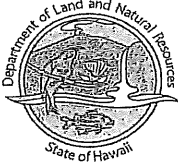
Sincerely,

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

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII



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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 19, 2019

MEMORANDUM

RECEIVED
LAND DIVISION
2019 AUG 22 AM 11:21
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII
19 AUG 19 PM 01:04 ENGINEERING

TO:
FROM

DLNR Agencies:

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

TO
FROM:
SUBJECT:
LOCATION:
APPLICANT:

Russell Y. Tsuji, Land Administrator *RS*
 Early Consultation Request for Proposed **Lower Main Street Sewer Line**
 Wailuku, Island of Maui; TMK: (2) 3-4-Variou
 Munekiyo Hiraga on behalf of County of Maui, Department of Environmental
 Management Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 28, 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: *[Signature]*
 Print Name: Carty S. Chang, Chief Engineer
 Date: 8/22/19

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Early Consultation Request for Proposed Lower Main Street Sewer Line

TMK(s): (2) 3-4-Various

Location: Wailuku, Island of Maui

Applicant: Munekiyo Hiraga on behalf of County of Maui, Department of
Environmental Management Wastewater Reclamation Division

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.hawaiiinfip.org/FHAT>).

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

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

Signed: 
CARTY S. CHANG, CHIEF ENGINEER

Date: 8/22/19



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

April 17, 2020

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

**SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i**

Dear Mr. Tsuji:

Thank you for your letter of August 30, 2019 responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

As noted by the Engineering Division, we will review the project with respect to the National Flood Insurance Program. As applicable, coordination will be undertaken with the County of Maui Planning Department to ensure compliance with Chapter 19.62, Maui County Code, relating to Flood Hazard Areas.

Thank you again for being a part of the early consultation process.

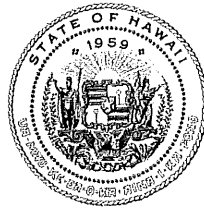
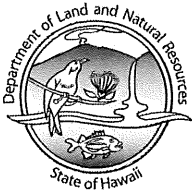
Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering, Inc.
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DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

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

September 20, 2019

Russell Y. Tsuji, Land Administrator
Land Division, Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809
c/o Darlene.K.Nakamura@hawaii.gov

IN REPLY REFER TO:
Log No. 2019.01813
Doc No. 1909GC08
Archaeology

Dear Mr. Tsuji:

**SUBJECT: Chapter 6E-8 Historic Preservation Review -
Early Consultation Request for Proposed Lower Main Street Sewer Line
Wailuku Ahupua'a, Pū'ali Komohana District, Island of Maui
TMK: (2) 3-4 various**

This letter provides the State Historic Preservation's (SHPD's) comments regarding the proposed project titled, *County of Maui, Department of Environmental Management (DEM) Wastewater Reclamation Project*. The submittal indicates that DEM proposes to construct 1,950-ft.-long, 15-inch-diameter gravity sewer line, extending along Lower Main Street between Ainahou Place and Waena Street, in Wailuku. The SHPD received this submittal on August 19, 2019.

At this time, SHPD has insufficient information regarding the potential for the proposed project to adversely affect significant archaeological historic properties.

SHPD requests the following:

1. Cover letter initiating historic preservation consultation pursuant to HRS Chapter 6E including items #4 through #7;
2. Permit Set;
3. HRS 6E Submittal Form available at:
<https://dlnr.hawaii.gov/shpd/files/2018/01/012918-SHPD-HRS-6E-Submittal-Intake-Form-2.pdf>
4. Cultural Resources Report produced in support of permit review, per Hawaii Administrative Rules (HAR) §13-275-5(a)
5. DEM's evaluation of significance per HAR §13-275-6(a). If a historic property is identified, an assessment of significance shall be submitted.
6. Pursuant to HAR §13-275-7(a), the DEM's HRS 6E historic properties project effect determination of:
 - o No historic properties affected **or**
 - o Effect, with agreed upon mitigation commitments

Russel Y. Tsuji
September 20, 2019
Page 2

Note: Effect means destruction or alteration of the historic property, detrimental alteration, of the properties surrounding environment, detrimental visual, spatial, noise or atmospheric impingement, increasing access with the chances of resulting damage and neglect resulting in deterioration or destruction.

7. Request for the State Historic Preservation Division's (SHPD's) concurrence with the HRS 6E project effect determination;

SHPD looks forward to continued consultation with the County of Maui Department of Environmental Management Division.

Please contact Dr. Susan Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov for any questions or concerns regarding this letter.

Mahalo,
Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Maui County: Eric.Nakagawa@co.maui.hi.us; Scott.Rollins@co.maui.hi.us

April 17, 2020

Alan S. Downer, Ph.D., Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Blvd., Suite 555
Kapolei, Hawai'i 96707

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i (Log No. 2019.01813; Doc. No. 1909GC08)

Dear Dr. Downer:

Thank you for your letter of September 20, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We appreciate your request for information (Item Nos. 1 through 7). In response to your requests, the applicable documentation, including the Hawai'i Revised Statutes (HRS) 6E Submittal Form, has been submitted to your office. The State Historic Preservation Division (SHPD) Log No. for the HRS 6E Submittal Form is 2020.0075.

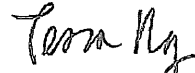
We note that the HRS 6E Submittal Form and the Archaeological Monitoring Plan (AMP) in support of the proposed project were submitted to and received by SHPD for review and approval on January 24, 2020. We acknowledge the SHPD by letter dated January 27, 2020 and attached hereto as **Exhibit "A"**, accepted the AMP. In its acceptance of the AMP, we note SHPD confirmed the AMP meets the minimum requirements of HAR Section 13-279-4.

We will continue coordination with your office to ensure that requirements of the AMP and HRS 6E are addressed.

Alan S. Downer, Ph.D., Administrator
April 17, 2020
Page 2

Thank you again for being a part of the early consultation process.

Very truly yours,



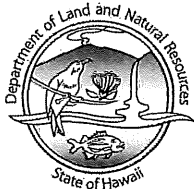
Tessa Muneo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
Trevor Yucha, Cultural Surveys Hawai'i

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DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD., STE 555
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SUZANNE D. CASE
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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

January 27, 2020

Scott R. Rollins, Acting Chief
Wastewater Reclamation Division
Department of Environmental Management
County of Maui
2200 Main Street
One Main Plaza Bldg., Suite 610
Wailuku, Hawaii 96793
scott.rollins@co.maui.hi.us

IN REPLY REFER TO:
Log No.: 2020.00175
Doc. No.: 2001AM11
Archaeology

Dear Scott R. Rollins:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Archaeological Monitoring Plan for the
Lower Main Street Sewer Line Improvements Project (CBS-5547)
Wailuku Ahupua‘a, Pū‘ali Komohana District, Island of Maui
TMK: (2) 3-4 ROW**

This letter provides the State Historic Preservation Division’s (SHPD’s) review of the subject draft plan titled, *archaeological Monitoring Plan for the Lower Main Street Sewer Line Improvements Project Wailuku Ahupua‘a, Wailuku District, Maui, TMK: [2] 3-4 Lower Main Street Right-of-Way (Yucha and Hammatt, January 2020)*. SHPD previously reviewed the County of Maui, Department of Environment Management’s (DEM) Lower Main Street Sewer Line Improvements Project (CBS-5547) and concurred with the DEM’s recommendation of a program of archaeological monitoring for identification purposes in a letter dated January 14, 2020 (Log No. 2019.02237, Doc. No. 2001AM01). Cultural Surveys Hawai‘i, Inc. (CSH) produced the subject archaeological monitoring plan (AMP) in support of the proposed project. SHPD received the submittal on January 24, 2020, including a cover letter, an HRS 6E Submittal Filing Fee Form, and the subject draft AMP.

The DEM proposes improvements to the Lower Main Street sewer line within a 2.3-acre project area in order to increase capacity for the construction of affordable housing in Wailuku. The project will occur within the active right-of-way of Lower Main Street. Ground disturbance work for the project will include the installation of a new 15-inch gravity sewer line adjacent to the existing sewer line. The installation of the new sewer line will require 1,950 feet of linear trenching to a depth of approximately 6 to 11 feet below the existing road surface.

The DEM indicates that the project area has been subject to prior ground disturbance during the initial construction of the roadway and installation of subsurface utility infrastructure. However, due to the presence of several historic properties within the adjacent parcels and the presence of Pu‘uone sand (PZUE) within the project area, SHPD concurred with the DEM’s recommendation of a program of archaeological monitoring for identification purposes in a letter dated January 14, 2020 (Log No. 2019.02237, Doc. No. 2001AM01).

The AMP provides a detailed background of the project areas archaeological investigations and land use. The plan indicates that there is potential to encounter subsurface historic properties similar to or associated with the previously identified sites identified in the immediate vicinity of the project area (50-50-04-3928, -3996, -4004, -4127, -4414, and -4418). Additionally, the AMP stipulates the following:

- A coordination meeting will be conducted between the construction team and monitoring archaeologist prior to construction activities so the construction team is aware of the plan;
- On-site monitoring will be conducted for all ground disturbing activities. One monitor is required for each piece of ground altering machinery during this project;
- The archaeological monitor shall have the authority to temporarily halt all activity in the area in the event of a potential historic property being identified, or to record archaeological information for cultural deposits or features;
- If non-burial historic properties are identified, documentation shall include, as appropriate, recording stratigraphy using USDA soil descriptions, GPS point collection, recordation of feature contents through excavation or sampling of features, screening of features, representative scaled profile drawings, photo documentation using a scale and north arrow, and appropriate laboratory analysis of collected samples and artifacts. Additionally, photographs and profiles of excavations will be collected from across the project area even if no significant historic properties are encountered;
- If human remains are identified, work will cease in the vicinity and the find shall be secured, and provisions outlined within the Hawaii Revised Statutes (HRS) §6E-43 and HAR §13-300-40, and any SHPD directives, shall be followed;
- Collected materials not associated with burials will be temporarily stored at the archaeological firm's office/laboratory unit appropriate curation facility is selected, in consultation with the landowner and the SHPD and;
- Any changes in these provisions shall occur only with written approval from the SHPD.

The plan meets the minimum requirement of HAR §13-279-4. **It is accepted.** Please send two hard copies of the document, clearly marked FINAL, along with a copy of this acceptance letter and a text-searchable PDF version of the plan to the Kapolei SHPD office, attention SHPD Library.

SHPD hereby notifies the County that the permit issuance process may continue.

SHPD requests written notification at the start of archaeological monitoring. Within 30 days of completion of archaeological monitoring fieldwork, SHPD looks forward to receiving for review and acceptance a brief archaeological monitoring letter report of findings as specified in HAR §13-282-3(f)(1). Subsequently, SHPD looks forward to receipt of an archaeological monitoring report meeting the requirements of HAR §13-279-5 for review and acceptance.

Please contact Andrew McCallister, Historic Preservation Archaeologist III, at Andrew.McCallister@hawaii.gov or at (808) 692-8015 for matters regarding archaeological resources or this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Darlene Nakamura, DLNR, darlene.k.nakamura@hawaii.gov
Linda Schatz, lindaschatz@schatzcollaborative.com
Trevor Yucha, tyucha@culturalsurveys.com

From: Krueger, Joseph K [<mailto:joseph.k.krueger@hawaii.gov>]
Sent: Friday, August 30, 2019 1:26 PM
To: Tessa Munekiyo Ng <tessa@munekiyohiraga.com>
Cc: Teshima, Elton <Elton.Teshima@hawaii.gov>; Shishido, Robin K <robin.k.shishido@hawaii.gov>;
Matsuda, Annette DH <annette.dh.matsuda@hawaii.gov>
Subject: LOWER MAIN STREET SEWER LINE REPLACEMENT - EARLY CONSULTATION

Hi Tessa,

Thank you for the early consultation request. We have reviewed the project parameters and decided that comments are not necessary from the Department of Transportation. Let me know if you have any questions.

Aloha,

Joe Krueger



April 17, 2020

Joe Krueger, P.E.
State of Hawai'i
Department of Transportation,
Maui District, Highways Division
650 Palapala Drive
Kahului, Hawai'i 96732

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

Dear Mr. Krueger:

Thank you for your email correspondence of August 30, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that the Department of Transportation does not have any comments on the proposed action at this time.

Thank you again for being a part of the early consultation process.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering

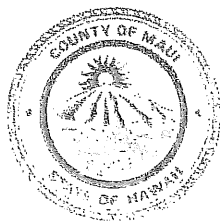
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AUG 26 2019

MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director



**DEPARTMENT OF HOUSING
& HUMAN CONCERNS**
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 270-7805

August 21, 2019

Ms. Munekiyo Ng, AICP
Munekiyo & Hiraga, Inc.
305 High Street
Wailuku, HI 96793

Dear Ms. Munekiyo Ng:

**Subject: Chapter 343, Hawaii Revised Statutes, Early Consultation
Request for Proposed Lower Main Street Sewer Line, Wailuku,
Maui, Hawaii.**

The Housing Department has reviewed the request for Early Consultation for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call me at 270-7351 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Buddy Almeida".

BUDDY ALMEIDA
Housing Administrator

cc: Director of Housing and Human Concerns



April 17, 2020

Buddy Almeida, Housing Administrator
County of Maui
Department of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

Dear Mr. Almeida:

Thank you for your letter of August 21, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that the Department of Housing and Human Concerns has determined that the project is not subject to Chapter 2.96, Maui County Code, and that the Department does not have any additional comments on the proposed action at this time.

Thank you again for being a part of the early consultation process.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
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AUG 26 2019

MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

JOHN L. BUCK III
Deputy Director



DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nakoia Street, Unit 2, Wailuku, Hawaii 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

August 21, 2019

Tessa Munekiyo Ng, Vice President
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Munekiyo Ng:

SUBJECT: Chapter 343, Hawaii Revised Statutes, Early Consultation Request for Proposed Lower Main Street Sewer Line, Wailuku, Maui, Hawaii

Thank you for the opportunity to review and comment on the subject project. The Department of Parks & Recreation has no comment at this time, and is in support of the project.

Please feel free to contact me or Robert Halvorson, Chief of Planning and Development, at robert.halvorson@co.maui.hi.us or (808) 270-7387, should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Peters", with a long horizontal flourish extending to the right.

KARLA H. PETERS
Director of Parks & Recreation

c: Robert Halvorson, Chief of Planning and Development

KHP:RH:csa



April 17, 2020

Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

Dear Ms. Peters:

Thank you for your letter of August 21, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We appreciate the Department of Parks and Recreation's support for the project and acknowledge that Department does not have any additional comments on the proposed action at this time.

Thank you again for being a part of the early consultation process.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management

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SEP 12 2019

MICHAEL P. VICTORINO
Mayor

ROWENA M. DAGDAG-ANDAYA
Director

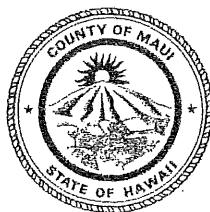
Deputy Director

GLEN A. UENO, P.E., L.S.
Development Services Administration

RODRIGO "CHICO" RABARA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM 434
WAILUKU, MAUI, HAWAII 96793

September 9, 2019

Ms. Tessa Munekiyo Ng, AICP
MUNEKIYO HIRAGA
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Ms. Munekiyo Ng:

**SUBJECT: CHAPTER 343, HAWAII REVISED STATUTES, EARLY
CONSULTATION REQUEST FOR PROPOSED LOWER MAIN
STREET SEWER LINE, WAILUKU, MAUI, HAWAII**

We reviewed the subject application and have the following comment:

Comment from the Highways Division:

1. This segment of Lower Main Street was recently resurfaced; please coordinate with the Department of Public Works, Engineering Division on pavement restoration.

Please call Rowena M. Dagdag-Andaya at 270-7845 if you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink, appearing to be "Rowena M. Dagdag-Andaya".

ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA:da

xc: Highways Division
Engineering Division

S:\DSA\Engr\CZMDraft Comments\lower_main_st_sewer_line_ec.rtf



April 17, 2020

Rowena M. Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street, Room 434
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

Dear Ms. Dagdag-Andaya:

Thank you for your letter of September 9, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We understand that the affected segment of Lower Main Street was recently resurfaced. We have informed the design engineer of your comment to ensure that pavement restoration coordination is undertaken.

Thank you again for being a part of the early consultation process for this project.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering

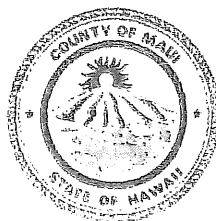
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AUG 12 2019

MICHAEL P. VICTORINO
Mayor

MARC I. TAKAMORI
Director

MICHAEL B. DU PONT
Deputy Director



DEPARTMENT OF TRANSPORTATION
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

TELEPHONE: (808) 270-7511
FAX: (808) 270-7505

August 8, 2019

Munekiyo Hiraga
Attn: Tessa Munekiyo Ng, AICP
Vice President
305 High Street, Suite 104
Wailuku, HI 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request for Proposed Lower Main Street Sewer Line, Wailuku, Maui, Hawaii

Dear Ms Ng,

Thank you for the opportunity to review and comment on this project. We have no comments to make at this time.

Sincerely,

A handwritten signature in black ink, appearing to read "Marc Takamori".

Marc Takamori
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

April 17, 2020

Marc Takamori, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawai'i 96793

**SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i**

Dear Mr. Takamori:

Thank you for your letter of August 8, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that your office does not have any comments on the proposed action at this time.

Thank you again for being a part of the early consultation process for this project.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
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From: Michelle Del Rosario [<mailto:Michelle.DelRosario@mauicounty.us>]

Sent: Wednesday, August 28, 2019 11:09 AM

To: Tessa Munekiyo Ng <tessa@munekiyohiraga.com>

Cc: Kelly King <Kelly.King@mauicounty.us>; Kate Griffiths <Kate.Griffiths@mauicounty.us>

Subject: Early Review Comments for Proposed Lower Main Street Sewer Line, Wailuku, Maui, Hawai'i

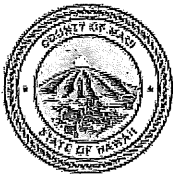
Hi Tessa –

We are in receipt of your letter dated August 7, 2019.

We have no comments on this project at this time.

With aloha,
Michelle

Michelle Del Rosario
Executive Assistant
808.270.7108
Michelle.DelRosario@mauicounty.us



Office of Council Chair Kelly T. King
South Maui Residency
Office: 808.270.7108
200 South High Street, 7th Fl
Wailuku HI 96793
mauicounty.us

April 17, 2020

Councilmember Kelly T. King
Maui County Council
200 South High Street, 7th Floor
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

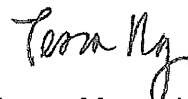
Dear Councilmember King:

We appreciated receiving Michelle Del Rosario's email of August 7, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that your office does not have any comments on the proposed action at this time.

Thank you again for being a part of the early consultation process for this project.

Very truly yours,



Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
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AUG 28 2019



Maui Economic Opportunity, Inc.

P.O. Box 2122
Kahului, HI 96733
808-249-2990
Fax: 808-249-2991
www.meoinc.org

May 29, 2018

Tessa Munekiyo Ng
Muneyiko Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Re: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request for Proposed
Lower Main Street Sewer Line, Wailuku, Maui, Hawai'i

Dear Ms. Munekiyo Ng,

We do not have any objection or comment to the proposed Lower Main Street Sewer Line in
Wailuku, Maui.

Thank you for seeking community comments.

Mahalo nui loa,

A handwritten signature in black ink that reads "Debbie Cabebe".

Debbie Cabebe, SPHR
Chief Executive Officer

The Promise of Community Action

Community Action changes people's lives, embodies the spirit of hope, improves communities, and makes America a better place to live. We care about the entire community, and we are dedicated to helping people help themselves and each other.



April 17, 2020

Debbie Cabebe, Chief Executive Officer
Maui Economic Opportunity, Inc.
P.O. Box 2122
Kahului, Hawai'i 96733

SUBJECT: Chapter 343, Hawai'i Revised Statutes, Early Consultation Request
for Proposed Lower Main Street Sewer Upgrade Project, Wailuku,
Maui, Hawai'i

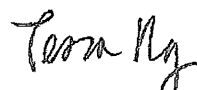
Dear Ms. Cabebe:

Thank you for your letter of May 29, 2019, responding to our request for early consultation comments on the proposed Lower Main Street Sewer Upgrade Project.

We acknowledge that the MEO does not have any objection or any comments on the proposed action at this time.

Thank you again for being a part of the early consultation process for this project.


Very truly yours,




Tessa Munekiyo Ng, AICP
Vice President

TMN:yp

cc: Scott Rollins, Department of Environmental Management
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**LETTERS LETTERS RECEIVED
DURING THE DRAFT
ENVIRONMENTAL
ASSESSMENT REVIEW PERIOD
AND RESPONSES TO
SUBSTANTIVE COMMENTS**



X. LETTERS LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

The Draft Environmental Assessment (EA) for the subject action was filed and published in the Office of Environmental Quality Control Environmental Notice on May 8, 2020. The following agencies were sent a copy of the Draft EA. Comments on the Draft EA were received during the 30-day public comment period. Letters received as well as responses to substantive comments are included in this Chapter.

FEDERAL

- | | |
|--|---|
| 1. Michelle Bogardus, Island Team Leader
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Honolulu, Hawai'i 96850 | 7. State of Hawai'i
Department of Business, Economic
Development & Tourism
Office of Planning
235 S. Beretania Street, 6th Floor
Honolulu, Hawai'i 96813 |
|--|---|

State Agencies

- | | |
|--|--|
| 2. Arthur "Joe" Logan, Adjutant General
Hawai'i State Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816 | 8. State of Hawai'i
Department of Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816 |
| 3. Gill Keith-Agaran, Senator
Hawai'i State Senate
Hawai'i State Capitol, Room 221
415 S. Beretania Street
Honolulu, Hawai'i 96813 | 9. Christine Kishimoto, Superintendent
State of Hawai'i
Department of Education
P.O. Box 2360
Honolulu, Hawai'i 96804 |
| 4. Troy Hashimoto, Representative
House of Representatives
Hawai'i State Capitol, Room 431
415 S. Beretania Street
Honolulu, Hawai'i 96813 | 10. William Aila, Jr., Interim Chair
State of Hawai'i
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawai'i 96805 |
| 5. Curt Otaguro, Comptroller
State of Hawai'i
Department of Accounting and General
Services
1151 Punchbowl Street, #426
Honolulu, Hawai'i 96813 | 11. Bruce Anderson, Director
State of Hawai'i
Department of Health
1250 Punchbowl St., Room 325
Honolulu, Hawai'i 96813 |
| 6. Mike McCartney, Director
State of Hawai'i
Department of Business, Economic
Development & Tourism
P.O. Box 2359
Honolulu, Hawai'i 96804 | 12. Suzanne Case, Chairperson
State of Hawai'i
Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawai'i 96809 |

13. Alan Downer, Administrator
State of Hawai'i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai'i 96707
14. Jade Butay, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813
15. Craig Hirai, Executive Director
State of Hawai'i
Hawai'i Housing Finance and Development Corporation
677 Queen Street
Honolulu, Hawai'i 96813
16. State of Hawai'i
Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, Hawai'i 96817
17. Mary Alice Evans, Director
State of Hawai'i
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804
21. Michele Chouteau McLean, Director
County of Maui
Department of Planning
2200 Main Street, Suite 315
Wailuku, Hawai'i 96793
22. Rowena Dagdag-Andaya, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai'i 96793
23. Marc Takamori, Director
County of Maui
Department of Transportation
David Trask Building, Suite 102
2145 Kaohu Street
Wailuku, Hawai'i 96793
24. Jeffrey Pearson, Director
County of Maui
Department of Water Supply
200 South High Street, 5th Floor
Wailuku, Hawai'i 96793
25. Herman Andaya, Emergency Management Officer
County of Maui
Emergency Management Agency
200 South High Street
Wailuku, Hawai'i 96793

Maui County Agencies

18. David Thyne, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai'i 96732
19. Lori Tshako, Director
County of Maui
Department of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793
20. Karla Peters, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2F
Wailuku, Hawai'i 96793
26. County of Maui
Maui County Cultural Resources Commission
2200 Main Street, Room 315
Wailuku, Hawai'i 96793
27. Kay Fukumoto, Coordinator
County of Maui
Office of Economic Development
2200 Main Street, Suite 305
Wailuku, Hawai'i 96793
28. Michael Victorino, Mayor
County of Maui
Office of the Mayor
200 South High Street
Wailuku, Hawai'i 96793
29. Tivoli Faaumu, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

- | | | | |
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| 30. | Yuki Lei Sugimura, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 41. | Pamela Tumpap, Executive Director
Maui Chamber of Commerce
95 Mahalani Street, Suite 22A
Wailuku, Hawai'i 96793 |
| 31. | Keani Rawlins-Fernandez, Council Vice
Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 42. | Michael Grider, Manager, Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawai'i 96733 |
| 32. | Kelly King, Council Chair
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 43. | Wailuku Community Association
40 Hoana Street
Wailuku, Hawai'i 96793 |
| 33. | G. Riki Hokama, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 44. | Dana Hall
2087 Wells Street
Wailuku, Hawai'i 96793 |
| 34. | Tasha Kama, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 45. | Wailuku Public Library
251 South High Street
Wailuku, Hawai'i 96793 |
| 35. | Alice Lee, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 46. | Kahului Public Library
90 School Street
Kahului, Hawai'i 96732 |
| 36. | Mike Molina, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | 47. | Hawai'i State Library
Hawai'i Documents Center
478 South King Street
Honolulu, Hawai'i 96813 |
| 37. | Tamara Paltin, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 38. | Shane Sinenci, Councilmember
Maui County Council
200 South High Street
Wailuku, Hawai'i 96793 | | |
| 39. | Debbie Cabebe, Chief Executive Officer
Maui Economic Opportunity
99 Mahalani Street
Wailuku, Hawai'i 96793 | | |

Maui County Organizations

40. Hawaiian Telecon
60 South Church St
Wailuku, Hawai'i 96793

DAVID Y. IGE
GOVERNOR



RECEIVED CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

2020 MAY 29 AM 7:03

(P)20.075

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
COUNTY OF MAUI
DEPT. OF ENVIRONMENTAL MGMT.

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

MAY 26 2020

RUSH

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July 30, 2020

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

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

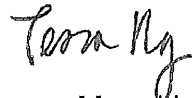
Dear Mr. Otaguro:

Thank you for your letter dated May 26, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge that the Department of Accounting and General Services (DAGS) has no comments to offer at this time. Also, we acknowledge that there are two (2) DAGS buildings in Wailuku. Although no further developments are currently proposed by the Applicant, DAGS will be informed of any future developments as requested.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,



Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

cc: Scott Rollins, Department of Environmental Management

K:\DATA\Legacy\Main Sewerline\Applications\Draft EA\Response Letters\DAGS Response.ltr.doc

From: Cab General <Cab.General@doh.hawaii.gov>

Sent: Tuesday, May 26, 2020 11:17 AM

To: Scott.Rollins@co.maui.hi.us; General eMail <planning@munekiyohiraga.com>

Subject: DOH Clean Air Branch Comments on Draft EA for Lower Main Street Sewer Upgrade

Aloha

Thank you for the opportunity to provide comments on the subject project.

Please see our standard comments at:

<https://health.hawaii.gov/cab/files/2019/04/Standard-Comments-Clean-Air-Branch-2019.pdf>

Please let me know if you have any questions.

Barry Ching

Clean Air Branch

Hawaii Department of Health

(808) 586-4200



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

July 30, 2020

Via email to: CAB.General@doh.hawaii.gov

Barry Ching
Clean Air Branch
Department of Health
State of Hawai'i

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Mr. Ching:

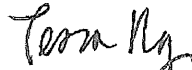
Thank you for your email dated May 26, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. The Clean Air Branch Standard Comments, located at the link provided in your email, have been reviewed for applicability to the proposed project. The project will not be a source of air pollution that would require an air pollution control permit and does not involve demolition activities that involve asbestos. Best Management Practices (BMPs) will be implemented during construction to mitigate fugitive dust.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Barry Ching
July 30, 2020
Page 2

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,



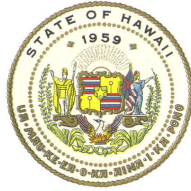
Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering, Inc.

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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

June 5, 2020

County of Maui
Department of Environmental Management
Attention: Mr. Eric Nakagawa, Director
c/o Mr. Scott Rollins
2050 Main Street, Suite 2B
Wailuku, Hawaii 96793

via email: scott.rollins@co.maui.hi.us

Dear Mr. Nakagawa:

SUBJECT: Draft Environmental Assessment for the Proposed **Lower Main Street Sewer Upgrade Project** located at Wailuku, Island of Maui; TMK: (2) 3-4-Various on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

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) Engineering Division, and (b) Division of Forestry & Wildlife on the subject matter. Should you have any questions, please feel free to contact Darlene Nakamura at (808) 587-0417 or email: darlene.k.nakamura@hawaii.gov. Thank you.

Sincerely,

Russell Tsuji

Russell Y. Tsuji
Land Administrator

Enclosures

cc: Central Files
Munekiyo Hiraga (w/copy)
Attn: Ms. Tessa Munekiyo Ng, AICP (via email: planning@munekiyohiraga.com)

DAVID Y. IGE
GOVERNOR OF HAWAII



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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 22, 2020

MEMORANDUM

FROM:

~~TO:~~

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division** (DLNR.ENG@hawaii.gov)
- Div. of Forestry & Wildlife (rubyrosa.r.terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands
- Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
- Historic Preservation (DLNR.Intake.SHPD@hawaii.gov)

TO:

~~FROM:~~

Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT:

Draft Environmental Assessment for the Proposed **Lower Main Street Sewer Upgrade Project**

LOCATION:

Wailuku, Island of Maui; TMK: (2) 3-4-Variou

APPLICANT:

Munekiyō Hiraga on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 3, 2020**.

The DEA can be found on-line at: <http://health.hawaii.gov/oegc/> (Click on The Environmental Notice in the middle of the page.)

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 ^{additional} objections.
- () We have no comments.
- () Comments are attached.

Signed:

Print Name:

Carty S. Chang, Chief Engineer

Date:

May 26, 2020

Attachments

cc: Central Files

2649

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

May 22, 2020

MEMORANDUM

RECEIVED
LAND DIVISION
2020 MAY 27 AM 10:23
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

TO:
FROM:
TO

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division (DLNR.ENG@hawaii.gov)
- Div. of Forestry & Wildlife (rubyrosa.r.terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands
- Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
- Historic Preservation (DLNR.Intake.SHPD@hawaii.gov)

RECEIVED
LAND DIVISION
2020 JUN -3 AM 10:37
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM:
SUBJECT:
LOCATION:
APPLICANT:

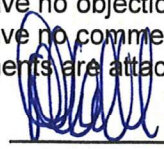
Russell Y. Tsuji, Land Administrator *Russell Tsuji*
Draft Environmental Assessment for the Proposed **Lower Main Street Sewer Upgrade Project**
Wailuku, Island of Maui; TMK: (2) 3-4-Variou
Munekiyo Hiraga on behalf of County of Maui, Department of Environmental Management, Wastewater Reclamation Division

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 3, 2020**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on The Environmental Notice in the middle of the page.)

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: David Smith
Date: MAY 27 2020

Attachments
cc: Central Files



MUNEKIYO HIRAGA

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Michael T. Munekiyo
CHAIRMAN

Karlynn K. Fukuda
PRESIDENT

Mark Alexander Roy
VICE PRESIDENT

Tessa Munekiyo Ng
VICE PRESIDENT

July 30, 2020

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

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Mr. Tsuji:

Thank you for your letter dated June 5, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to the comments provided.

We acknowledge that the Engineering Division has no additional comments to offer.

We acknowledge that the Division of Forestry and Wildlife has no comments.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

cc: Scott Rollins, Department of Environmental Management

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Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

www.munekiyohiraga.com

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 0444
HWY-M 2.178-20

May 26, 2020

VIA EMAIL: eric.nakagawa@co.maui.hi.us
scott.rollins@co.maui.hi.us

Mr. Eric Nakagawa, Director
Department of Environmental Management
County of Maui
2050 Main Street, Suite 2B
Wailuku, Hawaii 96793
Attention: Mr. Scott Rollins

Dear Mr. Nakagawa:

Subject: Chapter 343 Hawaii Revised Statutes, Draft Environmental Assessment
Proposed Lower Main Street Sewer Line, Wailuku, Maui, Hawaii

Thank you for the Draft Environmental Assessment dated May 1, 2020. The Department of Transportation has reviewed the Draft Environmental Assessment for the proposed project. Based on our review, we have determined that the subject project is not in our right-of-way and does not require any permits from the Hawaii Department of Transportation (HDOT). At the present time, the HDOT has no additional comments to offer.

Should you require additional information, please contact Mr. Robin Shishido, District Engineer, Maui District, Highways Division, at (808) 873-3535 or by email at robin.k.shishido@hawaii.gov.

Sincerely,

JADE T. BUTAY
Director of Transportation

c: Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku Hawaii 96793



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Michael T. Munekiyo
CHAIRMAN

Karlynn K. Fukuda
PRESIDENT

Mark Alexander Roy
VICE PRESIDENT

Tessa Munekiyo Ng
VICE PRESIDENT

July 30, 2020

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

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i; DIR 0444 HWY-M 2.178-20

Dear Mr. Butay:

Thank you for your letter dated May 26, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge that the subject project is not located within the State of Hawai'i right-of-way and as such, does not require any permit from the Department of Transportation.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

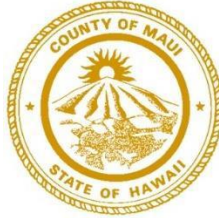
cc: Scott Rollins, Department of Environmental Management

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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

May 18, 2020

Munekiyo Hiraga
Attn: Tessa Munekiyo Ng, Vice President
305 High St. Suite 104
Wailuku, HI 96793

SUBJECT: Draft Environmental Assessment (EA)
Proposed – Lower Main Street Sewer Upgrade
TMK (2) 3-4-021 to 024

Dear Tess,

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 Draft Environmental Assessment (EA).

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

A handwritten signature in cursive script that reads "Paul Haake".

Captain - Fire Prevention Bureau



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

July 30, 2020

Paul Haake, Captain
Fire Prevention Bureau
Department of Fire and Public Safety
County of Maui
200 Dairy Road
Kahului, Hawai'i 96732

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project, Wailuku, Maui, Hawai'i

Dear Captain Haake:

Thank you for your letter dated May 18, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge that the Department of Fire and Public Safety has no comments to offer at this time.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

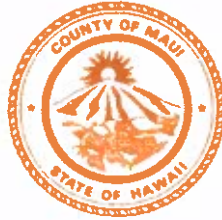
cc: Scott Rollins, Department of Environmental Management

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MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director



**DEPARTMENT OF HOUSING
& HUMAN CONCERNS**
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 270-7805

May 21, 2020

Tessa Munekiyo Ng, AICP
Vice President
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mrs. Ng:

**Subject: Draft Environmental Assessment (EA) Proposed Lower Main Street
Sewer Upgrade TMK (2)3-4-021 to 024 Roadway, Wailuku, Maui,
Hawaii**

The Department has reviewed the Draft EA for the above subject project. Based on our review, we have determined that the project is not subject to Chapter 2.96, Maui County Code. The owner will not be required to execute a Residential Workforce Housing Agreement.

Please call Mr. Buddy Almeida of our Housing Division at 270-7355 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to be "C. BUDDY ALMEIDA".

C. BUDDY ALMEIDA
Housing Administrator

cc: Lori Tshako, Director of Housing and Human Concerns
Scott Rollins, Department of Environmental Management
Linda Schatz, Schatz Collaborative, LLC

TO SUPPORT AND EMPOWER OUR COMMUNITY TO REACH IT'S FULLEST POTENTIAL
FOR PERSONAL WELL-BEING AND SELF-RELIANCE



July 30, 2020

C. Buddy Almeida, Housing Administrator
Department of Housing and Human Concerns
County of Maui
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Mr. Almeida:

Thank you for your letter dated May 21, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge your comment that the project is not subject to Chapter 2.96, Maui County Code residential workforce housing requirements and as such, a Residential Workforce Housing Agreement is not required.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

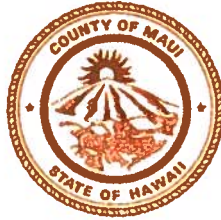
cc: Scott Rollins, Department of Environmental Management

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MICHAEL P. VICTORINO
Mayor

KARLA H. PETERS
Director

JOHN L. BUCK III
Deputy Director



DEPARTMENT OF PARKS AND RECREATION

700 Hali'a Nako'a Street, Unit 2, Wailuku, Hawaii 96793
Main Line (808) 270-7230 / Facsimile (808) 270-7942

May 14, 2020

Eric Nakagawa, Director
Department of Environmental Management
County of Maui
2050 Main Street, Suite 2B
Wailuku, HI 96793

Dear Mr. Nakagawa:

SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment, Proposed Lower Main Street Sewer Upgrade Project, TMK: (2) 3-4-021 to 024: Roadway, Wailuku, Maui, Hawaii

Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation has no comment at this time.

Should you have any questions, please feel free to contact me or Cheryl Akiona, Capital Improvements Project Coordinator at cheryl.akiona@co.maui.hi.us or (808) 270-7388.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Peters".

KARLA H. PETERS
Director of Parks and Recreation

c: Scott Rollins, Department of Environmental Management
Tessa Munekiyo Ng, Munekiyo Hiraga

KHP:csa



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Michael T. Munekiyo

CHAIRMAN

Karlynn K. Fukuda

PRESIDENT

Mark Alexander Roy

VICE PRESIDENT

Tessa Munekiyo Ng

VICE PRESIDENT

July 30, 2020

Karla Peters, Director
Department of Parks and Recreation
County of Maui
700 Hali'a Nakoia Street, Unit 2
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Ms. Peters:

Thank you for your letter dated May 14, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge that the Department of Parks and Recreation has no comments to offer at this time.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

cc: Scott Rollins, Department of Environmental Management

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MICHAEL P. VICTORINO
Mayor

ROWENA M. DAGDAG-ANDAYA
Director

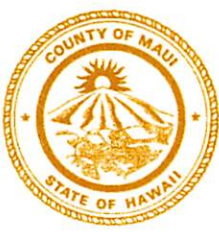
JORDAN MOLINA
Deputy Director

GLEN A. UENO, P.E., L.S.
Development Services Administration

RODRIGO "CHICO" RABARA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM 434
WAILUKU, MAUI, HAWAII 96793

May 27, 2020

Ms. Tessa Munekiyo Ng, AICP
MUNEKIYO HIRAGA
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Ms. Munekiyo Ng:

**SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) PROPOSED
LOWER MAIN STREET SEWER UPGRADE
TMK: (2) 3-4-021 TO 024**

We reviewed the subject application and have the following comments:

Comments from the Highways Division:

1. The project site is within the Municipal Separate Storm Sewer System (MS4) boundaries. Please incorporate soil erosion and sediment control Best Management Practices (BMP) throughout construction.
2. This segment of Lower Main Street was reconstructed in Fiscal Year 2012. Since the sewerline meanders on either side of the roadway, please consider resurfacing the entire roadway width of the project limits.

Please call Jordan Molina at 270-7845 if you have any questions regarding this letter.

Sincerely,

FDK ROWENA M. DAGDAG-ANDAYA
Director of Public Works

RMDA:JM:da
xc: Highways Division
Engineering Division



July 30, 2020

Rowena Dagdag-Andaya, Director
Department of Public Works
County of Maui
200 South High Street, Room 434
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Ms. Dagdag-Andaya:

Thank you for your letter dated May 27, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to comments provided from the Highways Division.

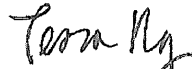
1. We acknowledge your comment that the project site is within the boundaries of the Municipal Separate Storm Sewer System. Soil erosion and sediment control Best Management Practices will be employed throughout construction of the proposed project.
2. We acknowledge your comment that the sewerline meanders on either side of the roadway, and that the affected segment of Lower Main Street was reconstructed in Fiscal Year 2012. As such, your request that the Applicant consider resurfacing the entire roadway as part of the proposed action will be reviewed for feasibility.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Rowena Dagdag-Andaya, Director
July 30, 2020
Page 2

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,



Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

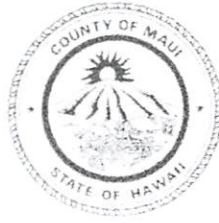
cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering, Inc.

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MICHAEL P. VICTORINO
Mayor

MARC I. TAKAMORI
Director

MICHAEL B. DU PONT
Deputy Director



DEPARTMENT OF TRANSPORTATION
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

TELEPHONE: (808) 270-7511
FAX: (808) 270-7505

June 1, 2020

Eric A. Nakagawa, P.E.
Director of Environmental Management
County of Maui
200 South High Street
Wailuku, HI 96793

SUBJECT: Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment Proposed Lower Main Street Sewer Upgrade Project

Dear Director Nakagawa,

After reviewing the Draft Environmental Assessment Proposed Lower Main Street Sewer Upgrade Project, we do not have any comments to make at this time.

Please feel free to contact me should you have any questions.

Sincerely,

Marc Takamori
Director

cc: Tessa Munekiyo, Minekiyo Hiraga



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Michael T. Munekiyo
CHAIRMAN

Karlynn K. Fukuda
PRESIDENT

Mark Alexander Roy
VICE PRESIDENT

Tessa Munekiyo Ng
VICE PRESIDENT

July 30, 2020

Marc Takamori, Director
Department of Transportation
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Mr. Takamori:

Thank you for your letter dated June 1, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We acknowledge that the Department of Transportation has no comments to offer.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,

Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

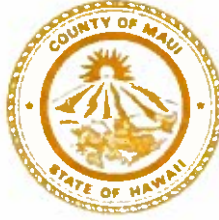
cc: Scott Rollins, Department of Environmental Management

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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.mauewater.org

June 10, 2020

Mr. Eric Nakagawa
Department of Environmental Management
2050 Main Street, Suite 2B
Wailuku, Hawai'i 96822

Subject: Proposed Lower Main Street Sewer Upgrade Project
Draft Environmental Assessment (DEA)
TMKs: (2)3-4-012:021 to 024

Dear Mr. Nakagawa,

Thank you for the opportunity to comment on the DEA for the proposed sewer upgrade project.

Source and System Infrastructure

The water source for the project includes groundwater wells within the 'Īao Aquifer and treated surface water from the Wailuku River. The County of Maui Department of Water Supply (MDWS) provides water service for the parcels and surrounding areas, and the proposed project site is near MDWS infrastructure. The segment of Lower Main Street in which the sewerline replacement is to occur contains MDWS 6-inch and 12-inch waterlines which run parallel to the sewerline segment to be replaced. Please contact Tammy Yeh at MDWS Engineering (270-7835) to verify accuracy of the waterline location before construction.

Construction BMPs for Pollution Prevention

In order to protect ground and surface water resources, we recommend that in addition to any required Best Management Practices (BMPs) the following measures designed to minimize infiltration and runoff be implemented during construction:

- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the ground. Remove all construction debris and toxic substances daily.

Mr. Eric Nakagawa
County of Maui Department of Environmental Management

- Maintain vehicles and equipment to prevent oil or other fluids from leaking. Concrete trucks and tools used for construction should be rinsed off-site.
- Properly install and maintain erosion control barriers such as silt fencing or straw bales.
- Dust Control: reclaimed water for dust control is available from the Kahului Wastewater Treatment Plant at a reasonable cost. If feasible, it should be considered as an alternative source of water for dust control during construction.
- Keep run-off on site.

Should you have any questions, please contact staff planner Alex Buttaro at (808) 463-3103 or alex.buttaro@mauicounty.gov.

Sincerely,



Jeffrey T Pearson, P.E.

Director

BAB

cc: DWS Engineering
Scott Rollins, DEM
Darren Unemori, Warren Unemori Engineering
Tessa Munekiyo Ng, Munekiyo Hiraga

S:\PLANNING\Permit_Review\Projects Review\planning review\EA-EIS\223004021, 022, 023, 024 Proposed Lower Main Street Sewer Upgrade Project DEA

July 30, 2020

Jeffrey Pearson, P.E.
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Mr. Pearson:

Thank you for your letter dated June 10, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to comments provided.

Source and System Infrastructure

We acknowledge your comment that the water source for the project vicinity includes groundwater wells within the 'Īao Aquifer and treated surface from the Wailuku River. We understand that the Department of Water Supply (DWS) provides water service for the surrounding areas via nearby DWS infrastructure. We understand that the subject segment of Lower Main Street contains DWS 6-inch and 12-inch waterlines which run parallel to the proposed sewerline segment to be replaced. The DWS Engineering Division will be contacted to confirm the location of the DWS waterlines prior to commencement of construction of the proposed project.

Construction BMPs for Pollution Prevention

The Best Management Practices provided in your letter will be reviewed for implementation in construction of the project, as feasible, including:

- Removal of all construction debris and toxic substances daily to prevent cement products, oil fuel, and other toxic substances from falling or leaching into the ground.


Jeffrey Pearson, P.E.
July 30, 2020
Page 2

- Maintenance of vehicles and equipment to prevent oil or other fluids from leaking, and offsite rinsing of concrete trucks and tools used for construction.
- Proper installation and maintenance of erosion control barrier such as silt fencing or straw bales.
- Use of reclaimed water from the Kahului Wastewater Treatment Plant as an alternative for dust control.
- Retention of run-off on site.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,



Tessa Munekiyo Ng, AICP
Vice President

TMN:tn

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering, Inc.

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POLICE DEPARTMENT COUNTY OF MAUI



MICHAEL P. VICTORINO
MAYOR

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

TIVOLI S. FAAUMU
CHIEF OF POLICE

OUR REFERENCE
YOUR REFERENCE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

June 9, 2020

Ms. Tessa Munekiyo Ng, AICP
Vice President
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Re: Draft Environmental Assessment (EA) for Proposed Lower Main Street Sewer Upgrade, TMK: (2) 3-4-021 to 024 Roadway, Wailuku, Maui, Hawaii


Dear Ms. Ng:

This is in response to your letter dated May 5, 2020 requesting comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade project.

In review of the submitted documents, we would like to suggest the project manager utilize flag men to conduct traffic control if the road is temporarily closed for alternating traffic, and post proper signage along the routes during construction. We also suggest the project meets the minimal standards set forth by county codes and state laws.

Thank you for giving us the opportunity to comment on this project.

Sincerely,


Assistant Chief John Jakubczak
for: TIVOLI S. FAAUMU
Chief of Police

c: Eric Nakagawa, Dept. of Environmental Management

July 30, 2020

Tivoli Faaumu, Chief
Police Department
County of Maui
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Chief Faaumu:

Thank you for your letter dated June 9, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to the comments provided.

A Traffic Control Plan will be implemented during construction to ensure smooth and safe passage of vehicles and pedestrians. The Traffic Control Plan includes regulatory and warning signs as well as the use of flaggers. The project will comply with minimum standards set forth by County codes and State laws.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,


Tessa Munekiyo Ng, AICP
Vice President

TMN:TN

cc: Scott Rollins, Department of Environmental Management

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July 8, 2020

Ms. Tessa Munekiyo Ng, Vice President
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Proposed Lower Main Street Sewer Upgrade
Draft Environmental Assessment (EA)
Main Street
Wailuku, Maui, Hawaii
Tax Map Key: (2) 3-4-021 to 024

Dear Ms. Ng,

Thank you for allowing us to comment on the subject project.

In reviewing our records and the information received, Hawaiian Electric Company has no objections to the subject project at this time. However, please contact the Hawaii One Call Center for underground toning of existing electrical facilities as soon as practical.

Should you have any other questions or concerns, please feel free to call me at 871-2340.

Sincerely,

Ray Okazaki
Engineer II, Engineering
Hawaiian Electric Company – Maui County

July 30, 2020

Ray Okazaki, Engineer II
Hawaiian Electric Company
Maui County
P.O. Box 398
Kahului, Hawai'i 96733-6898

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Okazaki:


Thank you for your letter dated July 8, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to your comments.

We acknowledge that the Hawaiian Electric Company has no objections to the subject project. Your suggestion that the Hawaii One Call Center be contacted for toning of existing electrical facilities as soon as practical has been forwarded to the County of Maui, Department of Environmental Management for follow-up.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Should you have any questions, or require additional information, please feel free to contact me at (808) 983-1233 or via email at planning@munekiyohiraga.com.

Very truly yours,



Tessa Munekiyo Ng, AICP
Vice President

TMN:la

cc: Scott Rollins, Department of Environmental Management
Darren Unemori, Warren S. Unemori Engineering, Inc.

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Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

www.munekiyohiraga.com

Noelani Ahia
PO BOX 2837
Wailuku, HI 96793
jennahia@yahoo.com

June 8, 2020

Aloha mai, kākou,

I am writing to share my comments about the DEA for the Lower Main St. Sewer Upgrade Project. As you may be aware, the Central Maui Pu‘uone Sand Dune complex stretches from Ma‘alaea to Waihe‘e. The dunes are listed as Wahi Pana in the Wailuku-Kahului Community Plan, and in fact are considered Wahi Kapu by Kānaka Maoli. This Wahi Kapu is home to thousands of pre contact, ancient Kānaka Maoli burials. These bones of our ancestors function as a source of collective mana for Kānaka Maoli. When iwi kūpuna are planted back into the ‘aina, they become the ‘aina that nourishes their descendents, us, in perpetuity.

To the great distress of the community, the Dunes have been the site of extractive sand mining and destructive development for decades. This has caused irreparable harm. Desecrating burials is offensive in every culture.

This Lower Main St. Sewer Upgrade Project is located in a highly sensitive area. After reviewing the DEA, I noted that there was no AIS done for this project. The AMP has referenced previous archeological studies for adjacent properties and there is a clear pattern of burials found in very close proximity to this project. The AMP also indicates that there are monitoring reports missing from the records so we don‘t have complete and thorough information from the nearby studies. It would be improper and unethical to accept an FEA where an AIS is not present in the DEA. As a recognized cultural descendant to iwi kūpuna in the Wao ‘one akua, it would be meaningless to have a DEA process with out a complete AIS, particularly in an area with such a high degree of sensitivity. The impacts to these areas haven‘t been thoroughly studied and the risk of finding iwi is high. I understand this is a county project to support infrastructure for our community, however, it is not right to bypass major steps in the process that could lead to desecration. Without having the complete AIS available in the DEA, there can be no finding of no significant impact. In addition, desecration of our ancestors causes significant impact in the form of physical and emotional distress that cannot be mitigated by monitoring.

Mahalo nui,
Noelani Ahia



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

July 30, 2020

Via email to: jennahia@yahoo.com

Noelani Ahia
P.O. Box 2837
Wailuku, Hawai'i 96793

SUBJECT: Comments on Chapter 343, Hawai'i Revised Statutes Draft Environmental Assessment for Proposed Lower Main Street Sewer Upgrade Project; Wailuku, Maui, Hawai'i

Dear Ms. Ahia:

Thank you for your letter dated June 8, 2020 providing comments on the Draft Environmental Assessment (EA) for the proposed Lower Main Street Sewer Upgrade Project. We offer the following information in response to your comments provided.

We acknowledge your comments, and appreciate the knowledge you shared regarding the importance and significance of the Central Maui Pu'uone Sand Dune Complex to Native Hawaiians.

As stated in the Draft EA, the project corridor has been extensively altered through previous construction, and no work is proposed for properties located outside of the right-of-way. No historic properties have been previously documented within the current project area. We acknowledge that there is a potential to encounter buried historic properties, including burials, with implementation of the proposed project. Consultation was undertaken with the Maui/Lanai Island Burial Council, Office of Hawaiian Affairs, and State Historic Preservation Division. Onsite archaeological monitoring will occur in order to identify and document any subsurface archaeological historic properties in accordance with Hawai'i historic preservation laws. The Archaeological Monitoring Plan was submitted to and accepted by the State Historic Preservation Division.

Thank you again for your participation in the Chapter 343, Hawai'i Revised Statutes environmental review process. A copy of your comment letter and this response will be included in the Final EA for the project.

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

www.munekiyohiraga.com



REFERENCES

XI



XI. REFERENCES

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**PRELIMINARY
ENGINEERING PLANS**

APPENDIX

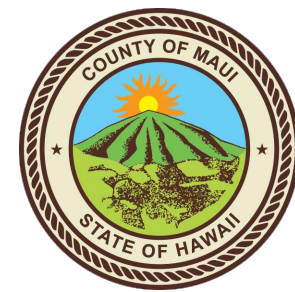
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Construction Plans for ...

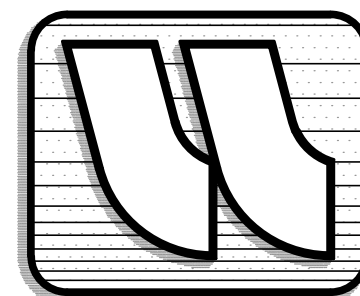
LOWER MAIN STREET SEWERLINE IMPROVEMENTS (AINAHOU PLACE TO HALA PLACE) WAILUKU, MAUI, HAWAII

Prepared for ...



COUNTY OF MAUI
DEPARTMENT OF ENVIRONMENTAL
MANAGEMENT
WASTEWATER RECLAMATION DIVISION

Prepared by ...



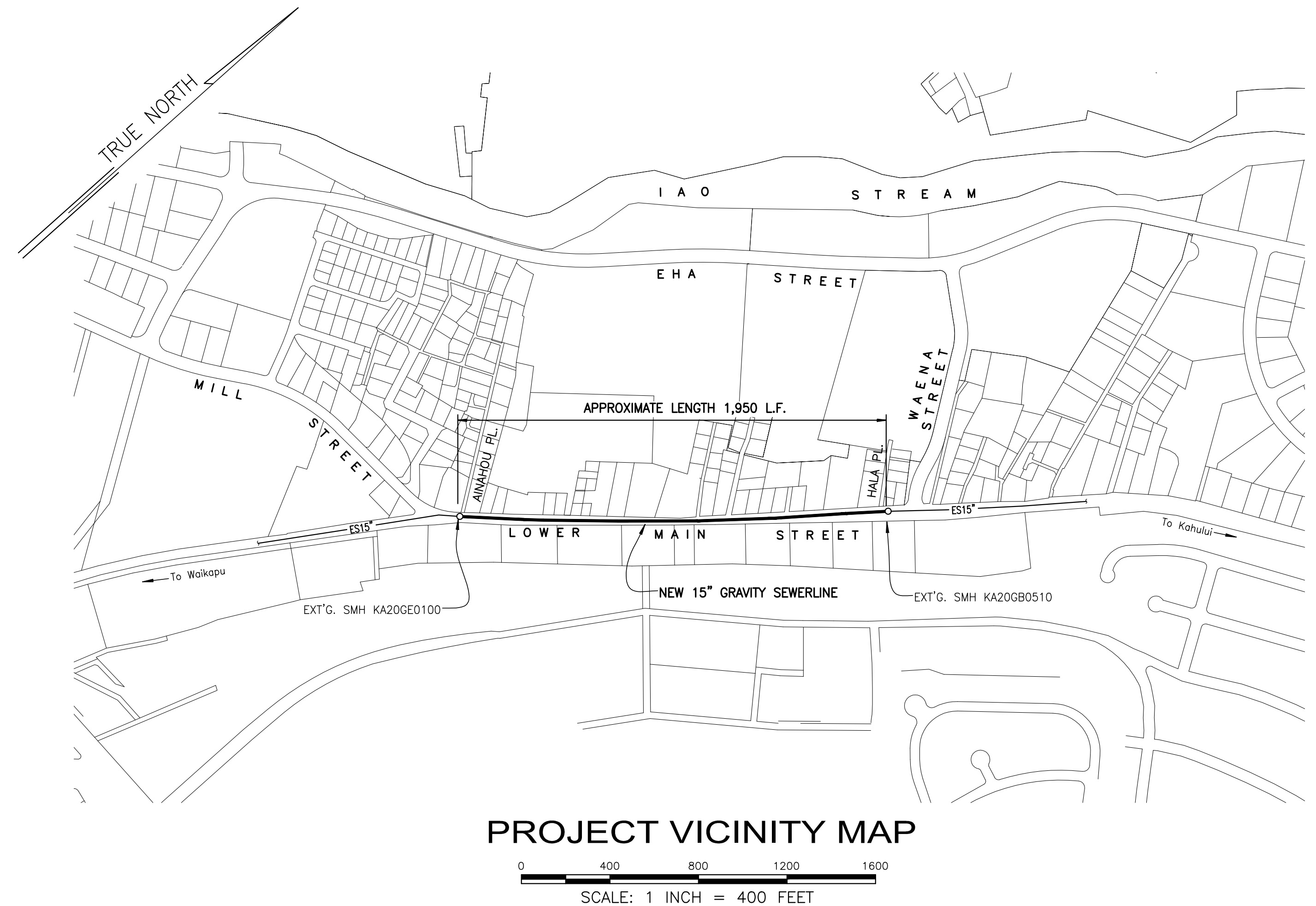
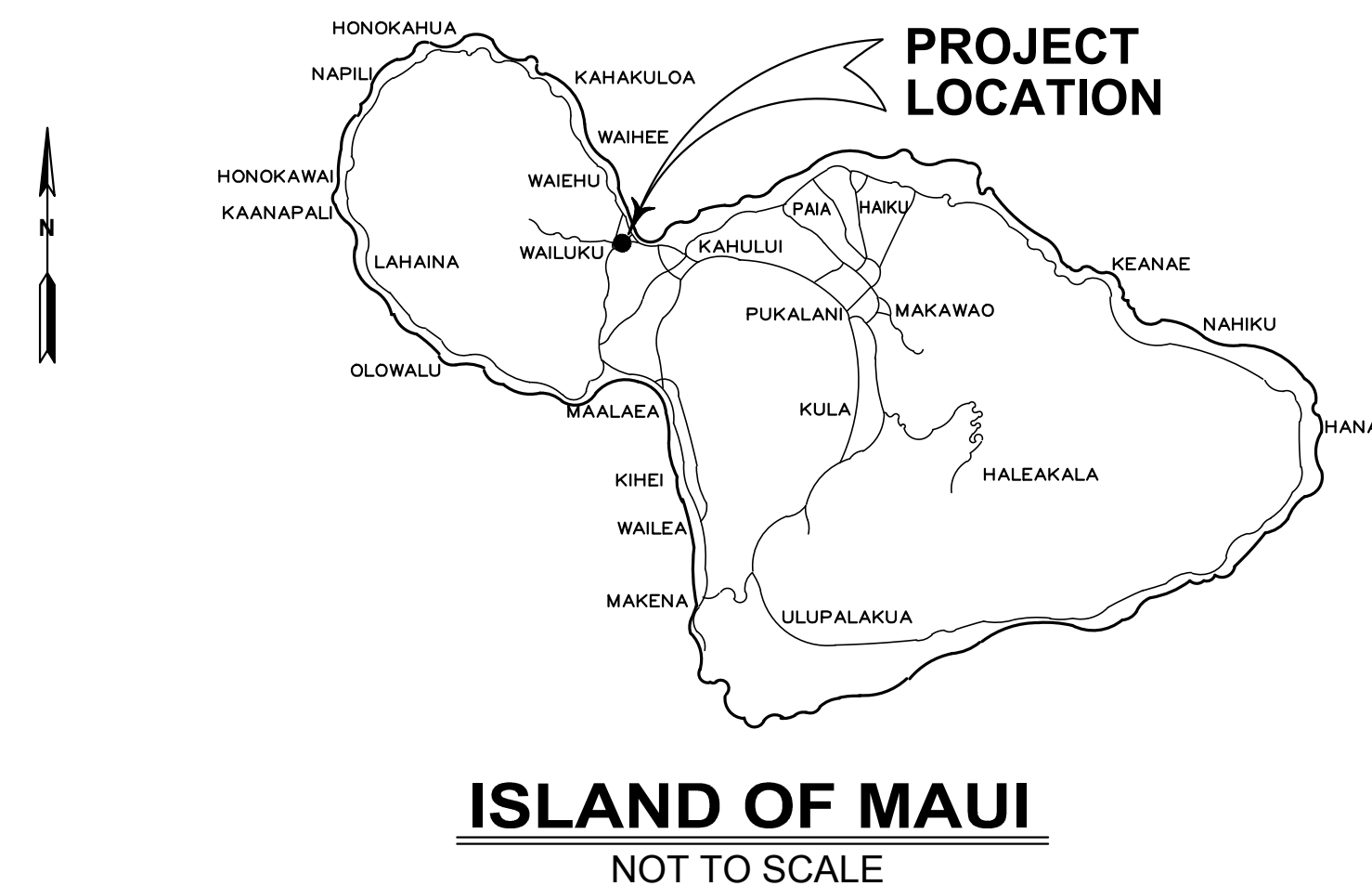
WARREN S. UNEMORI ENGINEERING, INC.
Civil & Structural Engineers - Land Surveyor
Wells Street Professional Center - Suite 403
2145 Wells Street -Wailuku, Maui, Hawaii 96793

INDEX OF DRAWINGS:

SHEET	DESCRIPTION
0	TITLE SHEET
1	SPECIAL WWRD NOTES AND LEGEND
2 - 3	PLAN AND PROFILE: DRAINLINE AND SEWERLINE
4	PLAN AND PROFILE: SEWERLINE "A" AND DRAINLINE "B"
5	SEWER DETAILS
6 - 7	TRAFFIC CONTROL PLAN
8 - 9	CONSTRUCTION NOTES

APPROVED BY:

DIRECTOR, DEPARTMENT OF PUBLIC WORKS COUNTY OF MAUI (Approval Limited to Work Within County Right-of-Way)	DATE
DIRECTOR, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COUNTY OF MAUI	DATE
DIRECTOR, DEPARTMENT OF WATER SUPPLY COUNTY OF MAUI	DATE



CONSTRUCTION NOTES:

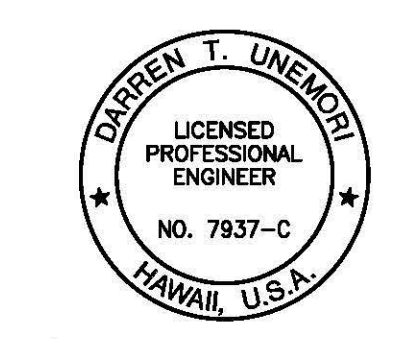
SPECIAL WWRD NOTES:

1. EXISTING UNDERGROUND UTILITIES APPEARING ON THIS PLAN ARE BASED ON AVAILABLE RECORDS DATING FROM 1933 TO THE PRESENT DAY WHICH MAY BE INACCURATE OR INCOMPLETE. CONTRACTOR SHALL CONDUCT A THOROUGH FIELD INVESTIGATION TO CONFIRM THE EXACT LOCATION, DEPTH, SIZE AND TYPE OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK. SHOULD ANY DISCREPANCIES BE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER BEFORE PROCEEDING FURTHER WITH THE WORK.
2. PROVIDE 3 FEET OF HORIZONTAL CLEARANCE BETWEEN THE NEW 15-INCH SEWERLINE AND ADJACENT UTILITIES, EXCEPT WHERE LESS CLEARANCE IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
3. INSTALL PROTECTIVE REINFORCED CONCRETE JACKET ON EXISTING SEWER LATERALS CROSSING ABOVE 15-INCH SEWERLINE.
 - A. CONCRETE JACKET SHALL BE CONSTRUCTED PER DPW STANDARD DETAIL S-5.
 - B. CONCRETE JACKET SHALL EXTEND AT LEAST 3 HORIZONTAL FEET BEYOND THE O.D. OF THE 15-INCH SEWER MAIN ON BOTH SIDES OF THE CROSSING, EXCEPT WHERE A SHORTER JACKET IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
 - C. PROVIDE AT LEAST 6 INCHES OF VERTICAL CLEARANCE BETWEEN BOTTOM OF CONCRETE JACKET AND TOP OF 15-INCH SEWERLINE, EXCEPT WHERE LESS CLEARANCE IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
4. INSTALL PROTECTIVE CONCRETE JACKET ON ELECTRICAL LINES CROSSING ABOVE 15-INCH SEWERLINE.
 - A. CONCRETE JACKET SHALL BE CONSTRUCTED TO APPROPRIATE PUC STANDARDS.
 - B. CONCRETE JACKET SHALL EXTEND AT LEAST 3 HORIZONTAL FEET BEYOND THE O.D. OF THE 15-INCH SEWER MAIN ON BOTH SIDES OF THE CROSSING, EXCEPT WHERE A SHORTER JACKET IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
 - C. PROVIDE AT LEAST 6 INCHES OF VERTICAL CLEARANCE BETWEEN BOTTOM OF CONCRETE JACKET AND TOP OF 15-INCH SEWERLINE, EXCEPT WHERE LESS CLEARANCE IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
5. INSTALL PROTECTIVE CONCRETE JACKET ON NEW 15-INCH SEWERLINE WHEN CROSSING UNDER DRAINLINES AND WATERLINES.
 - A. CONCRETE JACKET SHALL BE CONSTRUCTED PER DPW STANDARD DETAIL S-5.
 - B. CONCRETE JACKET SHALL EXTEND AT LEAST 3 HORIZONTAL FEET BEYOND THE O.D. OF THE DRAINLINE OR WATERLINE ON BOTH SIDES OF THE CROSSING, EXCEPT WHERE A SHORTER JACKET IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.
 - C. PROVIDE AT LEAST 6 INCHES OF VERTICAL CLEARANCE BETWEEN BOTTOM OF CONCRETE JACKET AND TOP OF 15-INCH SEWERLINE, EXCEPT WHERE LESS CLEARANCE IS DEEMED ACCEPTABLE BY THE WWRD INSPECTOR.

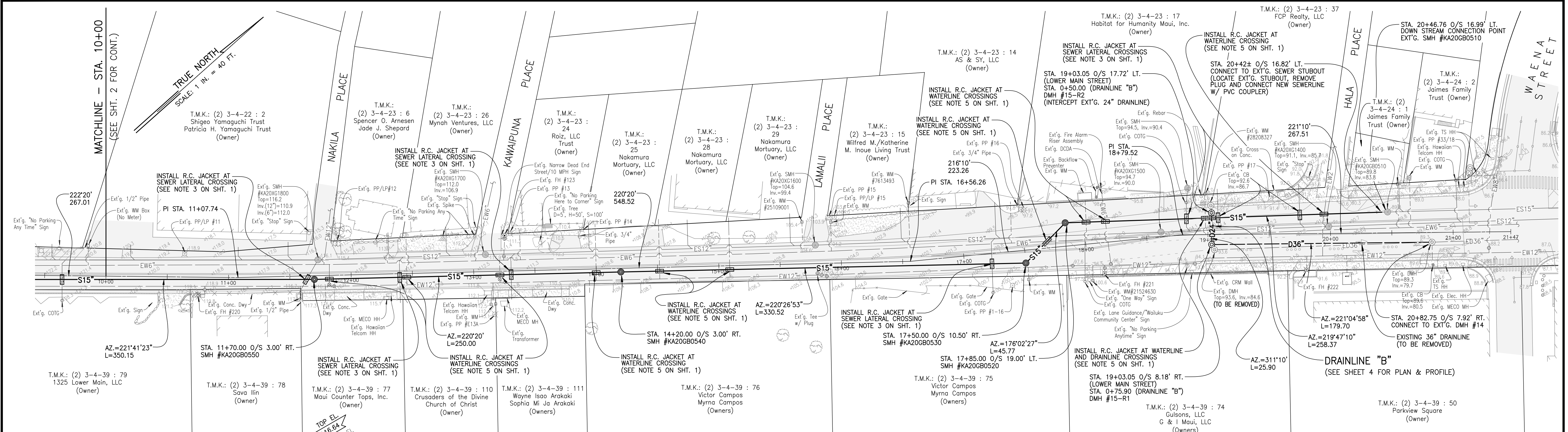
LEGEND:

⊙	SEWER MANHOLE	▣	EXISTING GRATED INLET CATCH BASIN
•	AIR RELIEF VALVE	○	EXISTING WATER VALVE
—FM16"	NEW FORCE MAIN W/SIZE	⊕	EXISTING FIRE HYDRANT
—S21"	NEW SEWERLINE W/SIZE	□	EXISTING WATER METER
—ES12"	EXISTING SEWERLINE W/SIZE	⊖	EXISTING SIGN
—EFM6"	EXISTING FORCE MAIN W/SIZE	⊕	EXISTING POWER POLE W/GUYWIRE
—ED24"	EXISTING DRAINLINE W/SIZE	25.5	EXISTING SPOT ELEVATION
—EW18"	EXISTING WATERLINE W/SIZE	20	EXISTING GRADES
□	EXISTING GUARDRAIL	○	EXISTING STREET MONUMENT
×	EXISTING FENCE	✉	EXISTING MAILBOX
⌋	EXISTING BANK	○	EXISTING SINGLE SERVICE WATER LATERAL
⊙	EXISTING SEWER MANHOLE	⊙	EXISTING TREES
⊙	EXISTING WATER MANHOLE		
⊙	EXISTING DRAIN MANHOLE		

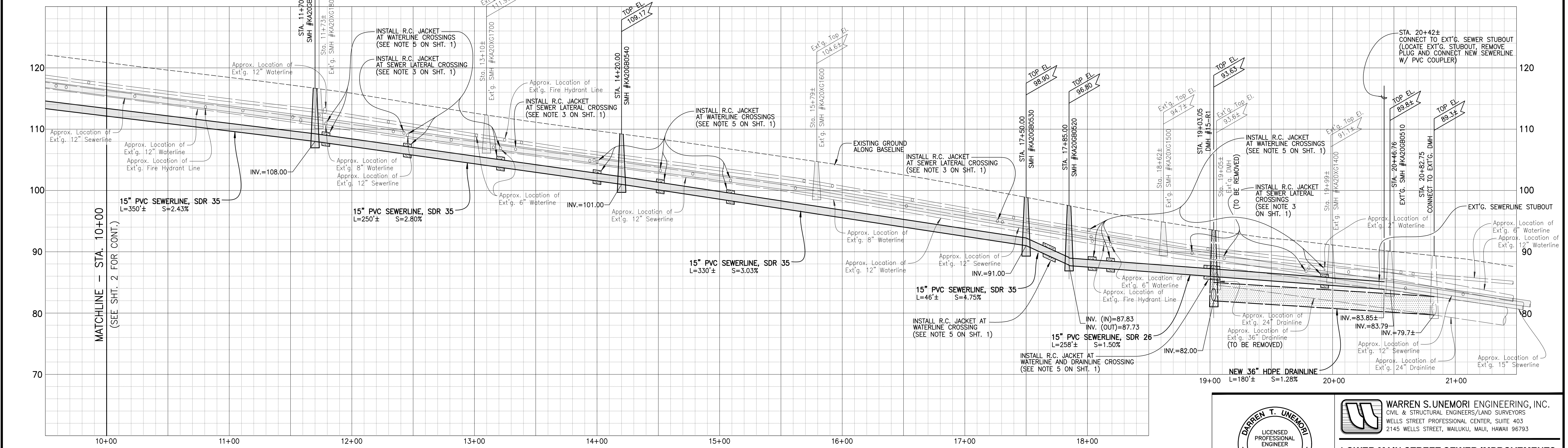
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	WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS WELLS STREET PROFESSIONAL CENTER, SUITE 403 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793
LOWER MAIN STREET SEWER IMPROVEMENTS WAILUKU, MAUI, HAWAII	
SPECIAL WWRD NOTES AND LEGEND	
DTU DESIGNED BY WIS	DTU CHECKED BY DTU
DRAWN BY AS NOTED	DATE Sept. 6, 2019
SCALE	JOB NUMBER 19008 SHEET 1 OF 10 SHEETS

LETTER	DESCRIPTION	DATE

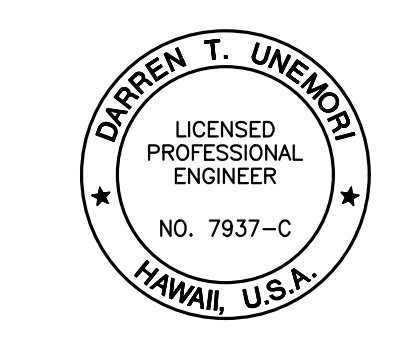


PLAN
SCALE: 1 IN. = 40 FT.



PROFILE — LOWER MAIN STREET

SCALE: HORIZ. 1" = 40 FT.
VERT. 1" = 8 FT.



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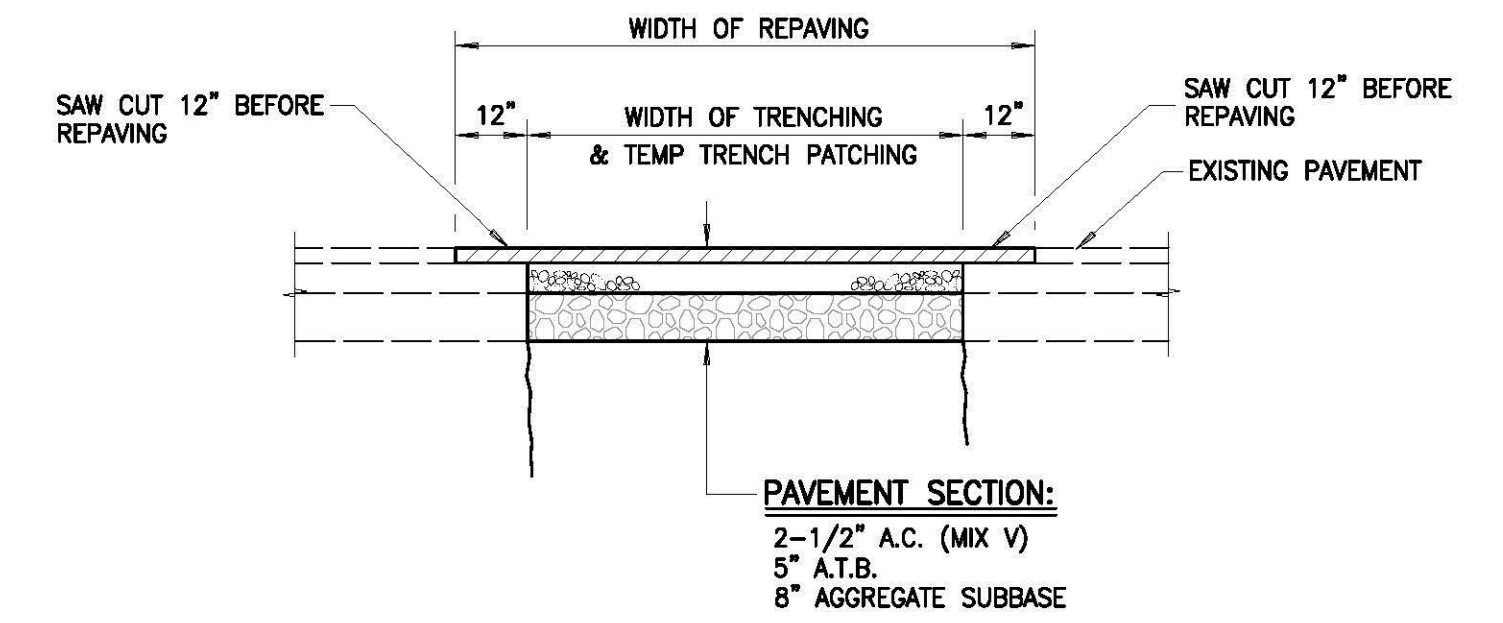
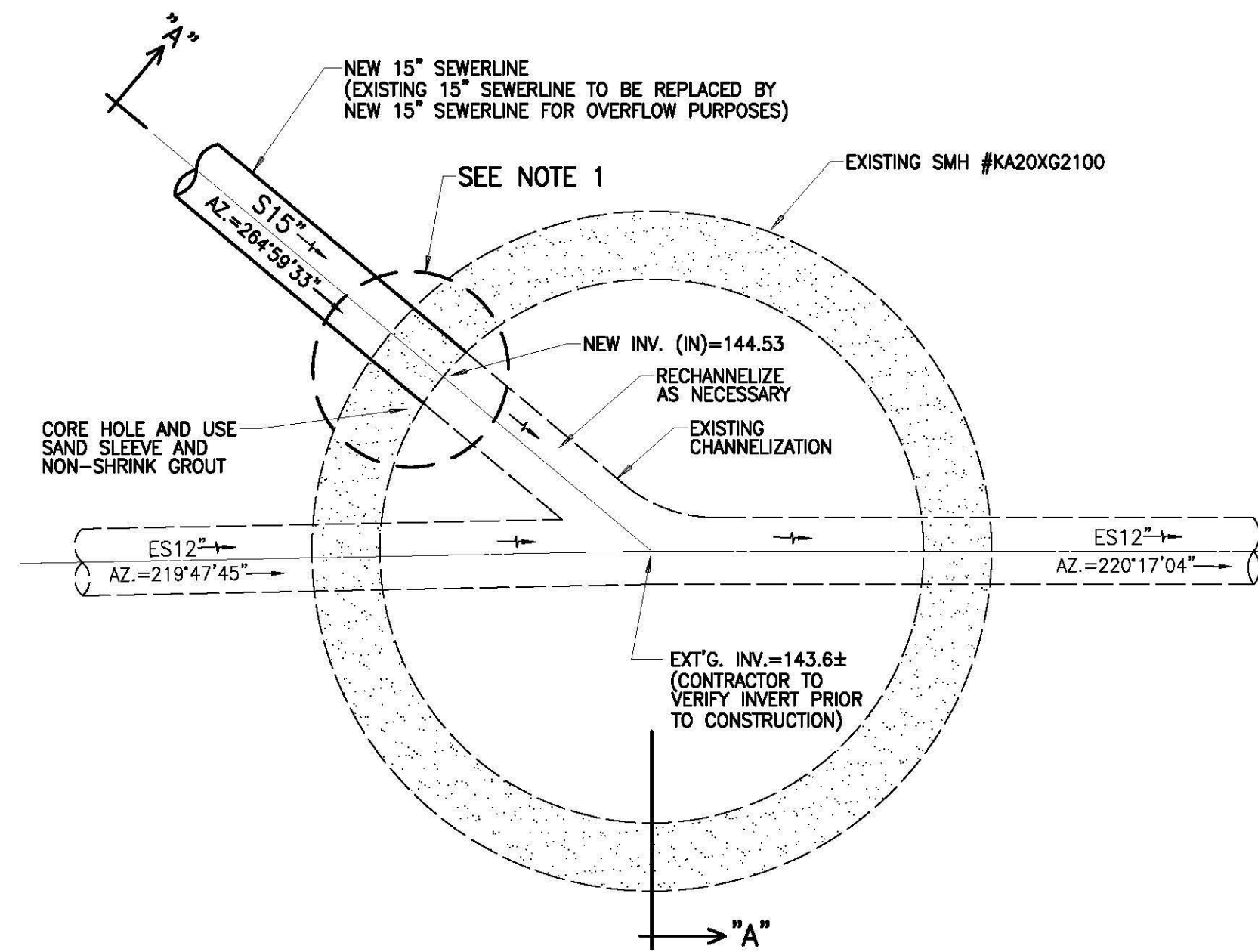
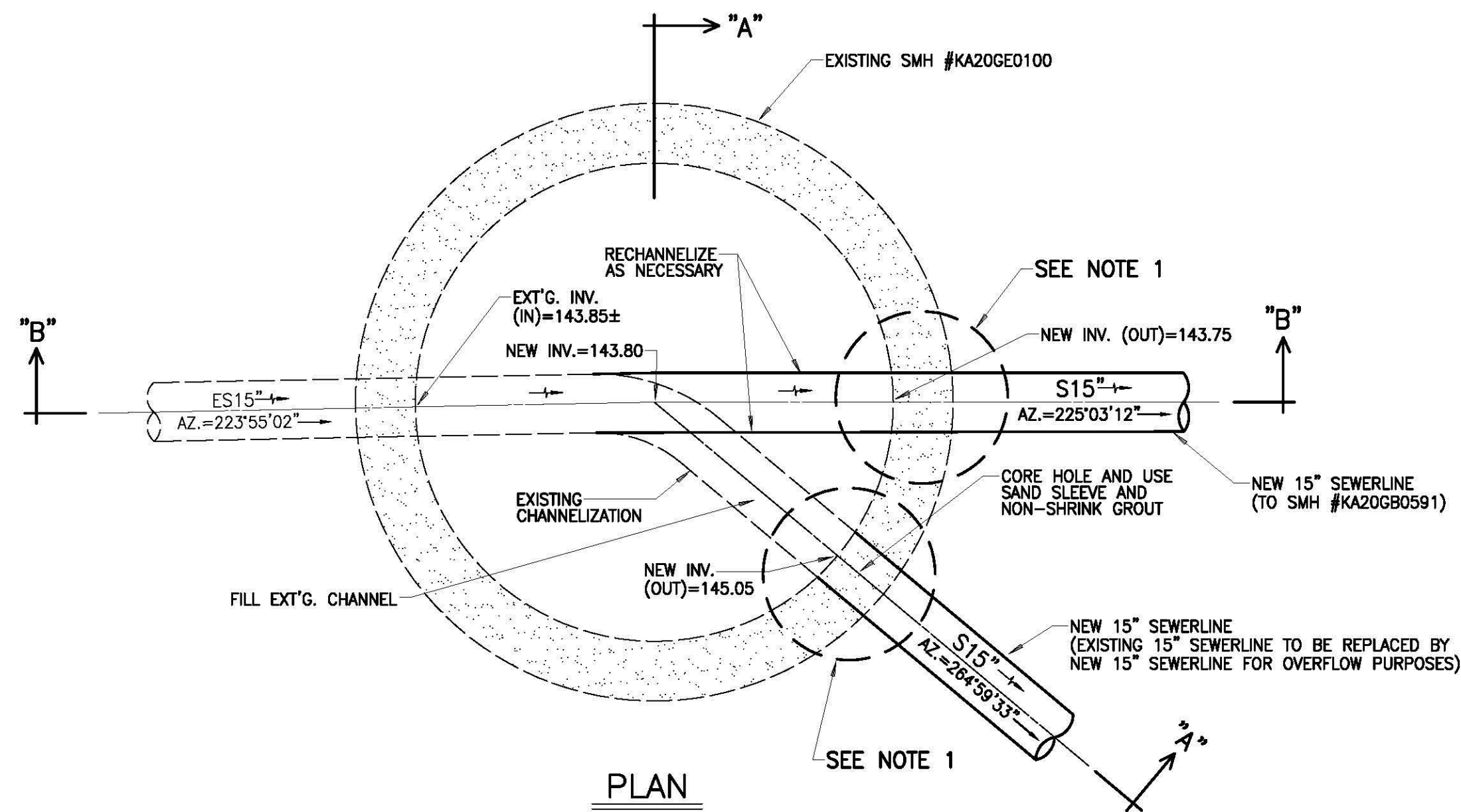
LOWER MAIN STREET SEWER IMPROVEMENTS
WAILUKU, MAUI, HAWAII
**PLAN AND PROFILE:
DRAINLINE AND SEWERLINE**

License Expires: April 30, 2020
SIGNATURE: [Signature] DATE: [Date]
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 16-15-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.

DTU DESIGNED BY	DTU CHECKED BY	19008	3
WIS DRAWN BY	DTU APPROVED BY	JOB NUMBER	
SCALE 1 IN. = 40 FT.			DATE

LETTER	DESCRIPTION	DATE

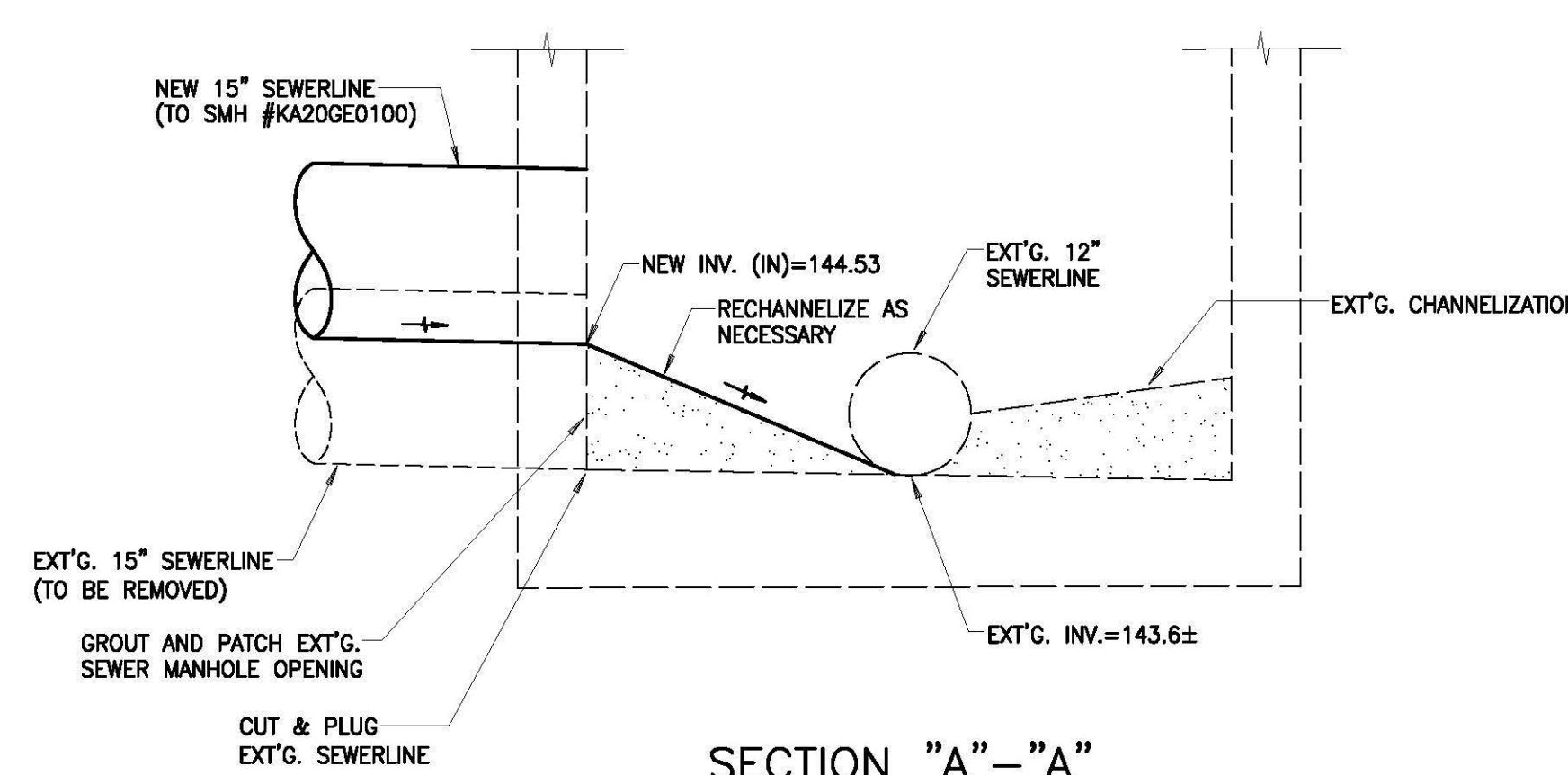
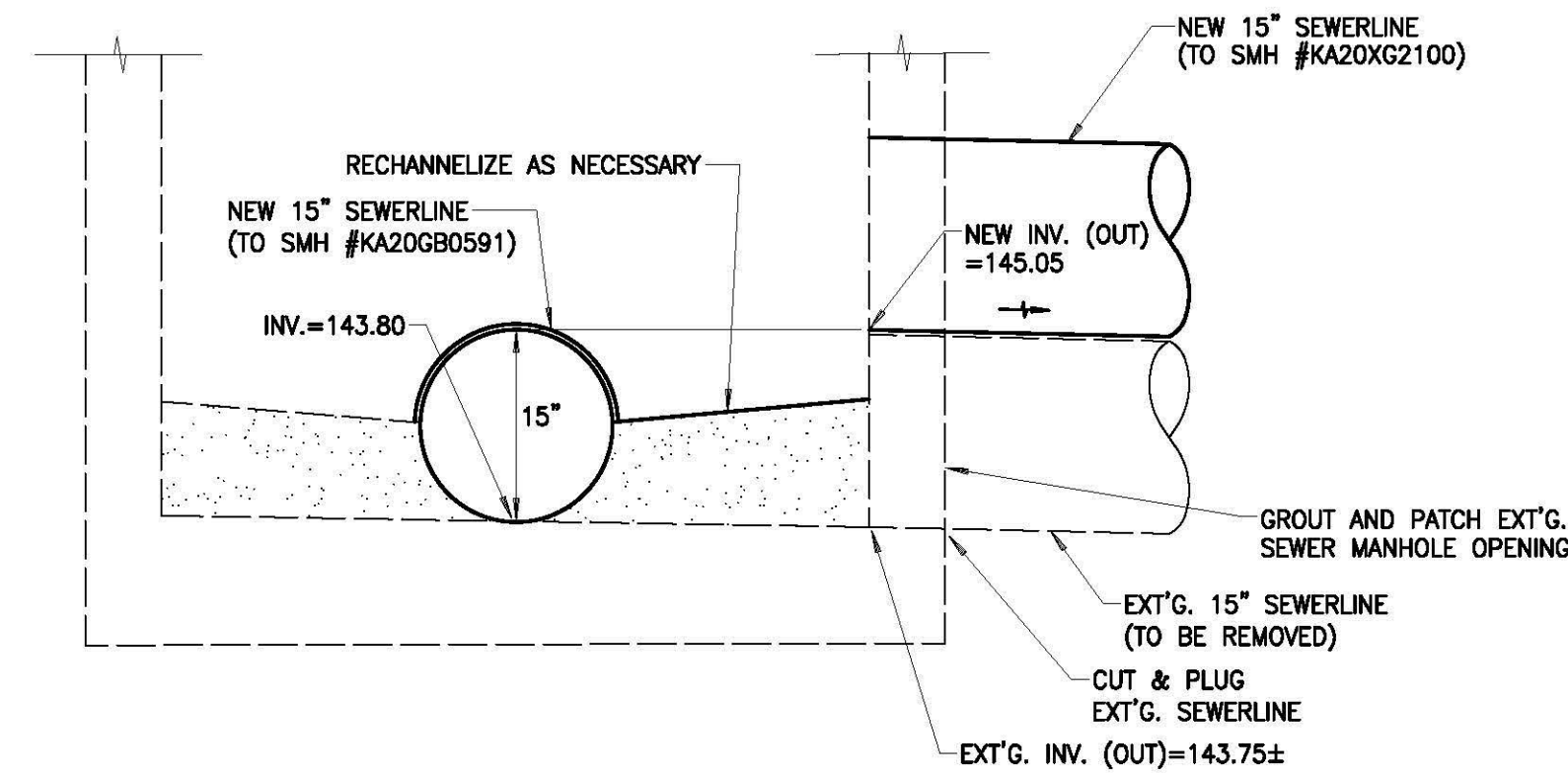
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PAVEMENT RESTORATION DETAIL
NOT TO SCALE

NOTES:

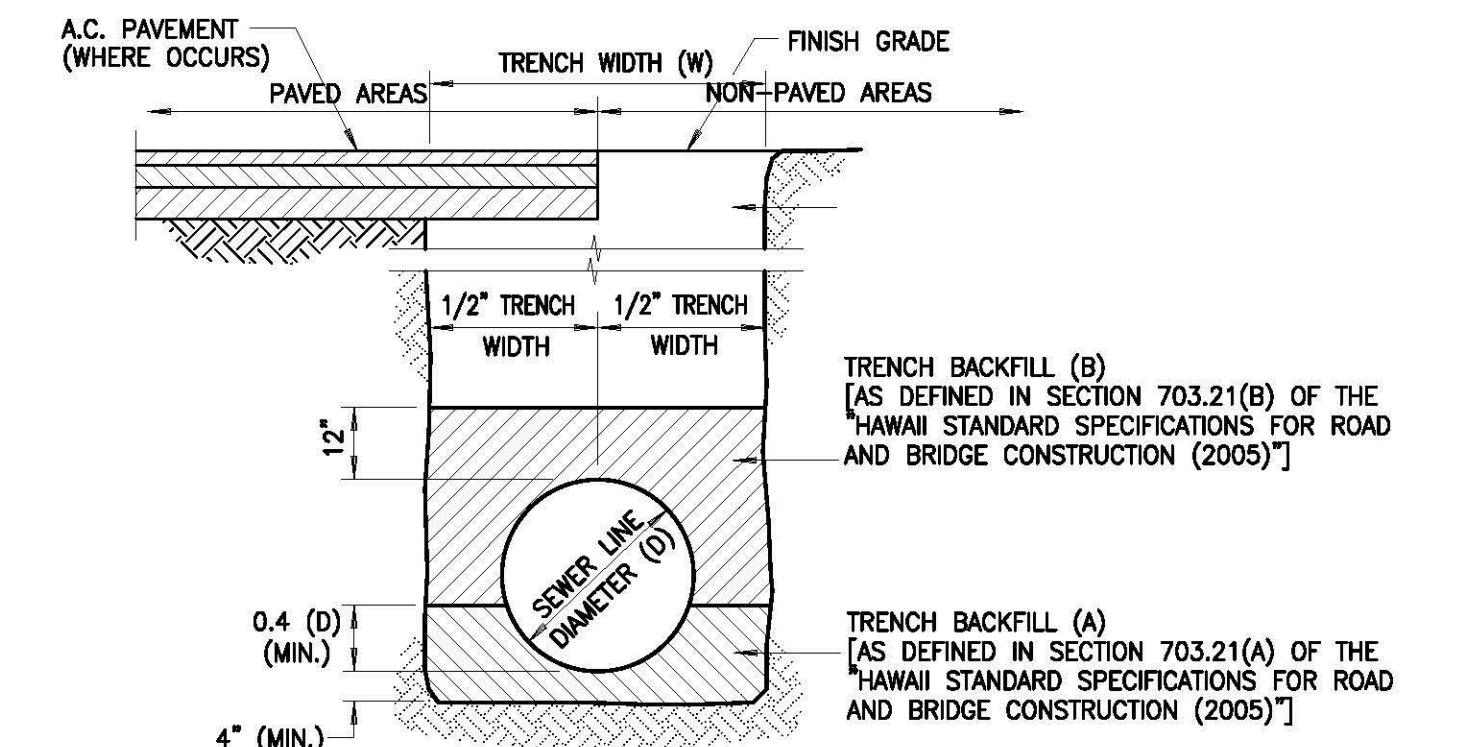
- RESTORE PAVEMENT TO MATCH NEW PAVEMENT SECTION
- MINIMUM THICKNESS OF PAVEMENT
A.C. PAVEMENT = 2 1/2"
ASPHALT TREATED BASE = 5"
AGGREGATE SUBBASE = 8"
- THE CONTRACTOR SHALL PROVIDE A TEMPORARY COLD MIX PATCH IF RESTORATION WORK CANNOT BE MADE WITHIN 24 HOURS AFTER BACKFILL HAS BEEN COMPLETED.
- PRIME COAT SHALL BE PLACED ON NEW AGGREGATE BASE COURSE AND EXISTING AGGREGATE BASE COURSE PER DEPARTMENT OF PUBLIC WORKS, COUNTY OF MAUI REQUIREMENTS PRIOR TO PLACING OF A.C.



DETAIL - RE-CHANNELIZATION OF EXISTING SMH #KA20XG2100
NOT TO SCALE

NOTE:

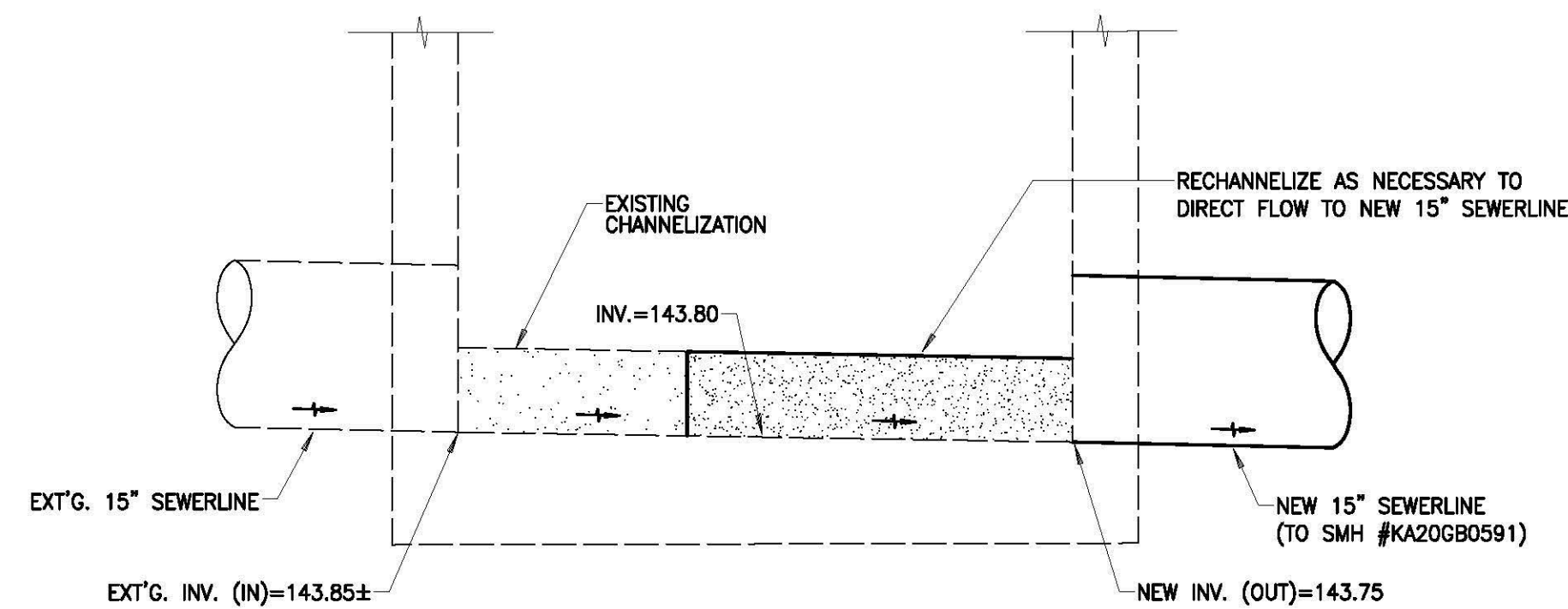
- FOR CONNECTION OF NEW SEWERLINE INTO EXISTING MANHOLE, CONTRACTOR SHALL CORE HOLE AND USE SAND SLEEVE AND NON-SHRINK GROUT. THE CONNECTION SHALL BE CORED WITHOUT CHIPPING OR BREAKING THE SIDEWALL OF THE EXISTING MANHOLE.



NOTES:

- TRENCH BACKFILL AND BED COURSE MATERIAL SHALL CONFORM TO SECTION 703 "AGGREGATES" OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)."
 - INSTALLATION OF SEWERLINES SHALL CONFORM TO SECTION 625, "SEWER SYSTEM" OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)."
 - TRENCH WIDTHS SHALL CONFORM TO TABLE 625.03-1 OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)."
 - LOADS IMPOSED BY CONSTRUCTION VEHICLES WITH AXLE LOADS IN EXCESS OF THE AASHTO HS-20-44 VEHICLE (32,000 LBS./AXLE) SHOULD BE MINIMIZED BY DESIGNATED CONSTRUCTION VEHICLE CROSSINGS. ADDITIONAL FILL SHOULD BE PLACED OVER THE SEWERLINES AT THE DESIGNATED CONSTRUCTION VEHICLE CROSSINGS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, OR STRUTTING TO SUPPORT THE PIPE SHOULD BE PLACED IN ACCORDANCE WITH THE CURRENT "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)."
- ALL SEWERLINES DAMAGED BY CONSTRUCTION VEHICLE LOADING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

TYPICAL TRENCH SECTION PVC SEWERLINE
NOT TO SCALE



DETAIL - RE-CHANNELIZATION OF EXISTING SMH #KA20GE0100 (UPSTREAM TIE-IN)
NOT TO SCALE

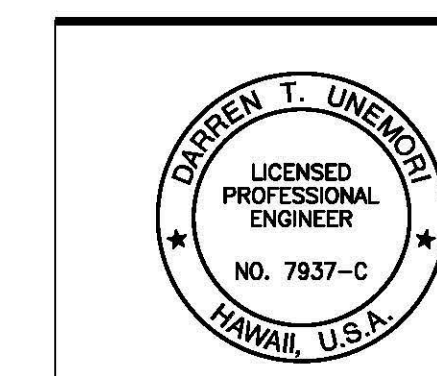
NOTE:

- FOR CONNECTION OF NEW SEWERLINE INTO EXISTING MANHOLE, CONTRACTOR SHALL CORE HOLE AND USE SAND SLEEVE AND NON-SHRINK GROUT. THE CONNECTION SHALL BE CORED WITHOUT CHIPPING OR BREAKING THE SIDEWALL OF THE EXISTING MANHOLE.

STANDARD SEWER DETAILS

THE FOLLOWING DETAILS SHOWN IN THE MAUI COUNTY DEPT. OF PUBLIC WORKS "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER 1984 (AS AMENDED), ARE SPECIFICALLY REFERENCED WITHIN THESE PLANS AND SHALL BE CONSIDERED PART OF THE CONSTRUCTION DRAWINGS. (THIS SHALL NOT BE CONSTRUED TO RELIEVE THE CONTRACTOR FROM COMPLYING WITH ALL APPLICABLE STANDARDS OF THE DEPT. OF ENVIRONMENTAL MANAGEMENT, WASTEWATER RECLAMATION DIVISION).

PLATE	CONTENTS
S-5	CONCRETE JACKET
S-13	PRE-CAST CONCRETE PLAIN MANHOLE
S-22	PRE-CAST CONCRETE ECCENTRIC MANHOLE CONE
S-17	PRE-CAST CONCRETE DROP MANHOLE
S-18	PRE-CAST CONCRETE DROP MANHOLE SECTIONS



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LOWER MAIN STREET SEWER IMPROVEMENTS
WAILUKU, MAUI, HAWAII

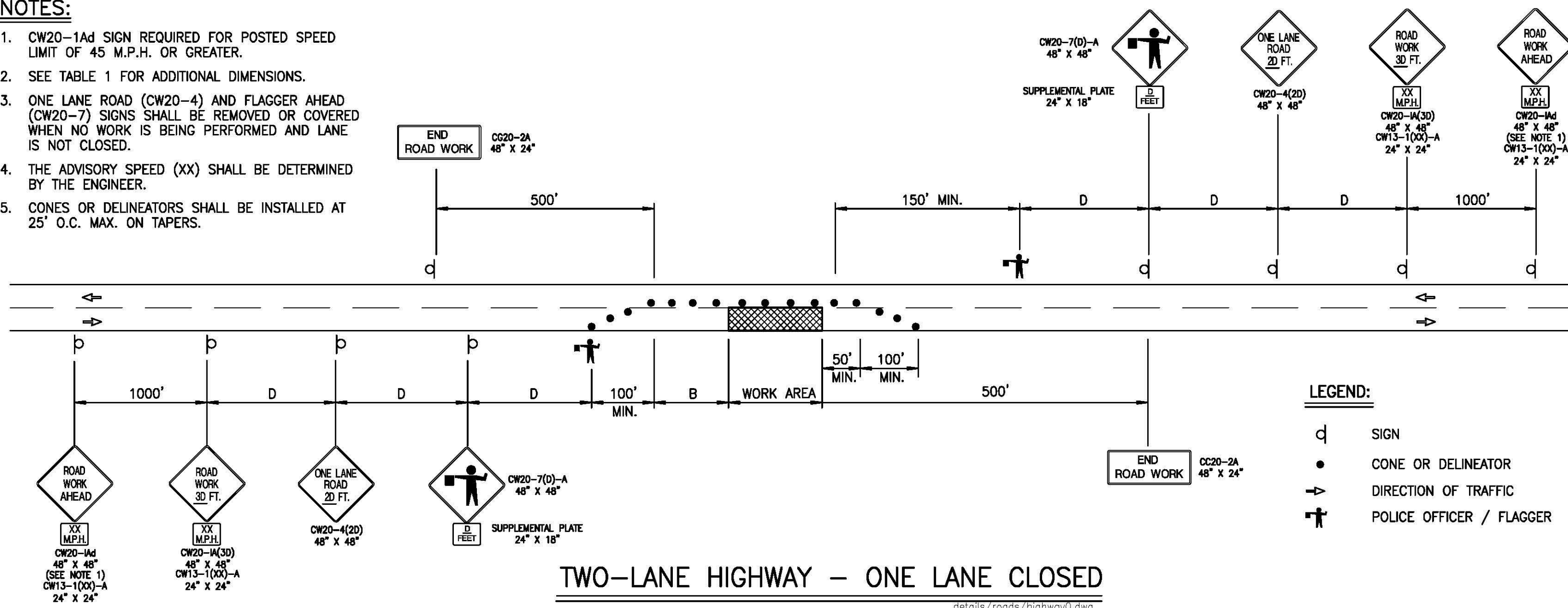
TITLE SEWER DETAILS

DESIGNED BY DTU	CHECKED BY DTU	DATE 19008	SHEET 5
DRAWN BY WIS	APPROVED BY DTU	JOB NUMBER 19008	
SCALE AS NOTED		DATE Sept. 6, 2019	OF 10 SHEETS

LETTER	DESCRIPTION	DATE

NOTES:

1. CW20-1A4 SIGN REQUIRED FOR POSTED SPEED LIMIT OF 45 M.P.H. OR GREATER.
2. SEE TABLE 1 FOR ADDITIONAL DIMENSIONS.
3. ONE LANE ROAD (CW20-4) AND FLAGGER AHEAD (CW20-7) SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED AND LANE IS NOT CLOSED.
4. THE ADVISORY SPEED (XX) SHALL BE DETERMINED BY THE ENGINEER.
5. CONES OR DELINEATORS SHALL BE INSTALLED AT 25' O.C. MAX. ON TAPERS.



TWO-LANE HIGHWAY – ONE LANE CLOSED
FIGURE 1 – TRAFFIC CONTROL PLAN

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. THE PERMITEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF WORK.
5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
7. SIGNS SPACING (L), TAPER LENGTHS (T) AND SPACINGS OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
8. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
10. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
11. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
12. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF WORK.
13. ANY PERMANENT STRIPING THAT HAS BEEN REMOVED AND IS NOT SCHEDULED FOR REPLACEMENT BY THE END OF EACH WORK DAY SHALL BE REPLACED BY TEMPORARY STRIPING.
14. CONTRACTOR TO PROVIDE ONE (1) ELECTRONIC MESSAGE BOARD FOR THE DURATION OF THE PROJECT, LOCATION TO BE DETERMINED.
15. TRAFFIC CONTROL PLAN (SCENARIO 1) APPLIES TO CONSTRUCTION WITHIN LOWER MAIN STREET WHERE A 10 FT. WIDE MINIMUM TRAFFIC LANE CAN BE PROVIDED AROUND THE WORK AREA.
16. TRAFFIC CONTROL PLAN (SCENARIO 2) APPLIES TO CONSTRUCTION WITHIN LOWER MAIN STREET WHERE THE ROADWAY IS TOO NARROW TO PROVIDE A 10 FT. WIDE MINIMUM TRAFFIC LANE AROUND THE WORK AREA.
17. POSTED SPEED LIMIT ON LOWER MAIN STREET IS 30 MPH .

POSTED SPEED LIMIT (1) (M.P.H.)	SIGN SPACING (L) (FEET)	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR DELINEATORS (FEET) (3)		
		W = 12' OR LESS (2)	W = GREATER THAN 12' (2)		TAPER	TANGENT	WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	550	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10

- NOTE:**
- 1 USE ADVISORY SPEEDS WHEN POSTED.
 - 2 W = WIDTH OF LANE, SHOULDER, OR OFFSET.
 - 3 NOT APPLICABLE FOR TWO-LANE HIGHWAYS.

TYPICAL TRAFFIC CONTROL PLAN WITHIN COUNTY RIGHT-OF-WAY (SCENARIO 1)

NOT TO SCALE

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 15-SEP-2019 10:00:00 AM

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 CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
 WELLS STREET PROFESSIONAL CENTER, SUITE 403
 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

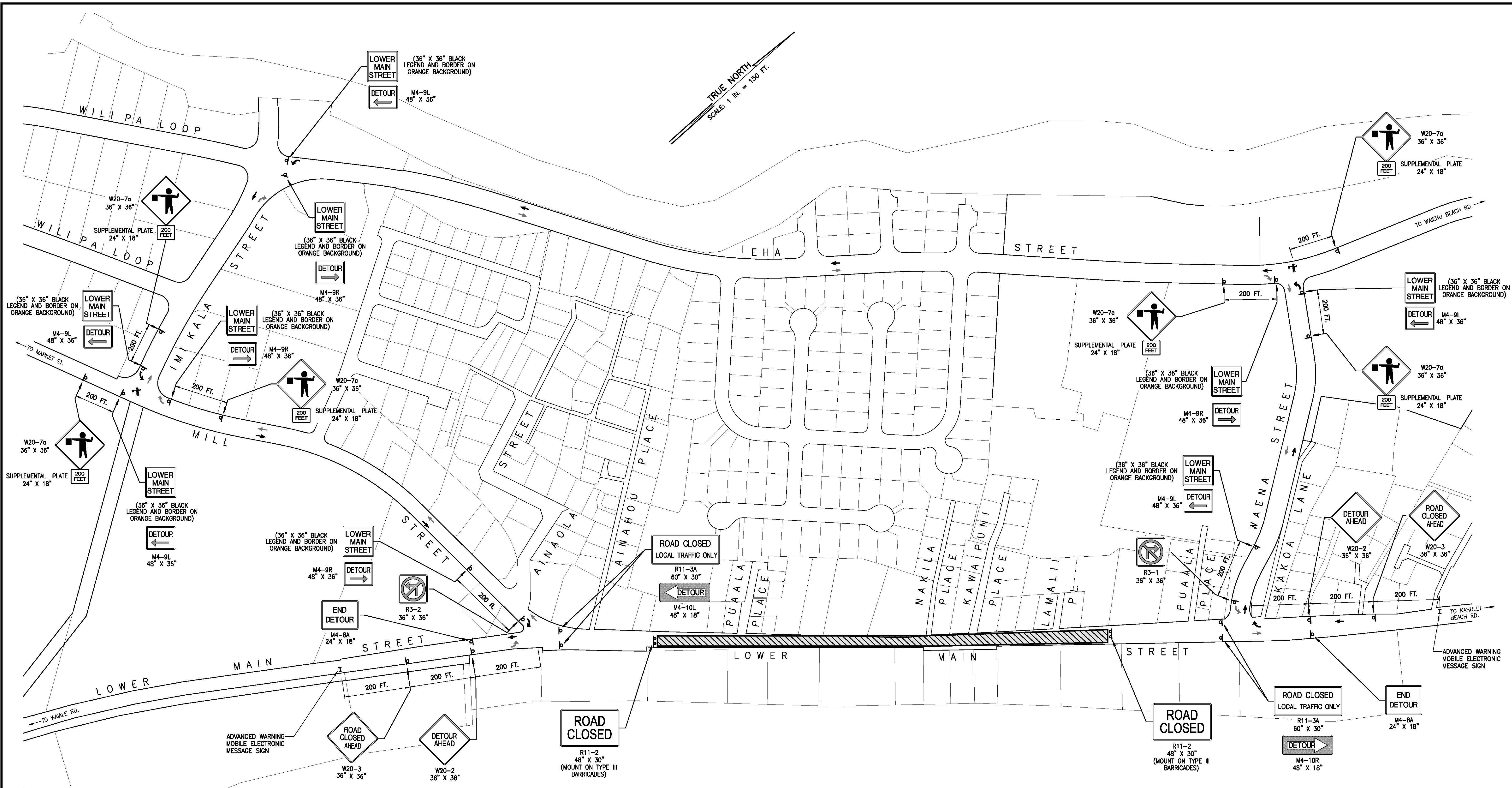
LOWER MAIN STREET SEWER IMPROVEMENTS
 WAILUKU, MAUI, HAWAII

TITLE TRAFFIC CONTROL PLAN (SCENARIO 1)

SIGNATURE	DATE	19008	6
DESIGNED BY	CHECKED BY	JOB NUMBER	SHEET
DRAWN BY	APPROVED BY	Sept. 6, 2019	
SCALE		AS NOTED	DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 15-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.

LETTER	DESCRIPTION	DATE



TRAFFIC CONTROL PLAN FOR CONSTRUCTION WITHIN COUNTY RIGHT-OF-WAY (SCENARIO 2)

NOT TO SCALE

- NOTES:**
- POSTED SPEED LIMIT ON LOWER MAIN STREET IS 30 MPH .
 - POSTED SPEED LIMIT ON WAENA STREET, EHA STREET, IMI KALA STREET AND MILL STREET IS 20 MPH.
 - TRAFFIC CONTROL PLAN (SCENARIO 1) APPLIES TO CONSTRUCTION WITHIN LOWER MAIN STREET WHERE A 10 FT. WIDE MINIMUM TRAFFIC LANE CAN BE PROVIDED AROUND THE WORK AREA.
 - TRAFFIC CONTROL PLAN (SCENARIO 2) APPLIES TO CONSTRUCTION WITHIN LOWER MAIN STREET WHERE THE ROADWAY IS TOO NARROW TO PROVIDE A 10 FT. WIDE MINIMUM TRAFFIC LANE AROUND THE WORK AREA.
 - TO MINIMIZE THE IMPACT OF CONSTRUCTION ACTIVITIES ON VEHICULAR TRAFFIC, CONSTRUCTION WORK REQUIRING A ROAD CLOSURE SHALL TAKE PLACE DURING OFF PEAK HOURS FROM 8:30 AM TO 3:00 PM MONDAY TO FRIDAY. NIGHT WORK AND WEEKEND WORK WILL REQUIRE APPROVAL FROM THE COUNTY OF MAUI.
 - CONTRACTOR SHALL PROVIDE MEANS OF SAFE PASSAGE THROUGH THE WORK AREA FOR LOCAL TRAFFIC AND EMERGENCY VEHICLES TO ACCESS DRIVEWAYS AND STREETS OBSTRUCTED BY WORK. TRAFFIC CONTROL DEVICES SHALL BE SPACED AS NECESSARY TO PROVIDE CLEAR ACCESS TO DRIVEWAYS AND RESIDENTIAL STREETS.
 - CONTRACTOR SHALL WORK WITH THE COUNTY OF MAUI TO PROVIDE ADVANCE NOTICE OF CONSTRUCTION ACTIVITIES TO RESIDENTS AND COMMERCIAL BUSINESSES DIRECTLY AFFECTED BY THE TRAFFIC CONTROL PLAN PRIOR TO THE COMMENCEMENT OF WORK.
 - SEE SHEET 9 FOR GENERAL NOTES FOR TRAFFIC CONTROL.

- LEGEND:**
- SIGN
 - PRIMARY DIRECTION OF NORTH DETOUR TRAFFIC
 - PRIMARY DIRECTION OF SOUTH DETOUR TRAFFIC
 - FLAGMAN/ POLICE OFFICER
 - TYPE III BARRICADE
 - PORTABLE CHANGEABLE MESSAGE SIGN
 - WORK AREA (SEE NOTE 4)

		WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS WELLS STREET PROFESSIONAL CENTER, SUITE 403 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793	
		LOWER MAIN STREET SEWER IMPROVEMENTS WAILUKU, MAUI, HAWAII	
TITLE TRAFFIC CONTROL PLAN (SCENARIO 2)			
DTU DESIGNED BY WIS	DTU CHECKED BY DTU	19008 JOB NUMBER	7 SHEET
DRAWN BY WIS	DTU APPROVED BY DTU	Sept. 6, 2019 DATE	OF 10 SHEETS
SCALE 1 IN. = 150 FT.		LICENSE EXPIRES: April 30, 2020	
<small>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION "AS DEFINED IN SECTION 15-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS"</small>			

V:\Projects\19008\19008.dwg Warren S. Unemori Traffic-Detour Revit-20.dwg

CONSTRUCTION NOTES:

CONSTRUCTION NOTES WITHIN COUNTY RIGHT-OF-WAY:

- CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK ON COUNTY HIGHWAYS FROM THE DEVELOPMENT SERVICES ADMINISTRATION TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
- STANDARD DETAIL DRAWINGS AND STANDARD SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
- ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE 2005 VERSION OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE PUBLIC WORKS CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
- IF EXISTING UTILITIES, WHETHER OR NOT SHOWN ON PLANS, ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL AT HIS OWN EXPENSE BE REQUIRED TO REPAIR SUCH UTILITIES.
- 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 VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND TO THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORKSITES AND/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".
- THE DIRECTOR PUBLIC WORKS AND/OR THE DIRECTOR OF THE DEPARTMENT OF WATER SUPPLY HAS THE RIGHT TO STOP CONSTRUCTION SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLAN OR DETRIMENTAL TO THE PUBLIC'S INTEREST.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE DEVELOPEMENT SERVICES ADMINISTRATION FIVE (5) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE WORK SITE. THE CONTRACTOR SHALL INFORM THE DIRECTOR OF PUBLIC WORKS OF THE LOCATION OF THE DISPOSAL SITES. THE DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- THE CONTRACTOR SHALL SUBMIT A TIF AND FIVE (5) COPIES OF THE "AS-BUILT" DRAWINGS PRIOR TO THE FINAL APPROVAL OF THE IMPROVEMENTS.
- IF THE CLEARANCE BETWEEN A WASTEWATER LINE AND A NEW OR EXISTING WATERLINE IS EIGHTEEN INCHES (18") OR LESS, THE WASTEWATER LINE SHALL BE CONCRETE-JACKETED IN ACCORDANCE WITH THE STANDARD DETAILS OF PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1984, AS AMENDED.
- SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS, OR MOUNDS, OR REMAINS SUCH AS ARTIFACTS BURIALS, CONCENTRATION OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR AND/OR LANDOWNER SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY.
- 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.
- STEEL PLATE WARNING SIGNS ARE REQUIRED FOR ALL STEEL PLATES IN THE RIGHT-OF-WAY.
- WHEELCHAIR RAMP INSPECTION/CERTIFICATION FORMS SHALL BE REQUIRED FOR ALL NEWLY CONSTRUCTED RAMPS.
- ALL STRIPING AND PAVEMENT MARKINGS SHALL BE OF THERMOPLASTIC MATERIAL.
- COMPACTION REQUIREMENTS
 - TESTING OF MATERIALS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT TESTING AGENCY IN ACCORDANCE WITH ASTM STANDARD METHODS OR AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION, AS FOLLOWS:
 - EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT; AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
 - AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
 - ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AN DENSITY TESTS PER PROJECT;
 - TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.
 - CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.
 - THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE COUNTY OF ANY TESTING FAILURES AND CORRECT EACH FAILURE PRIOR TO PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION.

GENERAL NOTES FOR NIGHT WORK

TRAFFIC CONES
 CONES SHALL BE 28 INCHES IN HEIGHT AND SHALL BE PREDOMINANTLY ORANGE IN COLOR. THEY SHALL BE KEPT CLEAN AND BRIGHT FOR MAXIMUM TARGET VALUE. FOR NIGHTTIME USE THEY SHALL BE REFLECTORIZED OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBILITY. REFLECTORIZED MATERIAL SHALL HAVE A SMOOTH, SEALED OUTER SURFACE THAT WILL DISPLAY THE SAME APPROXIMATE COLOR DAY OR NIGHT.
 REFLECTORIZATION OF TUBULAR MARKER SHALL BE A MINIMUM OF TWO, THREE-INCH-WIDE WHITE BANDS PLACED A MAXIMUM OF TWO INCHES FROM THE TOP WITH A MINIMUM OF SIX INCHES BETWEEN THE BANDS. RETROREFLECTION OF CONES SHALL BE PROVIDED BY A MINIMUM SIX-INCH-WIDE WHITE BAND PLACED A MINIMUM OF THREE INCHES BUT NO MORE THAN FOUR INCHES FROM THE TOP. WHEN THE 28-INCH OR LARGER SIZE CONES ARE USED, THE STANDARD SIX-INCH BAND SHALL BE SUPPLEMENTED WITH AN ADDITIONAL FOUR-INCH WHITE BAND SPACED A MINIMUM OF TWO INCHES BELOW THE SIX-INCH BAND.

MAUI ELECTRIC CO. (MECO) NOTES:

- THE LOCATION OF MECO'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE DRAWINGS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND POWER LINES AND SHALL MAINTAIN ADEQUATE CLEARANCE WHEN OPERATING EQUIPMENT WITHIN OR UNDER ANY OVERHEAD POWER LINES.
- THE CONTRACTOR SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE HAWAII OCCUPATIONAL & HEALTH DIVISION (HIOSH).
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE LOCATION OF MECO UTILITIES AND COORDINATING WITH MECO ALL WORK IN THE VICINITY OF THEIR UTILITIES. THE CONTRACTOR SHALL CALL MECO A MINIMUM OF 72 HOURS PRIOR TO WORK IN THE VICINITY OF UNDERGROUND POWER LINES FOR FIELD LOCATION.
- THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGES TO MECO UTILITIES AND SHALL IMMEDIATELY REPORT SUCH DAMAGES TO MECO.
- CONTRACTOR SHALL CONTACT MECO IN ADVANCE WHEN WORKING WITHIN 10' OF THE POWER POLES.

HAWAIIAN TELEPHONE CO. (HTCO) NOTES:

- THE LOCATION OF EXISTING HAWAIIAN TELEPHONE COMPANY UNDERGROUND FACILITIES SHOWN ON PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE LOCATION OF HTCO UTILITIES AND COORDINATING WITH HTCO ALL WORK IN THE VICINITY OF THEIR UTILITIES. ANY DAMAGES TO THE UNDERGROUND FACILITIES AS A RESULT OF HIS OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR, AT THEIR OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY HAWAIIAN TELEPHONE COMPANY A MINIMUM OF 72 HOURS PRIOR TO THE START OF EXCAVATION FOR FIELD LOCATION OF HAWAIIAN TELEPHONE COMPANY UNDERGROUND FACILITIES.

EXISTING GRADE:

- EXISTING GRADES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH GRADING WORK. SHOULD ANY DISCREPANCIES BE DISCOVERED IN THE EXISTING GRADES OR DIMENSIONS GIVEN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER BEFORE PROCEEDING FURTHER WITH ANY WORK, OTHERWISE HE WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN CORRECTION OF CONSTRUCTION PLACED DUE TO SUCH DISCREPANCIES.

GRADING NOTES:

- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE CHIEF ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- THE CONTRACTOR AT HIS EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE OF DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS, AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, ON WATER POLLUTION CONTROL, AND WATER QUALITY STANDARDS AND THE COUNTY GRADING ORDINANCE.
- ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED. CONTRACTOR SHALL GRASS AND MAINTAIN ALL EXPOSED SLOPES SUCH THAT 60% COVERAGE WILL BE ACHIEVED WITHIN 30 DAYS AND 85% COVERAGE WILL BE ACHIEVED WITHIN 60 DAYS AFTER PLANTING.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL, WITH SPRINKLERS, AND/OR WATERWAGONS AS NECESSARY, WEEKENDS AND HOLIDAYS INCLUDED. ALL GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND FOR THE WEEKEND.
- ALL EXPOSED SLOPES SHALL BE PROTECTED WITH TEMPORARY DIVERSIONS, BERMS, AND SWALES AT THE TOP OF THE SLOPES.
- EXISTING TOPOGRAPHIC INFORMATION SHOWN IS FROM "DATE" SURVEY MAP PREPARED BY "SURVEY". DUE TO THE EXTENDED LENGTH OF TIME WHICH HAS LAPSED FROM THE DATE OF SURVEY, THE CONTRACTOR SHOULD EXAMINE THE SITE AND TAKE WHATEVER MEASURES NECESSARY TO VERIFY CONDITIONS EXISTING IN THE FIELD.
- EARTHWORK QUANTITIES SHOWN ARE APPROXIMATE AND ARE TO BE USED FOR OBTAINING A GRADING PERMIT ONLY. NO ADJUSTMENTS HAVE BEEN MADE FOR LOSSES DUE TO GRUBBING AND SHRINKAGE NOR FOR DIFFERING TOPOGRAPHIC CONDITIONS. THE CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND PREPARE HIS OWN ESTIMATE AND BID ACCORDINGLY.
- THE CONTRACTOR SHALL PERFORM ALL GRADING IN CONFORMANCE WITH THE REQUIREMENTS SPECIFIED IN THE MAUI COUNTY GRADING ORDINANCE AND THIS PROJECT'S SPECIFICATIONS.
- THE CONTRACTOR SHALL LIMIT THE LENGTH OF OPEN TRENCH OF THE SEWERLINE TO A MAXIMUM LENGTH OF 300 FT. AT THE END OF EACH WORK DAY.

EXCAVATION NOTES:

- IN AREAS WHERE THE EXCAVATION IS AT OR BELOW THE WATER TABLE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ENOUGH EQUIPMENT (SUBMERSIBLE PUMPS, HOSES, TANK TRUCKS, TEMPORARY HOLDING TANKS, ELECTRIC GENERATOR, BACK-UPS, ETC.) AND QUALIFIED PERSONNEL TO KEEP THE EXCAVATION FREE OF WATER DURING CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL PROPERLY DISPOSE OF THE GROUNDWATER AT A SUITABLE LOCATION AS DIRECTED BY THE PROJECT ENGINEER AT WWRD. THE CONTRACTOR IS RESPONSIBLE FOR SECURING PERMISSION OF LAND OWNER FOR THIS PURPOSE.
- DISPOSAL OF GROUNDWATER (ESPECIALLY SALT WATER) INTO THE SEWER SYSTEM WILL NOT BE PERMITTED.
- THE CONTRACTOR SHALL TAKE STEPS TO PREVENT THE EXCAVATION FROM SLOUGHING OFF AND "GROWING". PREVIOUS EXPERIENCE IN THIS AREA HAS SHOWN THAT THE SOILS MAY BE MOIST AND LOOSE. THE USE OF SHORING BOXES AND/OR SHEET PILES MAY BE REQUIRED TO PROVIDE STABILITY OF THE EXCAVATION. STEEL PLATES ALONE ARE NOT ACCEPTABLE TRENCH SUPPORTS FOR THIS PROJECT.
- ALL EXCAVATED MATERIAL FROM THE TRENCHES SHALL BE HAULED AWAY AND SAND SHALL BE PLACED AROUND THE NEW SEWERLINE (12 INCHES ABOVE THE PIPE). IF THE SEWERLINE IS INSTALLED UNDERWATER, THE "BURRITO" METHOD SHALL BE USED. IF THE CONTRACTOR CHOOSES TO USE THE NATIVE MATERIAL, IT MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE.
- OVERNIGHT LATERAL BYPASS PUMPING AS WELL AS TRUNK SEWER BYPASS PUMPING ARE NOT ALLOWED FOR THE DURATION OF THIS PROJECT.
- CONTRACTOR SHALL NOTIFY PROJECT ENGINEER OF ANY AGREEMENTS MADE BETWEEN THE RESIDENTS AND CONTRACTOR PRIOR TO CONSTRUCTION IMPROVEMENTS.
- THE CONTRACTOR SHALL KEEP EXCAVATIONS REASONABLY FREE FROM WATER DURING CONSTRUCTION. THE STATIC WATER LEVEL SHALL BE DRAWN DOWN A MINIMUM OF 1 FOOT BELOW THE BOTTOM OF EXCAVATIONS TO MAINTAIN THE UNDISTURBED STATE OF NATURAL SOILS AND ALLOW THE PLACEMENT OF ANY FILL TO THE SPECIFIED DENSITY. DISPOSAL OF WATER SHALL MEET ALL PERMITTING REQUIREMENTS AS OBTAINED BY THE CONTRACTOR FOR SUCH WORK. DEWATERING SYSTEMS SHALL OPERATE CONTINUOUSLY UNTIL BACKFILL HAS BEEN COMPLETED TO 1 FOOT ABOVE THE NORMAL STATIC GROUNDWATER LEVEL.
- GROUNDWATER SHALL BE CONTROLLED TO PREVENT SOFTENING OF THE BOTTOM OF EXCAVATIONS, OR FORMATION OF "QUICK" CONDITIONS. DEWATERING SYSTEMS SHALL NOT REMOVE NATURAL SOILS.
- RELEASE OF GROUNDWATER TO ITS STATIC LEVEL SHALL BE CONTROLLED TO PREVENT DISTURBANCE OF THE NATURAL FOUNDATION SOILS OR COMPACTED FILL AND TO PREVENT FLOTATION OR MOVEMENT OF STRUCTURES OR PIPELINES.

EROSION CONTROL:

- THE FOLLOWING MEASURES SHALL BE TAKEN TO CONTROL EROSION DURING THE SITE DEVELOPMENT PERIOD:
- MINIMIZE TIME OF CONSTRUCTION.
 - RETAIN EXISTING GROUND COVER UNTIL LATEST DATE TO COMPLETE CONSTRUCTION.
 - EARLY CONSTRUCTION OF DRAINAGE CONTROL FEATURES.
 - USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE CONSTRUCTION AREAS WHEN GROUND COVER IS REMOVED.
 - STATION WATER TRUCK ON SITE DURING CONSTRUCTION PERIOD TO PROVIDE FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE CONSTRUCTION ZONES (WEEKENDS AND HOLIDAYS INCLUDED).
 - USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION.
 - GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
 - ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.

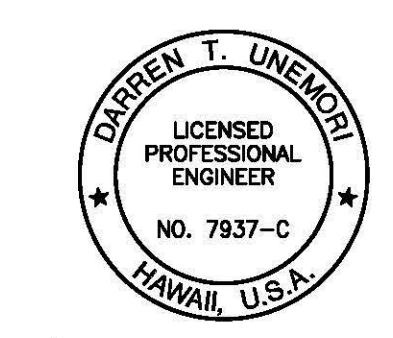
ENVIRONMENTAL PROTECTION:

- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE CHIEF ENVIRONMENTALIST SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL KEEP THE PROJECT AREA AND SURROUNDING AREAS FREE FROM DUST NUISANCE, ALL IN ACCORDANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS OF THE PUBLIC HEALTH REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND THE COUNTY'S GRADING ORDINANCE.
- ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT APPROPRIATE SITES. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE SHALL ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

NOISE:

- CONTRACTOR SHALL OBTAIN NOISE VARIANCE FROM ED MIYABARA AT THE HAWAII STATE DEPARTMENT OF HEALTH (984-8230).

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		WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793	
		LOWER MAIN STREET SEWER IMPROVEMENTS WAILUKU, MAUI, HAWAII	
TITLE CONSTRUCTION NOTES			
DTU DESIGNED BY WIS	DTU CHECKED BY DTU APPROVED BY	19008 JOB NUMBER	8 SHEET
AS NOTED		Sept. 6, 2019 DATE	
LETTER	DESCRIPTION	DATE	

CONSTRUCTION NOTES:

GENERAL NOTES

- THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SUBSECTION 108.01 - SUBLETTING OF CONTRACT, WHICH REQUIRES HIM TO PERFORM WORK AMOUNTING TO NOT LESS THAN 50 PERCENT OF THE TOTAL CONTRACT COST LESS DEDUCTIBLE ITEMS. NONCOMPLIANCE WITH THIS SUBSECTION MAY BE GROUNDS FOR REJECTION OF BID.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF THE SPECIAL PROVISIONS: SUBSECTION 107.13 - PUBLIC CONVENIENCE AND SAFETY; SUBSECTION 107.21 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES; AND SECTION 645 - TRAFFIC CONTROL.
- ALL LANES SHALL BE OPEN TO TRAFFIC DURING THE MORNING PEAK HOURS FROM 6:30 A.M. TO 8:30 A.M. DURING AFTERNOON PEAK HOURS FROM 3:30 P.M. TO 6:30 P.M. AND OFF WORK HOURS. ONLY ONE LANE OF LOWER HONAPIILANI ROAD SHALL BE CLOSED AT ANY OTHER TIME.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING, TWO (2) WEEKS PRIOR TO STARTING PAVING OPERATIONS.
- AT THE END OF EACH DAYS WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND OTHER OBSTRUCTIONS TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, MANHOLES, MONUMENTS AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT THE ACCURACY IS NOT GUARANTEED. THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF WORK IS POSSIBLE. THE CONTRACTOR SHALL VERIFY EXACT LOCATION, DEPTH, SIZE AND TYPE OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN EXISTING UTILITIES ON PLANS AND IN GROUND. THE CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES INCURRED TO THE EXISTING FACILITIES AND/OR IMPROVEMENTS AS A RESULT OF HIS OPERATIONS.
- PRIOR TO RESURFACING, THE EXISTING SURFACE SHALL BE CLEANED AS DESCRIBED IN SECTION 310 OF THE STANDARD SPECIFICATIONS AND AS AMENDED. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.
- ALL HOLES, DEPRESSIONS AND WHEEL RUTS SHALL BE FILLED AND COMPACTED WITH ASPHALTIC CONCRETE PAVEMENT, MIX NO. IV PRIOR TO RESURFACING. THIS WORK WILL BE PAID FOR UNDER ASPHALTIC CONCRETE PAVEMENT, MIX. NO. IV.
- THE CONTRACTOR SHALL NOT LEAVE MORE THAN 1 1/2" DROP-OFF AT THE EDGE OF PAVEMENT, AT THE END OF EACH WORK DAY. THIS INCLUDES DROP-OFFS AT THE CENTERLINE AND AT THE OTHER EDGES OF THE TRAVEL LANE. WHENEVER THE CONTRACTOR LEAVES A 1 1/2" DROP-OFF, THE CONTRACTOR SHALL INSTALL DELINEATORS AND BARRICADES ALONG THE EDGE OF THE PAVEMENT. THIS WORK WHICH INCLUDES FURNISHING, INSTALLING, CLEANING, MAINTAINING CORRECT PLACEMENT AND REMOVING WHEN REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO ROADWAY EXCAVATION.
- ALL SAW CUTTING WORK SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS OF WORK.
- EXISTING DRAINAGE SYSTEM SHALL BE FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS TO FURNISH MATERIALS, EQUIPMENT LABOR, TOOLS AND INCIDENTALS NECESSARY TO MAINTAIN FLOW. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.
- ALL CONSTRUCTION SIGNS SHALL BE LEFT IN PLACE UNTIL ALL CONSTRUCTION ITEMS HAVE 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.
- STREET SURVEY MONUMENTS SHOWN ON PLANS SHALL BE VERIFIED IN THE FIELD PRIOR TO ANY RESURFACING ACTIVITY. MONUMENTS THAT ARE SHOWN ON PLANS BUT ARE MISSING IN THE FIELD SHALL BE REESTABLISHED AND REINSTALLED BY THE CONTRACTOR. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM NO. 613.0300, ADJUSTING CENTERLINE SURVEY MONUMENTS.
- STREET SURVEY MONUMENTS SHALL NOT BE DISTURBED DURING PAVEMENT RECONSTRUCTION. ADJUSTMENTS OF THESE MONUMENTS SHALL BE IN ACCORDANCE WITH APPLICABLE DETAILS AS SHOWN ON THE STANDARD PLANS.
- SIGN POSTS SHALL BE SQUARE TUBE POSTS, EXCEPT FOR DESTINATION SIGN POSTS PER HAWAII DOT STANDARDS.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO AND FROM ALL EXISTING SIDE ROADS, DRIVEWAYS AND STREETS AT ALL TIMES.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO PROVIDE A COMPLETE INSTALLATION. SHOULD THERE BE OMISSIONS, CONTRACTOR SHALL PROVIDE AND INSTALL FITTINGS, APPURTENANCES AND MATERIALS AS REQUIRED TO PROVIDE A COMPLETE FUNCTIONAL UTILITY SYSTEM CONFORMING TO ALL APPLICABLE STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO INSTALLATION.

EXISTING UTILITIES:

- OVERHEAD AND UNDERGROUND UTILITIES MAY EXIST ALONG, ACROSS, AND IN THE VICINITY OF THE PROPOSED IMPROVEMENTS AND MAY NOT BE AS SHOWN ON THE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE COUNTY OR STATE AGENCIES, UTILITIES (INCLUDING WITHOUT LIMITATION MAUI ELECTRIC COMPANY, LTD., VERIZON HAWAII INC., AND OCEANIC TIME WARNER CABLE OF HAWAII), EXAMINING ANY AVAILABLE RECORD DRAWINGS, TONING OF UNDERGROUND UTILITIES, TEST PITS, AND CONFIRMING THE PRESENCE, LOCATION, DEPTH, SIZE, AND TYPE OF ANY EXISTING UTILITIES ALONG AND ACROSS THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION ACTIVITIES, AND ANY REQUIRED RELOCATION, WITH RESPECTIVE AGENCIES AND UTILITIES.
- THE LOCATION, DEPTH AND TYPE OF THE VARIOUS EXISTING UTILITY LINES SHOWN ON THE CONSTRUCTION PLANS WERE DETERMINED ON THE BASIS OF THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING UTILITIES AS SHOWN ON THE CONSTRUCTION PLANS AND IN GROUND, AND NOT PROCEED WITH ANY FURTHER WORK UNTIL WRITTEN NOTIFICATION IS RECEIVED FROM THE ENGINEER.
- THE DEPTHS AND LOCATION OF EXISTING UTILITY CROSSINGS SHOWN ON THE PROFILE ARE APPROXIMATE. CONTRACTOR SHALL EXERCISE INCREASED CAUTION DURING CONSTRUCTION ACTIVITIES TO PREVENT DAMAGE TO EXISTING UTILITY LATERALS. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE IF ADEQUATE CLEARANCE AT WATERLINE/SEWER LATERALS CROSSINGS CANNOT BE PROVIDED.
- CONTRACTOR SHALL EXERCISE DUE CAUTION WHEN WORKING CLOSE TO EXISTING POWER POLES AND OVERHEAD LINES AND SHALL CLOSELY COORDINATE ALL WORK WITH MECO. CONTRACTOR SHALL RELOCATE AND/OR ADJUST EXISTING POWER POLE AND/OR GUY WIRES AS REQUIRED TO THE SATISFACTION OF MECO AND WASTEWATER RECLAMATION DIVISION. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING TEMPORARY BRACING FOR THE POWER POLE OR ANY OTHER MEASURES REQUIRED TO SAFELY STABILIZE THE POWER POLE. CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO PAY FOR ANY COSTS RELATED TO TEMPORARY POLE BRACING, RELOCATION OF POLE ANCHORS/GUY WIRES, AND ANY COSTS TO DOCUMENT NEW OR REVISED EASEMENTS.
- ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON PLANS, IF DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, SHALL BE REPAIRED SOLELY AT HIS EXPENSE.

WASTEWATER NOTES:

- 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.
- 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.
- ALL WASTEWATER LINES AND APPURTENANCES 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.
- BEFORE CONSTRUCTION COMMENCES, THE CONTRACTOR SHALL SCHEDULE AND DOCUMENT A PRE-CONSTRUCTION MEETING WITH ALL AGENCIES HAVING UTILITIES AFFECTED BY THE WORK.
- CONTRACTOR MUST HAVE A SITE SPECIFIC SPILL PREVENTION PLAN (SSP) 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.
- 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY THE WASTEWATER RECLAMATION DIVISION ONE (1) WEEK PRIOR TO CONNECTION TO ANY EXISTING WASTEWATER LINES WITHIN THE COUNTY OF MAUI.
- SHOULD THE CONTRACTOR EXCAVATE BEYOND THE TRENCH PAY WIDTH, 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.
- WASTEWATER LATERALS SHALL BE SIX (6) INCHES IN DIAMETER AT A 2% SLOPE, UNLESS APPROVED OTHERWISE.
- AN ADVANCE RISER CONNECTION SHALL BE INSTALLED AT EACH NEW WASTEWATER LATERAL.
- 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.
- WHEN THE WASTEWATER MAINS ARE OF A DIFFERENT MATERIAL THAN THE LATERALS, THE CONTRACTOR SHALL INSTALL APPROVED ADAPTERS.
- ALL BACKFILL FOR WASTEWATER TRENCHES SHALL BE COMPACTED IN ONE (1) FOOT LIFTS TO A MINIMUM OF 95% OF ITS MAXIMUM DENSITY.
- WHERE CONSTRUCTION IS TO BE DONE IN PHASES OR INCREMENTS, EACH PHASE OR INCREMENT SHALL BE APPROVED BY WASTEWATER RECLAMATION DIVISION BEFORE THE NEXT PHASE OR INCREMENT IS STARTED.

- ALL WASTEWATER MAINS SHALL PASS A MANDREL TEST AS A CONDITION OF ACCEPTANCE 30 DAYS AFTER COMPLETION AND BACKFILL. THE MANDREL DIAMETER SHALL BE 95% OR MORE OF THE INSIDE DIAMETER OF THE PIPE BEING TESTED.
- "AS-BUILT" DRAWINGS SHALL BE SUBMITTED AS A CONDITION FOR THE FINAL ACCEPTANCE OF THE PROJECT.
- PRIOR TO INSPECTION BY CLOSED CIRCUIT TELEVISION (CCTV), ALL WASTEWATER LINES INSTALLED, INCLUDING LATERALS, SHALL BE FLUSHED WITH WATER AND ANY ACCUMULATED CONSTRUCTION DEBRIS AND OTHER FOREIGN MATERIALS SHALL BE REMOVED.
- ALL MAIN WASTEWATER LINES WHICH WILL BE DEDICATED TO THE COUNTY OF MAUI SHALL BE INSPECTED BY CCTV IN STRICT ACCORDANCE WITH DEPARTMENT OF PUBLIC WORKS CCTV POLICY, EFFECTIVE DATE JULY 15, 2001. FINAL ACCEPTANCE OF THE SYSTEM SHALL BE CONTINGENT UPON THE PASSING OF ALL REQUIREMENTS OF THIS POLICY. CCTV RESULTS SHOULD BE SUBMITTED ON DVD PER MEMO DATED OCTOBER 22, 2015. SHOULD ANY OF THE SEWER LATERALS FAIL TO PASS A VISUAL INSPECTION, THEN A CCTV OF ALL LATERALS WILL ALSO BE REQUIRED.
- ANY CONNECTION MADE UNDER THE WATER TABLE WILL REQUIRE CCTV AT HIGH TIDE TO DETERMINE WATER TIGHTNESS IN ACCORDANCE WITH DEPARTMENT OF PUBLIC WORKS CCTV POLICY, EFFECTIVE DATE JULY 15, 2001. FINAL ACCEPTANCE OF THE SYSTEM SHALL BE CONTINGENT UPON THE PASSING OF ALL REQUIREMENTS OF THIS POLICY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE GPS COORDINATES OF ALL BURIED AND CONCEALED WORK TO BE DEDICATED TO THE COUNTY, AND PROVIDE THE GPS DATA TO THE COUNTY PRIOR TO THE PROJECT'S FINAL ACCEPTANCE. AN ACCURATE GPS POINT EVERY (50) FEET ALONG THE MAIN LINE, AT UTILITY CROSSINGS, AND AT ANY INSTALLED APPURTENANCE (INCLUDING BUT NOT LIMITED TO MANHOLES, BENDS, CONCRETE JACKET, CLEANOUT, PIPE DEVIATIONS, CHANGE IN PIPE SIZE, CRITICAL JOINTS, ARV, ETC.). GPS DATA SHALL BE IN NAD 1983 STATE PLANE HAWAII ZONE 2 FIPS 5102 GRID, AND SHALL BE ACCURATE TO WITHIN ONE (1) FOOT. ACQUIRED GPS SURVEY DATA SHALL BE QUALITY CHECKED BY THE CONTRACTOR PRIOR TO SUBMISSION IN SHAPEFILE (.SHP) FORMAT, FOR COMPATIBILITY WITH MAINSTREAM GIS SOFTWARE SUCH AS ESRI ARCPAP.

DRAINAGE NOTES:

- THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK. ANY DISCREPANCY SHALL BE BROUGHT TO ATTENTION OF THE ENGINEER FOR CLARIFICATION.
- ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON PLANS SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR UNLESS SPECIFIED OTHERWISE. ANY DAMAGES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR RESTORED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR AT HIS OWN EXPENSE SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, NOISE, DUST, EROSION ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPT. OF HEALTH.
- DEMOLISHING OF EXISTING STRUCTURES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS, UNLESS OTHERWISE NOTED IN THE PROPOSAL.
- CONCRETE SHALL BE CLASS A $f_c=4000$ psi UNLESS OTHERWISE NOTED. CONCRETE REINFORCEMENT SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A615, $F_y=60$ ksi
- CHAMFER ALL EXPOSED CONCRETE EDGES 3/4 INCH.
- RESTORATION OF PAVEMENT AROUND GRADED INLET SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE GRADED INLET.
- EXISTING DRAINAGE SYSTEM WILL BE FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR IS TO FURNISH MATERIALS, EQUIPMENT, LABOR, TOOLS AND INCIDENTALS NECESSARY TO ACCOMPLISH MAINTENANCE OF FLOW, THE COST OF WHICH SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
- CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL CULVERTS IN FIELD. ANY CULVERT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- INLET AND OUTLET CONDITIONS SHALL BE GRADED TO PERMIT FREE FLOW OF RUN-OFF OR AS DIRECTED BY THE ENGINEER. GRADING SHALL BE TO THE SATISFACTION OF THE ENGINEER. ABOVE WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
- REINFORCING STEEL FOR CONCRETE STRUCTURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONCRETE PAY ITEMS.
- FURNISHING AND PROVIDING BACKFILL MATERIALS FOR THE EXTENDED DRAINLINES AND DRAINAGE STRUCTURES WILL NOT BE PAID FOR BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

WATER SYSTEM:

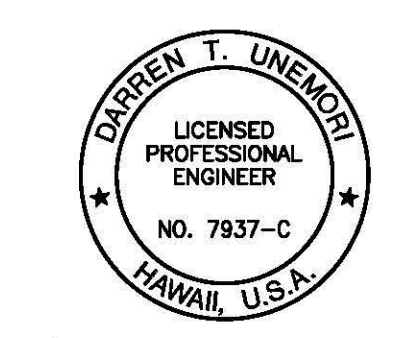
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER SUPPLY (DWS), IN WRITING, ONE (1) WEEK PRIOR TO COMMENCEMENT OF WORK.
- IF CONSTRUCTION OF WATER SYSTEM IMPROVEMENTS WILL AFFECT DWS CONSUMERS, CONTRACTOR SHALL NOTIFY CONSUMERS BY RADIO/NEWSPAPER TWO (2) DAYS BEFORE AND ON DAY OF CONNECTION. CONTRACTOR SHALL ALSO NOTIFY CONSUMERS HOUSE-TO-HOUSE ONE (1) DAY BEFORE CONNECTION WORK.
- ALL MATERIALS USED AND METHODS OF CONSTRUCTION OF WATER SYSTEM FACILITIES SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF DWS WATER SYSTEM STANDARDS. CONTRACTOR SHALL OBTAIN THE LATEST REVISIONS OF THE DWS STANDARDS BEFORE COMMENCING CONSTRUCTION.
- ALL WATER SYSTEM WORK SHALL BE PERFORMED BY CONTRACTORS POSSESSING VALID STATE OF HAWAII CONTRACTOR'S LICENSES, REGARDLESS OF THE VALUE OF THE WORK.
- CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, FEDERAL LAWS, RULES AND REGULATIONS REGARDING THE HANDLING, REMOVAL AND DISPOSAL OF ASBESTOS PIPE.
- CONTRACTOR SHALL PROTECT EXISTING WATERLINE DURING COURSE OF CONSTRUCTION AND SUPPORT EXPOSED WATERLINE TO PREVENT ANY MOVEMENT.
- THE EXACT DEPTH AND LOCATION OF EXISTING WATERLINES, SERVICE LATERALS AND OTHER UTILITIES ARE NOT KNOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE SAME PRIOR TO TRENCHING FOR THE NEW WATERLINE. THE COST OF LOWERING, RELOCATING OR ADJUSTING EXISTING WATERLINES, SERVICE LATERALS AND APPURTENANCES, WHETHER SHOWN OR NOT SHOWN ON THE CONSTRUCTION PLANS AT THE CONTRACTOR'S EXPENSE.
- PAVEMENT RESURFACING/RESTORATION:
 - CONTRACTOR SHALL VERIFY LOCATION OF EXISTING DWS VALVES AND MANHOLES, WHEN AFFECTED BY THE WORK, PRIOR TO START OF CONSTRUCTION.
 - ALL WATER VALVE AND WATER MANHOLE CONCRETE COLLARS WITHIN THE PROJECT LIMITS SHALL BE DEMOLISHED AND RECONSTRUCTED PER DWS STANDARD DETAIL V12 AND V23, RESPECTIVELY, AT THE CONTRACTOR'S EXPENSE.
 - THE VALVE BOX RISER AND COVER OF ALL WATER VALVES WITHIN THE PROJECT LIMITS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR SHALL ADJUST DWS SLIDING VALVE BOX ASSEMBLY AND MANHOLE FRAME AND COVER TO FINISHED GRADE.
 - PRIOR TO PAVEMENT RESURFACING/RESTORATION WORK, THE CONTRACTOR SHALL SCHEDULE INSPECTION WITH DWS.
- ANY SLIDING VALVE BOX ASSEMBLY, MANHOLE COVER, OR CONCRETE COLLAR, WHETHER DISCOVERED DAMAGED OR NOT SPECIFIED ON THE PLANS TO BE ADJUSTED OR REPLACED, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL ADJUST TO FINISHED GRADES, ALL UTILITIES (I.E., WATER, SEWER, DRAIN, ETC.) AFFECTED BY THE WORK WHETHER SHOWN OR NOT SHOWN ON THE CONSTRUCTION PLANS AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL RESTORE ALL ROAD IMPROVEMENTS DISTURBED OR DAMAGED DURING CONSTRUCTION IN ACCORDANCE WITH THE 2005 "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS AMENDED, TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS AT THE CONTRACTOR'S EXPENSE. ROAD IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, PAVEMENT, PAVEMENT MARKERS, SHOULDER DRESSING, STRIPING, AND SPEED HUMPS.
- CONCRETE FOR REACTION BLOCKS AND ANCHOR BLOCKS SHALL BE DWS CLASS 2500.
- THE MAXIMUM DISTANCE BETWEEN VALVE NUT AND TOP OF MANHOLE COVER SHALL BE THREE (3) FEET.
- CONTRACTOR SHALL SUBMIT A MATERIALS LIST TO DWS FOR APPROVAL PRIOR TO CONSTRUCTION.
- CONNECTION TO DWS SYSTEM:
 - CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL NECESSARY FITTINGS AND OTHER MATERIALS AND EQUIPMENT REQUIRED FOR THE HOOK-UP. CONTRACTOR SHALL VERIFY THE EXACT LOCATION, DEPTH, TYPE, AND CONDITION OF THE EXISTING LINE BEFORE ORDERING MATERIALS FOR THE HOOK-UP. CONTRACTOR SHALL, HOWEVER, CHECK WITH DWS BEFORE EXCAVATING FOR VERIFICATION PURPOSES.
 - WHENEVER FEASIBLE, MECHANICAL JOINT FITTINGS SHALL BE USED FOR BURIED APPLICATIONS AND FLANGED JOINT FITTINGS SHALL BE USED FOR EXPOSED APPLICATIONS.
 - DWS PERSONNEL MAY BE REQUIRED TO BE PRESENT OR ASSIST WITH CONNECTIONS TO THE EXISTING WATER SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY DWS FOR SAID WORK.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR FOR TRENCH EXCAVATION, BACKFILLING, CLEANING AND CHLORINATION, PAVING, AND OTHER WORK NECESSARY TO COMPLETE THE HOOK-UP, AS DIRECTED BY AND TO THE SATISFACTION OF DWS.

- MINIMUM COVER OVER WATER MAIN, 6" DIAMETER OR LARGER, SHALL BE 3'-0". MINIMUM COVER FOR 4" DIAMETER SHALL BE 2'-6". MINIMUM COVER FOR DIAMETERS LESS THAN 4" SHALL BE 1'-6".
- CONTRACTOR SHALL ENSURE INSTALLATION OF WATERLINES, SERVICE LATERALS AND APPURTENANCES HAVE PROPER CLEARANCES FROM EXISTING TREES, WALLS, FENCES, ETC. IN ACCORDANCE WITH CURRENT DWS WATER SYSTEM STANDARDS.
- CONTRACTOR SHALL VERIFY AND MAINTAIN 18" MINIMUM CLEARANCE WITH WATERLINE OR SERVICE LATERAL CROSSING OVER EXISTING SEWERLINE OR SERVICE LATERAL. INSTALL REINFORCED CONCRETE JACKET AROUND SEWERLINE WHERE SEWER IS ABOVE WATERLINE OR LESS THAN 18" BELOW WATERLINE. THE LENGTH OF JACKET REQUIRED SHALL BE AS SPECIFIED IN TABLE 100-5 OF THE DWS STANDARDS. PROVIDE 6" MINIMUM CLEARANCE FROM OUTSIDE JACKET TO WATERLINE OR SERVICE LATERAL. STANDARD CONCRETE JACKET DETAILS FOR SEWERLINE AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS STANDARDS SHALL BE FOLLOWED.
- CONTRACTOR SHALL HAVE LICENSED SURVEYOR STAKE OUT WATERLINE BASELINE STATIONING, RIGHT-OF-WAY LIMITS, PROPERTY LINES, AND EASEMENT LINES TO ENSURE PROPER LOCATION OF WATER SYSTEM IMPROVEMENTS.
- BOLTS FOR EXPOSED FLANGED DUCTILE IRON PIPE JOINTS SHALL BE EITHER SILICON BRONZE BOLTS AND NUTS OR 316 STAINLESS STEEL BOLTS WITH THE HEAVY DUTY STAINLESS STEEL NUTS (ONLY) FURNISHED WITH TRIPAC 2000 BLUE COATING SYSTEM. ANTI-SEIZE SHALL NOT BE USED. T-BOLTS FOR DUCTILE IRON MECHANICAL JOINT (MJ) PIPE AND FITTING CONNECTIONS IN UNDERGROUND SITUATIONS SHALL BE ONE OF THE FOLLOWING SYSTEMS:
 - 316 STAINLESS STEEL T-BOLTS WITH THE HEAVY DUTY STAINLESS STEEL NUTS (ONLY) FURNISHED WITH TRIPAC 2000 BLUE COATING SYSTEM. ANTI-SEIZE SHALL NOT BE USED.
 - 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.
 - COR-TEN T-BOLTS AND NUTS BOTH FACTORY COATED WITH TRIPAC 2000 BLUE COATING SYSTEM BY "TRIPAC FASTENERS".
 - ALL HOT FORGED STAINLESS STEEL BOLTS ARE REQUIRED TO BE PASSIVATED PER ASTM A380. MANUFACTURER CERTIFICATES ARE REQUIRED FOR PROOF WITH EACH SHIPMENT.
- 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.
- CONTRACTOR SHALL FURNISH TEMPORARY CLEANOUTS WHEN NECESSARY TO TEST, FLUSH, AND CHLORINATE THE WATERLINE AT THE CONTRACTOR'S EXPENSE.
- 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.
- 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.
- LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.
- CONTRACTOR SHALL PAINT AND NUMBER FIRE HYDRANT(S). NUMBERING TO BE FURNISHED BY DWS.
- 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.
- DEVELOPER SHALL SUBMIT A COST LIST ALONG WITH AN AFFIDAVIT FOR THE WATER SYSTEM PRIOR TO ACCEPTANCE.
- 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" x 36") SHALL BE PROVIDED TO THE DWS FOR ALL PROJECTS.

CHLORINATION OF WATER SYSTEM PIPELINES:

- WATER MAINS AND APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. ALL PROCEDURES AND MATERIALS (LIQUID CHLORINE OR CALCIUM HYPOCHLORITE) USED FOR THE CHLORINATION OF THE PROJECT SHALL CONFORM TO AWWA REQUIREMENTS.
- PRIOR TO CHLORINATION, THE PROJECT PIPELINES SHALL BE THOROUGHLY CLEANED. CLEANING OF LINES 8" AND LARGER SHALL BE BY PIGGING USING FOAM PIGS. SMALLER LINES CAN BE FLUSHED IN ACCORDANCE WITH AWWA REQUIREMENTS IF ADEQUATE WATER SUPPLY IS PROVIDED, OTHERWISE BY PIGGING. THE CONTRACTOR SHALL SUBMIT HIS PLAN FOR PIPELINE CLEANING, INCLUDING FITTING REQUIREMENTS FOR PIGGING, FOR APPROVAL PRIOR TO PROCEEDING.
- THE INTERIOR SURFACES OF THE PROJECT SHALL BE EXPOSED TO THE CHLORINATING SOLUTION FOR A MINIMUM OF 24 HOURS AND THE CHLORINE RESIDUAL SHALL NOT BE LESS THAN 10 PPM AFTER SUCH TIME.
- SHOULD CALCIUM HYPOCHLORITE BE USED, NO SOLID AND/OR UNDISSOLVED PORTION OF THE COMPOUND SHALL BE INTRODUCED INTO ANY SECTION OF THE PROJECT TO BE CHLORINATED.
- AT THE END OF THE 24-HOUR DISINFECTION PERIOD, REPRESENTATIVE SAMPLES SHALL BE TAKEN AND ANALYZED TO ASSURE A CHLORINE RESIDUAL OF AT LEAST 10 PPM. MEASUREMENTS FOR CHLORINE RESIDUAL TESTS SHALL BE BY A TRAINED, QUALIFIED TESTER APPROVED BY THE DIRECTOR.
- SHOULD THE RESULTS INDICATE ADEQUATE CHLORINATION, THE PROJECT SHALL BE THOROUGHLY FLUSHED AND FILLED WITH POTABLE WATER FROM THE EXISTING POTABLE WATER SYSTEM AND AGAIN TESTED FOR CHLORINE RESIDUAL. THE FLUSHING SHALL BE CONSIDERED ADEQUATE IF THE TEST RESULTS INDICATE THAT THE WATER IN THE PROJECT HAS A COMPARABLE CHLORINE RESIDUAL AS THE WATER IN THE EXISTING SYSTEM.
- FOLLOWING THE ACCEPTABLE FLUSHING OF THE HIGH CONCENTRATION CHLORINE SOLUTION, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES SHALL BE TAKEN AT LEAST 24 HOURS APART FROM REPRESENTATIVE POINTS IN THE PROJECT AND SUBMITTED TO MICROBIOLOGICAL TESTS PERFORMED BY A CERTIFIED LABORATORY APPROVED BY THE DEPARTMENT OF HEALTH. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED AND TESTED FROM EVERY 1,200 FEET OF THE NEW WATER MAIN, PLUS ONE SET FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. POSITIVE RESULTS WILL NOT BE ACCEPTABLE AND THE ENTIRE CHLORINATION PROCESS WILL BE REPEATED.
- ANALYSIS FOR RESIDUAL CHLORINE SHALL BE MADE IN ACCORDANCE WITH "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", AMERICAN PUBLIC HEALTH ASSOCIATION, CURRENT EDITION.
- MICROBIOLOGICAL TESTS SHALL BE MADE IN ACCORDANCE WITH "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", AMERICAN PUBLIC HEALTH ASSOCIATION, CURRENT EDITION.
- THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ALL OF THE FOREGOING.

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		WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS WELLS STREET PROFESSIONAL CENTER, SUITE 403 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793	
		LOWER MAIN STREET SEWER IMPROVEMENTS WAILUKU, MAUI, HAWAII	
TITLE CONSTRUCTION NOTES			
DTU DESIGNED BY	DTU CHECKED BY	19008	9
WIS DRAWN BY	DTU APPROVED BY	JOB NUMBER	
AS NOTED		Sept. 6, 2019	SHEET
SCALE	DATE	OF 10 SHEETS	

LETTER	DESCRIPTION	DATE



**DRAFT ARCHAEOLOGICAL
MONITORING PLAN**

APPENDIX

B



Draft

**Archaeological Monitoring Plan for the
Lower Main Street Sewer Line Improvements Project
Wailuku Ahupua‘a, Wailuku District, Maui,
TMK: [2] 3-4 Lower Main Street Right-of-Way**

**Prepared for
Legacy Wailuku LLC**

**Prepared by
Josephine M. Yucha, M.S.
and
Hallett H. Hammatt, Ph.D.**

**Cultural Surveys Hawai‘i, Inc.
Wailuku, Hawai‘i
(Job Code: WAILUKU 66)**

January 2020

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Management Summary

Reference	Archaeological Monitoring Plan for the Lower Main Street Sewer Line Improvements Project, Wailuku Ahupua'a, Wailuku District, Maui, TMK: [2] 3-4 Lower Main Street Right-of-Way (Yucha and Hammatt 2020)
Date	January 2020
Project Number	Cultural Surveys Hawai'i, Inc. (CSH) Job Code: WAILUKU 66
Investigation Permit Number	CSH will likely complete the archaeological monitoring fieldwork under archaeological fieldwork permit number 19-07, issued by the Hawai'i State Historic Preservation Division (SHPD) per Hawai'i Administrative Rules (HAR) §13-13-282.
Agencies	SHPD; County of Maui, Department of Environmental Management (DEM), Wastewater Reclamation Division
Land Jurisdiction	County of Maui
Project Proponent	Legacy Wailuku LLC
Project Funding	County of Maui
Project Location	The project area is a 1,950-linear foot section of the Lower Main Street Right-of-Way (ROW) between Ainahou Place and Waena Street in Wailuku, within Wailuku Ahupua'a, Wailuku District, Maui, TMK: [2] 3-4. Lower Main Street is a two-lane roadway of opposing traffic. It is lined with residential and business complexes, warehouses, and parking lots. Development along the southeastern side of the roadway is considered to be within the Wailuku Sand Hills. The project area is depicted on portions of the 1997 and 2017 Wailuku U.S. Geological Survey 7.5-minute series topographic quadrangle.
Project Description and Project-Related Disturbance	The proposed Lower Main Street Sewer Line Improvements Project is being completed in order to increase capacity for the construction of affordable housing in Wailuku. The proposed project will include approximately 1,950 linear feet of excavation within the active right-of-way of Lower Main Street in order to install a new 15-inch gravity sewer line adjacent to the existing sewer line. Ground disturbance will include 1,950 ft (approximately 594.4 m) of linear trenching to a depth of approximately 6 to 11 ft (1.8 to 3.4 m) below the existing road surface.
Project Acreage	The project area is 2.30 acres (0.93 hectares) encompassing approximately 1,950 linear feet or approximately 594.4 m.
Historic Preservation Regulatory Context	This archaeological monitoring plan (AMP) is intended to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) §6E-8 and HAR §13-13-275. It is also intended to support any project-related historic preservation consultation with stakeholders, such as state and county agencies and interested Native

	<p>Hawaiian Organizations (NHOs) and community groups. In consultation with the SHPD, this document fulfills the requirements of HAR §13-13-279-4.</p>
Consultation	<p>CSH is in the process of preparing a Cultural Impact Assessment (CIA) for the project that will include community outreach and interviews with cultural practitioners and knowledgeable individuals.</p> <p>In preparation of this AMP, CSH assisted the DEM and project proponents with consultation specific to the proposed approach of archaeological monitoring during construction.</p> <p>The project was present for discussion at the 16 October 2019 Maui/Lāna‘i Islands Burial Council (MLIBC). The council heard the details of the project from the project’s engineer and the DEM Division Chief and were provided with an overview of previous archaeological finds by CSH management. The DEM and project proponents requested that the council support a recommendation for on-site archaeological monitoring during project construction.</p> <p>A request for consultation letter was submitted from CSH to the Office of Hawaiian Affairs (OHA) on 22 November 2019 that described the project and the DEM’s proposed approach to complete on-site monitoring for identification purposed during construction. OHA was also consulted separately for the project’s CIA. To date, no responses have been received.</p>
Historic Properties Potentially Affected	<p>No historic properties have been previously documented within the current project area. Human burials, buried habitation features, and subsurface cultural layers have been documented within the sand hill area on the southeastern side of Lower Main Street near the boundary of the project area. No historic properties have been documented in the vicinity of the project area on the northern side of Lower Main Street.</p>
Monitoring Recommendations	<p>On-site archaeological monitoring is recommended for all project related ground-disturbing activities in order to identify and document any subsurface archaeological historic properties. One archaeological monitor will be assigned to each piece of ground-disturbing equipment in operation at all times and in all locations throughout the project area. Any departure from this will occur only after consultation with and written concurrence from the SHPD.</p>

Table of Contents

Management Summary	i
Section 1 Introduction	1
1.1 Project Background	1
1.2 Historic Preservation Regulatory Context	1
1.3 Environmental Setting	1
1.3.1 Natural Environment.....	1
1.3.2 Built Environment.....	6
Section 2 Background Research	10
2.1 Place Names.....	10
2.2 Traditional Accounts	10
2.2.1 Wailuku as a Political Center of Maui	10
2.2.2 A Shipwreck in the Time of Wakalana.....	12
2.2.3 Traditional Hawaiian Agriculture at Wailuku	12
2.3 Historical Background	13
2.3.1 Western Contact.....	13
2.3.2 Battle of Kepaniwai and the Unification of the Hawaiian Islands under Kamehameha I ...	14
2.3.3 Keōpuōlani.....	15
2.3.4 Early Nineteenth Century	16
2.3.5 The Māhele and Kuleana Act	16
2.3.6 Mid-Nineteenth to Early Twentieth Centuries.....	18
2.3.7 Modern Land Use	25
2.4 Previous Archaeological Studies	32
2.4.1 Parcel at 1261 Lower Main Street	32
2.4.2 Mid-Pac Petroleum Parcel (76 Gas Station) and Easement	37
2.4.3 Dunn and Spear (1995)	39
2.4.4 Chaffee et al. (1998)	40
2.4.5 E. M. Fredericksen and D. L. Fredericksen (1998a).....	40
2.4.6 Henry Perrine Baldwin High School	41
2.4.7 Devereux and Hammatt (1998).....	41
2.4.8 Maui Electric Company Parcel	41
2.4.9 Fredericksen (2003)	42
2.4.10 Pestana and Dega (2005)	42
Section 3 Consultation	43
Section 4 Archaeological Monitoring Provisions	44
Section 5 References Cited	47
Appendix A MLIBC 16 October 2019 Minutes.....	56
Appendix B OHA Consultation Letter.....	59

List of Figures

Figure 1. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 1997)	2
Figure 2. Portion of the 2017 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 2017)	3
Figure 3. Tax Map Key (TMK) [2] 3-4 showing the project area (Hawaii TMK Service 2014)	4
Figure 4. 2017 aerial image of the project area (Esri 2017; Resource Mapping Hawai'i 2017)	5
Figure 5. Overlay of <i>Soil Survey of the State of Hawaii</i> (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001)	7
Figure 6. General view from the southwestern end of the project area (nearest Ainahou Place) showing the built environment and an existing sewer manhole in the center of Lower Main Street, view to northeast	8
Figure 7. General view from the northeastern end of the project area (nearest Waena Street) showing the built environment and an existing sewer manhole in the center of Lower Main Street, view to southwest	9
Figure 8. Land Commission Awards in the immediate vicinity of the project area	19
Figure 9. Portion of Monsarrat (1882) map showing the project area in relation to LCAs and the sand hill to the south	22
Figure 10. Portion of CTW (1893) map showing the project area in relation to the sand hills at the east, the Wailuku Sugar Mill to the south, and Wailuku River to the west; note the map is oriented to south	23
Figure 11. Portion of a 1910 Hawaiian Commercial & Sugar Company map of central Maui showing the project area in relation to the railroad linking the Wailuku Sugar Company mill with the Port of Kahului; note the map is oriented to south	24
Figure 12. Circa 1870 photograph showing the town of Wailuku and the spire of the Ka‘ahumanu Church (at upper left) and a horse-drawn cart in the foreground appears to be heading toward Kahului on a portion of the government road, present-day Lower Main Street (collection of R. Hill, CSH), view to northwest	26
Figure 13. Circa 1870 photograph of the Wailuku Sugar Company mill constructed in the 1860s, located at the end of Market Street (collection of R. Hill, CSH)	27
Figure 14. Circa 1924 photograph of the second Wailuku Sugar Mill (built in 1880) located northwest of the present project area, prior to the dissolution of the Wailuku Sugar Company in 1989 (Iron Works 1924)	28
Figure 15. Circa 1945 photograph of St. Anthony’s Church, the first stone church in central Maui (News 1945)	29
Figure 16. Portion of 1946 Iao Valley Water Rights map showing the project area; note development within the former sand hill area	30
Figure 17. 1977 aerial orthophoto showing extensive development around the project area	31
Figure 18. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing previous archaeological studies in the immediate vicinity of the project area (U.S. Geological Survey 1997)	33

Figure 19. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing historic properties in the immediate vicinity of the project area (U.S. Geological Survey 1997)36

List of Tables

Table 1. Land Commission Awards in the immediate vicinity of the project area20
Table 2. Previous archaeological studies in the vicinity of the project area.....34

Section 1 Introduction

1.1 Project Background

At the request of Legacy Wailuku LLC, and on behalf of the County of Maui, Department of Environmental Management (DEM), Wastewater Reclamation Division, Cultural Surveys Hawai'i, Inc. (CSH) has prepared this archaeological monitoring plan (AMP) for the Lower Main Street Sewer Line Improvements Project, Wailuku Ahupua'a, Wailuku District, Maui, TMK: [2] 3-4 Lower Main Street Right-of-Way (ROW). The project area is a 1,950-linear foot section of the Lower Main Street ROW between Ainahou Place and Waena Street in Wailuku. Lower Main Street is a two-lane roadway of opposing traffic. It is lined with residential and business complexes, warehouses, and parking lots. The project area is depicted on portions of the 1997 and 2017 Wailuku U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1 and Figure 2), a tax map plat (Figure 3), and a 2017 aerial image (Figure 4).

The Wailuku Affordable Apartment Housing project has partnered with the DEM to support the design of the sewer line project. The DEM has obtained funding for and will construct the sewer line improvement on County land. The proposed project is being completed in order to increase capacity for the construction of affordable housing in Wailuku. The proposed project will include approximately 1,950 linear feet of excavation within the active right-of-way of Lower Main Street in order to install a new 15-inch gravity sewer line adjacent to the existing sewer line. Ground disturbance will include 1,950 ft (approximately 594.4 m) of linear trenching to a depth of approximately 6 to 11 ft (1.8 to 3.4 m) below the existing road surface.

1.2 Historic Preservation Regulatory Context

This archaeological monitoring plan (AMP) is intended to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) §6E-8 and Hawai'i Administrative Rules (HAR) §13-13-275. It is also intended to support any project-related historic preservation consultation with stakeholders, such as state and county agencies and interested Native Hawaiian Organizations (NHOs) and community groups. In consultation with the SHPD, this document fulfills the requirements of HAR §13-13-279-4.

1.3 Environmental Setting

1.3.1 Natural Environment

The current project area is located on lands within the *ahupua'a* of Wailuku, in the region of the Wailuku Sand Hills and within the Pu'uone sand dune complex. Wailuku is located northwest and along the windward base of Mauna Kahalawai (the West Maui Mountains) and is exposed to consistent northeasterly trades. The project area is approximately 1,000 m west of Kahului Bay. The elevation of the project area ranges from 35 to 48 m (100 to 200 ft) above mean sea level (AMSL).

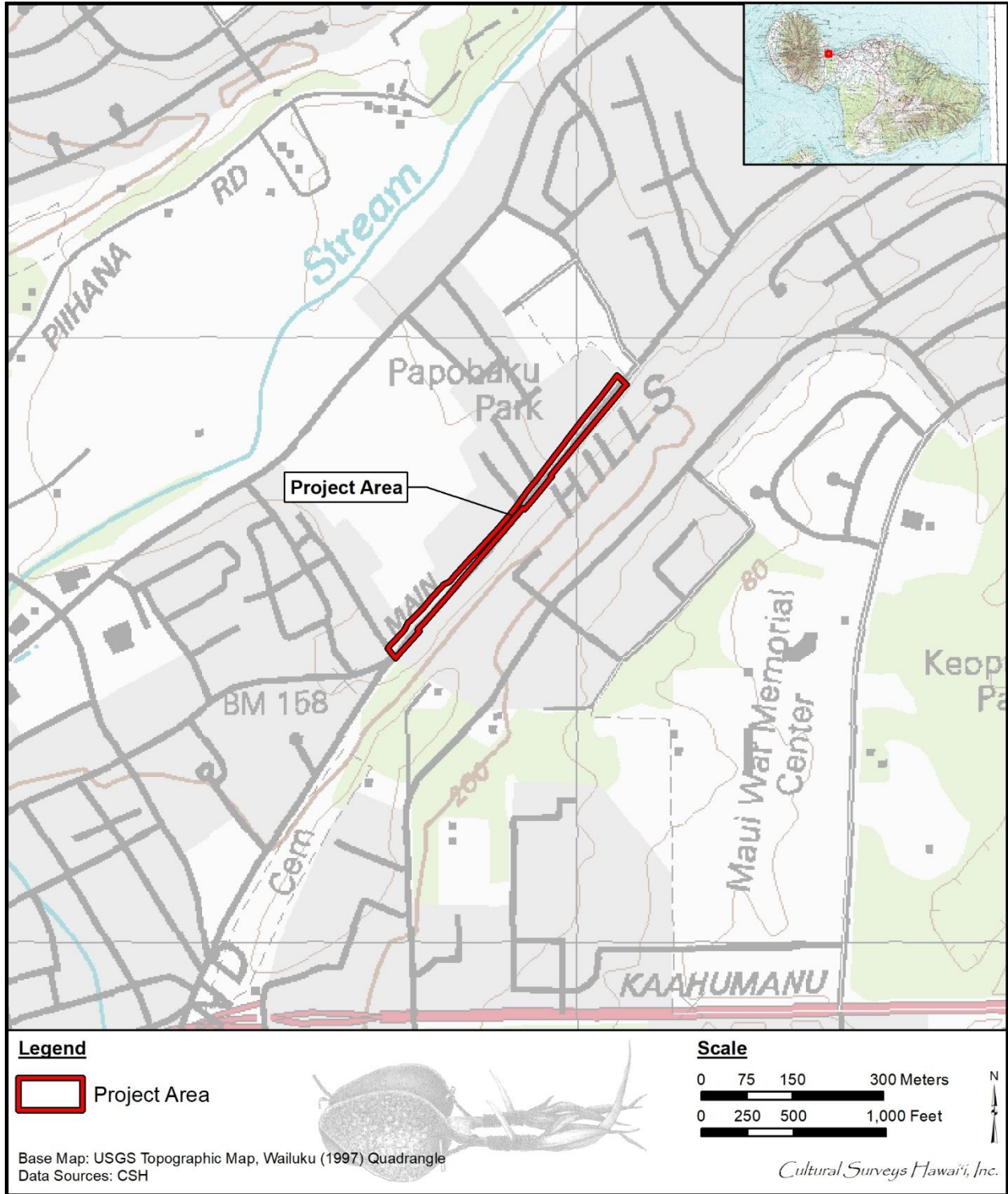


Figure 1. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 1997)

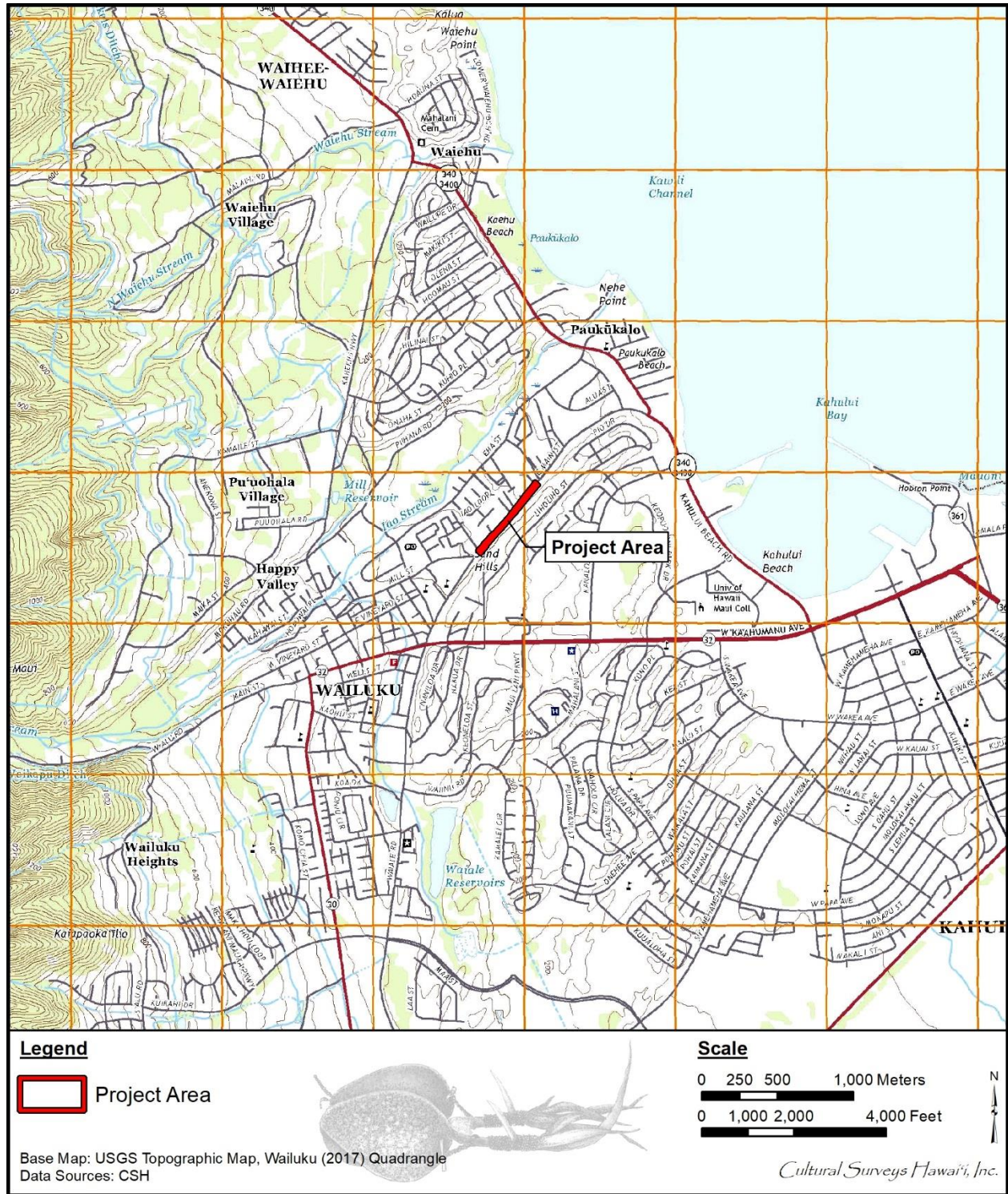


Figure 2. Portion of the 2017 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 2017)

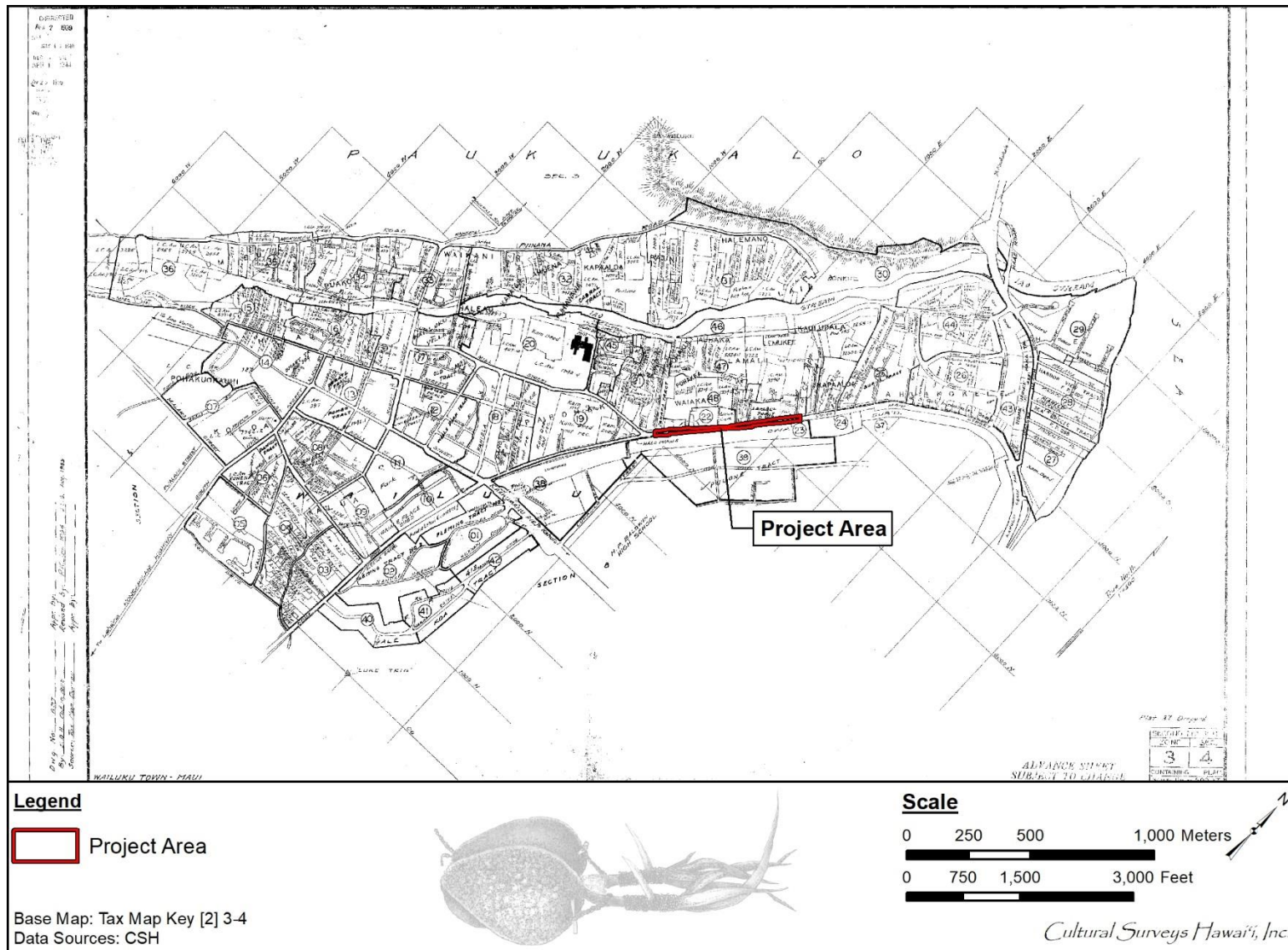


Figure 3. Tax Map Key (TMK) [2] 3-4 showing the project area (Hawaii TMK Service 2014)

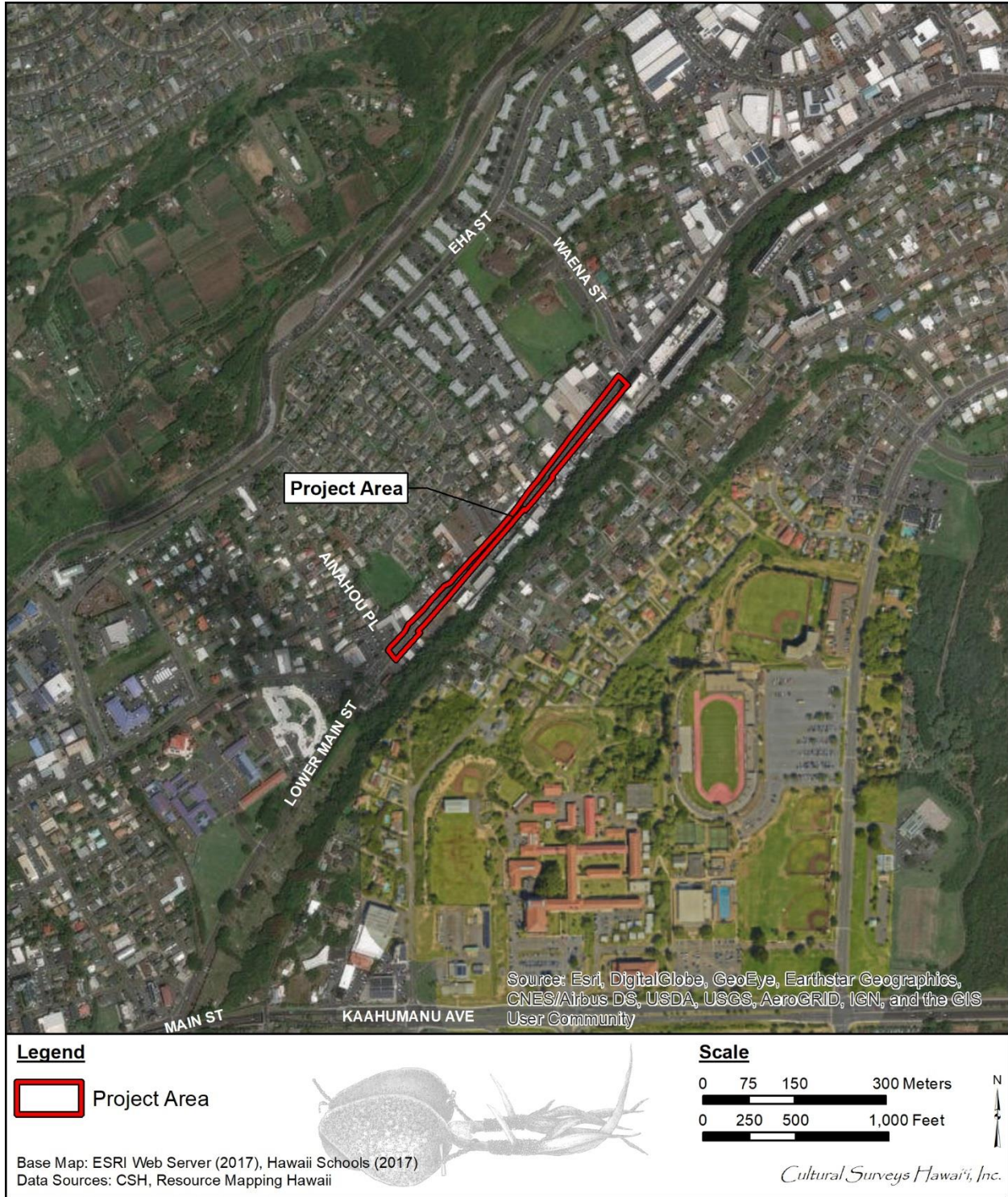


Figure 4. 2017 aerial image of the project area (Esri 2017; Resource Mapping Hawai'i 2017)

In 2014, the average monthly air temperature for the project area was between 21.2°C (70.15°F) in February and 25.23°C (77.41°F) in August with an average annual air temperature of 23.25°C (73.84°F) (Giambelluca et al. 2014). The vicinity of the project area received a mean annual rainfall of 575.5 mm (22.66 in) between 1978 and 2007, according to the University of Hawai'i 2011 *Rainfall Atlas of Hawaii* (Giambelluca et al. 2013).

The native ecosystem of the current project area was estimated to have once been Montane dry and mesic forest and woodland as a transitional zone between subalpine forest/shrubland and wet forest or lowland dry vegetation (Pratt and Gon 1998:122-126). The modern growing environment in the vicinity currently supports a vegetation community where the predominant natural plant species adjacent to areas of commercial development consists of landscaping plantings of coconut trees (*Cocos nucifera*) and *aki'aki* grass (*Fimbristylis cymosa*) with bordering hedges of hibiscus (*Hibiscus brackenridgei*), croton (*Codiaeum variegatum*) and hedges of be-still trees (*Thevetia peruviana*).

According to the U.S. Department of Agriculture (2001) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the project area's soils consist of Iao cobbly silty clay, 3 to 7 percent slopes (IbB) (Figure 5). Soils in the immediate vicinity of the project area also include Puuone sand, 7 to 30 percent slopes (PZUE) to the south and Wailuku silty clay, 3 to 7 percent slopes (WvB) to the southwest. The Iao Series soils are described as dark brown to very dark brown or very dark grayish brown clay or silty clay and "well-drained soils on valley fill and alluvial fans" that "developed in alluvium derived from basic igneous rock" (Foote et al. 1972:46).

Iao cobbly silty clay, 3 to 7 percent slopes (IbB) is described as follows:

This soil has a profile like that of Iao clay, 3 to 7 percent slopes, except for the texture of the surface layer and the content of cobblestones.

This soil is used for sugarcane and homesites (Capability classification IIe if irrigated, IIIs If nonirrigated; sugarcane group 1; pasture group 3) (Foote et al. 1972:47)

Foote et al. (1972:117) describes PZUE as occurring on sandhills near the ocean and consisting of grayish brown calcareous sand at the surface for about 20 inches then, grayish brown cemented sand. Wailuku Series soils are described as "well-drained soils on alluvial fans on the island of Maui" that "developed in alluvium derived from weathered basic igneous rock" (Foote et al. 1972:133).

1.3.2 Built Environment

The project area is located in Wailuku within the Lower Main Street ROW between Ainahou Place and Waena Street (see Figure 4). The built environment of the present project area consists of commercial and public properties and associated paved asphalt roads and utilities that make up a portion of the industrial area of Lower Wailuku (Figure 6 and Figure 7). Development in the immediate vicinity of the project area includes several multi-story business and apartment buildings, restaurants, a gas station, warehouses, and auto service lots.

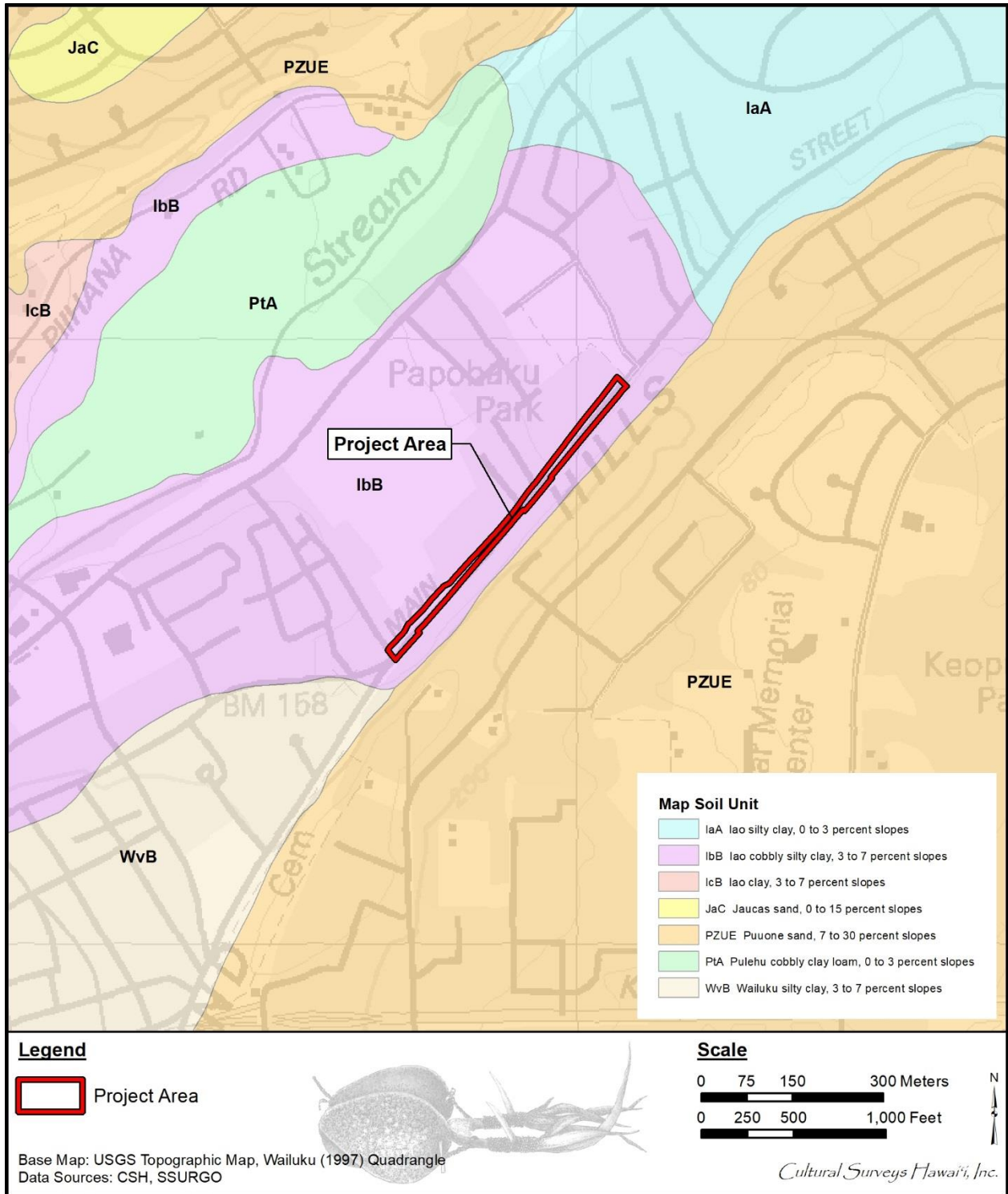


Figure 5. Overlay of *Soil Survey of the State of Hawaii* (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001)



Figure 6. General view from the southwestern end of the project area (nearest Ainahou Place) showing the built environment and an existing sewer manhole in the center of Lower Main Street, view to northeast



Figure 7. General view from the northeastern end of the project area (nearest Waena Street) showing the built environment and an existing sewer manhole in the center of Lower Main Street, view to southwest

Section 2 Background Research

2.1 Place Names

Pukui et al. (1974) cite a description by Samuel Elbert:

Hawaiians named taro patches, rocks and trees that represented deities and ancestors, sites of houses and *heiau*, canoe landings, fishing stations in the sea, resting places in the forests, and the tiniest spots where miraculous or interesting events are believed to have taken place.

Place names are far from static... names are constantly being given to new houses and buildings, land holdings, airstrips, streets, and towns and old names are replaced by new ones... it is all the more essential, then to record the names and the lore associated with them now. (Pukui et al. 1974:x)

Inherent in the statements of Elbert is the knowledge that the oldest place names held meaning and told the story of an area prior to Western contact.

The lands of Wailuku are traditionally known as the “locality of flying clouds” (Fornander 1916-1917:286). The *ahupua'a* of Wailuku, Waikapū, Waiehu, and Waihe'e were collectively referred to as “Na Wai Eha” or “The Four Waters” (Handy et al. 1991:496). Nā Wai 'Ehā consisted of four deep valley streams that watered four distinct areas of *kalo* (taro) land which spread out fanwise to the shoreline (Handy et al. 1991:272). According to Kame'eleihiwa (1992:241), the combined area of the four *ahupua'a*, Wailuku, Waikapū, Waiehu, and Waihe'e, was once known as “Pu'ali Komohana,” which comprised the four windward valleys of Mauna Kahalawai, commonly referred to as the West Maui Mountains. “Pu'ali Komohana” means “western sun-setting isthmus” (Andrews 1865:73).

The creation of the district, or *moku*, of Wailuku would come later with Māhele as explained by the government surveyors:

On Maui are some smaller divisions than the Moku called kalana, Lahaina being one of these. Wailuku, Waikapu, Waiehu and Waihee, were independent, belonging to no Moku. On the map it is necessary to form a new district, and call it Wailuku, Nawaieha being too cumbersome, and ill understood. (Lyons 1875)

On Maui the lands of Waikapu and Wailuku appropriated almost the whole of the isthmus so as to cut off half of the lands in the district of Kula from access to the sea. These two ahupuaas [sic], together with Waiehu and Waihee, which were independent, belonging to no Moku, were called Na Poko, and have been formed into a district in modern times. (Alexander 1890:106)

2.2 Traditional Accounts

2.2.1 Wailuku as a Political Center of Maui

The regional place names above together with the environmental data suggest that the lands of Wailuku Ahupua'a in the vicinity of the current project area, along the base of the West Maui Mountains near the entrance to 'Īao Valley, were agriculturally fertile with plenty of water

resources. The presence of ceremonial structures, such as *heiau*, provides evidence that the region was also an important political center of Maui. The royal compound of the chiefs of Wailuku once lay at the foot of 'Īao Valley. From this region, the chiefs of Wailuku ruled Maui for 15 centuries. According to Kamakau (1991) the earliest of the chiefs of 'Īao was perhaps Kaha'i. In the 1450s, the chief Pi'ilani ruled over all of Maui and the islands of Lāna'i and Moloka'i. He was succeeded by his son, Kihapi'ilani, followed by his son, Kamalālāwalu; a chief so highly regarded that ever since his time, the island has been spoken of with esteem as "Maui o Kama" or "Royal Maui". The ancient ditch known as the "Kama 'Auwai" can still be seen today just above the Bailey House Museum in Wailuku. The chief Kekaulike remained in power until the chiefdom was passed to his son Kamehameha-nui in 1690 (Fornander 1919:314).

Between the years 1775 to 1779 there was continual fighting between Kalani'opu'u of Hawai'i and Kahekili of Maui (Kamakau 1992:84). King Kahekili had become a renowned warrior. Kahekili was the son of Kekaulike and younger brother of Kamehameha-nui (Kamakau 1992:87). His army of hand-picked warriors were known by their tattoos; half their bodies were tattooed black, even the inside of their eyelids and their gums.

While the chiefly intra-island rivalry between East and West Maui was settled, the political rivalry between the *ali'i* of Hawai'i Island and Maui Island continued. Where Hāna had been the primary stage of battle, Wailuku would come to take a central role in the fight for political gain during the latter part of the eighteenth century. In the sand hills of Wailuku, at the southeast of Kalua, Kahekili and his forces from O'ahu and Maui engaged in battle with the armies of Kalani'opu'u, chief of Hawai'i, who had invaded Maui.

Following a losing battle at Kaupō in 1775, Kalani'opu'u dedicated several war *heiau* on Hawai'i Island to aid in the defeat of Kahekili. Upon hearing this news, Kahekili sent for the *kahuna* Kaleopu'upu'u, who directed construction of the *heiau* of Kaluli and Pu'uohala on the north side of Wailuku. When Kaluli Heiau was completed, Kaleopu'upu said to Kahekili, "This is the house of your god; open the sluice gate that the fish may enter" (Kamakau 1992:85).

In the year 1776, Kalani'opu'u's warriors landed at Keoneo'o'io, with war canoes extending all the way to Mākena, and proceeded to ravage the countryside.

There, the invading army proceeded to ravage the countryside. Kalani'opu'u then landed with additional forces at Kīhepuko'a at Kealia, (at the area where the Waikapū Stream meets the ocean) with his invading force beached along the Mā'alaea coastline. His advance regiment of 800 men made ready to battle Kahekili, chief of Maui, at his stronghold across the isthmus at Wailuku. The invading army was "eager to drink the waters of the Wailuku [Stream]."

Across the plains of Pu'u'ainako and Kama'oma'o shone the feather cloaks of the soldiers... Ka-hekili was at Kalanihale just below Kihahale and above the plateau of Ka'ilipoe at Pohakuokahi... Kaleopu'upu'u [said] to Ka-hekili, "The fish have entered the sluice; draw in the net." (Kamakau 1992:85)

The forces of Kahekili descended on and destroyed the soldiers of Kalaniopu'u, slaying the elite soldiers of Kalaniopu'u on the sand hills at the southeast of Kalua:

...the Maui army had the advantage of a well-chosen position. The Hawaiians had to fight uphill or else drift down to the sand hills. In either case advance was

difficult... There was a full day of savage fighting, marked by inhuman acts of awful brutality. The native account of the battle says: "It was not a war characterized by deeds of princely courtesy." Many noted names of valiant chiefs were never again mentioned in Hawaiian story. The story and the life ended together in this Wailuku battle. (Westervelt 1977:139-140)

The battle that took place received the name "The furious destruction at Kakanilua," named after the sand hills below Wailuku. Only two men escaped to Kīheipuko'a [Kīhei] to tell Kalaniopu'u the news of their defeat. After a second day of warfare, Kalaniopu'u sued for peace and was granted such by Kahekili and his messengers. Kalaniopu'u then returned home to Hawai'i Island (Kamakau 1992:88-89).

2.2.2 A Shipwreck in the Time of Wakalana

Kalākaua (1888:182), in his collection *The Legends and Myths of Hawaii*, recounts a "remarkable event [that] had occurred at Wailuku" during the late fourteenth or fifteenth century when Wakalana, the principal chief of West Maui, was in residence there. According to Kalākaua (1888:182), there was an "appearance in the [Hawaiian] group of a vessel bearing people of a strange race, described by tradition as 'white, with bright, shining eyes.'" He further describes the encounter:

It was a Japanese vessel that had been dismantled by a typhoon, driven toward the North American coast until it encountered the northwest trade-winds, and then helplessly blown southward to the coast of Maui... It was hazardous to approach the wreck too nearly, but Wakalana succeeded in rescuing from the waves and returning to Wailuku with five persons, but not before he saw the last fragment of the wreck disappear in the abyss of raging waters. (Kalākaua 1888:182-183)

2.2.3 Traditional Hawaiian Agriculture at Wailuku

The Four Waters, or Nā Wai 'Ehā, were intensively cultivated in wet taro, to support a large center of population (Handy et al. 1991:273). In an excerpt from a letter penned by the missionaries Richards and Green in 1830 published in the *Missionary Herald* for the year 1831, they relayed the following observation about Wailuku during their 1828 tour around Maui:

In a journal of our tour around Maui, performed in August 1828, we mentioned Wailuku, [vol. xxv, p.247] a populous and fertile district on the windward side of the island, twenty-five miles from Lahaina, as a very desirable place for a new station...

No district of equal extent on the islands, produces more abundantly the necessaries of life, than Wailuku. Indeed, many districts on Maui and some parts of Hawaii depend for sustenance on this favored valley. It contains of course a numerous population... The district of Wailuku would furnish sustenance for an immense population. (Richards and Green 1831)

Handy et al. (1991) describe the stream of Wailuku as the great torrent that drains the highest cloud-capped uplands of western Maui through the deep 'Iao Valley. The agricultural landscape of much of the upper section of present-day Wailuku is built on old terrace sites:

Along the broad stream bed of Īao Valley, extending several miles up and inland, the carefully leveled and stone encased terrace may be seen. In the lower section of the valley these broad terraces served, in 1934, as sites for Camps 6 and 10 of Wailuku Sugar Plantation, being utilized for houses, gardens, playgrounds, and roads. A little farther up, neat private homes and vegetable and flower gardens covered these old taro terraces; while at their upper limit the terraces were submerged in guava thickets... It is significant that here, as at Waihe'e, the old terrace were adapted to market gardening (Chinese bananas, vegetables, and flowers) by Japanese and Portuguese gardeners. (Handy et al. 1991:497)

Two named Native Hawaiian 'auwai (irrigation ditches), Kalaniauwai and Kamaauwai, were constructed for irrigating *kalo* on the alluvial plains that stretch both north and south of the Wailuku River (Lonoaea v. Wailuku Sugar Co [9 Haw. 654] in Sterling 1998:86). the latter of which is a contributing feature to Maui Historic District 3 and still in existence. Beyond the alluvial sediments of the stream valley as the lower elevations leading into the central isthmus of Maui, the landscape was once dominated by windswept Pleistocene sand dune deposits. The following excerpt of a newspaper article submitted to the *Pacific Commercial Advertiser* distinguishes the differences between the two areas:

The isthmus of Waikapu (and Wailuku) lies but little above the level of the sea, and is composed of dry sand. Since the goats and cattle have been allowed to run there, they have destroyed the vines and bushes which served to confine the sand on the windward side, and the "dunes" have been driven nearly to the leeward beach, and will soon usurp the whole of the lower part of the isthmus. The wind here rushes across in fierce gusts between the two divisions of the island, and renders the navigation of the bay at times quite dangerous. On the western slope of the isthmus, and towards the windward side, lie the cultivated portions of Waikapu and Wailuku, which, with the valleys behind them, are very fertile. (Anonymous 1858)

In addition to the myriad of traditional land boundaries for taro *lo'i* arranged along the flow of the Īao Stream, one must note the location of both the Haleki'i and Pihana *heiau* set atop a low ridge immediately west of the Īao Stream in Paukūkalo. Here, both *heiau* overlook the fertile coastal plains of Wailuku, Waihe'e, and Waiehu (Kirch 1996:67). According to Kirch (1996), both Haleki'i and Pihana were *luakini heiau* with important traditional linkages to famous chiefs.

2.3 Historical Background

2.3.1 Western Contact

Kahekili was at Wailuku when Captain James Cook and his ships *Resolution* and *Discovery* encountered Maui. Cook first sighted the island on 26 November 1778 with his ship *Resolution* positioned three miles off Kahului, he recorded in his logbook:

In the country was an elevated saddle hill, whose summit appeared above the clouds. From this hill, the land fell in a gentle slope, and terminated in a steep rocky coast, against which the sea broke in a dreadful surf. Finding that we could not weather the island, I bore up, and ranged along the coast to the Westward. It was not long before we saw people on several parts of the shore, and some houses and

plantations. The country seemed to be both well wooded and watered; and running streams were seen falling into the sea in various places. (in Speakman 1978:23)

Cook records that the Hawaiians who came out in canoes to trade for supplies appeared “to be of the same nation with the inhabitants of the islands more to leeward [i.e., O‘ahu and Kaua‘i] which we had already visited [ten months earlier in January 1778]; and... they knew of our having been there” (in Speakman 1978:23-24).

2.3.2 Battle of Kepaniwai and the Unification of the Hawaiian Islands under Kamehameha I

In 1790, ‘Īao Valley was the site of the last great conflict on Maui. Kamehameha I of the island of Hawai‘i landed at Kahului to battle army the commanded by Kahekili’s son Kalanikūpule. Kamehameha’s warriors used small cannons, muskets, and ammunition obtained from an American trading ship to route the Maui defenders. Kamehameha’s modern weapons struck terror into the hearts of the Maui warriors. The Maui army attempted to escape into the ‘Īao Valley. The carnage that followed was so great that ‘Īao Stream was said to have been choked with the corpses of the vanquished defenders, giving the campaign the name “Battle of Kepaniwai,” (the damming of the waters). The high chiefs and royalty of Maui fled to other islands (Alexander 1899:129). Kamehameha, meanwhile returned to the Big Island to deal with Keōua Kuahu‘ula, the last independent chief on Hawai‘i Island, who had been raiding Kamehameha’s territory while he was away (Kamakau 1992:151).

When Ka‘eokulani, ruling chief of Kaua‘i, heard how narrowly Kalanikūpule and the other chiefs of Maui had escaped death in the war on Maui, and how the waters of ‘Īao had been choked with the bodies of the slain, he was so upset that he set sail to war against Kamehameha. He met Kahekili on O‘ahu, who was now ruling chief over O‘ahu, Moloka‘i, Lāna‘i, and Maui, and persuaded him to join in the war against Kamehameha. Upon arrival on Maui, the war party camped at Wailuku and Waiehu (Kamakau 1992:159).

Kahekili made his home at Pihana and Paukūkalo, and he proceeded to give Waiehu to the Kaua‘i chief Ki‘ikiki, causing discontent among the chiefs of Maui who had to give up some of their lands. This led to a revolt against the Kaua‘i chiefs. A battle was fought at Paukūkalo, adjoining Waiehu. The son of Kahekili, Koalaukani, arose victorious. Though he had been surrounded by Kaua‘i warriors, Koalaukani dodged all of the spears thrown by them and emerged the hero of Paukūkalo (Kamakau 1992:160).

In 1791, Kahekili led his forces to the Island of Hawai‘i to meet Kamehameha in battle. The fighting ended with the indecisive battle of Kepuwaha‘ula, and Kahekili returned to Maui where he died in 1793 (Kamakau 1992:160-162). He was succeeded by Koalaukani, better remembered as Kahekili II, the last independent King of Maui. Kahekili II died a year later (Kamakau 1992:168), and in 1795, Kamehameha defeated the combined forces of O‘ahu and Maui. In 1810, Kaumuali‘i, the last independent king of Kaua‘i and Ni‘ihau, submitted to Kamehameha giving him control of a unified Kingdom of Hawai‘i (Kamakau 1992:196). With the peace engendered during Kamehameha’s reign, no further accounts of events and life at Wailuku are recorded in the remainder of the eighteenth century.

2.3.3 Keōpuōlani

Pihana at Wailuku is noted as the birthplace of Keōpuōlani in 1778, a woman descended from a lineage of *tabu* chiefs of divine rank, and raised in Wailuku, Olowalu, and Hāmākua on Maui (Kamakau 1992:259). She gave birth to two royal male heirs of Kamehameha I, Liholiho (Kamehameha II [Reign: 1819-1824]) and Kauikeaouli (Kamehameha III [Reign: 1825-1854]). Through Keōpuōlani, they were said to have a family genealogy tracing back to the god Ulu, who descended from Hulihonua, an order of priests known as *kahuna*, and Keakahuilani, the first man and woman created by the ancient gods of Hawai'i (Mookini 1998:6).

Keōpuōlani's ancestors on her mother's side (Keku'iapoiwa II) were said to have been ruling chiefs of Maui dating to the reign of Kaka'alaneo, who ruled Maui and Lāna'i from his court in Lele (the ancient name of Lahaina) (McKinzie 2003:130), around the time when the voyages of migration between Hawai'i and the islands in the South Pacific had ceased, ca. AD 1360 (Fornander 1919:313). It was believed that Kaka'alaneo's direct ancestor was a *mo'o inanea*, a mythical *mo'o 'aumakua* (lizard guardian spirit) (Beckwith 1970:450). Keōpuōlani was also named Kalanikauika'alaneo at birth, which may have been for her legendary ancestor, Kaka'alaneo.

Keōpuōlani was also named after her great-grandmother, Keku'iapoiwanui, wife of Kekaulike, chief of Maui in the late 1600s. Keku'iapoiwanui and Kekaulike were *kapu moe* (chiefs of the prostrating *tabu*) on Maui, whose children were Kalola Pupuka o Honokawailani (an *ali'i kapu* of Maui and Hawai'i), and her brother, Kahekili, ruling chief of Maui and O'ahu. Keōpuōlani inherited her rank of *ni'auipi'o* (high chief) from both of her parents (Kamakau 1992:69). Kahekili was one of the last chiefs of Maui and made Wailuku his home, at the entrance to 'Īao Valley (Ashdown 1970:35).

Keōpuōlani's ancestors on her father's side (Kiwala'o) were descendants of chiefs who had ruled the island of Hawai'i for many generations. Her father Kiwala'o was son of Kalani'opu'u and grandson of Kalaninui'iamamao, the first-born of the ruling chiefs of the island of Hawai'i (Fornander 1880:204). According to Malo (1951), the genealogies of Keōpuōlani and her ancestors were found in the Kumulipo, a traditional Hawaiian creation chant. In this chant, the *kapu* chiefs of O'ahu, Kualii'i, Peleioholani, and Kahahana, are given prominence. The genealogy of Kumu'uli was praised by the ancient Hawaiian chiefs and quoted in the famous chant of Kualii'i, the warrior king of O'ahu, which was recited in honor of Keōpuōlani, the *kapu* descendant of the Maui line of kings (Mookini 1998:6).

Keōpuōlani broke the *tabu* of men and women eating separately. She first welcomed missionaries to the Hawaiian Islands and taught her own children how to read and write. She became a Christian and helped to spread Christianity to Hawaiians on Maui, "thus the highest *tabu* chiefess became the first Hawaiian convert" (Kamakau 1992:262). She died in 1823 in Lāhainā at the age of 55.

Prior to 1832, at which time the land where the present-day Bailey House Museum was granted to the Protestant missionaries, the prominent tract of land above the 'Īao River was once the royal compound where Hawaiian chiefs lived. In January 1836, the Princess Nahi'ena'ena and her husband Leleiohoku went to live in Wailuku. The Princess died less than a year later during the birth of a child, and she was buried in Lāhainā. In the years following the loss of Nahi'ena'ena,

the remaining chiefs and *ali'i* of Maui continued to make Lāhainā their official residence (Kamakau 1992:340-349).

2.3.4 Early Nineteenth Century

With the death of Kamehameha I in 1819, warfare between the ranking Hawaiian chiefs was set aside by powerful changes within traditional Hawaiian society. Four decades of interaction with American, Russian, British, and French traders had opened the way for Christianity. The establishment of a system of schools throughout the islands was vigorously pursued by the governing chiefs of Hawai'i, aided by the newly-arrived American Protestant missionaries beginning in 1820 (Kuykendall 1938).

In 1830, Protestant missionaries stationed at Wailuku recorded school attendance figures for the out-stations of Wailuku: Waihe'e (612 students), Waikapū (329 students), and Waiehu (103 students) (Richards and Green 1831). In 1840, American scientists aboard the U.S. Navy ship *Vincennes* landed at Lahaina and travelled over land to the district of Wailuku, where they noted that native Hawaiian timber grew in sizes suitable for the construction of canoes (Wilkes 1845:252). In 1850, the protestant Reverend Henry Cheever observed:

As you get into the valley and vega of Wailuku, you see numerous remains of old *kihāpai*, or cultivated lots, and divisions of land now waste, showing how much more extensive formerly was the cultivation, and proportionally numerous the people, than now... The whole valley of Wailuku, cultivated terrace after terrace, gleaming with running waters and standing pools, is a spectacle of uncommon beauty to one that has a position a little above it. (Cheever 1851:124)

According to the diary of the Catholic priest, Father Favens, he first visited Wailuku on 15 June 1846. By the end of 1847, a small Catholic chapel had been constructed at Wailuku. Stormy weather soon destroyed this native-style frame chapel. The first solid-frame church at Wailuku was constructed by the Mission Brothers of Honolulu and dedicated to St. Anthony on 5 March 1854 (Schoofs 1978:291-292). The St. Anthony School held classes as early as 1848, and by 1855, the school had its own resident priest. The large premises of St. Anthony's Church and School were the center of Catholic life in Wailuku. The land on which the church and school is located measures 11.20 acres. The cemetery across Lower Main Street has an area of 5.878 acres (Schoofs 1978:294). Part of this land was deeded by King Kamehameha IV in 1868.

2.3.5 The Māhele and Kuleana Act

The most significant change in land-use patterns and land allocation came with The Māhele and the privatization of land in Hawai'i. The establishment in 1839 by Kamehameha III (Kauikeaouli) of a Bill of Rights for the people of Hawai'i, followed by a formal constitution in 1840, hastened the shift of the Hawaiian economy from that of a subsistence-based economy to that of a market-based economy. The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands, which introduced private property into Hawaiian society.

During the Māhele, all of the lands in the Kingdom of Hawai'i were divided between the *mō'ī* (king), *ali'i* (royalty), *konohiki* (overseer of an *ahupua'a*), and *maka'āinana* (common people/tenants of the land) and passed into the Western land tenure model of private ownership.

In 1848, the crown and the *ali* 'i received their land titles, and in 1850, the *maka 'āinana* began receiving their *kuleana* (individual land parcels) awards (Alexander 1890:114). Crown Lands were defined as: "...private lands of His Majesty Kamehameha III, to have and to hold for himself, his heirs and successors forever; and said lands shall be regulated and disposed of according to his royal will and pleasure subject only to the rights of tenants" (Kingdom of Hawaii 1848).

Wailuku was declared as "Crown Land" to be used to support the Kingdom of Hawai'i. Ruth Ke'elikolani, half-sister of Kamehameha V (Lot Kapuāiwa), inherited the *ahupua 'a* of Wailuku from Lot Kapuāiwa on his death in 1872. Ruth Ke'elikolani then sold a portion of her Wailuku land holdings to the sugar-industrialist Claus Spreckels in 1882. Spreckels subsequently received Land Grant 3343 from King Kalakaua, that consisted of 24,000 acres of the southeastern portion of the Wailuku Ahupua'a (Zambucka 1977:48).

Lands were further partitioned and set aside as Government lands, which were defined and managed as indicated below:

...those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act ... (p)rovided, however, that the Minister ... shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdom... (Kingdom of Hawaii 1848)

In 1850, most of the chiefs ceded a third of their lands to the Government in order to obtain an allodia title for the remainder and thus greatly increasing the Government land base (Alexander 1890:114). The designation of lands to be set aside as Government lands, paved the way for land sales to foreigners. Therefore, in 1850, the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995:41-51).

In designations of lands as either Crown or Government, and through all awards of whole *ahupua 'a* and *'ili* (land district), the rights of the native tenants were expressly reserved, "Koe na Kuleana o Kanaka" (Reserving the Rights of Native Tenants) (Alexander 1890:114). In an Act ratified on 6 August 1850, the gathering rights of the common people for personal use, which included the gathering of both terrestrial and marine resources, in addition to the right to water and the right of way on the lands of the *konoiki*, were guaranteed and embodied in Section 10477 of the Civil Code (Alexander 1890:114-115). By this same Act, resolutions passed by the Privy Council granted fee simple titles, free of all commutation, with the exception of awards granted within the towns of Honolulu, Lāhainā, and Hilo, to all native tenants for their cultivated lands and house lots (hereafter referred to as *kuleana* land) (Alexander 1890:115). Claims of the native tenants, or *kuleana* land claims, were presented to the Land Commission whose duty was to:

...ascertain the nature and extent to each claimant's rights in land, and to issue an Award for the same which is prima facie evidence of title "and shall furnish as good and sufficient a ground upon which to maintain an action for trespass, ejectment or other real action against any other person or persons whatsoever, as if the claimant, his heirs or assigns had received a Royal Patent for the same" (Alexander 1890:110).

Land Commission Awards (LCAs) are *kuleana* land awards or claims that were approved by the Land Commission and granted by ministers representing the Kingdom of Hawaii's Department of the Interior. These awards were granted to tenants of the land, Native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners who could prove occupancy on the parcels prior to 1845.

The current project area was not within an LCA; however, several LCAs are to the north and LCA 0420, a large sand hill with a house lot containing a stone house, borders the entire southeastern boundary (Figure 8 and Table 1). LCA documentation and testimony was reviewed via the Waihona 'Aina (2000) database. Many of the neighboring LCAs abutted the Wailuku River to the north (Figure 9 and Figure 10). The LCAs in the vicinity are in the *'ili* (land division) of Popohaku and included house lots, *mo 'o* (narrow strip of land) of *lo 'i* (pond field), *kalo* (taro), *kula* (pasture), *kula wauke* (pasture land for paper mulberry trees), cultivated gardens, and *poalima* (land farmed by tenants for the *ali 'i* on one out of five days) or *ko 'ele* (tenant labor for a chief on Fridays).

2.3.6 Mid-Nineteenth to Early Twentieth Centuries

During the American Civil War in the 1860s, Hawaiian sugar prices rose significantly, leading to the formation of 12 large sugar plantations on the island of Maui; the most of any Hawaiian Island. The Wailuku Sugar Company was organized in 1863. The enterprise was a cooperative venture of James Robinson & Company, Thomas Cummins, J. Fuller, and C. Brewer & Company. The Catholic Mission agreed to give the Wailuku Sugar Company a right-of-way across their property for a railroad. In this manner, the enterprise laid a railway line to Waiehu and Waihe'e, by way of Lower Wailuku (Condé and Best 1973:267).

Beginning in 1878, the first steam locomotive of the Kahului and Wailuku Railroad, an English-made Fowler locomotive named "Queen Emma", had been set up on three miles of track at the Kahului Harbor, and in 1879 began to run between the sugar mills of Wailuku and the Port of Kahului (Best 1978:13; Conde 1993:47). In short order, the Hawaiian Commercial & Sugar Company (HCS) plantation of Claus Spreckels ran English-built Fowler steam locomotives through their fields to move harvested cane to a mill in Spreckelsville and thence to the Kahului Harbor for shipment. The project area is in the Lower Main Street section of the town of Wailuku, in an area once known for the route of the railroad connecting Wailuku with the Port of Kahului (Figure 11).

In these early days of the industry, each sugar mill was powered by oxen. By the 1880s, all the mills were powered by steam. It was during this time that Wailuku became a plantation center predominantly populated by foreign labor.

The economic progress of sugar demanded the importation of people from the Philippine Islands, Japan, Puerto Rico, and Portugal. The sale of government lands in Wailuku for sugar helped to supplement income to the government of Hawai'i, an economic condition which intensified with the collapse of the whaling trade in the 1860s and the signing of the Reciprocity Treaty of 1876, with the United States. The Reciprocity Treaty allowed Hawaiian sugar into the California market duty free. The American settlement of California hastened the need for Hawaiian sugar, following the loss of sugar production in Louisiana during the Civil War. Between 1860 and 1880, Wailuku prospered with approximately 2,250 acres in sugar and a foreign population

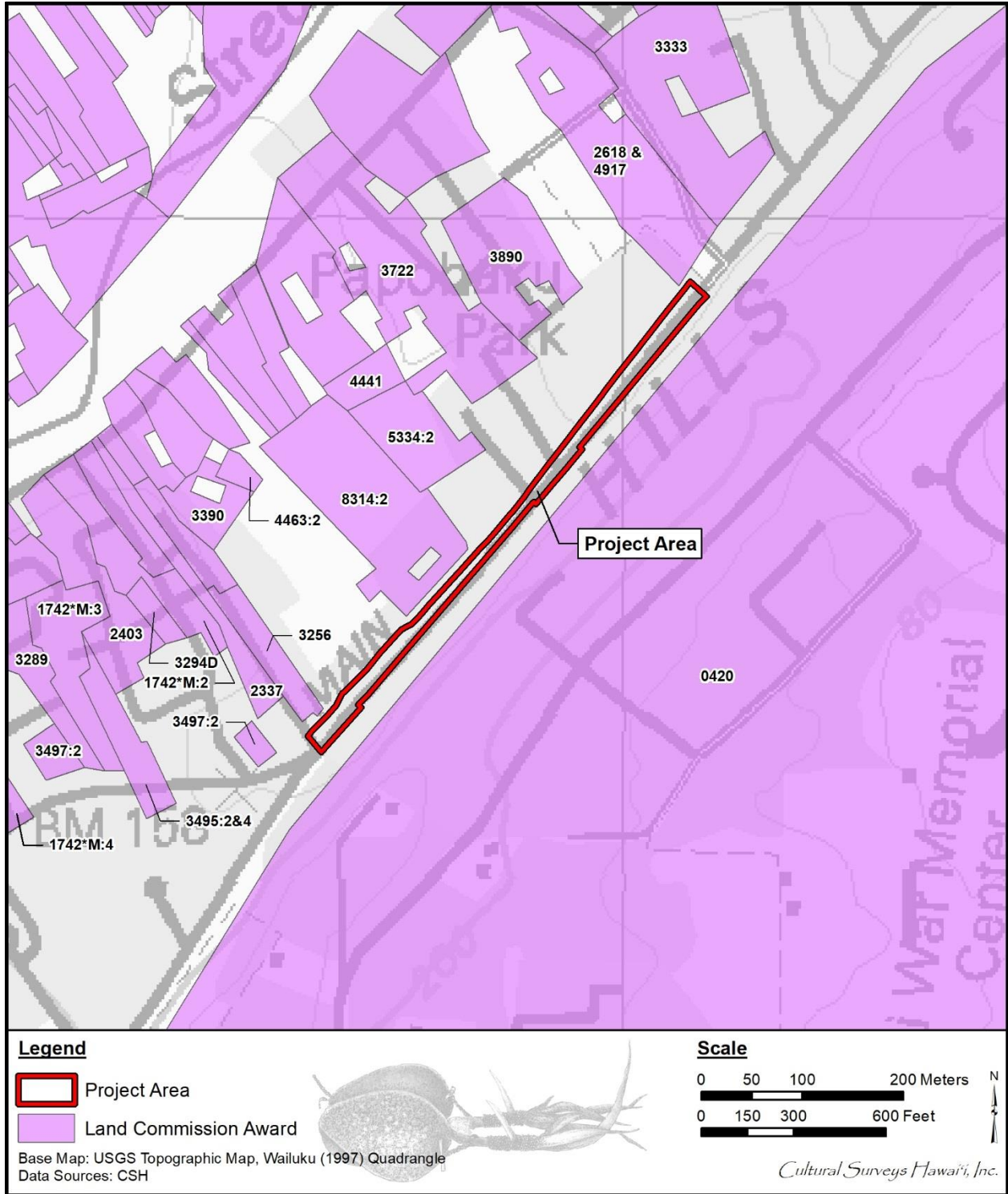


Figure 8. Land Commission Awards in the immediate vicinity of the project area

Table 1. Land Commission Awards in the immediate vicinity of the project area

Land Claim #	Claimant	'Āpana (Sections)	'Ili (Land Division)	Description
0420	Kuihelani	2	Owa	Land and house lot with stone house
1742*M:2	Kaauwai, Z.	8	Paeohi, Papohaku, Kailoaiiki, Wailoanui, Kamani, Kaluaahoo (Kaluaaha), Owa	Land in Wailuku is 7 pieces with 'ili of Papohaku, # 2 was awarded a house lot and reportedly contained 4 <i>mo'o</i> of <i>lo'i</i> and a <i>kula wauke</i>
1742*M:3				Contains 5 <i>lo'i</i> and 3 <i>mo'o</i> of <i>kalo</i>
1742*M:4				Contains 1 <i>lo'i</i>
2337	Ihuole	2	Papohaku, Kupalaalea	In the 'ili of Papohaku, there are 19 <i>lo'i</i> , 1 <i>hala</i> tree, and 4 cultivated gardens
2403	Kaiiaki	1	Papohaku	Contains 23 <i>lo'i</i> , "from ones with water to the dry ones"
2618	Pokii & Kamaka	2	Kiiwela, Kuipaa	No. 1 is 6 <i>lo'i kula</i> and 3 dry cultivated places in Kiiwela; No. 2 is 3 <i>lo'i</i> in Kuipaa
3256	Haolaua	1	Papohaku	Contains 7 <i>lo'i</i>
3289	Moo	1	Papohaku	Contains 20 <i>lo'i</i>
3294D	Kahue	2	Papohaku, Kapalaalea	No. 1 is a <i>mo'o</i> of <i>kalo</i> in Papohaku; No. 2 is 2 <i>lo'i</i> of <i>kalo</i> in Kapalaalea
3333	Nika, wahine	4	Kapaaloo/Kapola, Auhaka	Contains 5 <i>lo'i</i> and a <i>mo'o</i> of <i>kalo</i>
3390	Paele	2	"Kahalui", Pohakea	Contains 22 <i>lo'i</i> , <i>hala</i> , and 1 <i>kula</i> at Pohakea; No. 2 is a house lot in Kalua
3495:2 & 4	Kawaahie/Kawahie, wahine	4	Papohaku	Claimed a total of 18 <i>lo'i</i> ; reportedly # 2 is a section

				of <i>kalo</i> land and # 4 is a house lot
3497:2	Kaulahea	1	Papohaku	Claimed 15 <i>lo'i</i> ; reportedly also a house lot
3722	Moanalua	2	Lamalunui	Claimed 93 <i>lo'i</i> bounded by a stream on the north
3890	Paoa/Pooa	1	Lamalii iki	Claimed 38 <i>lo'i</i> and <i>kula</i>
4441	Kapahi	1	Lamalii	Claimed 15 <i>lo'i</i> and a <i>kula</i>
4463:2	Kalaehaeha	3	Auhaka, Pohakea, Lamalii	No. 2 is 4 <i>lo'i</i> in Pohakea
4917; see also 2618	Kamaka	3	Kaawela, Kiiwela, Pauniukai	Claimed 23 <i>lo'i</i> ; <i>kalo/paolima lo'i</i> in Kiiwela and a house lot in Pauniukai
5334:2	Pupuka	3	Lamalii, Ohia	Claimed 3 <i>lo'i</i> and <i>ko'ele/poalima</i>
8314:2	Kekipi	7	Kalaea, Honohina, Hulaia, Kuaiki, Makoloko, Pauniu	No. 2 is <i>kalo</i> land in Pauniu with 7 <i>poalima</i>

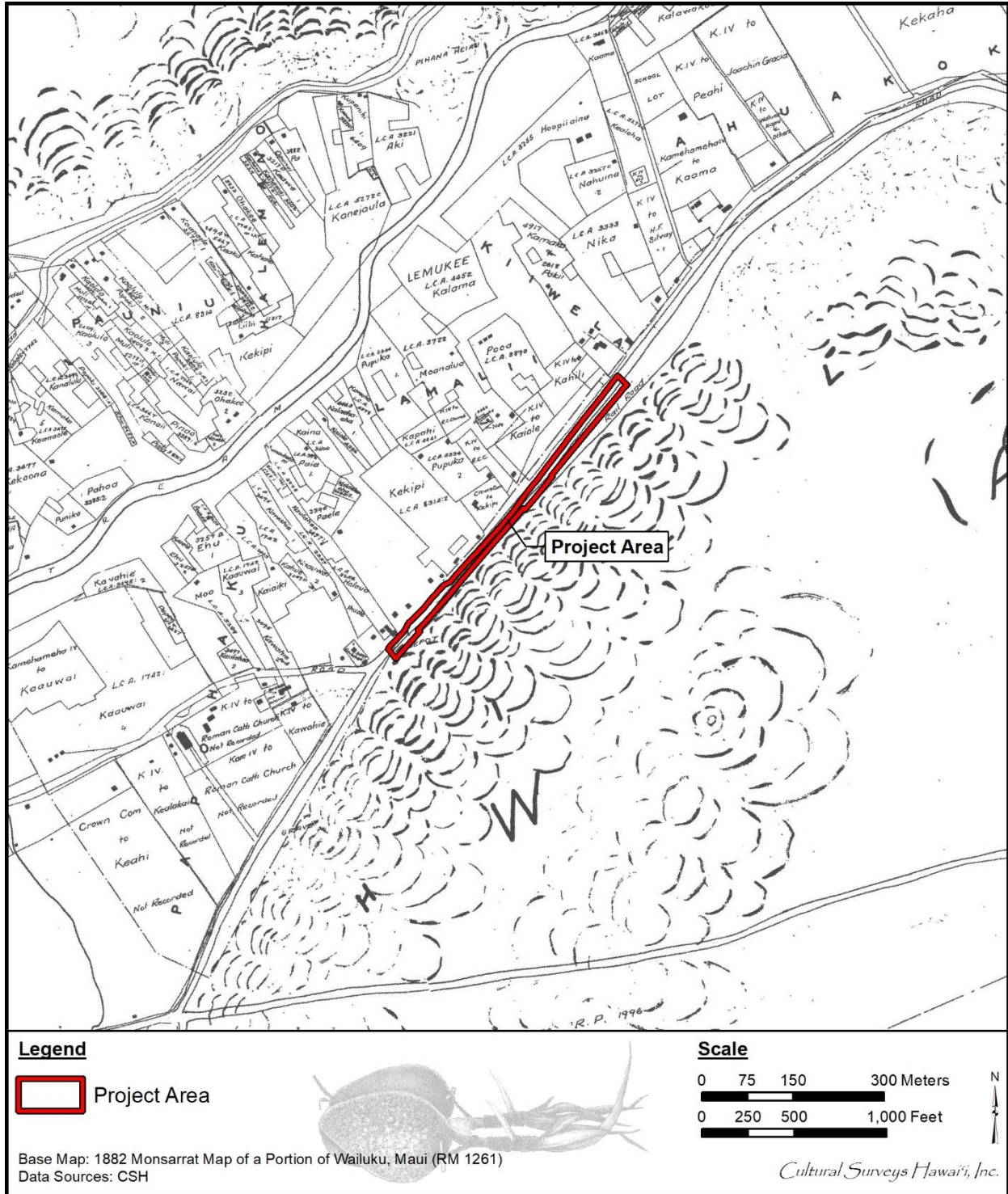


Figure 9. Portion of Monsarrat (1882) map showing the project area in relation to LCAs and the sand hill to the south

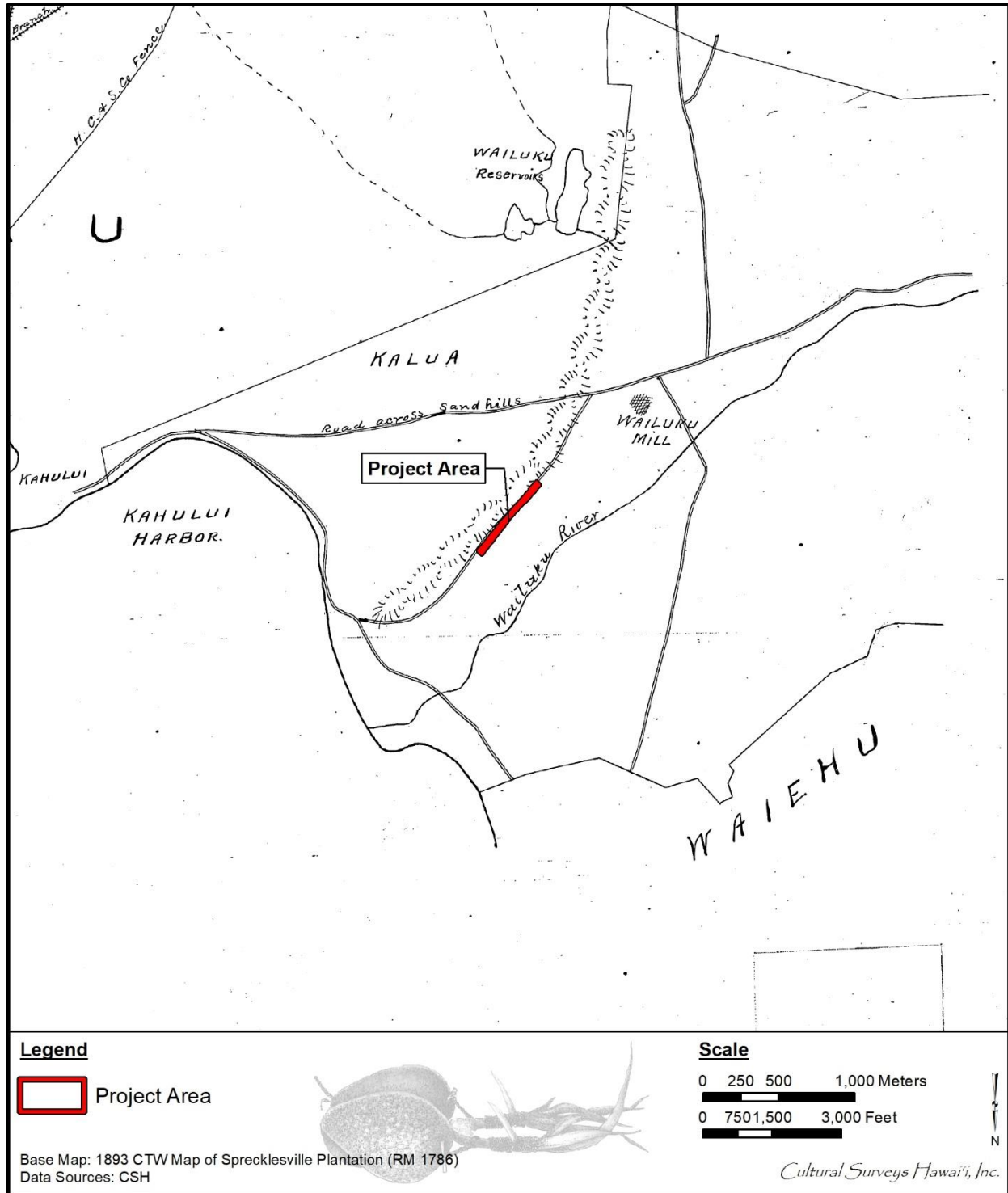


Figure 10. Portion of CTW (1893) map showing the project area in relation to the sand hills at the east, the Wailuku Sugar Mill to the south, and Wailuku River to the west; note the map is oriented to south

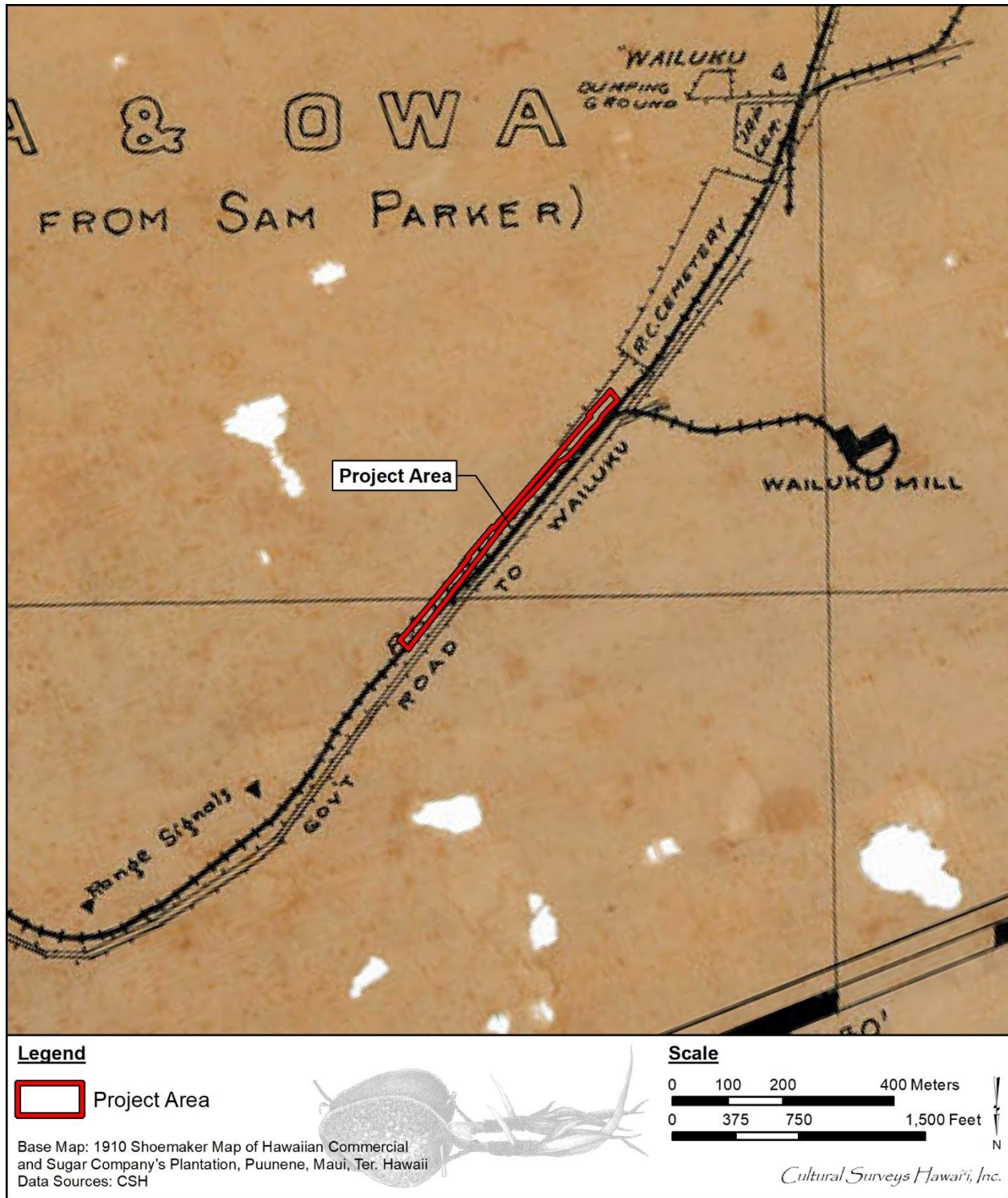


Figure 11. Portion of a 1910 Hawaiian Commercial & Sugar Company map of central Maui showing the project area in relation to the railroad linking the Wailuku Sugar Company mill with the Port of Kahului; note the map is oriented to south

diversified to effectively harvest nearby forests to burn for steam power, to plant and grow sugar cane, to mill and bag sugar, and to transport the product by railroad to the Port of Kahului (MacLennan 1997:97-104). William H. Bailey bought the Edward Bailey & Sons Plantation from his father and combined it with the Wailuku Sugar Plantation. He became manager in 1878 and president in 1882 (McCullough 2010:252).

Large numbers of sugar laborers arrived on Maui during the late 1800s and early 1900s; many of them Catholics, swelled the settlement of plantation camps around the existing Catholic churches (Figure 12). In this manner, Wailuku and the region around Pu'uohala Village became the centers of plantation camp housing for the Wailuku Sugar Company. In all, there were 11 camps for the Wailuku Sugar Plantation. The sugar mill of the enterprise was located along the 'Īao Stream in the northern portion of Wailuku (Figure 13).

In 1873, the Wailuku Catholic Boy's School had 74 pupils. The changeover from teaching in the Hawaiian language to English was accomplished at the Wailuku Catholic Boy's School by Father Sullivan in 1875. In 1884, the Franciscan Sisters took the helm at St. Anthony's Girls' School. When the Mary Knoll Sisters took over this position in 1928, the school's enrollment went from 400 pupils to over a thousand, at which time work commenced on a new Girl's High School Building, which was completed in 1940 (Schoofs 1978:300-301).

2.3.7 Modern Land Use

In 1905, the Honolulu Iron Works constructed a new sugar mill for the Wailuku Sugar Company (Figure 14) on a site located just north of the St. Anthony's Church and School (Figure 15), itself adjacent to the County of Maui Papohaku Park.

Many homes and buildings in Wailuku town date from the 1920s; the heyday of prosperity of the Wailuku Sugar Company. Many private and public buildings in Wailuku have plantation-inspired architectural and historical significance. Beginning in the early years of the twentieth century, the Wailuku Sugar Company, took control of the Spreckels Ditch, which runs transverse to and collects water from the Waihe'e, Waiehu, and Wailuku Streams, and engaged in a 20 year dispute with HCS of Kahului over control of the water collected. In 1924 the two companies agreed to a division of the water based on the number of hours each received the flow of water per day and night.

The Wailuku Sugar Company was making a profit at the time of statehood in the late 1950s but cut its last cane crop in 1988. After that it tried diversifying under the name Wailuku Agribusiness, planting macadamia groves and building the Maui Tropical Plantation in Waikapū (Wilcox 1996:122; Wood 2008).

A 1946 Iao Valley Water Rights map shows the development of Baldwin High School within the former sand hills area, east of the project area (Figure 16). A 1977 aerial photo depicts the highly developed land around the project area (Figure 17).

Following the closing of the Wailuku Sugar Company mill in 1989, much of the former agricultural land along the eastern banks of the 'Īao Stream was developed as the 'Īao Parkside Condominium; a development consisting of 47 buildings constructed in phases between 1992 and 2002 with large-scale light industrial development utilizing much of the remainder of the former sugar lands of Wailuku along the western bank of the 'Īao Stream (Hooser and Stewart 1995:32).



Figure 12. Circa 1870 photograph showing the town of Wailuku and the spire of the Ka'ahumanu Church (at upper left) and a horse-drawn cart in the foreground appears to be heading toward Kahului on a portion of the government road, present-day Lower Main Street (collection of R. Hill, CSH), view to northwest

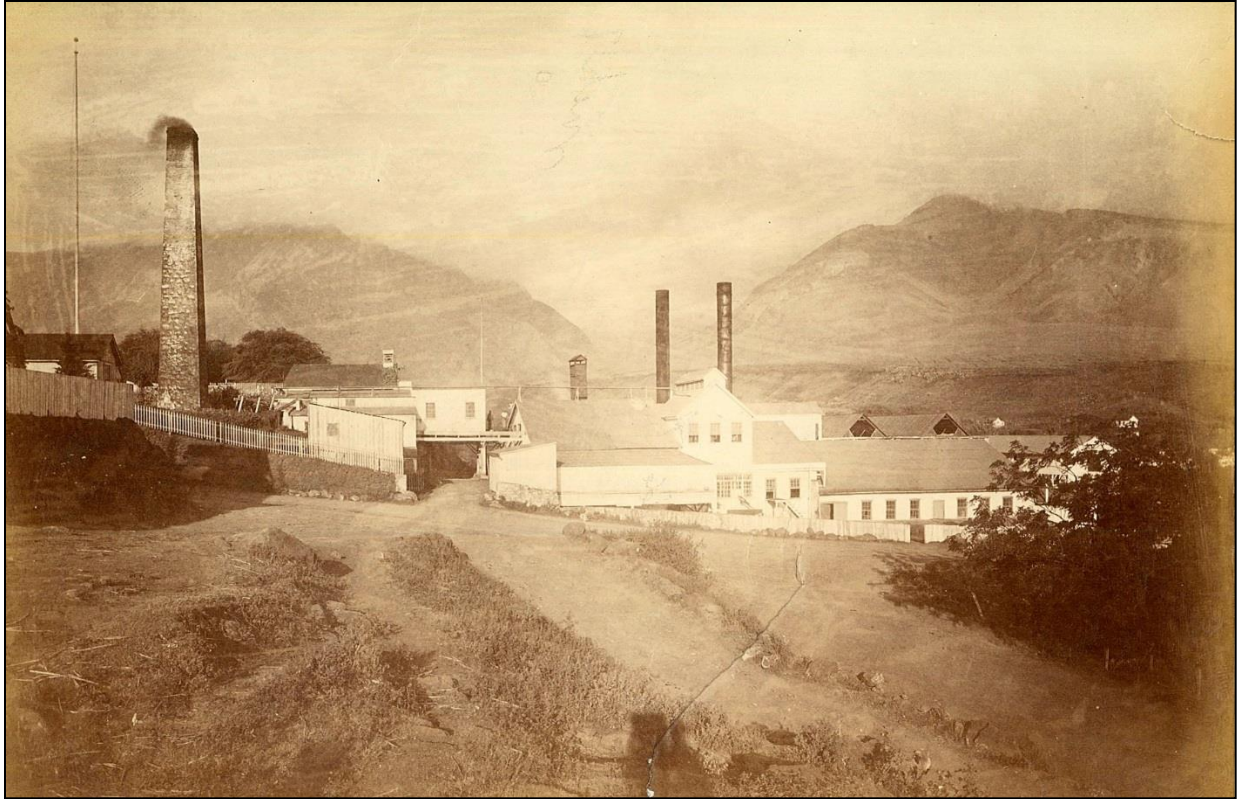


Figure 13. Circa 1870 photograph of the Wailuku Sugar Company mill constructed in the 1860s, located at the end of Market Street (collection of R. Hill, CSH)

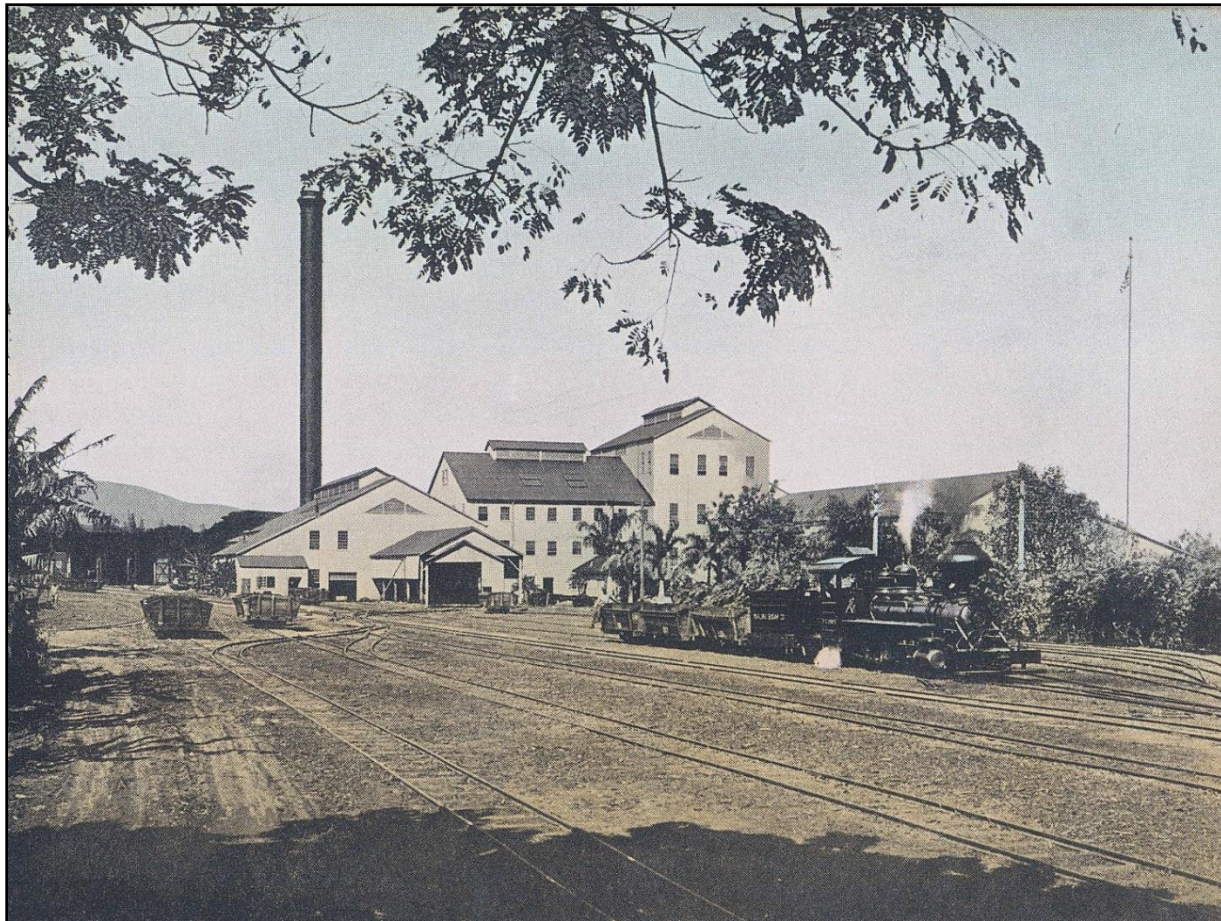


Figure 14. Circa 1924 photograph of the second Wailuku Sugar Mill (built in 1880) located northwest of the present project area, prior to the dissolution of the Wailuku Sugar Company in 1989 (Iron Works 1924)

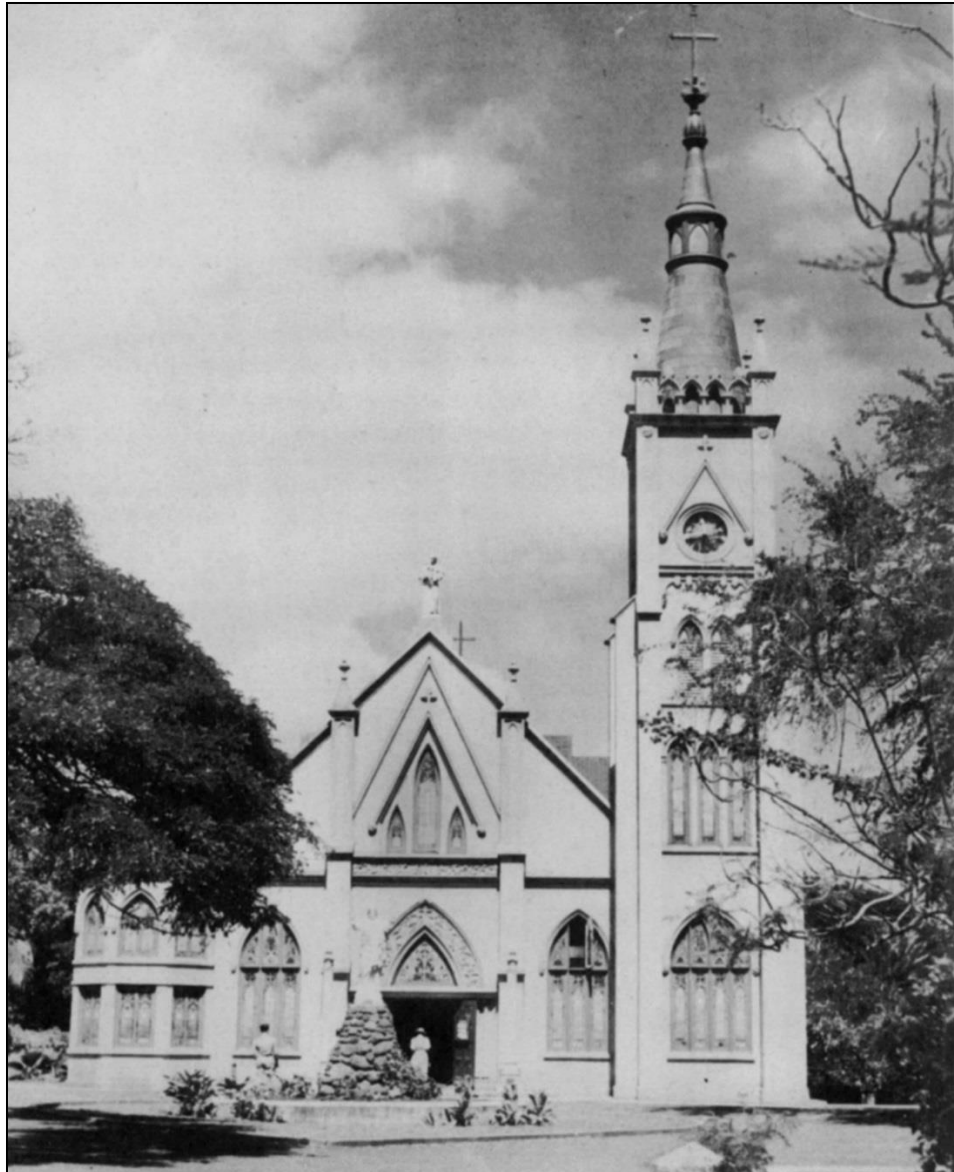


Figure 15. Circa 1945 photograph of St. Anthony's Church, the first stone church in central Maui (News 1945)

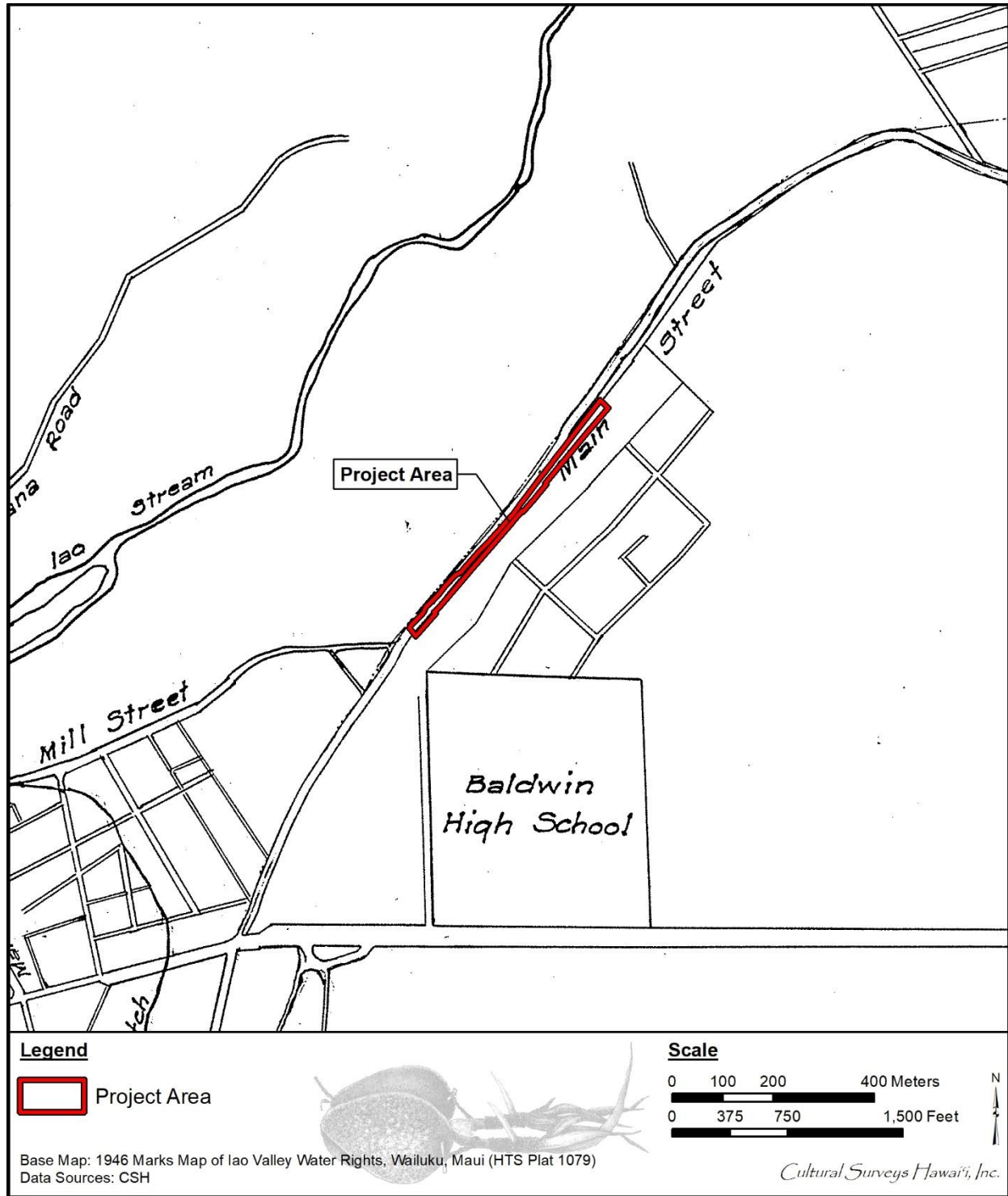


Figure 16. Portion of 1946 Iao Valley Water Rights map showing the project area; note development within the former sand hill area

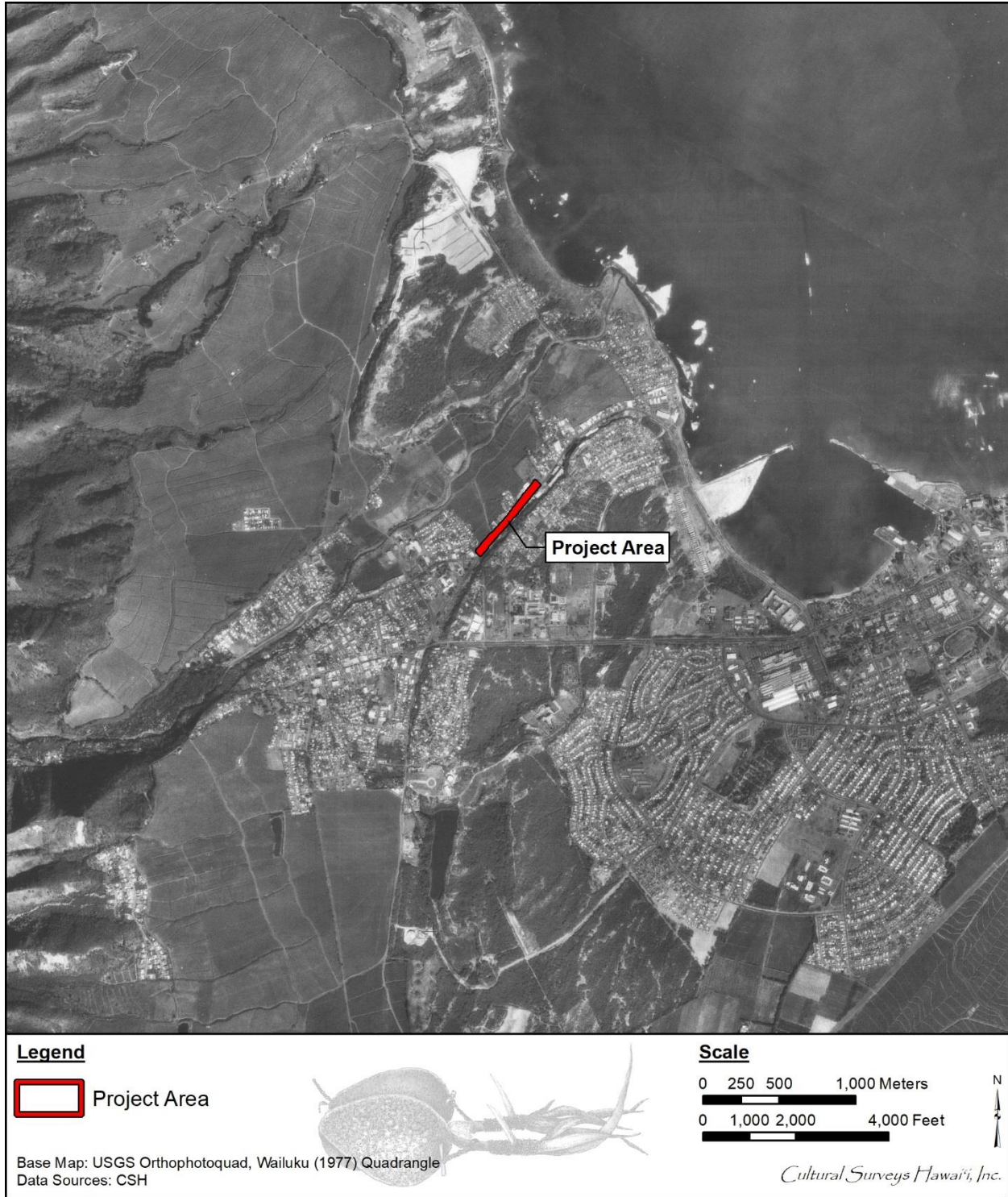


Figure 17. 1977 aerial orthophoto showing extensive development around the project area

Very few early historic buildings remain as standing structures today. Historic structures listed on the National Register of Historic Places in the Wailuku region include the Henry Perrine Baldwin High School, the Wai'ale Drive Bridge, the Bailey House, the Chee Kung Tong Society Building, the 'Āo Theater, and the Ka'ahumanu Church (see Figure 12).

2.4 Previous Archaeological Studies

The earliest archaeological studies on the island of Maui were a part of island-wide surveys conducted in the early 1900s (Stokes 1917; Walker 1931). These studies tended to focus on the generation of descriptive lists of large-scale architecture or traditional ceremonial *heiau* sites. No *heiau* or sites were documented in the immediate vicinity of the current project area.

Between 1931 and 1976, only sporadic archaeological studies were undertaken in the area. Following the passage of the National Historic Preservation Act in 1966 and HRS Chapter 6E, which established the Historic Preservation Program in 1976, archaeological studies occurred as a condition of development on a more frequent basis. In this vein, the lands surrounding the current project area have been subject to a variety of studies including archaeological reconnaissance investigations, field inspections, archaeological inventory survey (AIS) investigations and assessments, archaeological monitoring, and burial treatment programs. The previous studies in the immediate vicinity of the project area are detailed below (Figure 18 and Table 2). Several areas containing traditional and historic cultural deposits and human burials have been identified during previous archaeological studies (Figure 19).

2.4.1 Parcel at 1261 Lower Main Street

In December 1990, Xamanek Researches conducted an AIS for a commercial parcel at 1261 Lower Main Street, on the northwest side of the Wailuku Sand Hills, south of the intersection with Kawaipuna Place (TMK: [2] 3-4-39:77). The parcel is the current location of Maui Counter Tops, Inc. The investigation included a surface survey of the area and the creation of a topographic map. The northern half of the property was leveled from the former railroad system and a "large portion of the dune removed from the parcel, probably at the time of railway construction" (Fredericksen and Fredericksen 1990:6). There were no significant findings.

In December 1994, Scientific Consultant Services, Inc. (SCS) conducted an AIS for the Oceanhouse, Inc. Property at 1261 Lower Main Street (TMK: [2] 3-4-39:77) (Burgett and Spear 1996). The testing included one test unit, 13 shovel probes, and an investigation of the slump material at the base of the dune cliff. A partially buried remnant cultural layer, SIHP # -4004, was identified along the upper edge of the dune cliff. The cultural material included traditional artifacts, marine shell, charcoal, and waterworn rocks. Some historic materials also were present, likely from previous disturbance of the deposit. The slump below the cliff face contained dog remains and three bone fragments identified as a human long bone and partial epiphysis. The human remains were turned over to the SHPD for proper disposition (not reported). SIHP # -4004 was interpreted as a temporary habitation area (Burgett and Spear 1996:27). Archaeological monitoring of any machine activity was recommended for future ground work due to the potential of encountering human burials within the sand dune.

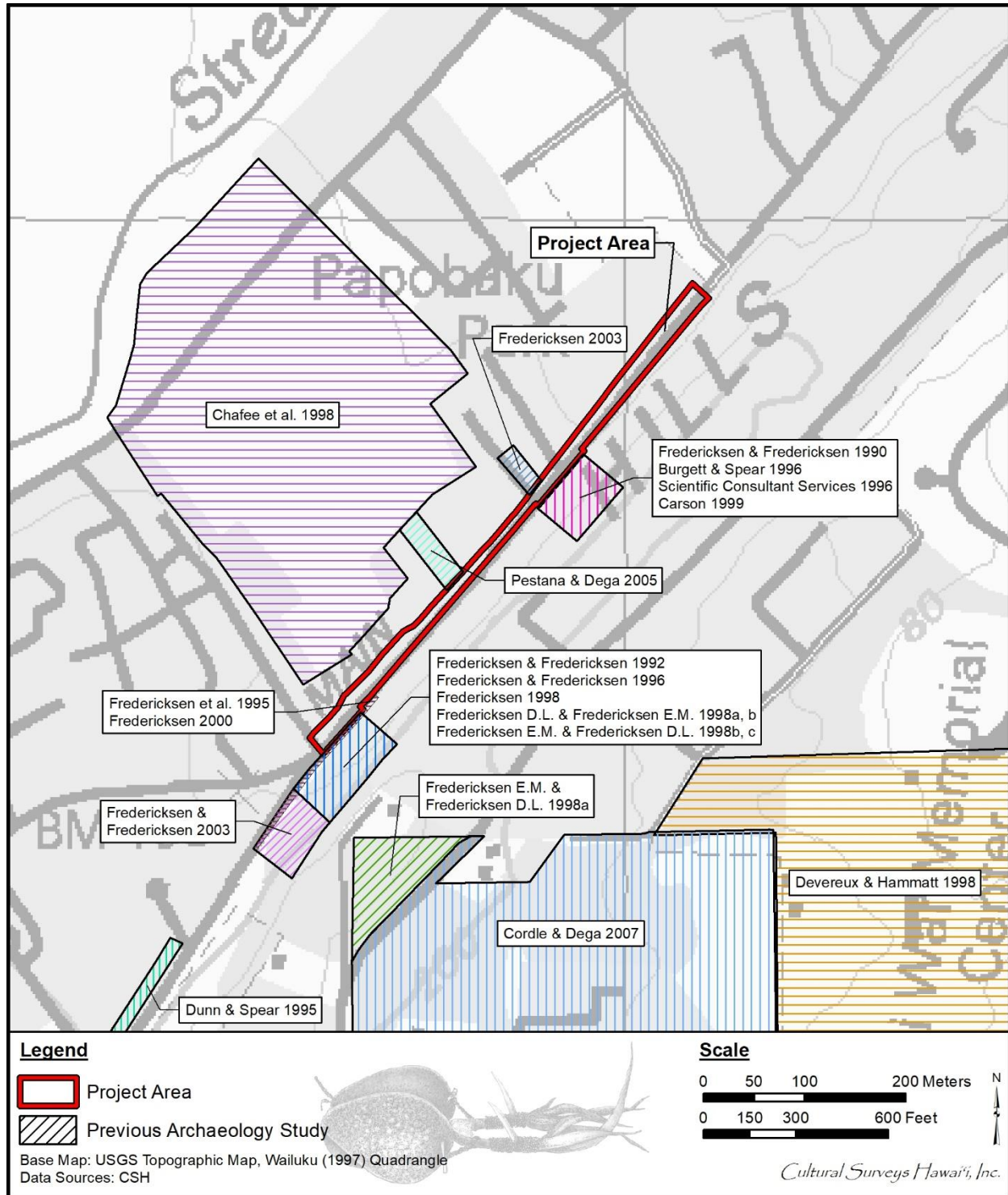


Figure 18. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing previous archaeological studies in the immediate vicinity of the project area (U.S. Geological Survey 1997)

Table 2. Previous archaeological studies in the vicinity of the project area

Reference	Type of Study	Location	Results (SIHP # 50-50-04-)
Fredericksen and Fredericksen (1990)	AIS	1261 Lower Main St	No significant findings
Fredericksen and Fredericksen (1992)	Surface survey	Lower Main St at the intersection with Mill St (76 Station)	Identified a remnant feature of SIHP # -3112, Kahului Railroad bed
Dunn and Spear (1995)	Archaeological monitoring	Waiale Rd from Waiinu Rd to Main St overpass	Identified three sites: SIHP # -4005 is a previously disturbed burial; SIHP # -4067 is an isolated hearth; and SIHP # -4068 is a cultural layer with 16 pre-Contact burials and 21 habitation features
Fredericksen et al. (1995)	AIS	Easement along Lower Main St and the intersection with Mill St	Documented surface remnants of SIHP # -3112, the Kahului Railroad bed and identified SIHP # -4127, a buried habitation site with a potential burial pit outline
Burgett and Spear (1996)	AIS	1261 Lower Main St	Identified SIHP # -4004, a buried temporary habitation site containing human remains
Fredericksen and Fredericksen (1996)	Archaeological data recovery	Lower Main St at the intersection with Mill St (76 Station)	Investigated SIHP # -4127, a buried habitation site, encountered an intentional immature monk seal (<i>Monachus schauinslandi</i>) burial
Scientific Consultant Services (1996)	Archaeological monitoring	1261 Lower Main St	Discovered two incomplete burials, likely associated with SIHP # -4004, a buried temporary habitation site containing human remains
Chaffee et al. (1998)	AIS	Wailuku Parkside Property	No significant findings
Devereux and Hammatt (1998)	Archaeological monitoring	Maui War Memorial Stadium	No significant findings

Reference	Type of Study	Location	Results (SIHP # 50-50-04-)
D. L. Fredericksen and E. M. Fredericksen (1998a)	AIS	Lower Main St at the intersection with Mill St (76 Station)	Identified a continuation of SIHP # -4127, buried remnant habitation layer, and newly identified SIHP # -4414, burial containing two individuals and associated cultural layer
Fredericksen (1998)	Inadvertent Discovery	Lower Main St at the intersection with Mill St (76 Station)	Reported a total of 10 burials (SIHP # -4414) discovered during archaeological monitoring
E. M. Fredericksen and D. L. Fredericksen (1998a)	AIS	150 Lunalilo St	Identified SIHP # -4418, buried habitation layer
E. M. Fredericksen and D. L. Fredericksen (1998b)	Archaeological data recovery	Lower Main St at the intersection with Mill St (76 Station)	Encountered two human burials within SIHP # -4414, a buried habitation site, as reported in a mitigation plan for the parcel
E. M. Fredericksen and D. L. Fredericksen (1998c)	Mitigation	Easement along Lower Main St and the intersection with Mill St	Discovered a human burial, designated a component of SIHP # -4127, buried remnant habitation layer
Carson (1999)	Archaeological monitoring	1261 Lower Main St	No significant findings
Fredericksen (2000)	Inadvertent discovery	Easement along Lower Main St and the intersection with Mill St	Reported an inadvertent burial, designated a component of SIHP # -4127, that was discovered during archaeological monitoring
Fredericksen (2003)	Archaeological monitoring	1234 Lower Main St	No significant findings
Fredericksen and Fredericksen (2003)	Archaeological monitoring	MECO substation	Identified a continuation of SIHP # -4127, buried remnant habitation layer
Pestana and Dega (2005)	Archaeological assessment	709 Uluhea Way	No significant findings
Cordle and Dega (2007)	Archaeological monitoring	Henry Perrine Baldwin High School	No significant findings; the high school was previously designated SIHP # -1630/NRHP # 00000667

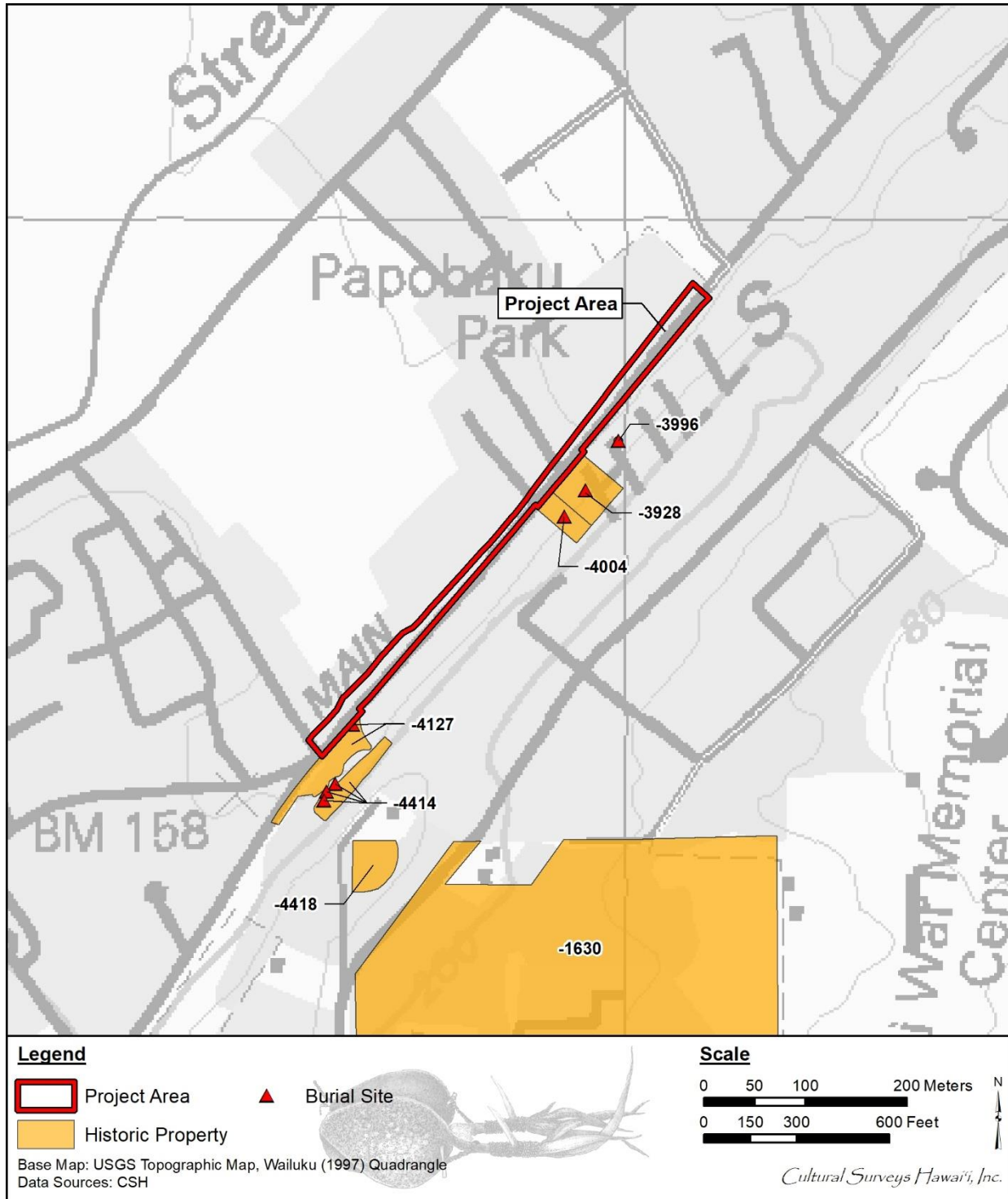


Figure 19. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing historic properties in the immediate vicinity of the project area (U.S. Geological Survey 1997)

In March 1995, SCS monitored machines removing sand from the property at 1261 Lower Main Street (TMK: [2] 3-4-39:77) in order to create a slope along the face of the dune following a collapse in the northern portion. The project findings were summarized in a letter to the SHPD (Scientific Consultant Services 1996). The remains of two burials were discovered near the northeast property boundary. Burial 1 was identified as a juvenile individual. The remains were incomplete, likely due, in part, to recent disturbance from the backhoe that displaced the entire burial. Burial 2 was represented by portions of a previously disturbed and isolated cranium. Although it was not reported, the burials are likely associated with SIHP # -4004. The disposition of the remains was not reported.

Between April and August 1999, SCS conducted archaeological monitoring for the Nicholes Building Project (TMK: [2] 3-4-39:77), at 1261 Lower Main Street (Carson 1999). A continuation of the buried remnant cultural layer, SIHP # -4004, was not observed during monitoring. No significant cultural remains were encountered during the project.

An unspecified number of burials have been found in the area of this parcel along Lower Main Street. To the south and north of this parcel, D. L. Fredericksen and E. M. Fredericksen (1998a:v) note three areas of “burials relocated before 1990” that do not have supporting documentation or site numbers in addition to the following finds:

...Site 3996 which is an identified human burial that is eroding from the face of the dune; Site 3928 is a remnant of a habitation site which contained burials. A radiocarbon date from that site gives a range from AD 1424 to 1635 (Donham, CRC Meeting). (D. L. Fredericksen and E. M. Fredericksen 1998a:11)

At this time, CSH does not have the “Donham, CRC Meeting” documentation that was referenced by D. L. Fredericksen and E. M. Fredericksen (1998a).

2.4.2 Mid-Pac Petroleum Parcel (76 Gas Station) and Easement

In 1992, Xamanek Researches conducted a surface survey at TMK: [2] 3-4-039:82 for a proposed Texaco Service Station. the site of the current 76 Station. This parcel is directly north of the MECO Wailuku Substation #3 property, and it is currently owned by Mid-Pac Petroleum and has an active 76 Gas Station business. They noted the presence of a “feature containing a concentration of water-worn stones” near the roadway (Fredericksen and Fredericksen 1992:3). The feature is remnant from the Kahului Railroad bed, designated SIHP # -3112. Due to dense vegetation of the area, archaeological monitoring was recommended.

In June 1995, Xamanek Researches conducted an archaeological inventory survey (AIS) for the right-of-way easement along Lower Main Street fronting the gas station parcel and the current project area for a Maui Public Works project to widen the road and install traffic signals at the intersection with Mill Street (TMK: [2] 3-4-039:81-83) (Fredericksen et al. 1995). The project area was approximately 450 ft long. Remnants of the Kahului Railroad bed (SIHP # -3112) were documented on the surface, extending about 1 to 1.5 m above the ground level. Subsurface testing included seven backhoe trenches, five auger tests, and a test unit within Parcel 82. Overall, the area appeared heavily impacted by development. However, a buried habitation site (SIHP # -4127) was identified in the northern portion of the project area. SIHP # -4127 consisted of a remnant cultural layer with a possible burial pit outline, traditional artifacts, and shell midden. A data recovery project was recommended.

In 1996, Xamanek Researches completed an archaeological data recovery on SIHP # -4127 (Fredericksen and Fredericksen 1996). Two strata of cultural layers were identified. The upper layer, Layer 1, contained evidence of historic disturbances, as well as 18 features. The underlying Layer II contained a considerable amount of food midden, traditional artifacts, and 16 features including an intentional immature monk seal (*Monachus schauinslandi*) burial with a severely fractured skull. Radiocarbon dating of Layer II supported a late pre-Contact period (D. L. Fredericksen and E. M. Fredericksen 1998a:21).

During the summer of 1997, Xamanek Researches conducted an AIS for the proposed Texaco Service Station project (D. L. Fredericksen and E. M. Fredericksen 1998a). Twelve backhoe trenches were excavated in the lower portion of the project area, between Lower Main Street and the area less than 160 ft AMSL. Safety precautions restricted the use of the backhoe in the upper portion, above 160 ft AMSL. A continuation of the previously identified buried habitation site (SIHP # -4127) was remnant in nine trenches in the lower portion. SIHP # -4127 included a sand cultural layer containing historic and traditional artifacts in addition to at least seven pit features and a possible waterworn cobble pavement. Previously disturbed cultural material was observed in the other three backhoes trenches. The previous disturbance to the area primarily was caused by the dismantling of the Kahului Railroad (D. L. Fredericksen and E. M. Fredericksen 1998a:40).

The investigation in the upper portion of the project area included the monitoring of seven geotechnical test pits and the manual excavation of one test trench. A burial containing a minimum of two individuals was discovered during the excavation of Test Pit (TP) 5a. Individual # 1 was in a flexed position, and Individual # 2 was indicated by an articulated hand and forearm that extended into the sidewall. The burials were preserved in place. The burials were associated with a cultural layer that also contained traditional and post-Contact artifacts, charcoal, and features. The cultural layer and burial site were designated as SIHP # -4414. The authors note that

There is no clear evidence that Sites 4127 and 4414 are contiguous. Site 4127 lies some 20 to 30 feet below Site 4414. The latter probably originates from the top of the dune to the south, while the former appears to be associated with habitation sites along the level of Lower Main Street. (D. L. Fredericksen and E. M. Fredericksen 1998a:50)

Radiocarbon dating on a basin-shaped pit feature (Feature 1.1b) sample from SIHP # -4414 yielded a conventional age of 410 +/- 100 and calibrated date ranges of AD 1325 to 1340 and AD 1390 to 1670 (two sigma, 95% probability). D. L. Fredericksen and E. M. Fredericksen (1998a:50) reported that “the two sites identified on the parcel are not one contiguous site, but rather represent [two] occupation periods separated by as much as 100 to 200 years.”

In October 1997, Xamanek Researches conducted a mitigation project in the easement along Lower Main Street, fronting the gas station parcel. Notably, at this time, CSH has been unable to obtain a copy of the mitigation report by E. M. Fredericksen and D. L. Fredericksen (1998c). According to Fredericksen and Fredericksen (2003), a human burial was discovered at 75 cmbs. The burial is a component of SIHP #-4127, habitation area. The burial was preserved in place and the proposed electrical conduit was rerouted. According to D. L. Fredericksen and E. M. Fredericksen (1998b:4-5), Xamanek Researches conducted archaeological monitoring for the easement project in late 1997 to January 1998 for an electrical conduit trench and installation of two man-hole boxes. They report that an *in situ* burial was found and preserved in place, and

disarticulated human remains were to be reinterred at a later date. It was also noted that the report of findings for the monitoring project was pending. It is not clear whether the burial is the same as the one discussed for the mitigation project. Rather, it may be the same or in addition to one noted by Fredericksen (1997) in a letter report to the SHPD. The letter notes that an *in situ* pre-Contact burial, designated a component of SIHP # -4127, was inadvertently discovered on 8 December 1997 during excavations in the right-of-way for a Lower Main Street public utilities project. The burial was of an older adult, possibly female individual. The burial was preserved in-place with several artifacts (three waterworn rocks and a probable shell fishhook tab) that may have been associated. The burial was to be described more fully in the final monitoring report, which is not available at this time. As such, the exact locations and number of burials associated with SIHP # -4127 are not known.

Beginning in 1998, Xamanek Researches conducted an archaeological data recovery at SIHP # -4414, within the former Texaco parcel. According to the archaeological mitigation plan by E. M. Fredericksen and D. L. Fredericksen (1998b), Burial 1 and Burial 2 were discovered in March and April 1998, respectively. The two burials were preserved in place and the proposed retaining wall was realigned. The data recovery was ongoing at the time of the finds, and a final report is currently not available.

In 1998, Xamanek Researches conducted archaeological monitoring for a gas service station. Notably, a final report of findings was never submitted to the SHPD. Ten burials were inadvertently discovered during monitoring and were summarized in letter updates from Xamanek Researches to the SHPD. The burials consisted of four subadult burials (Find #s 1–3 and 6), a disturbed/scattered subadult burial (Find # 9), four adult burials (Find #s 4-5 and 7-8), and one whose age had not yet been determined (Find # 10) (Fredericksen 1998). The locations of the finds were not included, and no historic property designations were assigned at the time. According to a later study by Xamanek Researches, the ten burials were associated with SIHP # -4414 and “[m]ost were found in the excavation for the retaining wall, and were relocated with the assistance of Maui/Lana‘i Islands Burial Council members” (Fredericksen and Fredericksen 2003:5).

In a letter report on 24 April 2000, Xamanek Researches noted an additional inadvertent burial, designated a component of SIHP # -4127, that was discovered during archaeological monitoring for the GTE Hawaiian Tel improvements project in the easement along Lower Main Street and Mill Street (Fredericksen 2000). Exposed remains of the burial consisted of three cervical vertebrae. The find was between 40 and 50 cmbs, and the MECO manhole box was approximately 70 cm to the east. It was noted that the burial found during their MECO monitoring project was approximately 25 m to the northeast. The burial was preserved in place. The monitoring was ongoing at the time of the find, and a final report is currently not available.

2.4.3 Dunn and Spear (1995)

From February through April 1995, Scientific Consultant Services, Inc. (SCS) conducted archaeological monitoring for an 18” sewer line project along the eastern side of Waiale Road (TMKs: [2] 3-4-002:36; 3-4-003:19; 3-4-10:2) (Dunn and Spear 1995). The project extended from Waiinu Road north toward the Main Street overpass and into Lower Main Street, south of the current project area. No historic properties were identified in the current project area vicinity. However, three historic properties were identified along the Sand Hills area. SIHP # 50-50-04-4005 is a previously disturbed human burial encountered in the backfill surrounding a previous

pipeline trench located south of West Kaahumanu Avenue. SIHP # -4067 is an isolated hearth feature located south of Oluloa Drive. Radiocarbon dating of charcoal from the feature supported a pre-Contact time frame.

SIHP # -4068 was identified as a very fine sand cultural layer containing 16 pre-Contact burials and 21 habitation features, located north of Nakoa Drive. The habitation features were interpreted as nine pre-Contact postholes, four post-Contact postholes, three hearths, a possible burial pit, and concentration of non-human remains, and three unknown features (Dunn and Spear 1995:14). Various traditional and historic artifacts also were recovered from SIHP # -4068 including basalt and volcanic glass flakes, shell scrapers, echinoid abraders, marine shell, mammal and fish bones, charcoal, and glass, ceramic, and metal fragments. Scattered human remains also were recovered during probe trenches on the southeast side of Waiale Road at the intersection with Kaohu Street.

A reinterment site was established at the location of SIHP # -4068 Burial #s 1 and 8 for all the recovered remains found during the project. Three concrete caps were used to preserve the areas. Portions of some SIHP # -4608 burial features (#s 5, 9, and 12) remained *in situ* beyond the excavation areas. Burial #s 10 and 11 also were preserved in place.

2.4.4 Chaffee et al. (1998)

In January 1998, SCS conducted an AIS for the proposed Wailuku Parkside Property (TMK: [2] 3-4-30:19, 20 por., 23 por.) located north of the current project area. The investigation included 40 backhoe trenches throughout the 24.64-acre project area. No significant cultural deposits or features were encountered. The area appeared “heavily impacted by prior mechanical development of the soil” including sugarcane cultivation and grubbing activities (Chaffee et al. 1998:i, 16). Overall, the stratigraphy consisted of various fill material overlying decomposing bedrock or an old riverbed deposit near the ‘Iao Stream.

2.4.5 E. M. Fredericksen and D. L. Fredericksen (1998a)

Between July and September 1997, Xamanek Researches conducted an AIS of an unutilized 1.679-acre parcel for the Na Leo Pulama O Maui Immersion Preschool and Family Language Resource Center (TMK: [2] 3-8-07:47), located adjacent to the northwest corner of the Henry Perrine Baldwin High School property, at 150 Lunalilo Street. The parcel is within the Wailuku Sand Hills and the Pu‘uone sand dune complex. Subsurface testing revealed a relatively undisturbed historic property identified as a traditional habitation layer and designated as SIHP # -4418. The buried cultural layer extended over approximately 2,000 sq m (0.49 acres) in the northwestern portion of the parcel and was encountered between 10 and 30 cmbs. Cultural materials also had been exposed on the surface in the area. Nine features were identified, consisting of five basin-shaped pits, two hearths, a refuse pit, and a possible posthole (E. M. Fredericksen and D. L. Fredericksen 1998a:42). The traditional materials included worked human bone, various coral, shell, urchin, bone, and stone tools, faunal and marine remains, charcoal, fire-cracked rock, and waterworn pebbles. SIHP # -4418 was interpreted as dating between the sixteenth and seventeenth centuries based on radiocarbon analysis results (E. M. Fredericksen and D. L. Fredericksen 1998a). Intact sand dune deposits were present over the entirety of the project area.

2.4.6 Henry Perrine Baldwin High School

Several studies were conducted on the property of the Henry Perrine Baldwin High School (TMK: [2] 3-8-007:004), which is a registered historic property, SIHP # -1630, and National Register of Historic Places (NRHP) Building Number 00000667. One study is in the immediate vicinity of the current project area. Notably, CSH has conducted archaeological monitoring for the new library project, however a draft report has not been submitted to the SHPD at this time.

Between May 2004 and August 2005, SCS conducted archaeological monitoring for the Henry Perrine Baldwin High School for a proposed Eight Classroom Building (Cordle and Dega 2007). It was noted that the excavation documentation for this project had been lost and was not available for the report of findings. However, reportedly, the ground disturbances associated with the new building were relatively shallow (<100 cmbs) and no significant cultural materials or deposits were observed. No natural sand deposits were reported. It was noted that the dune sand likely had been removed from the area previously (Cordle and Dega 2007:10).

2.4.7 Devereux and Hammatt (1998)

In January 1998, CSH conducted archaeological monitoring of approximately 12,000 square feet for construction of a television and communication compound at the Maui War Memorial Stadium (TMK [2] 3-8-07:55) (Devereux and Hammatt 1998). Monitored ground disturbance included grubbing of the vegetation and grading on the western side of the stadium. Grading exposed topsoil and a disturbed loamy sand. No significant cultural materials were encountered.

2.4.8 Maui Electric Company Parcel

Between October and November 2002, Xamanek Researches conducted archaeological monitoring for a proposed MECO Substation in TMK: [2] 3-4-039:051 (Fredericksen and Fredericksen 2003). It was noted that five marked post-Contact graves were present in the parcel. Ground disturbance included the removal of a portion of the sand dune behind the substation, a retaining wall, and a conduit trench to Lower Main Street. The excavation areas were around the outside of the current substation, on the eastern and southwestern side and along the Lower Main Street shoulder. Overall, fill material was present in the upper 30 to 50 cm of the excavations and was overlying natural dune sand. A continuation of a previously identified buried habitation site (SIHP # -4127) was encountered during excavations for the retaining wall and for the conduit trench that extended in between the substation and a manhole box near the Lower Main Street easement. The cultural layer contained considerable traditional artifacts, marine midden, fish and mammal remains, charcoal, and burnt *kukui* nut shells. As described above, SIHP # -4127 was initially documented by Fredericksen et al. (1995) during an AIS of the right-of-way along the adjacent gas station parcel. The site was subsequently documented by Fredericksen and Fredericksen (1996) during an archaeological data recovery and by D. L. Fredericksen and E. M. Fredericksen (1998a) during an AIS of the gas station parcel. Fredericksen and Fredericksen (2003:3) stated it was likely that SIHP # -4127 continued within the MECO property. Archaeological monitoring was recommended for any future ground work.

2.4.9 Fredericksen (2003)

In September 2003, Xamanek Researches conducted archaeological monitoring for the removal of a concrete slab at 1234 Lower Main Street (TMK: [2] 3-4-23:024) (Fredericksen 2003). The stratigraphy primarily consisted of fill with areas of natural reddish brown silty clay loam present at 20 cmbs. No cultural materials or deposits were encountered.

2.4.10 Pestana and Dega (2005)

In July 2005, SCS completed an archaeological assessment of 0.45-acre lot at 709 Uluhea Way (TMK: [2] 3-4-22:05), off Lower Main Street, north of the current project area (Pestana and Dega 2005). The investigation included nine backhoe trenches. No significant cultural deposits or features were encountered. Overall the stratigraphy consisted of various fill material overlying “an extremely densely-bedded cobble and boulder layer” (Pestana and Dega 2005:12). Based on the cultural sensitivity of the Lower Main Street area, archaeological monitoring was recommended for any future ground work.

Section 3 Consultation

CSH is in the process of preparing a Cultural Impact Assessment (CIA) for the project that will include community outreach and interviews with cultural practitioners and knowledgeable individuals (Tanaka and Hammatt 2020).

In preparation of this AMP, CSH assisted the DEM and project proponents with consultation specific to the proposed approach of archaeological monitoring during construction.

The project was present for discussion at the 16 October 2019 Maui/Lānaʻi Islands Burial Council (MLIBC) (Appendix A). The council heard the details of the project from the project's engineer and the DEM Division Chief and were provided with an overview of previous archaeological finds by CSH management. The DEM and project proponents requested that the council support a recommendation for on-site archaeological monitoring during project construction.

A request for consultation letter was submitted from CSH to the Office of Hawaiian Affairs (OHA) on 22 November 2019 that described the project and the DEM's proposed approach to complete on-site monitoring during construction (Appendix B). OHA was also consulted separately for the project's CIA. To date, no responses have been received.

Section 4 Archaeological Monitoring Provisions

Under Hawai'i State historic preservation legislation, "Archaeological monitoring may be an identification, mitigation, or post-mitigation contingency measure. Monitoring shall entail the archaeological observation of, and possible intervention with, on-going activities, which may adversely affect historic properties" (HAR §13-13-279-3).

Hawai'i State historic preservation legislation governing archaeological monitoring programs requires that each monitoring plan discuss eight specific items (HAR §13-13-279-4). The monitoring provisions below address these eight requirements in terms of archaeological monitoring for the excavations within the current project area.

1) Anticipated Historic Properties:

A review of previous archaeological studies conducted within the project area parcel and the immediate vicinity indicates that there is a potential to encounter buried historic properties including traditional and historic cultural layers and deposits as well as human burials.

2) Locations of Historic Properties:

No historic properties have been previously documented within the current project area. Human burials and buried habitation features and cultural layers have been documented within the sand hill area on the southeastern side of Lower Main Street near the boundary of the project area. No historic properties have been previously documented in the vicinity of the project area on the northern side of Lower Main Street.

3) Fieldwork:

On-site archaeological monitoring is recommended for all project related ground-disturbing activities in order to identify and document any subsurface archaeological historic properties. One archaeological monitor will be assigned to each piece of ground-disturbing equipment in operation at all times and in all locations throughout the project area. Any departure from this will occur only following consultation with and written concurrence from the SHPD.

The monitoring fieldwork will likely encompass the documentation of subsurface archaeological deposits (e.g., trash pits, structural remnants) and will employ current standard archaeological recording techniques. This will include drawing and recording the stratigraphy of excavation profiles where cultural features or artifacts are exposed as well as representative profiles. These exposures will be photographed, located on project area maps, and sampled. Photographs and representative profiles of excavations will be taken even if no historically significant sites are documented. As appropriate, sampling will include the collection of representative artifacts, bulk sediment samples, and/or the on-site screening of measured volumes of feature fill to determine feature contents.

In the event of significant finds, the SHPD will be notified. If human remains are identified, construction activity in the vicinity will be stopped and no exploratory work of any kind

will be conducted unless specifically requested by the SHPD. All human skeletal remains that are encountered during excavation will be handled in compliance with HAR §13-13-300 and HRS §6E-43.

4) Archaeologist's Role:

The on-site archaeologist will have the authority to stop work immediately in the area of any findings so that documentation can proceed and appropriate treatment can be determined. In addition, the archaeologist will have the authority to slow and/or suspend construction activities in order to ensure that the necessary archaeological sampling and recording can take place.

5) Coordination Meeting:

Before work commences on the project, the on-site archaeologist shall hold a coordination meeting to orient the construction crew to the requirements of the archaeological monitoring program. At this meeting the monitor will emphasize his or her authority to temporarily halt construction and state that all finds (including objects such as bottles) are the property of the landowner and may not be removed from the construction site. At this time it will be made clear that the archaeologist must be on site during all subsurface excavations.

6) Laboratory Work:

Laboratory work will be conducted in accordance with HAR §13-13-279-5(6). Laboratory analysis of non-burial related finds will be tabulated and standard artifact and midden recording will be conducted as follows. Artifacts will be documented as to provenience, measurements, weight, type of material, and presumed function. Photographs of representative artifacts will be taken for inclusion in the archaeological monitoring report. Bone and shell midden materials will be sorted down to species, when possible, and then tabulated by provenience.

As appropriate, collected charcoal material obtained within intact cultural deposits will be analyzed for species identification. Charcoal samples ideal for dating analyses will be sent to Beta Analytic, Inc. for radiocarbon dating. If appropriate, artifacts may be sent to the University of Hawai'i-Hilo Geoarchaeology Lab for Energy-Dispersive X-ray Fluorescence (EDXRF) analysis in order to identify and possibly geographically locate the source material. All analyzed samples, provenience information, and results will be presented in table form within the archaeological monitoring report.

7) Report Preparation:

The report will contain sections on monitoring methods, archaeological results, stratigraphy, and results of laboratory analyses, and it will present a synthesis of these results. The report will address the requirements of a monitoring report (pursuant to HAR §13-13-279-5). Photographs of excavations will be included in the monitoring report even if no historically significant sites are documented. Should burial treatment be completed as part of the monitoring effort, a summary of this treatment will be included in the monitoring report. Should burials and/or human remains be identified, CSH will provide all appropriate additional written documentation (e.g., letters, memos, reports) that may be requested by the SHPD.

8) Archiving Materials:

All burial materials will be addressed in accordance with SHPD directives. Materials not associated with burials will be temporarily stored at CSH's Wailuku office until an appropriate curation facility is selected, in consultation with the landowner and the SHPD. All data generated will be stored at the CSH offices.

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Appendix A MLIBC 16 October 2019 Minutes

Irving Andrew Johnson, Keahinuakeakua Kari-Ann Keaka Johnson, and Noelani Paresa to Unidentified Human Skeletal Remains at Maui Lani Subdivision, Phase VI, Increment 4, and Maui Lani Phase IX, Ahupua'a of Wailuku, Moku of Wailuku, Island of Maui, TMK [2] 3-8-099:999 pors., and TMK [2] 3-8-007:153.

Information/Discussion: Discussion about the above letter.

- Chair Antonio open item up for public testimony.
 - Never got letters from SHPD acknowledging descendancy per Ms. Ahia. Was told by SHPD that they needed to confer with AG re: language in letter since descendancy was given by council without recommendation by SHPD. However, SHPD did state that applicants are recognized, regardless if a letter is drafted/given or not. Doesn't change decision.
 - Would like to receive written confirmation for record keeping.
 - Kaniiloa Kamaunu address council.
 - Mr. Kamaunu referenced section re: recognition HAR - 13-300-24 (g). If SHPD failed to provide letter of recommendation (assessment), shouldn't stop council from making decision based on info they have at the time.
 - Ms. Ahia make official request to receive descendancy confirmation letter from SHPD
- Close Public Testimony

H. Letter Dated September 19, 2019 from the County of Maui Department of Environmental Management re: Request for a State Historic Preservation Division Letter of Determination (Pursuant to [HAR] §13-275-3), Lower Main Street Sewer Line Improvements Project, Wailuku Ahupua'a, Wailuku District, Maui Island, TMK: [2] 3-4 (Lower Main Street Right-Of-Way)

Information/Discussion: Discussion about the above letter.

- Trevor Yucha address council on agenda item.
- Joined by project engineer and representative from County (Scott Rollins). Linda Schatz was present; had to leave.
- County project planning to be completed down the right of way of lower main street to increase capacity for sewer line in connection with construction projects in Wailuku. Proposed project will include approximately 1.950 linear feet of excavation within active right of way of Lower Main Street in order to install new 15-inch gravity sewer line adjacent to the existing sewer line in place (pretty old 1940's ???). Ground disturbance will include entire excavation to a depth of approximately 6 to 11 feet below the existing road surface.
- Provide archaeological info re: area. Know it's a sensitive area per Mr. Yucha.
- Mr. Yucha reference handouts provided to council that include maps showing previous archaeological studies in area. Second page, location of findings of the studies. Third page, soil types in area. Fourth, 1880 map (one of the earlier maps) of area.
- No previously arch studies conducted in portion of right of way per Mr. Yucha. Page 2, findings, have been numerous iwi finds in area, as well as associated cultural layers. When compare location of iwi finds to soils map, see that finds occurring in pu'u one sand deposits, as expected. According to soils survey, proposed project area is within Iao cobbly silty clay. Arch records suggest elevated dune sand area, adjacent to project area is more sensitive environment. Historical records show alignment of Lower Main Street was in continuous use as travel route along base of sand hills. 1880 map, alignment more or less unchanged. Historical record, alignment of Lower Main Street more associated with access and transportation compared to the adjacent dune sand environment.
- With this info and knowing area arch sensitive, also this project within active county roadway, project proponents seeking support for recommendation of on-site arch monitoring for this project. On site monitoring common approach to excavation in active roadways and

18

during previous work on other portions of current sewer project. Have started work on CIA specific for project. Welcome council and community to participate in study.

- Vice Chair asked about compaction below 11 feet?
- Civil Engineer Darren Unemori address question. Idea is trench down middle of paved roadway. Trench cut, material laid under pipe, pipe put into place and back fill. Will be compaction in trench that's cut, but not below per Mr. Unemori.
- Vice Chair Maxwell asked about depth of disturbance below road. Mr. Yucha replied has drawings of area. Existing sewer line. Project crosses through area of previous line. Number of laterals that come off old line into adjacent properties. Areas of past disturbance; no monitoring.
- Councilmember Kamaunu asked why hasn't a more recent study conducted? Most recent 1999. Certainly, a lot has changed stated councilmember Kamaunu. Mr. Yucha replied that studies are project specific. Hasn't been a project in portion of right of way that required arch study, at least that's what the records indicate.
- Councilmember Kamaunu asked for clarity re: project location. Mr. Yucha replied from Mill Street, almost to Waena Street.
- Capacity project. Increasing capacity of existing line; not replacing. Add addition. Wouldn't be in same alignment as existing. Same depth; very close to it.
- Propose onsite monitoring. Typical way to address projects in active roadways. Sensitive area.
- Any additional work to project asked councilmember Kamaunu. Mr. Unemori replied that this project connects two ends of line that intended to provide additional capacity. Line brought up from Waiehu Beach Rd side. Ended at Waena street (2000). Another section of line from Kehalani side, down Lower Main Street to Mill Street side. This project closes last gap between two finished projects.
- Council asked if something found, ability to deviate from proposed path? Section of Lower Main Street very narrow. Really old section between last two traffic signals along Lower Main. Right of way as narrow as 30 feet. 2 lanes. Within that, sewer line, and a couple of existing water mains. Whole area crisscross by sewer laterals. Some room to play with exclaimed Mr. Unemori, but not very much. Unable to use properties on either side of road (developed), only usable area between pipes within road.
- GPR penetrate asphalt or concrete. Results would be skewed because of the existing utilities. Affected by metal objects. Distort area around it, below it.
- Chair Antonio open item up for public testimony.
- Kaniloa Kamaunu address council
- Mr. Kamaunu stated that take into context whole of Lower Main. Look at what here. Concentration goes throughout area. Some of burials found in road when built. Moved to side. Mr. Kamaunu question material. Backfill? Sand dunes when Mr. Kamaunu was growing up. Kiawe trees. Cattle. Current location of Wailuku industrial, used to be cane field. How much backfill in area compared to original soil. Similar to Waiehu. Will discover. If get one, will have more. What are ramifications? Nobody being fined, cited. Mr. Kamaunu cited 1860 Law. From conception to desecration/dis-internment, everyone responsible. All part of act; not excused. All should be fined. Due diligence to do right thing. Intrusion of rights given thru kingdom of Hawaii. Never naturalized as people. If we weren't naturalized, our kupuna were not. Rights given to these people still apply. If not fair process, disturbance should be criminalized.
- Jocelyn Costa address council.
- Ms. Costa stated a lot of businesses there. Going to want to expand. Language going to be really important. Good to know what is public vs. what is private. Show areas already been studied. When was road built? Any requirement of study there? Does that trigger process? Talking about kupuna that might be impacted for toilets. Considering dealing with iwi

kupuna, should take it to highest level. Ms. Costa stated if showing map from 1880, where Kuleana names? Not a well-known used county road, it's an Alanui. Can't turn back hands of time. Road there; understand. Progress; increase of toilets. How then to proceed? That's where council come in. Find the kuleana. That way, when the iwi is found, will know who to call. Process of take care of iwi.

- Councilmember Pe'elua wanted clarity re: 15-inch gravity sewer line. Excavate a trench, place line within trench. Backfill on top. Open trenching stated Mr. Yucha. There are other methods of horizontal trenching. However, this project will consist of open trenching.

- Existing line. What's going to happen to it asked councilmember Kamaunu. It will still be used. This new line will just increase capacity stated Mr. Yucha.

- Mr. Unemori stated existing sewer line will remain in service. New 15 in. line will basically supplement the capacity. These lines will take wastewater from Wailuku town to Kahului treatment plant. Lines in service as long as necessary. Down Lower Main. Pump station near Waihata. Force Main that pumps, pressure line around harbor to Kahului Treatment plant.

- Treatment plant expanding asked councilmember Kamaunu. Not as a result of this line replied Mr. Unemori. Enough capacity at plant to continue servicing community. This particular case, clearing bottle neck. Upstream of line, downstream of line enough capacity to serve community. Choke point at this point. Clear chokepoint and even out capacity at this point.

- How much space before sewer line not sufficient? A lot more residential plans in the works stated councilmember Kamaunu. If haven't prepared for that, project useless.

- Scott Rollins, Acting Chief, Wastewater Reclamation Division Department of Environmental Management address council. Mr. Rollins stated that been studying area for some time. Project on capital improvement list for 10 years. A lot of homes coming up in area that line will serve. Line put in now will be adequate for the next 20 years. Plus, looking at building an additional treatment plant somewhere away from ocean. That some of the flow away from Wailuku. Don't anticipate doing any more improvements down Lower Main after this.

- With all development proposed, should be enough to carry load. Yes.

- Councilmember Nakanelua existing line is 12 inch. Going to put a 15-inch parallel to existing line. Currently, 15-inch line both upstream and downstream of area. Going to tie those two together. Right now, 12 and 15 that tie together.

- Closes known burial to proposed project asked council. Very close stated Mr. Yucha. Referenced map. Pattern, all iwi found on the dune side.

- HRS 6E Submittal form. Is this standard form? Yes. Councilmember Kamaunu question 5.8 criterion re: known historic property. If historic property found within project area, list it and provide assessment/more info on it. In this case, none found in project area; near-by. What know now about area.

I. E-mail from Trevor Yucha of Cultural Surveys Hawai'i, dated September 25, 2019 re: Archaeological Inventory Survey Plan for the AES Kuihelani Solar Plus Storage Project, Waikapū Ahupua'a, Wailuku District, Maui, TMKs: [2] 3-8-005:002 por. And [2] 3-8-006:003 por.

Information/Discussion: Discussion about the above e-mail.

-Trevor Yucha address council.

- Nick Molinari from AES address council re: project.

- Mr. Molinari stated that came before council in May introducing project. At the time did first round of GPR testing on small area. Wanted to come back and provide update on status of property, including results of ground truthing of GPR. Plan for broader testing strategy.

Appendix B OHA Consultation Letter

CULTURAL SURVEYS HAWAII

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL DOCUMENTATION SERVICES - SINCE 1982



November 22, 2019

Dr. Sylvia Hussey
Ka Pouhana, CEO
Office of Hawaiian Affairs
560 N. Nimitz Hwy, Suite 200
Honolulu, HI 96817

Cc: Kalani Akana
Kai Markell

Subject: Consultation Request for the Lower Main Street Sewer Line Improvements Project, Wailuku Ahupua'a, Wailuku District, Maui Island, TMK: [2] 3-4 (Lower Main Street Right-of-Way)

CSH Job Code: WAILUKU 64

O'ahu Island

P.O. Box 1114
Kailua, Hawai'i 96734
Ph: (808) 262-9972
Fax: (808) 262-4950

Maui Island

1860 Main Street
Wailuku, Hawai'i 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Branch Offices:

Hilo, Hawai'i
Kona, Hawai'i
Lāwai, Kaua'i

Aloha:

The County of Maui Department of Environmental Management (DEM), Wastewater Reclamation Division is preparing to complete the Lower Main Street Sewer Line Improvements Project in order to increase capacity and improve sewer flows in the Wailuku area. The proposed project will include approximately 1,950 linear feet of excavation within the active right-of-way of Lower Main Street in order to install a new 15-inch gravity sewer line adjacent to the existing sewer line (Exhibit 1). Ground disturbance will include 1,950 feet of linear trenching to a depth of approximately 6 to 11 feet below the existing road surface. No previous archaeological studies have been conducted within the proposed project area and no historic properties have been previously identified.

Cultural Surveys Hawai'i, Inc. (CSH) is assisting the County of Maui and project proponents with the consultation process for this project. CSH is preparing a Cultural Impact Assessment for the project and has contacted OHA in this regard. CSH has assisted in initiating consultation between the County of Maui and the State Historic Preservation Division (SHPD) to determine appropriate historic preservation requirements for the project. CSH has also presented the project to the Maui/Lāna'i Islands Burial Council (MLIBC) during the October 16, 2019 meeting for discussion.

The County of Maui is proposing on-site archaeological monitoring for identification purposes during construction of the Lower Main Street Sewer Line Improvements Project. Archaeological

WWW.CULTURALSURVEYS.COM - INFO@CULTURALSURVEYS.COM

To: **Dr. Sylvia Hussey**

Page 2

monitoring will be guided by the provisions of an Archaeological Monitoring Plan to be reviewed and approved by the SHPD. We invite you to comment on the project and the County's proposal to complete on-site archaeological monitoring during construction.

If you have any questions or comments, please feel free to call me at (808) 242-9882 on Maui or toll free at 1-800-599-9962. You may also reach me by e-mail at tyucha@culturalsurveys.com.

Sincerely,



Trevor Yucha
Cultural Surveys Hawai'i, Inc.

Re: Lower Main Street Sewer Line Project

CULTURAL SURVEYS HAWAII

To: Dr. Sylvia Hussey

Page 3

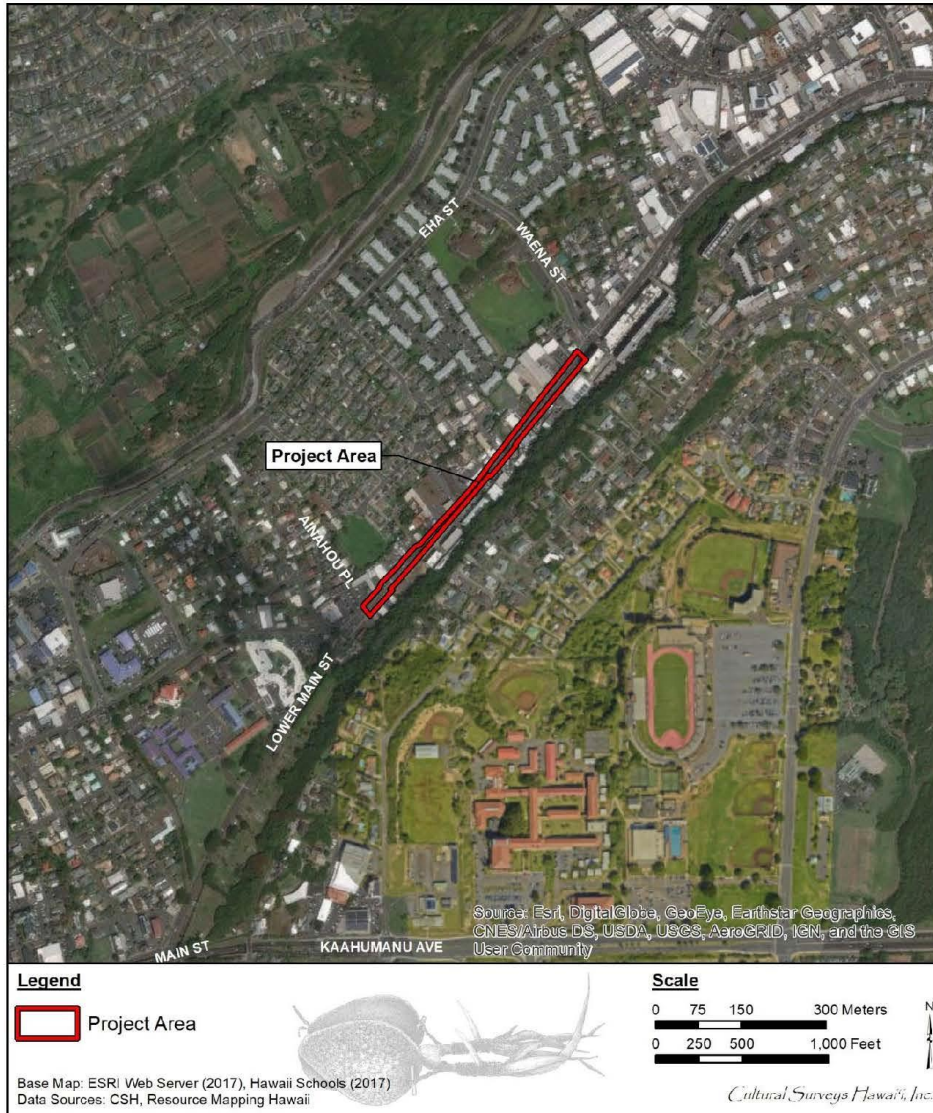


Exhibit 1. 2017 aerial photograph depicting the location of the project area

Re: Lower Main Street Sewer Line Project


CULTURAL SURVEYS HAWAII



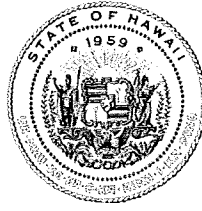
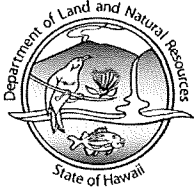
**STATE HISTORIC
PRESERVATION DIVISION
ACCEPTANCE LETTER OF
DRAFT ARCHAEOLOGICAL
MONITORING PLAN**

APPENDIX

B-1



DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

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

January 27, 2020

Scott R. Rollins, Acting Chief
Wastewater Reclamation Division
Department of Environmental Management
County of Maui
2200 Main Street
One Main Plaza Bldg., Suite 610
Wailuku, Hawaii 96793
scott.rollins@co.maui.hi.us

IN REPLY REFER TO:
Log No.: 2020.00175
Doc. No.: 2001AM11
Archaeology

Dear Scott R. Rollins:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Archaeological Monitoring Plan for the
Lower Main Street Sewer Line Improvements Project (CBS-5547)
Wailuku Ahupua‘a, Pū‘ali Komohana District, Island of Maui
TMK: (2) 3-4 ROW**

This letter provides the State Historic Preservation Division's (SHPD's) review of the subject draft plan titled, *archaeological Monitoring Plan for the Lower Main Street Sewer Line Improvements Project Wailuku Ahupua'a, Wailuku District, Maui, TMK: [2] 3-4 Lower Main Street Right-of-Way (Yucha and Hammatt, January 2020)*. SHPD previously reviewed the County of Maui, Department of Environment Management's (DEM) Lower Main Street Sewer Line Improvements Project (CBS-5547) and concurred with the DEM's recommendation of a program of archaeological monitoring for identification purposes in a letter dated January 14, 2020 (Log No. 2019.02237, Doc. No. 2001AM01). Cultural Surveys Hawai'i, Inc. (CSH) produced the subject archaeological monitoring plan (AMP) in support of the proposed project. SHPD received the submittal on January 24, 2020, including a cover letter, an HRS 6E Submittal Filing Fee Form, and the subject draft AMP.

The DEM proposes improvements to the Lower Main Street sewer line within a 2.3-acre project area in order to increase capacity for the construction of affordable housing in Wailuku. The project will occur within the active right-of-way of Lower Main Street. Ground disturbance work for the project will include the installation of a new 15-inch gravity sewer line adjacent to the existing sewer line. The installation of the new sewer line will require 1,950 feet of linear trenching to a depth of approximately 6 to 11 feet below the existing road surface.

The DEM indicates that the project area has been subject to prior ground disturbance during the initial construction of the roadway and installation of subsurface utility infrastructure. However, due to the presence of several historic properties within the adjacent parcels and the presence of Pu'uone sand (PZUE) within the project area, SHPD concurred with the DEM's recommendation of a program of archaeological monitoring for identification purposes in a letter dated January 14, 2020 (Log No. 2019.02237, Doc. No. 2001AM01).

The AMP provides a detailed background of the project areas archaeological investigations and land use. The plan indicates that there is potential to encounter subsurface historic properties similar to or associated with the previously identified sites identified in the immediate vicinity of the project area (50-50-04-3928, -3996, -4004, -4127, -4414, and -4418). Additionally, the AMP stipulates the following:

Scott R. Rollins

1/27/20

Page 2

- A coordination meeting will be conducted between the construction team and monitoring archaeologist prior to construction activities so the construction team is aware of the plan;
- On-site monitoring will be conducted for all ground disturbing activities. One monitor is required for each piece of ground altering machinery during this project;
- The archaeological monitor shall have the authority to temporarily halt all activity in the area in the event of a potential historic property being identified, or to record archaeological information for cultural deposits or features;
- If non-burial historic properties are identified, documentation shall include, as appropriate, recording stratigraphy using USDA soil descriptions, GPS point collection, recordation of feature contents through excavation or sampling of features, screening of features, representative scaled profile drawings, photo documentation using a scale and north arrow, and appropriate laboratory analysis of collected samples and artifacts. Additionally, photographs and profiles of excavations will be collected from across the project area even if no significant historic properties are encountered;
- If human remains are identified, work will cease in the vicinity and the find shall be secured, and provisions outlined within the Hawaii Revised Statutes (HRS) §6E-43 and HAR §13-300-40, and any SHPD directives, shall be followed;
- Collected materials not associated with burials will be temporarily stored at the archaeological firm's office/laboratory unit appropriate curation facility is selected, in consultation with the landowner and the SHPD and;
- Any changes in these provisions shall occur only with written approval from the SHPD.

The plan meets the minimum requirement of HAR §13-279-4. **It is accepted.** Please send two hard copies of the document, clearly marked FINAL, along with a copy of this acceptance letter and a text-searchable PDF version of the plan to the Kapolei SHPD office, attention SHPD Library.

SHPD hereby notifies the County that the permit issuance process may continue.

SHPD requests written notification at the start of archaeological monitoring. Within 30 days of completion of archaeological monitoring fieldwork, SHPD looks forward to receiving for review and acceptance a brief archaeological monitoring letter report of findings as specified in HAR §13-282-3(f)(1). Subsequently, SHPD looks forward to receipt of an archaeological monitoring report meeting the requirements of HAR §13-279-5 for review and acceptance.

Please contact Andrew McCallister, Historic Preservation Archaeologist III, at Andrew.McCallister@hawaii.gov or at (808) 692-8015 for matters regarding archaeological resources or this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
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**CULTURAL IMPACT
ASSESSMENT**

APPENDIX

C



FINAL
Cultural Impact Assessment for the
Lower Main Street New Sewer Line Improvements Project
Wailuku District, Wailuku District, Maui Island
TMK: [2] 3-4

Prepared for
Legacy Wailuku LLC

Prepared by
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March 2020

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Management Summary

Reference	Cultural Impact Assessment (CIA) for the Lower Main Street New Sewer Line Improvements Project, Wailuku District, Wailuku Ahupua'a, Maui Island TMK: [2] 3-4
Date	March 2020
Project Number(s)	Cultural Surveys Hawai'i, Inc. (CSH) Job Code: WAILUKU 65
Agencies	State of Hawai'i, Department of Health, Office of Environmental Quality Control (DOH/OEQC)
Land Jurisdiction	County of Maui
Project Proponent	County of Maui Department of Environmental Management (DEM)
Project Location	The project area is a 1,950-linear foot section of the Lower Main Street Right-of-Way (ROW) between Ainahou Place and Waena Street in Wailuku, within Wailuku Ahupua'a, Wailuku District, Maui, TMK [2] 3-4. Lower Main Street is a two-lane roadway of opposing traffic. It is lined with residential and business complexes, warehouses, and parking lots. Development along the southeastern side of the roadway is considered to be within the Wailuku Sand Hills.
Project Description	The County of Maui DEM proposes the construction of 1,950 linear feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street. The proposed project will be located within the Lower Main Street right-of-way, which is a County-owned facility. In the vicinity of the proposed sewerline installation, Lower Main Street is a two-lane, two-way roadway. With the exception of a short segment at the Waena Street approach, there are no curbs, gutters, or sidewalks along this stretch of Lower Main Street. Various commercial, light industrial, and multi-family residential uses line Lower Main Street in the vicinity of the proposed project. The project site is located within the State Land Use "Urban" district. While the proposed project will not involve work on properties outside of the right-of-way, it is noted that lands along Lower Main Street in the vicinity of the sewerline installation are designated "M-1, Light Industrial" and "B-2, Business Community". The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including Kehalani, Waiolani, and Waikapū area of Wailuku.
Project Acreage	The project area is 2.30 acres (0.93 hectares) encompassing approximately 1,950 linear feet or approximately 594.4 meters.
Document Purpose	This CIA was prepared to comply with the State of Hawai'i's environmental review process under Hawai'i Revised Statutes (HRS) §343, which requires consideration of the proposed project's potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides

	<p>information compiled to date pertinent to the assessment of the proposed project’s potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control’s <i>Guidelines for Assessing Cultural Impacts</i>) which may include Traditional Cultural Properties (TCPs). These TCPs may be significant historic properties under State of Hawai‘i significance criterion “e,” pursuant to Hawai‘i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance criterion “e” refers to historic properties that “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” (HAR §13-275-6 and §13-284-6). The document will likely also support the project’s historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is intended to support the project’s environmental review and may also serve to support the project’s historic preservation review under HRS §6E-8 and HAR §13-284.</p>
<p>Results of Background Research</p>	<p>Background research for this study yielded the following results, presented in approximate chronological order:</p> <ol style="list-style-type: none"> 1. The project area is situated in the <i>ahupua‘a</i> (traditional land division usually extending from the mountain to the sea) of Wailuku which is located in the larger <i>moku</i> (district) of Wailuku on the central isthmus of the island of Maui. The notably large and sprawling <i>ahupua‘a</i> of Wailuku is home to the urban centers of Kahului and Wailuku as well as the sacred ‘Īao Valley. 2. Wailuku Ahupua‘a was included in the traditional <i>‘okana</i> (subdistrict) of Nā Wai Eha, or “The Four Streams”. This area is home to the four largest streams found on the windward coast of Maui; Waikapu, Waiehu, Wailuku, and Waihe‘e. The streams of Wailuku include the perennial ‘Īao Stream also known as Wailuku River. The streams of Wailuku include the perennial ‘Īao Stream also known as Wailuku River. Tributaries that flow into Wailuku River include Nākalaloha, Po‘onāhoahoa, Kīnihāpai, and Ae streams. 3. A concentration of <i>heiau</i> (pre-Christian place of worship) were once erected in Wailuku near Ka‘ahumanu Avenue, these include: Keahukū, Olokua, Olopio, Malena, Pohakuokahi, Lelemako, Kawelowelo, Kaulupala, Palamāihiki, and Oloolokalani. Pihana(kalani) and Haleki‘i <i>heiau</i> are nearer to the coast. 4. Wailuku was the site of Kalanihale, the royal palace of the ruling chief of Maui, Kahekili. 5. An article first published in the Hawaiian newspaper <i>Ke Au Hou</i> then cited in Sterling’s <i>Sites of Maui</i> explains the Kapela Burial

	<p>Cave in 'Īao Valley. Sources say it was Maui's noted burial place for <i>ali'i</i> (royalty). The following <i>ali'i</i> were said to have been put to rest at Kapela cave: Heleipawa, Aikanaka, Kahaianuia, Hema, Luanuu, Kamea, Hua, Pau, Paumakua, Haho, Palena, Hanalaaiku, Kakaalaneo, Kekaulike, Kamehameha-nui, Laka, and Kalanikuihonoikamoku (Sterling 1998:80).</p> <ol style="list-style-type: none"> 6. The high degree of cultivation within Wailuku Ahupua'a and its near neighbors give evidence that a substantial population would have been established there during the pre-Contact period. According to Cordy, the settlement of Wailuku represented one of two (or perhaps three) population concentrations on Maui (Cordy 1981:198-199). 7. In 1776, the army of Kalani'ōpu'u landed at Keone'ō'io with their war canoes, a force so vast that the area between Makena and Honua'ula was said to have been completely filled by these canoes. There, the invading army proceeded to ravage the countryside. Kalani'ōpu'u then landed with additional forces at Kīheipuko'a at Keālia to Kapa'ahu (Kamakau 1992:85). Here his elite army of <i>Alapa</i> and <i>Pi'ipi'i</i> warriors, 800 men strong, landed ready for war. Kalani'ōpu'u's army was annihilated in what was called <i>Ahulau Ka Pi'ipi'i i Kakanilua</i> or Slaughter-of-the-Pi'ipi'i-at-Kakanilua (Kamakau 1992:86), one of the most legendary battles of pre-Contact Hawai'i. 8. The 1790 invasion of Maui by Kamehameha the Great of Hawai'i Island, is memorialized in many place names within Wailuku. The Battle of 'Īao is also known as the Battle of Kepaniwai, meaning the "Dammed Stream." The Battle of 'Īao is said to have been one of the most bitter battles fought by Kamehameha I in his bid to control the Hawaiian Islands. 9. Land Commission Awards (LCAs) in Wailuku Ahupua'a were more commonly awarded in the western portion of the <i>ahupua'a</i> while only two LCAs were awarded within the eastern portion, reflecting the settlement patterns in the area. Although almost 300 individual parcels were awarded by the Land Commission for Kuleana Lands within the <i>ahupua'a</i> of Wailuku, these claims represented lands which were located in the upland portion of the <i>ahupua'a</i>. 10. In 1869, on land located just west of Pā'ia, a small <i>kuleana</i> (land holding of a tenant or <i>hoa'āina</i> residing in the <i>ahupua'a</i>) of 11.94 acres was purchased by S.T. Alexander and his business partner, H.P. Baldwin, both descended from missionary families, who were eager to apply their agricultural experience to their own plantation. This initial land purchase was the beginning of the development of the entire central isthmus for sugar cultivation.
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	<p>11. In 1876, a treaty was signed between the Kingdom of Hawai‘i and the United States, which opened larger and more lucrative markets for Hawaiian sugar. Plans were immediately drawn up by Alexander & Baldwin to finance a ditch to bring water from the Hāna region of East Maui to the arid plains of Pā‘ia. The Kingdom of Hawai‘i issued a lease for the construction right-of-way, and in 1879, the successful venture delivered millions of gallons of water to the Pā‘ia region via the Hamakua Ditch (Wilcox 1996:16).</p> <p>12. In 1899, HC&S determined that cultivating the Pu‘unēnē plains required far more water than the original Hamakua Ditch could provide. The Lowrie Ditch project, completed in 1900, was undertaken to provide an additional source of water to the central Maui plains (Thrum 1900). The ditch began at the Pāpa‘a‘ea Reservoir, at 1,000 ft. elevation, and maintained a four-foot drop per mile following the ditch’s initial plunge from the Kailua reservoir. Steep mountain gulches were traversed using the force of the constant weight of water flowing in a series of siphons.</p> <p>13. The Kahului Railroad Company, founded by Thomas Hobron, was incorporated on July 1, 1881. By 1886, with a terminal established at Kahului, the railroad comprised a line from Kahului to lower Paia and from Kahului to the town of Wailuku. In 1886, the railroad company was sold to Wilder Steamship Company which subsequently applied for and received, in 1889, authorization from the Hawaiian government to engage in maritime shipping operations. Ten years later, in 1899, the railroad company was once again sold, this time to the Hawaiian Commercial & Sugar Company, headed by Henry P. Baldwin.</p>
<p>Results of Community Consultation</p>	<p>CSH attempted to contact 89 Hawaiian organizations, agencies, and community members. Of the ten people that responded, two <i>kama‘āina</i> (Native-born) and/or <i>kūpuna</i> (elders) participated in formal interviews for more in-depth contributions to the CIA. Consultation was received from community members as follows:</p> <ol style="list-style-type: none"> 1. Foster Ampong, <i>Kama‘āina</i> 2. Scott Fisher, <i>Kama‘āina</i>, Chief Conservation Officer, Hawaiian Islands Land Trust
<p>Impacts and Recommendations</p>	<p>Based on information gathered from the cultural and historical background and the community consultation, CSH has identified the following potential impacts and makes the following preliminary recommendations.</p> <ol style="list-style-type: none"> 1. Mr. Ampong shared that although this area is already well-developed, he strongly recommends the presence of monitors at every location where there is earth moving activity. He

	<p>personally knows of burials that were discovered in close vicinity to the project area.</p> <ol style="list-style-type: none"> 2. Mr. Ampong is strongly against using ground penetrating radar to identify burials as it will ultimately lead to extraction. 3. Mr. Fisher highly recommends “intense” monitoring and to have a monitor on site at all times when any ground disturbance is happening. 4. Mr. Fisher is concerned about the precautions taken in the event of a main break which could possibly result in raw sewage seeping into Wailuku Stream. This event would have detrimental effects on the <i>hīhīwai</i> (<i>Neretina granosa</i>) and <i>‘o‘opu</i> (<i>Gobiidae</i>) and other fauna in Wailuku Stream. 5. Mr. Fisher shared that boring is the least preferable option in terms of digging. He shares that by scraping or even controlled digging, you are less likely to inadvertently disturb <i>iwi kupuna</i> but also, you may be able to identify remains before any catastrophic damage. 6. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease and the SHPD will be notified pursuant to HAR §13-280-3. 7. In the event that <i>iwi kūpuna</i> are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.
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Table of Contents

Management Summary	i
Section 1 Introduction	12
1.1 Project Background	12
1.2 Document Purpose.....	12
1.3 Scope of Work.....	17
1.4 Environmental Setting	17
1.4.1 Natural Environment	17
1.4.3 <i>Ka Makani</i> (Winds).....	19
1.4.4 <i>Ka Ua</i> (Rains).....	20
1.4.5 <i>Nā Kahawai</i> (Streams)	22
Section 2 Methods	25
2.1 Archival Research	25
2.2 Community Consultation.....	25
2.2.1 Scoping for Participants	25
2.2.2 “Talk Story” Sessions.....	25
2.2.3 Completion of Interview.....	26
Section 3 <i>Ka‘ao</i> and <i>Mo‘olelo</i>	27
3.1 <i>Ka‘ao</i> and <i>Mo‘olelo</i>	27
3.1.1 The Battle of the Owls.....	27
3.1.1 Luahinepi‘i	28
3.1.2 Pu‘uokamoā and ‘Īao.....	30
3.1.3 The Owls of Kama‘oma‘o	30
3.1.4 Lepeamoā	30
3.1.5 The Wicked Chief, Hua.....	31
3.1.6 Wakalana and the Wonderful Iron Knife	31
3.1.7 Iwikauikaua	31
3.2 <i>Wahi Pana</i>	31
3.2.1 <i>Wahi Pana</i> of Wailuku	32
3.2.2 Kama‘oma‘o: A Wandering Place of Spirits.....	36
3.2.3 Mau‘oni and Kanahā Loko I‘a	36
3.2.4 Pihana Heiau Complex	37
3.2.5 Kalanihale.....	39
3.2.6 ‘Īao Valley.....	39
3.3 <i>‘Ōlelo No‘eau</i>	40
3.3.1 <i>‘Ōlelo No‘eau</i> #1481	40
3.3.2 <i>‘Ōlelo No‘eau</i> #1514.....	41
3.3.3 <i>‘Ōlelo No‘eau</i> #1761	41
3.3.4 <i>‘Ōlelo No‘eau</i> #1711	41
3.3.5 <i>‘Ōlelo No‘eau</i> #2300.....	41
3.3.6 <i>‘Ōlelo No‘eau</i> #2578	41
3.3.7 <i>‘Ōlelo No‘eau</i> #2647	42
3.3.8 <i>‘Ōlelo No‘eau</i> #2912	42
3.3.9 Hawaiian Proverbs and Riddles #693.....	42
3.4 <i>Oli</i> (Chants)	42

3.4.1 Hi‘iaka and Wailuku.....	43
3.4.2 The Mirage of Mana.....	44
3.4.3 Ke‘elikōlani	45
3.5 <i>Mele</i> (Songs).....	48
3.5.1 Na Wai ‘Ehā O Maui.....	48
3.5.2 No Na Wai ‘Ehā	49
3.5.3 Waikapū/‘Iniki Mālie	50
Section 4 Traditional and Historical Background	51
4.1 Pre-Contact to Early Post-Contact Period	51
4.1.1 Battle of Kakanilua.....	53
4.1.2 Captian Cook’s Arrival in Maui	54
4.1.3 The Battle of ‘Īao.....	55
4.2 Early Historic Period	56
4.2.1 The Māhele and the Kuleana Act	57
4.3 Mid-Nineteenth to Early Twentieth Centuries	59
4.3.1 The Sugar Industry	69
4.3.2 Kahului Railroad Company.....	70
4.4 1900s.....	72
4.4.1 Military	75
4.5 Contemporary Land Use.....	77
Section 5 Previous Archaeological Research	82
5.1.1 Parcel at 1261 Lower Main Street.....	82
5.1.2 Mid-Pac Petroleum Parcel (76 Gas Station) and Easement	87
5.1.3 Dunn and Spear (1995).....	89
5.1.4 Chaffee et al. (1998).....	90
5.1.5 E. M. Fredericksen and D. L. Fredericksen (1998a)	90
5.1.6 Henry Perrine Baldwin High School.....	91
5.1.7 Devereux and Hammatt (1998)	91
5.1.8 Maui Electric Company Parcel.....	91
5.1.9 Fredericksen (2003).....	92
5.1.10 Pestana and Dega (2005).....	92
Section 6 Community Consultation.....	93
6.1 Introduction	93
6.2 Community Contact Letter	93
6.3 Community Contact Table	96
6.4 <i>Kama ‘āina</i> Interviews	98
6.4.1 Foster Ampong	99
6.4.2 Scott Fisher.....	100
Section 7 Traditional Cultural Practices	105
7.1 Settlement and Habitation	105
7.2 Subsistence and Gathering	106
7.3 Religious Practices and Burials.....	106
Section 8 Summary and Recommendations	108
8.1 Results of Background Research.....	108

8.2 Results of Community Consultations 109
8.3 Impacts and Recommendations 110
Section 9 References Cited 111

List of Figures

Figure 1. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 1997)	13
Figure 2. Portion of the 2017 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 2017)	14
Figure 3. Tax Map Key (TMK) [2] 3-4 showing the project area (Hawaii TMK Service 2014) ..	15
Figure 4. 2017 aerial image of the project area (ESRI Web Server 2017)	16
Figure 5. Overlay of the Soil Survey of the State of Hawaii (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001)	18
Figure 6. Wailuku River in ‘Īao Valley, taken between 1883 and 1905 (Brother Bertram Photo Collection).....	23
Figure 7. Kūkaemoku, the 2,250-foot peak also known as ‘Īao Needle (USC Pierce Collection)	29
Figure 8. A lecture at Pihana Heiau in 1957. Photo take before sites restoration (Hawai‘i State Archives).....	38
Figure 9. Land Commission Awards in the immediate vicinity of the project area	60
Figure 10. Portion of Monsarrat (1882) map showing the project area in relation to LCAs and the sand hill to the south	63
Figure 11. Portion of CTW (1893) map showing the project area in relation to the sand hills at the east, the Wailuku Sugar Mill to the south, and Wailuku River to the west, note the map is oriented south	64
Figure 12. Portion of a 1910 Hawaiian Commercial & Sugar Company map of Central Maui showing the project area in relation to the railroad linking the Wailuku Sugar Company mill with the Port of Kahului; note the map is oriented to south.....	66
Figure 13. Circa 1870 photograph showing the town of Wailuku and the spire of the Ka‘ahumanu Church (at upper left) and a horse-drawn cart in the foreground appears to be heading toward Kahului on a portion of the government road, present-day Lower Main Street (collection of R. Hill, CSH), view to northwest	67
Figure 14. Circa 1870 photograph of the Wailuku Sugar Company mill constructed in the 1860s, located at the end of Market Street (collection of R. Hill, CSH).....	68
Figure 15. Hawaiian Commercial & Sugar Company mill (Bartholomew and Bailey 1994)	71
Figure 16. Wailuku Fish Market circa 1886 (Hawaii State Archives)	73
Figure 17. View toward ‘Īao Valley from Wailuku sand hills showing Wailuku Town, ca. early 1900s (Bishop Museum Archives).....	74
Figure 18. An aerial photograph showing Naval Air Station Kahului, 1945 (Hawai‘i Aviation) .	76
Figure 19. Circa 1924 photograph of the second Wailuku Sugar Mill (built in 1880) located northwest of the present project area, prior to the dissolution of the Wailuku Sugar Company in 1989 (Iron Works 1924).....	78
Figure 20. Circa 1945 photograph of St. Anthony’s Church, the first stone church in central Maui (News 1945).....	79
Figure 21. Portion of 1946 Iao Valley Water Rights map showing the project area; note development within the former sand hill area.....	80
Figure 22. 1977 aerial orthophoto showing extensive development around the project area.....	81

Figure 23. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing previous archaeological studies in the immediate vicinity of the project area (U.S. Geological Survey 1997)83

Figure 24 Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing historic properties in the immediate vicinity of the project area (U.S. Geological Survey 1997)86

Figure 25. Community consultation letter, page one94

Figure 26. Community consultation letter, page two.....95

List of Tables

Table 1. Place Names of Wailuku in the Vicinity of the Project Area	32
Table 2. Land Commission Awards in the immediate vicinity of the project area.....	61
Table 3. Previous archaeological studies in the vicinity of the project area.....	84
Table 4. Consultation Table	96

Section 1 Introduction

1.1 Project Background

At the request of Legacy Wailuku LLC, on behalf of the County of Maui, Department of Environmental Management (DEM) Wastewater Reclamation Division, Cultural Surveys Hawai‘i, Inc. (CSH) is conducting a cultural impact assessment (CIA) for the Lower Main Street New Sewer Line Improvements Project, Wailuku District, Wailuku Ahupua‘a, TMK: [2] 3-4. The County of Maui DEM proposes the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street. The proposed project will be located within the Lower Main Street right-of-way, which is a County-owned facility. In the vicinity of the proposed sewerline installation, Lower Main Street is a two-lane, two-way roadway. With the exception of a short segment at the Waena Street approach, there are no curbs, gutters, or sidewalks along this stretch of Lower Main Street. Various commercial, light industrial, and multi-family residential uses line Lower Main Street in the vicinity of the proposed project. The project site is located within the State Land Use “Urban” district. While the proposed project will not involve work on properties outside of the right-of-way, it is noted that lands along Lower Main Street in the vicinity of the sewerline installation are designated “M-1, Light Industrial” and “B-2, Business Community”. The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including Kehalani, Waiolani, and Waikapū area of Wailuku. The project is depicted on portions of the 1997 and 2017 Wailuku U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1 and Figure 2), a tax map plat Figure 3, and a 2017 aerial image (Figure 4).

1.2 Document Purpose

This CIA was prepared to comply with the State of Hawai‘i’s environmental review process under HRS §343, which requires consideration of the proposed project’s potential effect on cultural beliefs, practices, and resources. Through document research, this report provides information compiled to date pertinent to the assessment of the proposed project’s potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control’s *Guidelines for Assessing Cultural Impacts*) which may include traditional cultural properties (TCPs). These TCPs may be significant historic properties under State of Hawai‘i significance criterion e, pursuant to Hawai‘i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance criterion e refers to historic properties that “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” (HAR §13-275-6 and §13-284-6). The document will likely also support the project’s historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is also intended to support the project’s environmental review.

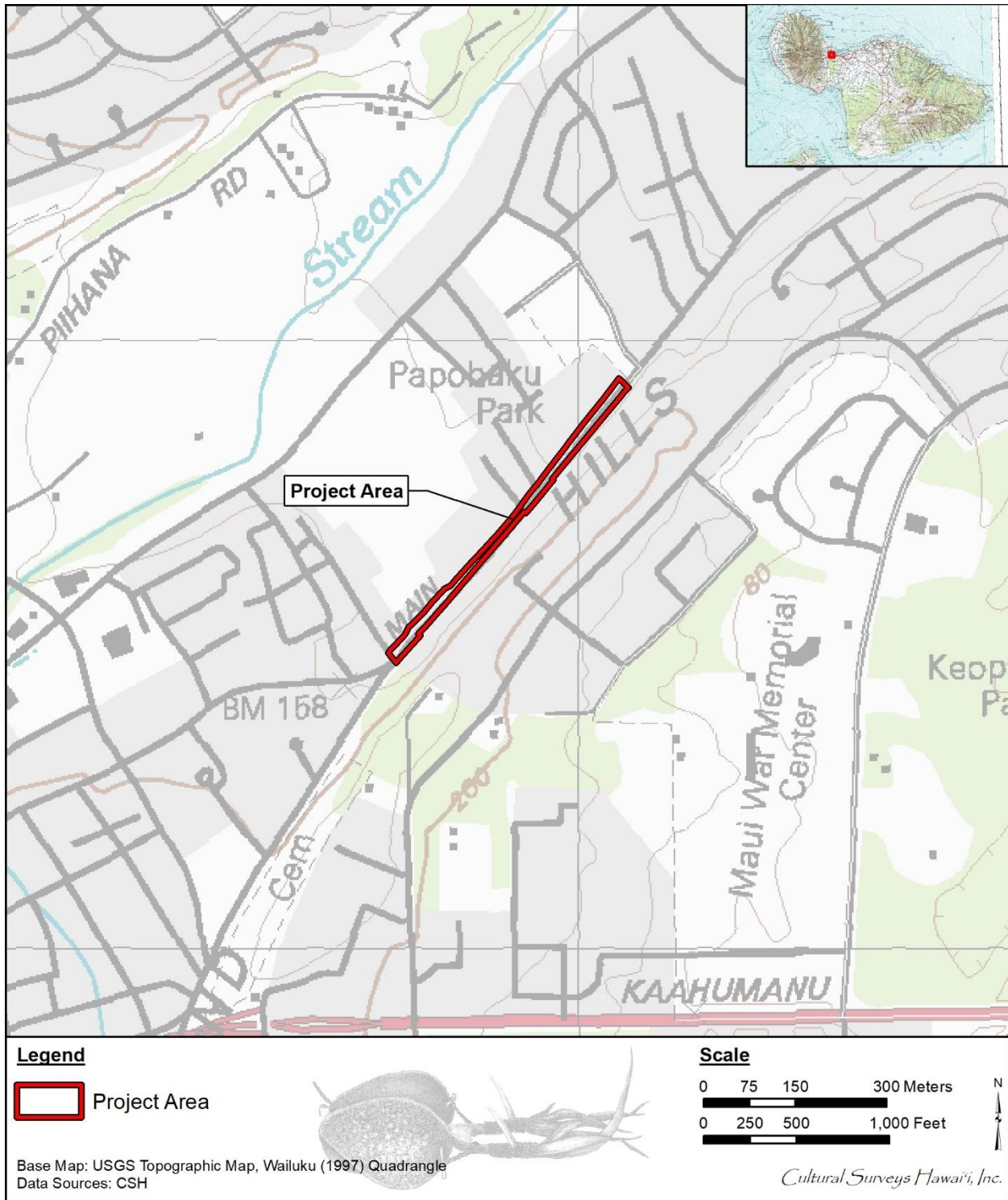


Figure 1. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 1997)



Figure 2. Portion of the 2017 Wailuku USGS 7.5-minute topographic quadrangle showing the location of the project area (U.S. Geological Survey 2017)

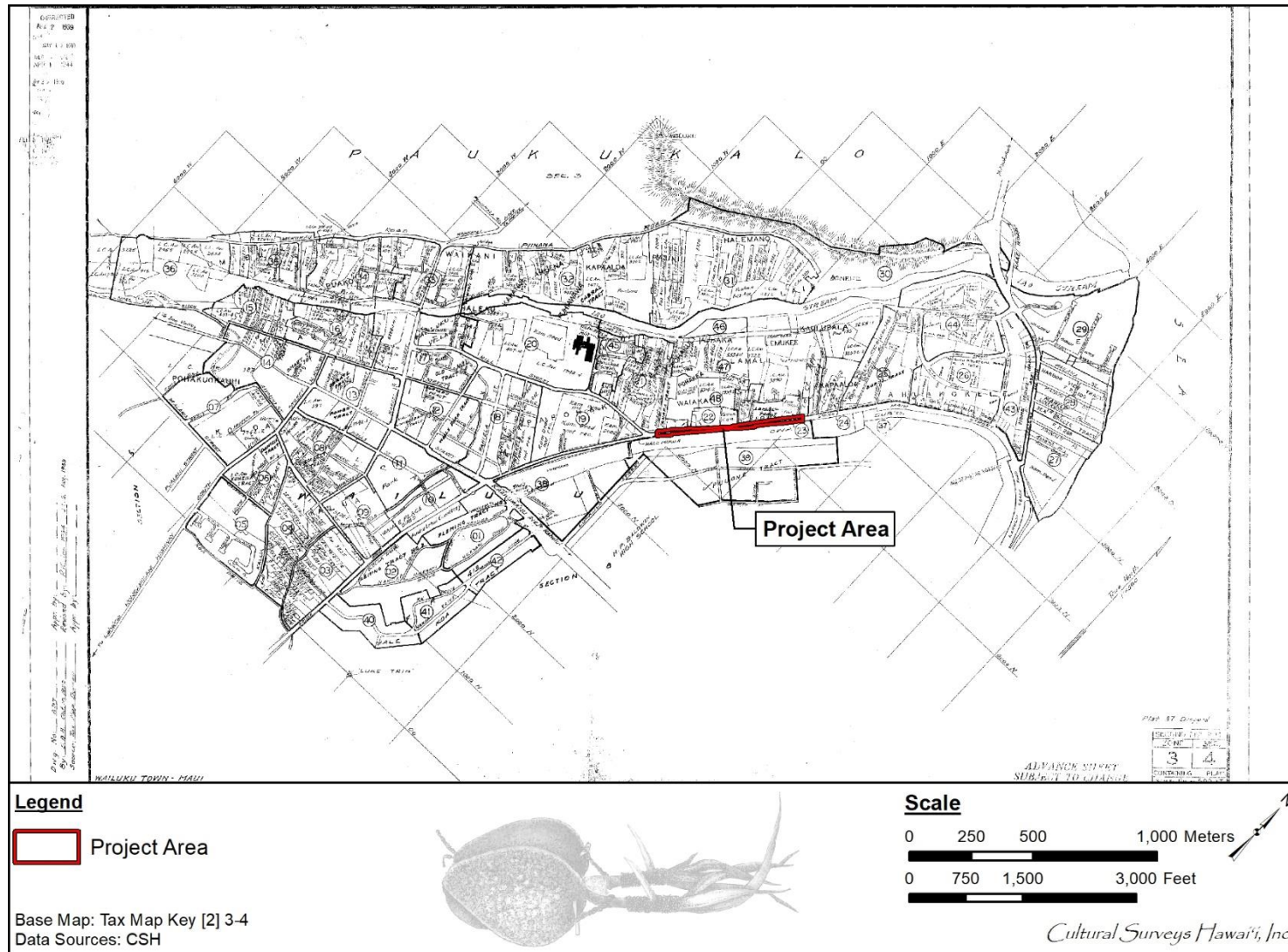


Figure 3. Tax Map Key (TMK) [2] 3-4 showing the project area (Hawaii TMK Service 2014)

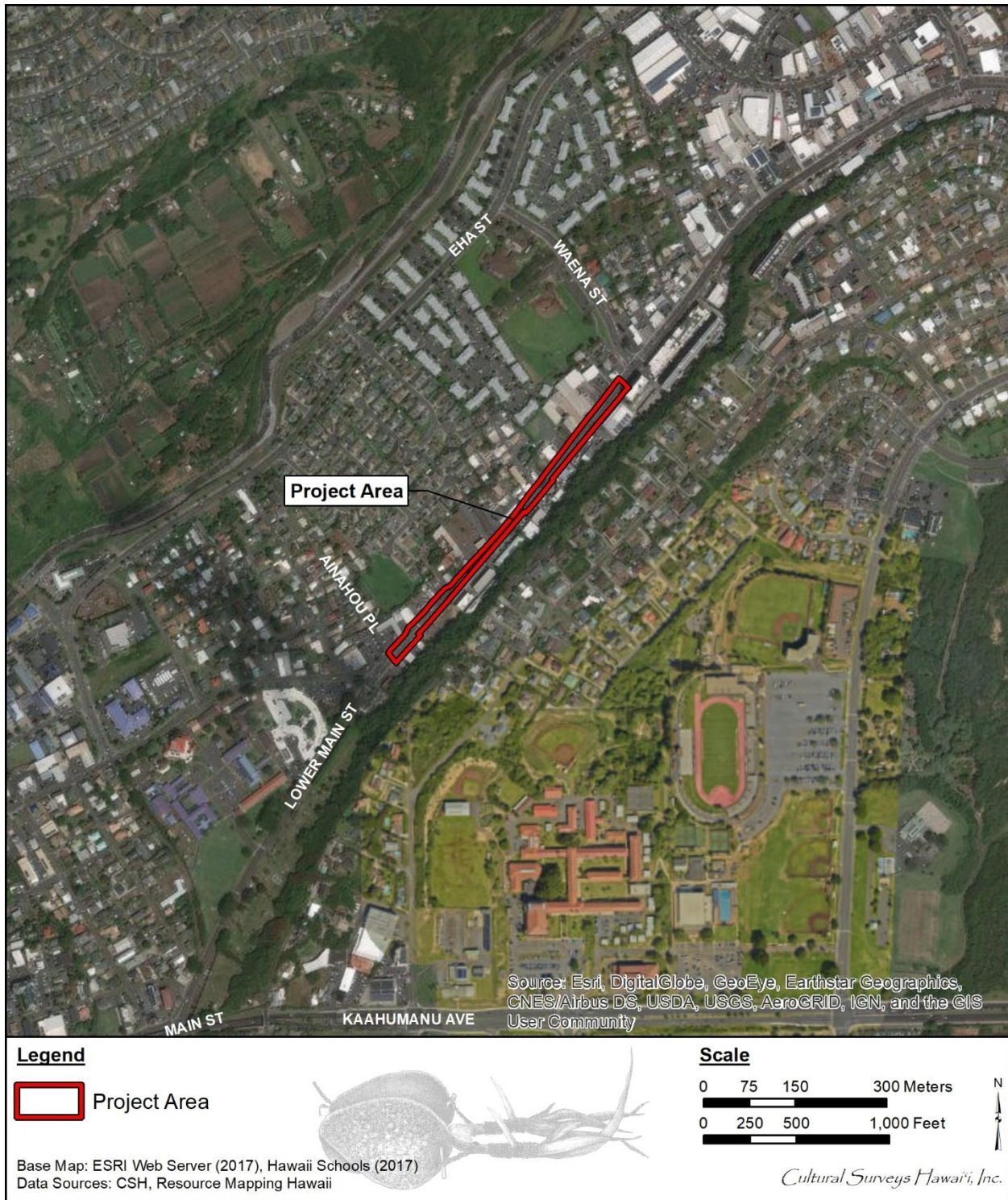


Figure 4. 2017 aerial image of the project area (ESRI Web Server 2017)

1.3 Scope of Work

The scope of work for this cultural impact assessment includes the following:

1. Examination of cultural and historical resources, including Land Commission documents, historic maps, and previous research reports, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
2. Review of previous archaeological work at and near the subject parcel that may be relevant to reconstructions of traditional land use activities; and to the identification and description of cultural resources, practices, and beliefs associated with the parcel.
3. Consultation and interviews with knowledgeable parties regarding cultural and natural resources and practices at or near the parcel; present and past uses of the parcel; and/or other practices, uses, or traditions associated with the parcel and environs.
4. Preparation of a report that summarizes the results of these research activities and provides recommendations based on findings.

1.4 Environmental Setting

1.4.1 Natural Environment

The project area is situated in the *ahupua'a* of Wailuku which is located in the larger *moku* of Wailuku on the central isthmus of the island of Maui. The following description of Wailuku is provided below:

The present-day land division of Wailuku includes all of the Central Valley between east and west Maui, as well as 'Āo Valley and the northern portion of Kīhei. It is the only land area in the Hawaiian Islands bordered by mountains on two opposite sides and the sea on the other two sides. [James 2002:56]

The notably large and sprawling *ahupua'a* of Wailuku is home to the urban centers of Kahului and Wailuku as well as the sacred 'Āo Valley.

1.4.2 *Ka Lepo* (Soils)

According to the U.S. Department of Agriculture Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the project area's soils consist of Iao cobbly silty clay, 3 to 7 percent slopes (IIB). (Figure 5). Soils in the immediate vicinity of the project area also include Puuone sand, 7 to 30 percent slopes (PZUE) to the south and Wailuku silty clay, 3 to 7 percent slopes (WvB) to the southwest. The Iao Series soils are described as dark brown to very dark brown or very dark grayish brown clay or silty clay and "well-drained soils on valley fill and alluvial fans" that "developed in alluvium derived from basic igneous rock" (Foote et al. 1972:46).

Iao cobbly silty clay, 3 to 7 percent slopes (IbB) is described as follows:

This soil has a profile like that of Iao clay, 3 to 7 percent slopes, except for the texture of the surface layer and the content of cobblestones.

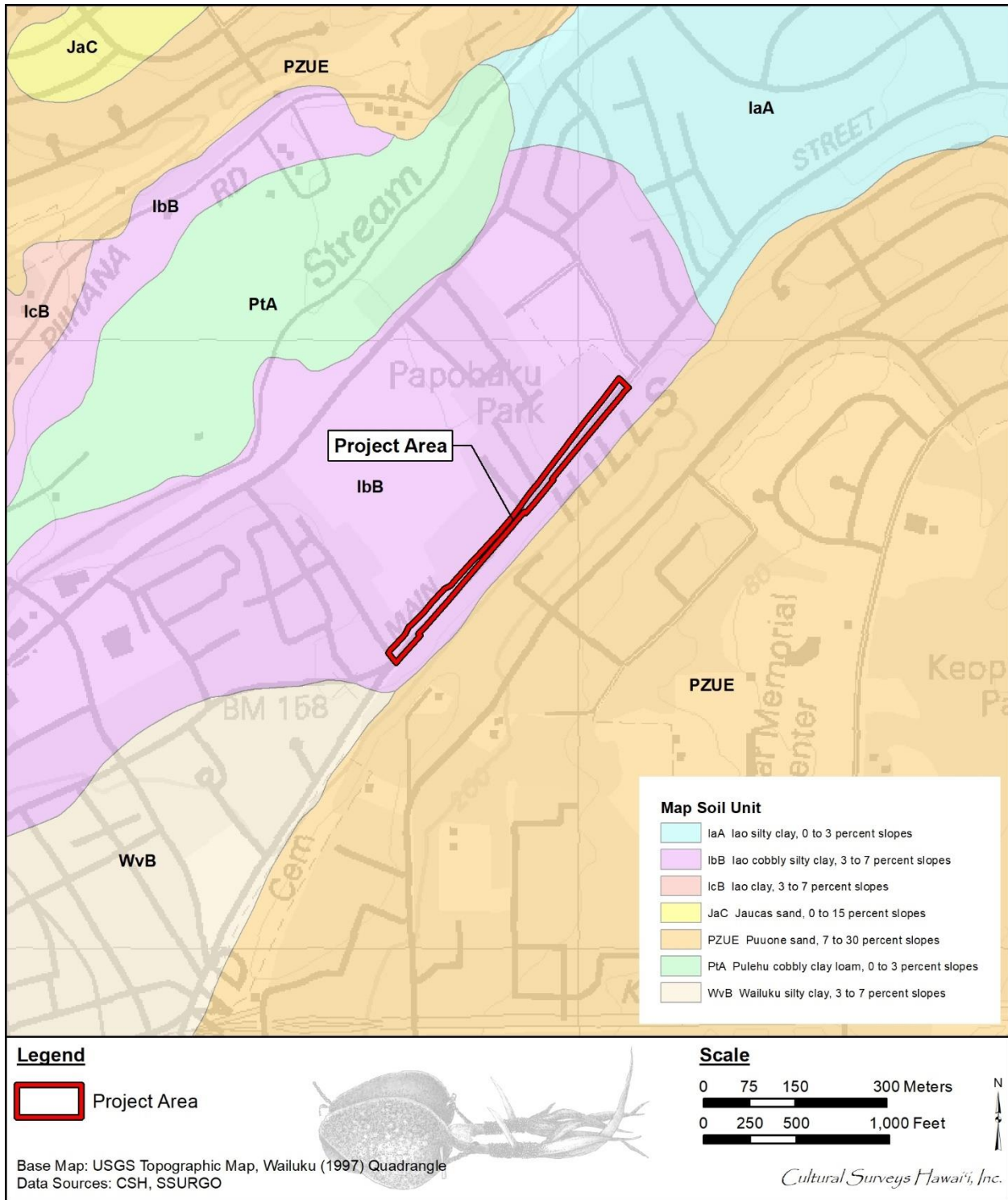


Figure 5. Overlay of the Soil Survey of the State of Hawaii (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001)

This soil is used for sugarcane and homesites (Capability classification IIe if irrigated, IIIs If nonirrigated; sugarcane group 1; pasture group 3) (Foote et al. 1972:47)

Foote et al. (1972:117) describes PZUE as occurring on sandhills near the ocean and consisting of grayish brown calcareous sand at the surface for about 20 inches then, grayish brown cemented sand. Wailuku Series soils are described as “well-drained soils on alluvial fans on the island of Maui” that “developed in alluvium derived from weathered basic igneous rock” (Foote et al. 1972:133).

1.4.3 *Ka Makani (Winds)*

Makani is the general Hawaiian term for the wind. There are other general terms for directional winds such as *A'e loa*, for the prevailing northeasterly trade winds (Nakuina 1992:138) along with *A'e* (Pukui and Elbert 1986:3), *Moa'e*, and *Moa'e Lehua* (Pukui and Elbert 1986:249). In the traditional story *The Wind Gourd of La'amaomao*, Pāka'a and his son Kūapāka'a are descendants of the wind goddess La'amaomao. With control of her sacred gourd and skilled in chanting their names, they are able to call forth the winds of all the islands. Pāka'a's chant traces the winds of Maui, especially the winds of Wailuku. Four distinct winds are identified in association with Wailuku: Kololio, I'a-iki, 'O'opu, and Kaua'ula. Pāka'a's chant is listed below:

<i>Kololio mai o Waikapu,</i>	Kololio is of Waikapū,
<i>He i'a iki ko Wailuku,</i>	I'a-iki is of Wailuku,
<i>He oopu ko Waihee,</i>	'O'opu is of Waihe'e,
<i>Pa ka makani Kauaula,</i>	The Kaua'ula wind blows,

[Nakuina 1902:68;1992:63]

Additionally, four winds of the Wailuku Moku are also recounted in Sterling (1998) by an informant who relates:

Wailuku's wind is the Makani-lawe-malie, the wind that takes it easy.

Waiehu's wind is the Makani-hoo'eha-ili, the wind that hurts the skin.

Waikapu's wind is the Makani-ko-kololio, the gusty wind.

Waihee's wind is the Makani-kili-'o'opu.

[Sterling 1998:62]

1.4.3.1 Maui Vortex

Pāka'a's wind chant recognizes an upwardly circulating wind pattern in the following lines: “*He pelu ka makani no kai, He kupa he okea ka makani*” which translates to “The wind that doubles up is of the lowlands, Kupa and Okea are the winds” (Nakuina 1902:69; Nakuina 1992:63). In the iteration of the chant found in Sterling (1998:7), *okea* is written as *okee*, meaning, “To veer, as the wind, to change, as direction; to eddy” (Pukui and Elbert 1986:281).

The Maui Vortex is a diurnal weather pattern, dissipating in the evening when the slopes of Haleakalā cool. It was modelled in 1949 by Luna Leopold, Chief Meteorologist at the Pineapple

Research Institute (Leopold 1949), and again in 1966 by the National Weather Service (Peterson 1966).

1.4.4 *Ka Ua* (Rains)

Precipitation is a major component of the water cycle, and is responsible for depositing *wai* (fresh water) on local flora. *Kānaka* (Native Hawaiians) recognized two distinct annual seasons. The first, known as *kau* (period of time, especially summer) lasts typically from May to October and is a season marked by a high-sun period corresponding to warmer temperatures and steady trade winds. The second season, *ho‘oilo* (winter, rainy season) continues through the end of the year from November to April and is a much cooler period when trade winds are less frequent, and widespread storms and rainfall become more common (Giambelluca et al. 1986:17). Handy and Pukui describe this seasonal change as follows:

The season of storm and rain was termed Ho‘oilo, including roughly the period of November through March. It commenced with ‘Ikuwa (October-November) whose name means “Loud-voice,” when Lono’s thunder resounds over uplands and plain. Now the long drought of summer, when the intense heat of radiation of sun on black lava combined with the steady tradewinds made the *kula kai* [sea] seared and dry as a black tropical desert and the *kula uka* [upland] brown and arid, gives way to moisture-laden southern warm fronts pressing inshore, as tradewinds lapse. November is a noisy month with variable strong winds; and with the winds comes the roaring and pounding surf [...] Commencing now, and continuing through the rainy months until March, there was and is little deep-sea fishing, and inshore fishing depended on those occasions when the sea was not too rough. [Handy and Pukui 1977:23]

Each small geographic area had a Hawaiian name for its own rains. According to Akana and Gonzalez (2015),

Our kupuna [elders] had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on the trees, the scent it carried, and the effect it had on people. [Akana and Gonzalez 2015:XV]

Wailuku was no exception in this naming practice. The subsections below lists rains closely associated with Wailuku as they appeared in historical texts. These included Hō‘eha‘ili, Kili‘o‘opu, ‘Ulalena, and Uhiwai.

1.4.4.1 Hō‘eha‘ili Rain

The Hō‘eha‘ili rain is associated with Waiehu, Maui, the neighbor to Wailuku. It is mentioned below in a *kanikau* (lamentation) for Hawaiian scholar, Joseph Nāwahīokalani‘ōpu‘u.

He aloha, he lihaliha, he kūmākena

He ‘ū iā ‘oe

*E Hon. Iosepa Kaho 'oluhi Nāwahīokalani 'ōpu 'u
 A ha 'o ē!
 I uē 'ia mai nei 'oe e Nā Wai 'Ehā
 E ka makani Kili 'o 'opu o Waihe 'e
 Ka ua Hō 'eha 'ili o Waiehu*

Translation:

Loving, heartsick, grief-stricken
 Mourning for you
 O Hon. Joseph Nāwahīokalani 'ōpu 'u
 We shall truly miss you!
 You have been mourned by the lands of the four waters
 By the Kili 'o 'opu wind of Waihe 'e
 And the Hō 'eha 'ili rain of Waiehu
 [Akana and Gonzalez 2015:37]

1.4.4.2 Kili 'o 'opu Rain

The Kili 'o 'opu rain is associated exclusively with Wailuku, Maui. The two *mele* below, a *mele kanikau* and *mele 'āina* or song of the land, both mention the Kili 'o 'opu rain.

*Ku 'u kāne mai ka ua Kili 'o 'opu o Waihe 'e
 'Au 'au ka 'uhane i ka wai o Nī 'aukawa*

Translation:

My dear husband from the Kili 'o 'opu rain of Waihe 'e
 The spirit bathes in the water of Nī 'aukawa
 [Akana and Gonzalez 2015:83]

The *mele 'āina* titled Nani Lahaina mentions the Kili 'o 'opu of Wailuku.

*He loa Pu 'ukoa 'e
 He pāpā 'olelo na ka makani
 Makani lū 'ino i nā lehua o Kaukini
 Polipoli Pūlehu i ka ua Kili 'o 'opu o Waihe 'e
 Me ka ua nā māmala 'ino a ka wai*

Translation:

Expansive is Pu 'ukoa 'e
 A conversation held by the wind

Wind that violently scatters the lehua blossoms of Kaukini
 Pūlehu is polished by the Kili'ō'opu of Waihe'e
 With the rain come hard strokes of the water
 [Akana and Gonzalez 2015:83]

1.4.4.3 'Ulalena Rain

The 'Ulalena rain was mentioned briefly in a *mele māka'ika'i* (travel chant) for Queen 'Emalani Kaleleonāni. The song mentions Kama'oma'ō, the great plain believed to be the place where spirits wander.

*Pau 'ole ko 'u mahalo i ka laulā o Kama'oma'ō
 Ka hālana maika'i a Keālia
 Ka hemolele o ka ua 'Ulalena
 Lena ka pua o ka māmane pala luhiehu i ka lā*

Translation:

My admiration is endless for the expanse of Kama'oma'ō
 The fine rising of the waters of Keālia
 The perfection of the 'Ulalena rain
 Yellow are the blossoms of the māmane, soft and lovely in the sun
 [Akana and Gonzalez 2015:267]

1.4.4.4 Uhiwai Mist

The Uhiwai is a heavy fog that means “water covering” (Akana and Gonzalez 2015:254) and is closely associated with 'Īao. The following proverb mentions this mist of 'Īao.

Nae iki 'Īao i ka uhiwai.

Translation:

(Mount) 'Īao is barely breathing in the heavy mist.
 [Akana and Gonzalez 2015:255]

1.4.5 Nā Kahawai (Streams)

Wailuku Ahupua'a was included in the traditional *'okana* of Nā Wai Eha, or “The Four Streams”. This area is home to the four largest streams found on the windward coast of Maui; Waikapu, Waiehu, Wailuku, and Waihe'e. The streams of Wailuku include the perennial 'Īao Stream also known as Wailuku River. Handy and Handy (1972) describe Wailuku River saying, “Wailuku is partly landbound, but its stream flows into Kahului Bay, which has been eroded by the ocean out of what was formerly the stream mouth” (Handy and Handy 1972:496). Wailuku River drains from the heights of the western Maui uplands through the deep gorges of 'Īao Valley (Figure 6). Tributaries that flow into Wailuku River include Nākalaloa, Po'onāhoahoa, Kīnihāpai, and Ae streams.



Figure 6. Wailuku River in 'Āao Valley, taken between 1883 and 1905 (Brother Bertram Photo Collection)

1.4.6 Built Environment

The project area is located in Wailuku within the Lower Main Street ROW between Ainahou Place and Waena Street (see Figure 4). The built environment of the present project area consists of commercial and public properties and associated paved asphalt roads and utilities that make up a portion of the industrial area of Lower Wailuku (Figure 6 and Figure 7). Development in the immediate vicinity of the project area includes several multi-story business and apartment buildings, restaurants, a gas station, warehouses, and auto service lots.

Section 2 Methods

2.1 Archival Research

Research centers on Hawaiian activities including *ka 'ao* (legends), *wahi pana* (storied places), *'ōlelo no 'eau* (proverbs), *oli, mele* (songs), traditional *mo'olelo*, traditional subsistence and gathering methods, ritual and ceremonial practices, and more. Background research focuses on land transformation, development, and population changes beginning with the early post-Contact era to the present day.

Cultural documents, primary and secondary cultural and historical sources, historic maps, and photographs were reviewed for information pertaining to the study area. Research was primarily conducted at the CSH library. Other archives and libraries including the Hawai'i State Archives, the Bishop Museum Archives, the University of Hawai'i at Mānoa's Hamilton Library, Ulukau, The Hawaiian Electronic Library (Ulukau 2014), the State Historic Preservation Division (SHPD) Library, the State of Hawai'i Land Survey Division, the Hawaiian Historical Society, and the Hawaiian Mission Houses Historic Site and Archives are also repositories where CSH cultural researchers gather information. Information on Land Commission Awards (LCAs) were accessed via Waihona 'Aina Corporation's Māhele database (Waihona 'Aina 2000), the Office of Hawaiian Affairs (OHA) Papakilo Database (Office of Hawaiian Affairs 2015), and the Ava Konohiki Ancestral Visions of 'Āina website (Ava Konohiki 2015).

2.2 Community Consultation

2.2.1 Scoping for Participants

We begin our consultation efforts with utilizing our previous contact list to facilitate the interview process. We then review an in-house database of *kūpuna* (elders), *kama 'āina*, cultural practitioners, lineal and cultural descendants, Native Hawaiian Organizations (NHOs; includes Hawaiian Civic Clubs and those listed on the Department of Interior's NHO list), and community groups. We also contact agencies such as SHPD, OHA, and the appropriate Island Burial Council where the proposed project is located for their response on the project and to identify lineal and cultural descendants, individuals and/or NHO with cultural expertise and/or knowledge of the study area. CSH is also open to referrals and new contacts.

2.2.2 "Talk Story" Sessions

Prior to the interview, CSH Cultural Researchers explain the role of a CIA, how the consent process works, the project purpose, the intent of the study, and how their *'ike* (knowledge) and *mana'o* (thought, opinion) will be used in the report. The interviewee is given an Authorization and Release Form to read and sign.

"Talk Story" sessions range from the formal (e.g. sit down and *kūkākūkā* [consultation, discussion] in participants choice of place over set interview questions) to the informal (e.g. hiking to cultural sites near the study area and asking questions based on findings during the field outing). In some cases, interviews are recorded and transcribed later.

CSH also conducts group interviews, which ranges in size. Group interviews usually begin with set, formal questions. As the group interview progresses, questions are based on interviewee's

answers. Group interviews are always transcribed and notes are taken. Recorded interviews assist the Cultural Researcher in 1) conveying accurate information for interview summaries, 2) reducing misinterpretation, and 3) missing details to *mo'olelo*.

CSH seeks *kōkua* (assistance) and guidance on identifying past and current traditional cultural practices of the study area. Those aspects include: general history of the *ahupua'a*; past and present land use of the study area; knowledge of cultural sites (for example, *wahi pana*, archaeological sites, and burials); knowledge of traditional gathering practices (past and present) within the study area; cultural associations (*ka'ao* and *mo'olelo*); referrals; and any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the study area.

2.2.3 Completion of Interview

After an interview, CSH Cultural Researchers transcribe and create an interview summary based on information provided by the interviewee. Cultural Researchers give a copy of the transcription and interview summary to the interviewee for review and ask to make any necessary edits. Once the interviewee has made those edits, we incorporate their *'ike* and *mana'o* into the report. When the draft report is submitted to the client, Cultural Researchers then prepare a finalized packet of the participant's transcription, interview summary, and any photos that were taken during the interview. We also include a thank you card and honoraria. This is for the interviewee's records.

It is important to CSH Cultural Researchers to cultivate and maintain community relationships. The CIA report may be completed, but CSH Researchers continuously keep in touch with the community and interviewees throughout the year—such as checking in to say hello via email or by phone, volunteering with past interviewees on community service projects, and sending holiday cards to them and their *'ohana* (family). CSH Researchers feel this is an important component to building relationships and being part of an *'ohana* and community.

"I ulu no ka lālā i ke kumu—the branches grow because of the trunk," an *'ōlelo no'eau* (#1261) shared by Mary Kawena Pukui with the simple explanation: "Without our ancestors we would not be here" (Pukui 1983:137). As Cultural Researchers, we often lose our *kūpuna* but we did not lose their wisdom and words. We routinely check obituaries and gather information from other informants if we have lost our *kūpuna*. CSH makes it a point to reach out to the *'ohana* of our fallen *kūpuna* and pay our respects including sending all past transcriptions, interview summaries, and photos for families to have on file for genealogical and historical reference.

Section 3 *Ka'ao and Mo'olelo*

Hawaiian storytellers of old were greatly honored; they were a major source of entertainment and their stories contained lessons while interweaving elements of Hawaiian lifestyles, genealogy, history, relationships, arts, and the natural environment (Pukui and Green 1995:IX). According to Pukui and Green (1995), storytelling is better heard than read for much becomes lost in the transfer from the spoken to the written word and *ka'ao* are often full of *kaona* or double meanings.

Ka'ao are defined by Pukui and Elbert (1986:108) as a “legend, tale [. . .], romance, [and/or], fiction.” *Ka'ao* may be thought of as oral literature or legends, often fictional or mythic in origin, and have been “consciously composed to tickle the fancy rather than to inform the mind as to supposed events” (Beckwith 1970:1). Conversely, Pukui and Elbert (1986:254) define *mo'olelo* as a “story, tale, myth, history, [and/or] tradition.” The *mo'olelo* are generally traditional stories about the gods, historic figures or stories which cover historic events and locate the events with known places. *Mo'olelo* are often intimately connected to a tangible place or space (*wahi pana*).

In differentiating *ka'ao* and *mo'olelo* it may be useful to think of *ka'ao* as expressly delving into the *wao akua* (realm of the gods), discussing the exploits of *akua* (gods) in a primordial time. *Mo'olelo* on the other hand, reference a host of characters from *ali'i* (royalty) to *akua*; *kupua* (supernatural beings) to *maka'ainana* (commoners); and discuss their varied and complex interactions within the *wao kānaka* (realm of man). Beckwith elaborates, “In reality, the distinction between *ka'ao* as fiction and *mo'olelo* as fact cannot be pressed too closely. It is rather in the intention than in the fact” (Beckwith 1970:1). Thus a so-called *mo'olelo*, which may be enlivened by fantastic adventures of *kupua*, “nevertheless corresponds with the Hawaiian view of the relation between nature and man” (Beckwith 1970:1).

Both *ka'ao* and *mo'olelo* provide important insight into a specific geographical area, adding to a rich fabric of traditional knowledge. The preservation and passing on of these stories through oration remains a highly-valued tradition. Additionally, oral traditions associated with the study area communicate the intrinsic value and meaning of a place, specifically its meaning to both *kama'aina* as well as others who also value that place.

The following section presents traditional accounts of ancient Hawaiians living in the vicinity of the project area. Many relate an age of mythical characters whose epic adventures inadvertently lead to the Hawaiian race of *ali'i* and *maka'ainana*. The *ka'ao* in and around the project area shared below are some of the oldest Hawaiian stories that have survived; they still speak to the characteristics and environment of the area and its people.

3.1 *Ka'ao and Mo'olelo*

3.1.1 The Battle of the Owls

One traditional account relates the naming of the *moku* of Wailuku and of a local hill named Pueokaia. In Pukui and Curtis's *The Water of Kāne* (1994), the naming of Wailuku is recounted in the *mo'olelo* of *The Battle of the Owls*. Mistaking owl eggs for duck eggs, a woman of Maui brings home eight owl eggs to her husband, Kapoi. Kapoi, in disgust, proclaims that the eggs are of an owl and no good to eat. At this moment the mother owl, to whom the eggs belonged, appears and appeals to the husband that the eggs be returned to her nest. The husband who was a cruel man

smashed the eight owl eggs leaving the mother owl with only bits of shell (Pukui and Curtis 1994:188-189).

In *Sites of Maui*, Sterling (1998:89) cites W.H. Uaua (1871) who recounts the reaction of the mother owl:

The owl gathered up the broken shells and the yokes that were dashed against the stone wall and took them all. She flew with them in tears, to the presence of Pueokaia on the western side of Wailuku. He was her husband and the seven eggs that were mercilessly smashed by Kapoi were theirs. [W.H. Uaua in Sterling 1998:89]

According to Pukui and Curtis (1994), this travesty toward their offspring would not be tolerated:

Her mate was very angry. "Cruel man!" he shouted.

"We shall punish him!"

"What can two owls do against a man?"

"Two owls? Four hundred owls! Four thousand owls! Fly to the west and tell all owls of this cruel deed. I shall fly to Hawai'i. Let us gather the owls of every island to our aid."

The owls of every island came. Those of Ni'ihau and Kaua'i met the owls of O'ahu. Flying together in a great flock they joined the owls of Moloka'i, Lāna'i, and Kaho'olawe. When they were united with the flocks from Hawai'i and from Maui their numbers filled the sky and shut out the sun's light. A fierce battle followed. [Pukui and Curtis 1994:188-189]

Following the unification of their flocks, Uaua (1871) recounts the ensuing Battle of the Owls:-

"...the battle began at Wailuku. ...How the owls and men fought! The men and chiefs were destroyed; many men of the Four-Waters. Kapoi and his wife were also killed. Because the owls caused such destruction the place was called Wai-luku (Water-of-destruction) to this day. [W.H. Uaua in Sterling 1998:74]

The home of the father owl, Pueokaia, was rumored to be on a small hill above a place named Awau in Wailuku, and the hill still bears the owl's name to this day (W.H. Uaua in Sterling 1998:89).

3.1.1 Luahinepi'i

Īao Valley is the subject of a number of *ka'ao* and *mo'olelo*. One legend tells of a woman named Luahinepi'i who came to her end after jumping from Kūkaemoku, the 2,250 foot peak also known as the Īao Needle (Figure 7). The story of Luahinepi'i is recounted in Sterling (1998):

At the base of this noble perpetual sentinel to Iao Canyons [*Kukaemoku - 'Iao Needle*] lived, a few centuries ago, a most beautiful maiden. Her figure and form was so near perfection that a Raphael or a Michael Angelo might have selected her for a model representing a Hawaiian Venus. Her name was Luahinepii (climbing old woman), a name most unsuitable to a maiden so beautifully fair. She possessed,

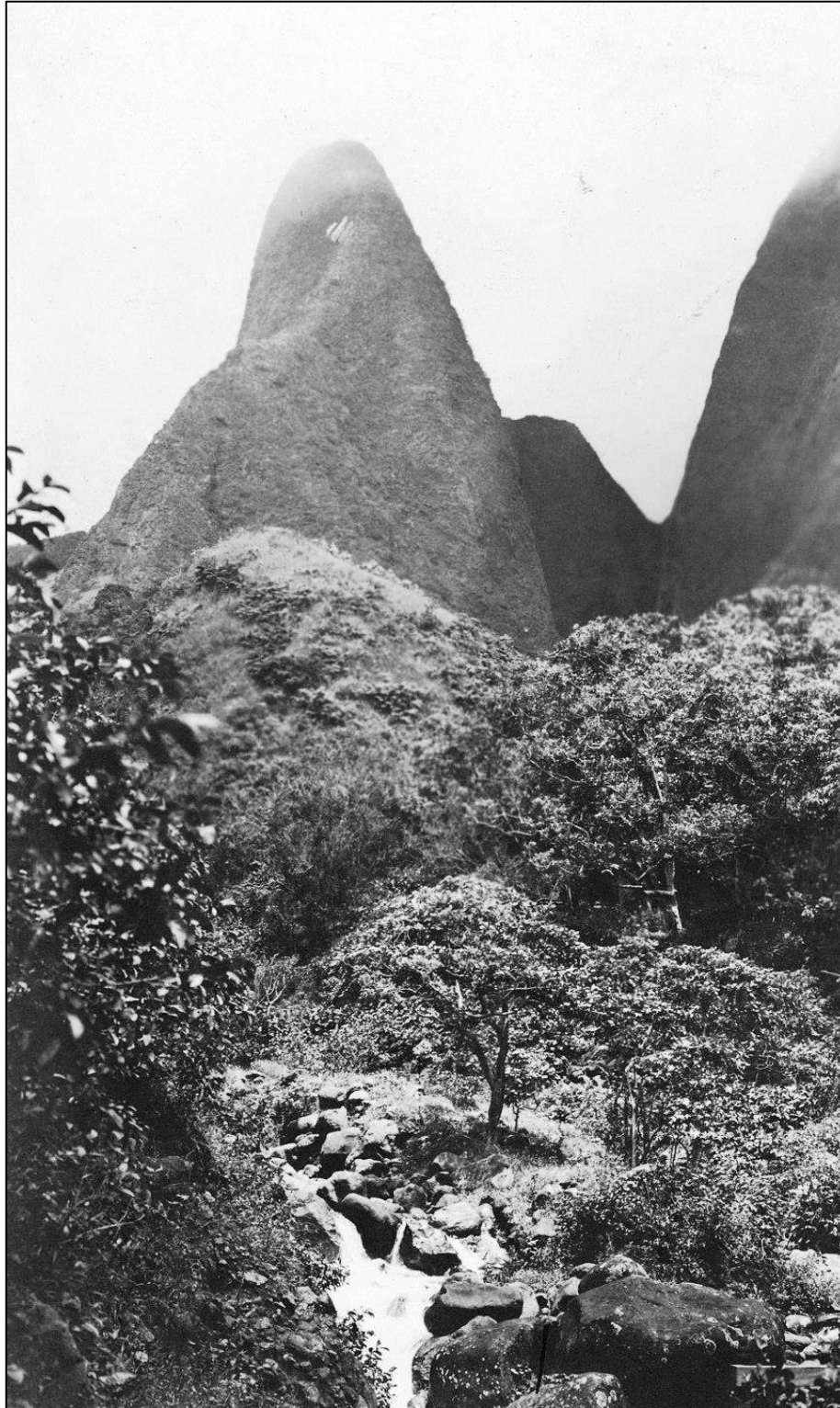


Figure 7. Kūkaemoku, the 2,250-foot peak also known as 'Īao Needle (USC Pierce Collection)

however, a voice so unpleasant and hideous that other maidens, jealous of her unsurpassed natural beauty, made fun of her.

Luahinepii had a lover who lived at the beach near Paukukalo. Other maidens looked upon him as a possible suitor, but like all true lovers he turned a deaf ear to their entreaties.

The rival belles met and agreed to circulate a report to this wise: "Ua lohe- ia ko leo kapu e ko ipo i Moenaloha" (Your sacred voice has been heard by your lover at Lover's-dream). This soon reached the ear of Luahinepii. She felt deeply these to her, most humiliating words. In her frantic moments she sought to end her life and to free herself from the cares and woes of this deceptive world . . . Luahinepii scaled to the top of Kukaemoku, called Nanahoa, and from its dizzy height dashed herself headlong to the valley beneath, and the waters of Iao were made incarnadine with her blood. [Sterling 1998:83]

3.1.2 Pu'uokamoa and 'Īao

Pu'uokamoa was a half-man, half-fish god, who fell in love with 'Īao, the beautiful daughter of the demi-god Maui. Pu'uokamoa lived in a pool near 'Īao's home. After becoming suspicious of 'Īao's frequent absences from home, Maui asked a *kahuna* (priest) to discover the truth. According to legend, when Maui learned that his daughter was in love with Pu'uokamoa, he became angry and captured Pu'uokamoa and planned to burn him to death. The volcano goddess, Pele, a friend of Pu'uokamoa, convinced Maui not to burn him but instead transformed him into a pillar of stone which is now known as the 'Īao Needle (Denham et al. 1992:9).

3.1.3 The Owls of Kama'oma'o

Ke Kula o Kama'oma'o, or the Plains of Kama'oma'o, is cited as a home to owl deities, considered one of the oldest *aumakua* (personal family gods) in Hawaiian mythology. The endemic *pueo* (Hawaiian short-eared owl; *Asio flammeus sandwichensis*) was once worshiped by early Hawaiians as a god (Titcomb and Gagne 1976). Pueo-nui-akea was the name of an owl who traversed the Plains of Kama'oma'o and restored life to wandering souls (Beckwith 1970:124).

Fornander recalls the story of Pūmai'a who was a heroic young man that fell to the hands of a spirit (Fornander 1918-19:VI:550-554). This spirit, Pu'ukolea, had a dual body, capable of shape-shifting in ways the mere human, Pūmai'a, could not. After falling to Pu'ukolea, Pūmai'a's spirit returned home but continued to be chased by Pu'ukolea. Pūmai'a fled till he reached the plains of Kama'oma'o. There an owl by the name of Pueonuiokona began battling Pu'ukolea and ultimately killed him, his entrails were scattered about the plains.

3.1.4 Lepeamoa

In the legend of Lepeamoa, Wailuku was the name of a chiefess, the wife of Mauinui, chief of Maui, and sister of Kākuhihewa, chief of O'ahu. In the *mo'olelo*, Mauinui challenges Kākuhihewa to a cockfight where the winner receives all property and the life of the opponent. With the assistance of two demi-gods, Lepeamoa and Kauilani, Kākuhihewa is victorious. Following his victory, Kākuhihewa refuses to take Mauinui's life and peace between the two kingdoms is established (Westervelt 1963:204-245).

3.1.5 The Wicked Chief, Hua

Wailuku is known as the death place of the Maui chief Hua. According to the *mo'olelo*, Hua was a wicked chief who condemned his *kahuna* to death. In retaliation, the *kahuna* brought a severe drought to the islands. Fornander wrote:

Hua, the chief, lived on, and because of the lack of water and food he sailed for Hawaii, the home of his elder brother; but because Hawaii also suffered from lack of water and food he came back and lived at Wailuku. Wailuku also did not have any water, and that caused the chief to be crazed, so he leaned against the edge of the precipice and died, and that was the origin of the saying "The bones of Hua rattle in the sun." [Fornander 1918-19:V:516]

3.1.6 Wakalana and the Wonderful Iron Knife

Wakalana was a chief who resided in Wailuku. In the thirteenth century, Wakalana rescued five foreigners from a shipwreck off the coast of Wailuku. The rescued foreigners were believed to be Japanese and the captain of the ship possessed a sword which was unlike any ever seen in the islands. The sword became known as "the long wonderful iron knife" and was a "tremendously effective weapon, when matched with wooden daggers and war clubs" (Westervelt 1977:95-96).

After Kalauhiouhua, chief of Hawai'i, and his army invaded the island of Maui, the sword became the possession of a Hawaiian warrior, Kualu, who hid the sword on the island of Moloka'i. Following successful battles with the islands of Maui, Moloka'i, and O'ahu, Kalauhiouhua attempted to invade Kaua'i where his army was defeated and he was taken captive by Kukona, chief of Kaua'i. The sword, also known as "the lost knife of Wailuku", was eventually exchanged for the life and return of Kalauhiouhua (Kalakaua 1990:177-205).

3.1.7 Iwikauikaua

Iwikauikaua, a chief originally from the island of Hawai'i, visited the island of Maui where his sister, Kapukini, was wife of the ruling chief Kauhiakama. Following the death of Kauhiakama, who was slain in battle on O'ahu, a council of Maui chiefs gathered to debate going to war with O'ahu. Iwikauikaua advised the Maui chiefs to refrain from retaliation, stating "the chiefs of Oahu are united, and a war upon them means a conflict with the whole island" (Kalakaua 1990:344). A chief of Wailuku disagreed with Iwikauikaua and expressed his desire to have the Maui forces take up arms against the O'ahu king.

Several remarks of a sneering character had been dropped within his hearing, and finally a chief from Wailuku, glancing insultingly toward him [Iwikauikaua], declared that the chiefs of Maui were "not afraid to use their spears." [Kalakaua 1990:345]

3.2 Wahi Pana

Wahi pana are legendary or storied places of an area. These legendary or storied places may include a variety of natural or human-made structures. Oftentimes dating to the pre-Contact period, most *wahi pana* are in some way connected to a particular *mo'olelo*, however, a *wahi pana* may exist without a connection to any particular story. Davianna McGregor outlines the types of natural and human-made structures that may constitute *wahi pana*:

Natural places have mana [spiritual power], and are sacred because of the presence of the gods, the akua, and the ancestral guardian spirits, the 'aumakua. Human-made structures for the Hawaiian religion and family religious practices are also sacred. These structures and places include temples, and shrines, or heiau, for war, peace, agriculture, fishing, healing, and the like; pu'uhonua, places of refuge and sanctuaries for healing and rebirth; agricultural sites and sites of food production such as the lo'i pond fields and terraces slopes, 'auwai irrigation ditches, and the fishponds; and special function sites such as trails, salt pans, holua slides, quarries, petroglyphs, gaming sites, and canoe landings. [McGregor 1996:22]

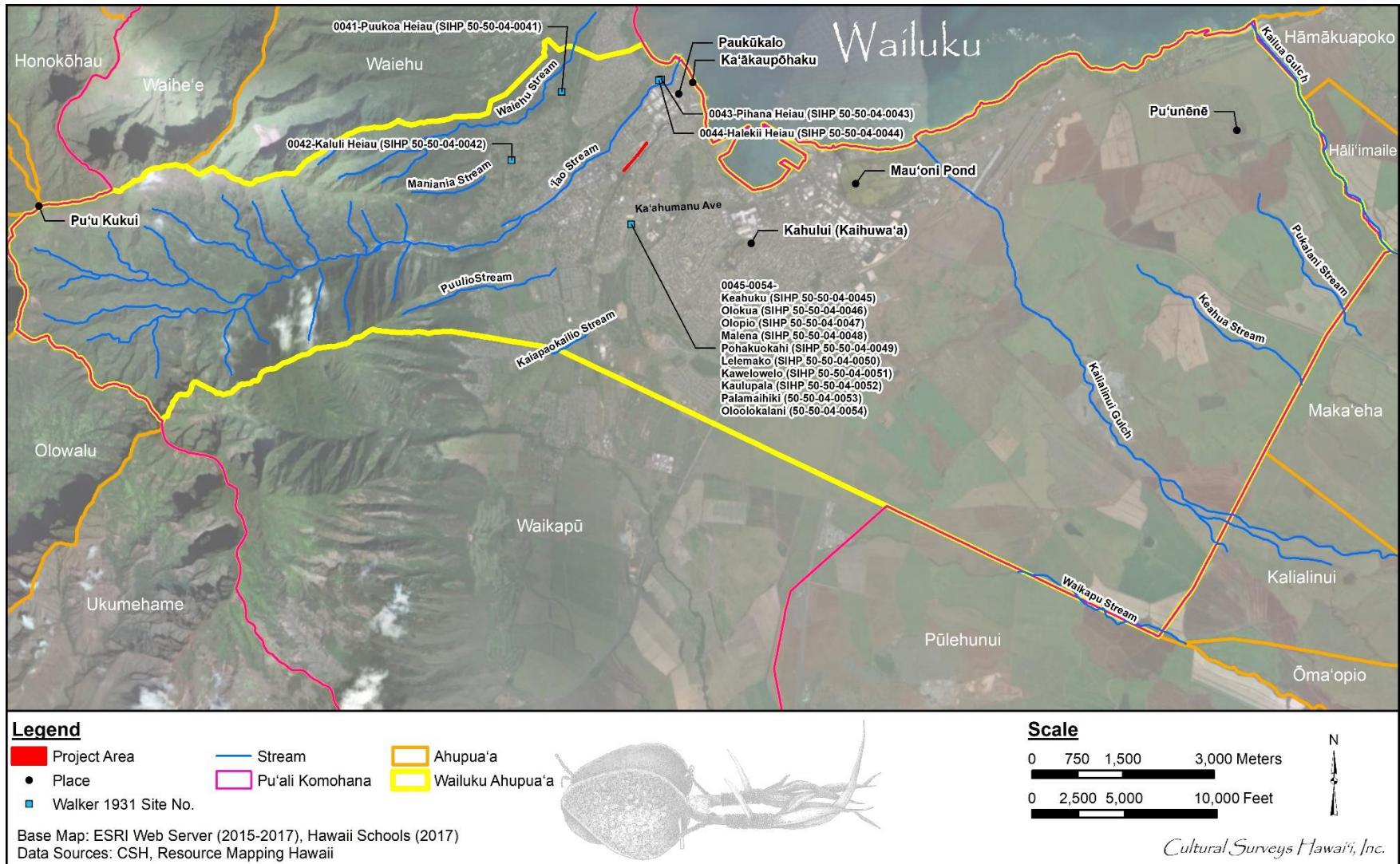
As McGregor makes clear, *wahi pana* can refer to natural geographic locations such as streams, peaks, rock formations, ridges, offshore islands and reefs, or they can refer to Hawaiian land divisions such as *ahupua'a* or *'ili* (land division smaller than an *ahupua'a*), and man-made structures such as fishponds. In this way, the *wahi pana* of Wailuku tangibly link the *kama'āina* of Wailuku to their past. It is common for places and landscape features to have multiple names, some of which may only be known to certain *'ohana* or even certain individuals within an *'ohana*, and many have been lost, forgotten or kept secret through time. Place names also convey *kaona* (hidden meanings) and *huna* (secret) information that may even have political or subversive undertones. Before the introduction of writing to the Hawaiian Islands, cultural information was exclusively preserved and perpetuated orally. Hawaiians gave names to literally everything in their environment, including individual garden plots and *'auwai* (water courses), house sites, intangible phenomena such as meteorological and atmospheric effects, *pōhaku*, *pūnāwai* (freshwater springs), and many others. According to Landgraf (1994), Hawaiian *wahi pana* “physically and poetically describes an area while revealing its historical or legendary significance” (Landgraf 1994:v).

3.2.1 *Wahi Pana* of Wailuku

An analysis of place name meanings (Table 1) for the region surrounding the project area may yield some insight into the patterns of life in that area. Features of this area include *heiau*, *'ili* (land section, subdivision), streams, surf, *palena* (boundaries), and *pu'u* (hills). Literal translations of several of the place names for land areas and divisions near the project area are listed below. Unless otherwise noted, the translations are taken from Pukui et al. (1974).

Table 1. Place Names of Wailuku in the Vicinity of the Project Area

Name	Translation
Ha'akupu	<i>Lit.</i> , “to cause growth.” Mentioned in LCAw 643 to George W. Macy for Lydia Anne (Soehren 2014).
Haleki'i (<i>Heiau</i>)	<i>Lit.</i> , “image house.” A <i>heiau</i> (Walker Site 44) located in Wailuku at the Pihana Heiau complex (see subsection 3.2.4), along the 'Īao Stream in the region of Paukūkalo. According to Kamakau, Maui chief Kekaulike was brought here to die in 1736.
Hi'iwela (<i>Ili</i>)	Mentioned in LCAw261 and 4917 to Kamaka and Poki (Soehren 2014).
'Īao (Stream)	<i>Lit.</i> , “cloud supreme.” 'Īao Stream brings the water of 'Īao Valley to the ocean at Paukūkalo, a point just northwest of Kahului Harbor.



Name	Translation
Ka'ahu (Surf)	<i>Lit.</i> , “the garment.” An ancient surfing area in Wailuku (Soehren 2014)
Ka'ahumanu (Avenue)	<i>Lit.</i> , “the bird [feather] cloak.” Avenue named in honor of Queen Ka'ahumanu, favorite wife of Kamehameha I, who became <i>kuhina nui</i> (regent) to Kamehameha II and Kamehameha III and an ardent supporter of the Protestant mission in the Hawaiian Islands. She died in 1832, at Mānoa, on the island of O'ahu (Kamakau 1992).
Ka'ākaupōhaku	<i>Lit.</i> , “the north (or right hand side) stone.” It was known as an ancient surfing area (Soehren 2014).
Kahului (Kaihuwa'a)	<i>Lit.</i> , “the winning.” According to Malo (1951:268), “the Kahului was a disposition or order of battle in which the main body of the soldiers were drawn up in the form of a crescent, with the horns pointing forwards.” This formation was “undoubtedly derived from the place of the same name,” a “flat and treeless” region (Malo 1951:268).
Kalapaoka'ilio (Ridge)	<i>Lit.</i> , “the ridge of the dog.” The boundary between Wailuku and Waikapū runs up this ridge (Soehren 2014).
Kāluli (<i>Heiau</i>)	<i>Lit.</i> , “to sway, bend.” Walker Site 42, repaired during the reign of Kahekili, its <i>kahu</i> (priest) was Kaleopu'upu'u. Totally destroyed (Soehren 2014).
Kaopuohe (<i>Ili</i>)	Mentioned in LCAw 3534 to Kauaki'iwai (Soehren 2014).
Kaupali (<i>Ili</i>)	Mentioned in LCAw 3291 to Makaena (Soehren 2014).
Kaulupala (<i>Ili/Heiau</i>)	<i>Lit.</i> , “the ripe breadfruit.” Mentioned in LCAw 3255 to Hoopuaina. Walker Site 52, consecrated by Liholiho in his tour of Maui in 1801 (Soehren 2014).
Kawelowelo (<i>Heiau</i>)	<i>Lit.</i> , “the flying streak.” Walker Site 51, consecrated by Liholiho (Soehren 2014).
Keahukū (<i>Heiau</i>)	<i>Lit.</i> , “the slaughter by stoning.” Walker Site 45, consecrated by Liholiho “...preceeding the peleleu fleet” (Soehren 2014).
Kukalepa (<i>Ili</i>)	Mentioned in LCAw 397 to H. Kuihelani (Soehren 2014).
Kumuwiliwili (<i>Ili</i>)	<i>Lit.</i> , “wiliwili (<i>Erythrina sandwicensis</i>) tree.” Mentioned in LCAw 2414 to Kailihuna and LCAw 406 to Napela (Soehren 2014).
Lelemākō (<i>Heiau</i>)	<i>Lit.</i> , “rough leaping.” Walker Site 50, consecrated by Liholiho (Soehren 2014).
Lo'iloa (<i>Ili</i>)	<i>Lit.</i> , “long taro patch.” Mentioned in LCAw 643 to George W. Macy for Lydia Anne (Soehren 2014).
Mākole (<i>Ili</i>)	<i>Lit.</i> , “red-eyed.” Mentioned in LCAw 215 to Henry Brooks. His LCA also included a fishing ground named Papaulu (Soehren 2014).
Malena (<i>Heiau</i>)	Consecrated by Liholiho “...preceeding the peleleu fleet” (Soehren 2014).
Malumaluakua (<i>Heiau</i>)	<i>Lit.</i> , “shelter of the gods.” Consecrated by Liholiho “...preceeding the peleleu fleet” (Soehren 2014).

Name	Translation
Maniania ('Ili)	<i>Lit.</i> , “a shuddering sensation.” Mentioned in LCAw 3530 to Keala and Kapaweuweu (Soehren 2014). Also the name of a stream in Wailuku.
Mauna Kahalawai	<i>Lit.</i> , “the gathering of waters.” West Maui Mountains (Pellegrino 2009)
Mau'oni (Pond)	One of the two fishponds located at the shore of Kanahā. This pond is approximately 300 m east of the project area.
Olokua (<i>Heiau</i>)	Walker Site 46, consecrated by Lihoho “...preceeding the peleleu fleet” (Soehren 2014).
Oloolokalani (<i>Heiau</i>)	Walker Site 54, consecrated by Liholiho (Soehren 2014).
Olopio (<i>Heiau</i>)	Walker Site 47, consecrated by Lihoho “...preceeding the peleleu fleet” (Soehren 2014).
Oukea ('Ili)	Mentioned in LCAw 7907 to Kuke (Soehren 2014).
'Owā ('Ili)	Cry of the 'āuku ū, heron, which suggests 'owā; to cry thus. A measurement equal to half the width of a finger, of fishing nets (<i>Mākahi a 'owā</i> ; the width of one and a half fingers). 'Ili where the Sand Hills, Baldwin High School, the Maui Arts & Cultural Center and the U.H. Maui College are situated.
Palamaihiki (<i>Heiau</i>)	Walker Site 53, consecrated by Liholiho (Soehren 2014).
Paukūkalo	<i>Lit.</i> , “taro piece.” 'Īao Stream reaches the ocean at Paukūkalo, a region reported to have once been heavily planted in <i>kalo</i> (wetland taro). It has also been noted as an ancient surfing area (Soehren 2014).
Pihana (<i>Heiau</i>)	<i>Lit.</i> , “fullness.” Stories of this Paukūkalo <i>heiau</i> include it being built in a single night by the legendary race of Menehune, who brought the stones from Paukūkalo Beach. Pukui also states that the construction of this <i>heiau</i> has been attributed to the Maui chief, Kahekili. It is listed as Walker Site 43. The Pihana Heiau is a sacred place located within the 'ili of Paukūkalo.
Pohakuokahi	<i>Lit.</i> , “stone of Kahi.” Walker Site 49, consecrated by Liholiho in his tour of Maui in 1801 (Soehren 2014).
Puakea ('Ili)	<i>Lit.</i> , “white blossom.” Mentioned in LCAw 490 to Kapaweuweu (Soehren 2014).
Pu'ali Komohana	Translated by Andrews (1865:73) as “western sun-setting isthmus.” Combined area of Wailuku, Waikapū, Waiehu, and Waihe'e <i>ahupua'a</i> .
Pu'u Kukui (<i>Palena/Pu'u</i>)	<i>Lit.</i> , “candlenut hill.” A hill with an elevation of 5788 ft. on the boundary between Lahaina and Wailuku (Soehren 2014).
Pu'u Lio (<i>Palena/Pu'u</i>)	A hill at an elevation of about 3130 ft., marking the boundary between Wailuku and Waikapū between Kalapaokailio ridge and Kapilau ridge (Soehren 2014). Also a stream in Wailuku.

Name	Translation
Pu'unēnē	<i>Lit.</i> , “goose hill.” A land area named after a cinder cone, once located just inland of Papa'ula, mined for its gravel during WWII to construct the runways at the U.S. Naval Air Station Kahului (Fornander 1916).
Wailuku (<i>Ahupua'a</i>)	<i>Lit.</i> , “water of destruction,” a reference to the battle which took place at 'Īao between the forces of Kamehameha I and the Maui chiefs. Sterling (1998) states that Pukui et al. (1974) believes the name is older than the famous battle. Westervelt (Saito 2011) makes special reference to the waters of Wailuku in 'Īao (<i>Lit.</i> , “asking for clouds”) emptying into the Kahului Harbor. Fornander (1916-17b:IV:II:304) recorded that Wailuku was the place of flying clouds (Westervelt 1910).

3.2.2 Kama'oma'o: A Wandering Place of Spirits

Ke Kula o Kama'oma'o, or the Plains of Kama'oma'o, is the name given to a region of sandy plains between Kahului and Wailuku, Maui (Emerson 1915). This area was known by Hawaiians in traditional times as a wandering place of the souls (Beckwith 1970), a place where dead spirits waited for a friendly escort, perhaps a family *'aumakua*, to show them the way to eternity:

The worst fate that can befall a soul is to be abandoned by its *aumakua* and left to stray, a wandering spirit (*kuewa*) in some barren and desolate place, feeding upon spiders and night moths. Such spirits are believed to be malicious and to take delight in leading travelers astray; hence the wild places which they haunt on each island are feared and avoided. Such are the plains of Kama'oma'o on the island of Maui, the rough country of Kaupea at Pu'uloa on Oahu, Uhana on Lanai, Maohelaia on Molokai, Mana on Kauai, Halali'i on Ni'ihau. In these desolate places lost spirits wander until some friendly *aumakua* takes pity upon them. [Beckwith 1970:154]

According to Helen P. Hoyt (1976), Kama'oma'o is also a region where the “Marchers of the Night,” or *Ka huaka'i o ka Po*, are sometimes heard and seen. When these spiritual “Night Marchers” appear, according to Beckwith (1932), “It is said that such a sight is fatal unless one has a relative among the dead to intercede for him.”

The marchers carried candlenut torches which burned brightly even on a rainy night. They might even be seen in broad daylight and were followed by whirlwinds such as come one after another in columns. They cried “Kapu o moe!” as a warning to stragglers to get out of the way or to prostrate themselves with closed eyes until the marchers passed. [Beckwith 1932:199]

The eternity that the souls of the dead seek is a place known as *pō*. Beckwith (1970) elaborates on the significance of Pō, “Each human being is formed in the spring of water within the uterus of the mother and emerges from it into human life. At death he returns to the Pō again” (Beckwith 1970:163)

3.2.3 Mau'oni and Kanahā Loko I'a

On the north shore of the central isthmus in Wailuku Ahupua'a lie the *loko i'a* (fishponds) of Mau'oni and Kanahā. A traditional story concerning their construction appears in Sterling

(1998:87-88), based on an interview with Mrs. Rosalie Blaisdell in 1923 by J.F.G. Stokes. According to tradition, construction of the pond walls was begun by an O'ahu chief, but finished by Kamehamehanui, king of Maui in the mid-1700s. The story established that Kapi'iohookalani, the original architect of the two ponds and one-time king of O'ahu and half of Moloka'i, was killed in battle before he could complete the construction of the pond walls. His daughter, Kahamaluihiikeaoihilani, sought her brother, Kanahāokalani, and searched Moloka'i and Maui for him. The pond walls were finished by Kamehamehanui, who placed a *kapu* (taboo) on the bank, and built a *kuapā*, dividing the two ponds. The chiefess Kahamaluihii was born of such high rank that she was able to break the *kapu* by walking on the center *kuapā* of the ponds. Following this act, Kamehamehanui allowed her to name the ponds. She named Kanahā for her brother, and Mau'oni for the identity she travelled by to protect her status as a chiefess of the highest rank. Sterling (1998) also noted two references by Samuel Kamakau (1992) stating that Kihapi'ilani had built the stonework separating the two ponds at a much earlier time than the work performed by Kamehamehanui.

The Kanahā Pond Wildlife Sanctuary (SIHP 50-50-05-1783) was established by the State of Hawai'i in 1971 to protect the cultural remains of the original fish pond wall structure, and three endangered wetland bird species: the Hawaiian stilt (*Ae'o; Himantopus mexicanus knudseni*), Hawaiian coot ('*Alae kea; Fulica alai*), and Hawaiian duck (*Koloa; Anas wyvilliana*). Over fifty species of birds have been observed here, including herons, geese, ducks, owls, plovers, sandpipers, 'ūlili (tattlers; *Heteroscelus incanus*), '*alae ke'oke'o* (Coot; *Fulica alai*), pheasants (*Lophura leucomelanos*) and doves (Pukui et al. 1974).

3.2.4 Pihana Heiau Complex

The Pihana Heiau complex was built in the time of Kakae, *mō'ī* (king) of Maui in the early sixteenth century (Figure 8). Pihana Heiau is located on the west side of 'Īao Stream crested upon a sand ridge across from the modern-day Wailuku Sugar Co. mill. The Pihana complex consists of a *luapa'u* (refuse pit), burials, a cave, and adjacent *heiau*. The *wahi pana* of Pihana Heiau is illustrated in Sterling (1998):

Tradition relates. Kiikewa, the high chief who lived at "the time of Kakae; the king of West Maui, built the Heiau of Pihana-every rebellious high chieftains of Maui were sacrificed at this heiau, but, no alii whose lineage was tainted were sacrificed on its alter; Liliha is the name of the Luapa'u (offal pit). Halekii is the heiau reserved for the females of high rank and is situated on the makai side of the bluff-Kalola is another name. The whole combined in general is Pihana. It is said there is a cave beneath Pihana, and Liliha is the mouth of the cave. [Sterling 1998:75-76]

Pihana Heiau is classified as a *luakini*, or sacrificial heiau, where "human scarifies were performed only on the most important occasions" at this "heiau of the highest class" (Sterling 1998:77). According to Thrum (1908), Pihana Heiau was once used for sacrifices by Kamehameha I before defeating Maui forces in the Battle of Kepaniwai, also known as the Battle of 'Īao:

It is said of Pihana that on Kamehameha's invasion of Maui, in 1790, with an army of warriors which resulted in the defeat of Kalanikupule's forces in the celebrated battle of Pani-wai-o-Iao, the conqueror invoked the blessing of his war god Kukailimoku the great, and sacrificed upon its altars. [Thrum 1908:46]



Figure 8. A lecture at Pihana Heiau in 1957. Photo take before sites restoration (Hawai'i State Archives)

3.2.5 Kalanihale

Wailuku was the site of Kalanihale, the royal palace of the ruling chief of Maui, Kahekili. Following the defeat of Hawai'i's forces, Kalani'ōpu'u, the ruling chief of Hawai'i, proposed that his wife, Kolola, who was also the sister of Kahekili, sue for peace, however, Kalola refused, proposing that her son and prince, Kīwala'ō, be sent as ambassador.

Runners carried the news of the coming of this prince to the Maui king. He was lying on a mat in the royal grass house at Wailuku. Ka-lani-hale - "the heaven house" - was the name of this home of the king.

As Kiwalao drew near the door all the Maui chiefs prostrated themselves before him, while the king lazily turned over and partly raised himself, lifting his head in token of friendly greeting. To have turned away from the prince, letting his face look down, would have been the sign of immediate death of his visitor. Kiwalao, with slow and dignified tread, crossed the room and seated himself in his uncle's lap. Then both wailed over the troubles which had brought them together, and over the deaths among their followers. [Westervelt 1977:141-142]

3.2.6 'Īao Valley

'Īao Valley was once a site of royal burials. Pukui et al. (1972) explains that, "infinite caution surrounded the bones of an *ali'i*. High rank brings powerful enemies, and a chief's bones were especially in danger of being profaned" (Pukui et al. 1972:109). Walker (1931) elaborates on the lore and secrecy of royal 'Īao Valley burials saying:

Iao Valley is reputed by legend as a place of royal sepulcher for many of the ancient kings of Maui and neighboring islands. But the locations of all such burials are kept carefully secret so that even the late King Kalakaua was unable to find any of them in spite of the extensive investigations which were instigated by him. [Walker 1931:296]

The Kapela Burial Cave, located in 'Īao Valley, is where numerous Maui *ali'i* and other famous persons were laid to rest. An article published in Hawaiian newspaper *Ke Au Hou* on June 28, 1911 which appears in Sterling's *Sites of Maui*, discusses the Kapela Burial Cave:

The secret cave of Kapela in Iao was Maui's noted burial place and is situated at Olopio, close beside the cliff of Kakae at Kalahiki. It is said that the entrance is under water and another one is on the sheer precipice on the left side. There the well known ruling chiefs, those with supernatural traits, strong men and famous persons who served their chiefs in a marvelous way were buried. . . There also were put the important chiefs of Maui, namely: Heleipawa, Aikanaka, Kahaianuia, Hema, Luanuu, Kamea, Hua, Pau, Paumakua, Haho, Palena, Hanalaaiku, Kakaalaneo, Kekaulike, Kamehameha-nui and Laka and last of all Kalanikuihonoikamoku who died in 1736. The very last chiefs that were laid there, according to reports, were Kaeokulani, Keopuolani, Nahienaena, and Keokianapauokalani but some said that the last three were hidden away in the sea, several hundred ruling chiefs were placed in this secret cave and many valuables of every description. [Sterling 1998:80]

In the article *Iao Valley: The Yosemite of Hawaii* which appears in *The Mid-Pacific Magazine* from February 1912, W.H. Field also discussed the Kapela Burial Cave.

Perhaps Kapela, the highest peak of the Lihau ridge, overlooking Olowalu, is the most interesting one in Iao. Among its dark recesses, is the cave containing the bones of the kings and chiefs of Maui. In this cave were supposed to have been hidden the bones of Kahekili, King of Maui, and Kalanikupule, his son, and other royal personages of Maui. There is no doubt that this cave known as Kapela-kapuo-na-lii, contains treasures of untold value. Not only bones of high chiefs and chiefesses were hidden for fear of being made into fish hooks, etc., but feather cloaks or royal ahuulas belonging to King Kahekili and other Maui rulers may be there still. [Field 1912:151]

3.3 'Ōlelo No'eau

Hawaiian knowledge was shared by way of oral histories. Indeed, one's *leo* (voice) is oftentimes presented as *ho'okupu* ("a tribute or gift" given to convey appreciation, to strengthen bonds, and to show honor and respect); the high valuation of the spoken word underscores the importance of the oral tradition (in this case, Hawaiian sayings or expressions), and its ability to impart traditional Hawaiian "aesthetic, historic, and educational values" (Pukui 1983:vii). Thus, in many ways these expressions may be understood as inspiring growth within reader or between speaker and listener:

They reveal with each new reading ever deeper layers of meaning, giving understanding not only of Hawai'i and its people but of all humanity. Since the sayings carry the immediacy of the spoken word, considered to be the highest form of cultural expression in old Hawai'i, they bring us closer to the everyday thoughts and lives of the Hawaiians who created them. Taken together, the sayings offer a basis for an understanding of the essence and origins of traditional Hawaiian values. The sayings may be categorized, in Western terms, as proverbs, aphorisms, didactic adages, jokes, riddles, epithets, lines from chants, etc., and they present a variety of literary techniques such as metaphor, analogy, allegory, personification, irony, pun, and repetition. It is worth noting, however, that the sayings were spoken, and that their meanings and purposes should not be assessed by the Western concepts of literary types and techniques. [Pukui 1983:vii]

Simply, *'ōlelo no'eau* may be understood as proverbs. The Webster dictionary notes it as "a phrase which is often repeated; especially, a sentence which briefly and forcibly expresses some practical truth, or the result of experience and observation." It is a pithy or short form of folk wisdom. Pukui equates proverbs as a treasury of Hawaiian expressions (Pukui 1995:xii). Oftentimes within these Hawaiian expressions or proverbs are references to places. This section draws from the collection of author and historian Mary Kawena Pukui and her knowledge of Hawaiian proverbs describing *'āina* (land), chiefs, plants, and places. The following proverbs concerning the larger area of Wailuku come from Mary Kawena Pukui's *'Ōlelo No'eau* (Pukui 1983) and Henry P. Judd's *Hawaiian Proverbs and Riddles* (Judd 1933).

3.3.1 'Ōlelo No'eau #1481

The subsequent *'ōlelo no'eau* all pertain to the Wailuku plains area known as Kama'oma'o. This place was famous for its connection to wandering spirits.

Kama'oma'o, ka 'āina huli hana.

At Kama'oma'o, land of activities.

Ghosts who do not go to the pō of their ancestors often wander about in certain areas. Kama'oma'o, Maui is such a place. The activities of such ghosts usually annoy the living. [Pukui 1983:160]

3.3.2 'Ōlelo No'eau #1514

Ka 'ōlohe puka awakea o Kama'oma'o.

The bare one of Kama'oma'o that appears at noonday.

The plain of Kama'oma'o, Maui, is said to be the haunt of ghosts ('ōlohe) who appear at night or at noon. Also a play on 'ōlohe (nude), applied to one who appears unclothed. [Pukui 1983:164]

3.3.3 'Ōlelo No'eau #1761

Ke kula o Kama'oma'o ka 'āina huli hana.

The plain of Kama'oma'o – that is the place where plenty of work is to be found.

A taunt to one who talks of looking for work but does not do it. The plain of Kama'oma'o, Maui was said to be the haunt of ghosts whose activities were often terrifying. [Pukui 1983:189]

3.3.4 'Ōlelo No'eau #1711

This proverb references Wailuku in relation to battles that took place between warring chiefs on Maui.

Ke inu aku la paha a'u 'Ālapa i ka wai o Wailuku.

My 'Ālapa warriors must now be drinking the water of Wailuku.

Said when an expected success has turned into a failure. This was a remark made by Kalaniōpu'u to his wife Kalola and son Kiwala'ō, in the belief that his selected warriors, the 'Ālapa, were winning in their battle against Kahekili. Instead they were utterly destroyed. [Pukui 1983:184]

3.3.5 'Ōlelo No'eau #2300

The following 'ōlelo no'eau describes the four main water sources on Maui.

Na wai 'ehā.

The four waters.

A poetic term for these places on Maui: Wailuku, Waiehu, Waihe'e, Waikapū, each of which has a flowing water (*wai*). [Pukui 1983:251]

3.3.6 'Ōlelo No'eau #2578

The following 'ōlelo no'eau describes two ponds in Kahului, Maui: Mau'oni and Kanahā.

Pākāhi ka nehu a Kapi'ioho.

The *nehu* of Kapi'ioho are divided, one to a person.

Kapi'ioho, ruler of Moloka'i, had two ponds, Mau'oni and Kanahā, built on his land at Kahului, Maui. The men who were brought from Moloka'i and O'ahu to build the ponds were fed on food brought over from Moloka'i. The drain on that island was often so great that the men were reduced to eating *nehu* fish, freshwater 'ōpae and poi. The saying is used when poi is plentiful but fish is scarce and has to be carefully rationed. [Pukui 1983:284]

3.3.7 'Ōlelo No'eau #2647

The following 'ōlelo no'eau plays on the word *luku* (massacre, slaughter) in Wailuku.

Pili ka hanu o Wailuku.

Wailuku holds its breath.

Said of one who is speechless or petrified with either fear or extreme cold. There is a play on *luku* (destruction). Refers to Wailuku, Maui. [Pukui 1983:290]

3.3.8 'Ōlelo No'eau #2912

Wailuku is spoke of as a place of shelter and refuge in the succeeding proverb.

Wailuku i ka malu he kuawa.

Wailuku in the shelter of the valleys.

Wailuku, Maui, reposes in the shelter of the clouds and the valley. [Pukui 1983:319]

3.3.9 Hawaiian Proverbs and Riddles #693

The following proverb from Judd's *Hawaiian Proverbs and Riddles* also speaks of Wailuku as a place of shelter.

Wailuku i aloha nui ia o ka malu hekuawa.

Wailuku of the westering shade, greatly loved.

Wailuku is always shady in the afternoon. [Judd 1933:56]

3.4 Oli (Chants)

Oli, according to Mary Kawena Pukui (Pukui 1995:xvi–xvii) are often grouped according to content. Chants often were imbued with *mana* (divine power); such *mana* was made manifest through the use of themes and *kaona*. According to Pukui, chants for the gods (*pule*; prayers) came first, and chants for the *ali'i*, “the descendants of the gods,” came second in significance. Chants “concerning the activities of the earth peopled by common humans,” were last in this hierarchy (Pukui 1995:xvi–xvii). Emerson conversely states:

In its most familiar form the Hawaiians—many of whom [were lyrical masters]—used the *oli* not only for the songful expression of joy and affection, but as the vehicle of humorous or sarcastic narrative in the entertainment of their comrades. The dividing line, then, between the *oli* and those other weightier forms of the *mele*, the *inoa*, the *kanikau* (threnody), the *pule*, and that unnamed variety of *mele* in

which the poet dealt with historic or mythologic subjects, is to be found almost wholly in the mood of the singer. [Emerson 1965:254]

While *oli* may vary thematically, subject to the perspective of the *ho'opa'a* (chanter), it was undoubtedly a valued art form used to preserve oral histories, genealogies, and traditions, to recall special places and events, and to offer prayers to *akua* and *'aumākua* (family gods) alike. Perhaps most importantly, as Alameida (1993:26) writes, “chants . . . created a mystic beauty . . . confirming the special feeling for the environment among Hawaiians: their *one hānau* (birthplace), their *kula iwi* (land of their ancestors).”

3.4.1 Hi'iaka and Wailuku

The goddess Hi'iaka, sister of volcano goddess Pele, passes through Wailuku, Maui during her epic journey to Kaua'i. When Hi'iaka's *aikāne* (close friend) Wahine'ōma'o complains of hunger during their travels along a *kaha* (hot dry shore) portion of northern Maui, Hi'iaka offers the following chant:

<i>Ke kahulihuli a ka papa o Wailuku;</i>	As trembles the plank at Wailuku (So trembles the fate of the king):
<i>He ole ke kaha kuai ai, e:</i>	There's no market where to buy meat;
<i>Ho-mai he ai;</i>	Give the stranger, then, something to eat:
<i>Ho-mai ana ua ai, e!</i> [Emerson 1915:74]	Give us, I pray, of your meat.

Hi'iaka and Wahine'ōma'o were met with little hospitality after their appeal for food was largely ignored by the area's residents. Hi'iaka then offered the following chant making “known her wish, concluding her appeal with ominous threats against the life of the king, in case her demands were not met” (Emerson 1915:75):

<i>E Wai-hinano, wahine a ka po'ipo'i, e,</i>	O Waihinano, thou soul-grabber,
<i>Ua make ke alii, ka mea nona nei moku.</i>	Dead is the king of this island;
<i>He pua'a kau ka uku no Moloka'i;</i>	Moloka'i shall offer a boar;
<i>He ilio lohelohe Lana'i;</i>	Lana'i's a half-baked dog;
<i>A pale ka A-a ka Kanaloa;</i>	Kanaloa fends off the A-a;
<i>He puo'a kai Molokini:</i>	Molokini buffets the waves.
<i>Huli ka ele o na Hono;</i>	The ship of state turns turtle:
<i>Haki kepahepa na moku;</i>	What wailing and beating of breast!
<i>Pa'iauma ka aina;</i>	Wild anguish of child and of ghost
<i>Uwē kamali'i, uwē ka hanehane —</i>	O'er the sandy plain of Kama'o.
<i>Ke uwē la i ka pili,</i>	The districts are frenzied with grief
<i>I ke kula o Ka-ma'o-ma'o;</i>	Tearing of hair and breaking of teeth

Ka'a kumakena o Maui, e!

One wail that lifts to heaven.

la wai Maui?

Who shall be heir to this Maui land?

[Emerson 1915:75-76]

3.4.2 The Mirage of Mana

Wailuku is mentioned in the *oli* “The Mirage of Mana” which appears in the Story of Lonoikamakahiki (Fornander 1916-17:IV:256-363). According to the *mo'olelo*, Kākuhihewa challenges Lonoikamakahiki, ruling chief of Hawai'i, to recite the *oli* “The Mirage of Mana.” Kākuhihewa believes the *oli* was written in honor of his name, however, Ohaikawiliula, a chiefess from Kaua'i, had already imparted the *oli* to Lonoikamakahiki. Lonoikamakahiki then recites the *oli* defeating Kākuhihewa.

O na Mahele i Wailuku.

Of the division in Wailuku.

Ka umi-

The tenth.

Kahi Koolau-e,

One is Koolau,

Kahi Wailuku-e

One is Wailuku,

Kahi Paie,

One is Paie,

Kahi Kahookuli ke haele:

One is Kahookuli in going.

Elua-

Two-

Elua ku mai,

Two stand up.

Elua-

Two-

Elua noho ae,

Two sit down.

Elua-

Two-

Elua Pili wale I Keaahala,

Two are inclining against Keaahala.

Elua-

Two-

Elua Nuailua,

Two Nuailua.

Ekolu-

Three-

Ekolu Makaiwa,

Three Makaiwa.

Ekolu-

Three-

Ekolu Papa,

Three foundations.

Eha-

Four-

Eha Waipio

Four Waipio.

Eha-

Four-

Eha ka uka i Halehaku

There are four in the uplands of Halehaku.

<i>Elima-</i>	Five-
<i>Elima Pauwela,</i>	There are five Pauwela.
<i>Elima-</i>	Five-
<i>Elima Huleia.</i>	Five Huleia.
<i>Elima-</i>	Five-
<i>Elima na kanaka,</i>	There are five people.
<i>Alualu o ke kaha wale i Paie,</i>	Chasing each other on the lonely coast of Paie.
<i>He oi ahiku,</i>	The one in the lead is the seventh.
<i>Ehiku Pulehu,</i>	There are seven Pulehu
<i>Ehiku Mana,</i>	There are seven Mana,
<i>Ehiku ka ohia i Paukauwila:</i>	The Ohia of Paukauwila is the seventh.
[Fornander 1916-17:IV:284-5]	

The *oli* is also recited by Kaikilani, Lonoikamakahiki's wife, upon her arrival in Kailua, O'ahu from Hawai'i (Fornander 1916-17:IV:302-303).

Both *oli* contain variations of the following lines:

<i>Kahua aolelo Wailuku-e</i>	Wailuku is the locality of flying clouds.
<i>He Aha Kula-loa?</i>	What is board Kula?
<i>Kaupaka Lanakila.</i>	It is open upland.
<i>Kaluianui o Kaluanui,</i>	Kaluanui of Kaluanui,
<i>Ke ku la i na puu mahoe;</i>	It stands by the twin hills,
<i>Na hale loulou a Kane,</i>	The palm houses of Kane,
<i>I ako no 'u Auwahi.</i>	Which were thatched for me at Auwahi
[Fornander 1916-17:IV:284-85]	

3.4.3 Ke'elikōlani

In an *oli* to Ke'elikōlani composed by Pipi (Fornander 1919-20:VI:486-487), Wailuku is mentioned in relation to "*malu kuawa*" which translates to "shelter of the valley" (Pukui & Elbert 1984:158). Also mentioned in the *oli* is the I'a-iki wind.

<i>Kapukoaku, kai kohola ka lani.</i>	The standing coral of the shallow sea, the chief.
<i>Kai luu o ke kai uli hohonu,</i>	Overturning waves of the dark deepsea,
<i>E kihe ai ka ihu, me he naia la.</i>	Diving its crest there as a porpoise
<i>E no ai I ke kapu o lakou,</i>	According to their kapu.

<p>5. <i>Kanahae makawalu nono o ke 'lii</i></p> <p><i>Kahiki wahie aloaloa,</i> <i>Loaloanui ia ka lani</i></p> <p><i>Kaumakamano, he mano he naha na 'lii</i></p> <p><i>Hookahi lau kona hala ke kapu;</i></p> <p>10. <i>Kapu hoi paha Kekelaokalani;</i></p> <p><i>Ka auhuhu hoi ia e lena ai ke kai,</i></p> <p><i>E onioni ai ka ia, make i ka hola;</i></p> <p><i>E kapalili ai i ka ili o ke kai,</i> <i>He kai hoonee; he kai oki apu,</i></p> <p>15. <i>Kahiwalele kapu kalani, o</i> <i>Keelikolani la.</i></p> <p><i>Ku Kauiki pa kohana i ka makani,</i> <i>Hoohalulu i ke kai o Kaihalulu</i> <i>Ke oi a lau i ka makani,</i> <i>E kali ana i ka ua Paiolopawa,</i></p> <p>20. <i>I ka hili kua ia e ke Koholalele,</i></p> <p><i>Lele ka hauli o Nalualele i kai</i></p> <p><i>Ke komi komi 'a iho la e ka lau awa,</i> <i>Wai kea hana na huli ka amau,</i></p> <p><i>O na malo o Kama i Kualihau e!</i></p> <p>25. <i>ae paha aohe wahahee, aho o koe</i> <i>aku e!</i></p> <p><i>Koe Auhi, pakele aku o Kahikihui,</i> <i>Lilo aku la i na lima o ka naulu,</i> <i>Ulu ae la Kalupua e ka makani,</i></p>	<p>5. Diminishing numerous noise of the chief.</p> <p>Kahiki scattering timber Exceedingly long is the chief</p> <p>Kaumakamano, a shark, a shark for chiefs.</p> <p>In one season the kapu passed;</p> <p>10. May be Kekelaokalani was kapu also.</p> <p>The poison plant it was, yellowing the seas.</p> <p>Stupifying the fish, deadened by the intoxicating plant;</p> <p>Fluttering on the surface of the sea, A moving sea; a cross, chasing sea.</p> <p>15. Kahiwalele kapued the chief Keelikolani;</p> <p>Kauiki stands bare in the wind, Trembling by the sea of Kaihalulu Greatly increased by the wind, Waiting for the piolopawa rain</p> <p>20. On the stricken back of the Koholalele.</p> <p>The dark shadow of Nalualele leaps seaward.</p> <p>Reducing gradually the lauawa [wind]. Hana was water-whitened as the fern changed</p> <p>The malos of Kama in Kualihau.</p> <p>25. Perhaps so, without falsehood, be patient till more follows.</p> <p>Excepting Auhi, Kahikinui escaped, Taken by the force of the naulu [wind]; Grown are the flowers scattered by the wind;</p>
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<i>Lomi 'a iho la na maka o ke aalii,</i>	Destroyed are the shoots of the aalii,
30. <i>Enaena wela I ka la.</i>	30. Scorced by the sun.
<i>O Lualailua i ke kula la,</i>	Lualailua of the plain,
<i>Welo Waiahualele, lele ke ahi o kula</i>	Waiahualele fluttering, the fire of kula
<i>maalo i ka maka;</i>	attracts the eye,
<i>Weli oaka, a i uka o Koanaulu e!</i>	Suddenly brightened up above Koanaulu!
<i>Ae paha, oahe wahahee e hookoe aku e!</i>	Yes, perhaps, without falsehood to be set aside.
35. <i>Koe Wailuku i ka malu Kuawa,</i>	35. Except Wailuku in the shade of Kuawa
<i>Ke hoopaio la me Kaiiiki, me ke</i>	In the contentions of Kaiiiki with
<i>Kaahaaha.</i>	Kaahaaha.
<i>Anu o Niua, hamo ke kilioopu ka o kai,</i>	Niua was cold; the grass waved towards the sea.
<i>Pohu ke kaha maloko o Hupukoa,</i>	Calm was the channel within Hupukoa,
<i>Hoopaaia i ka uwahi a ke kai,</i>	Withheld was the spray of the sea;
40. <i>He uwahi kai no Papale.</i>	40. A sea-spray for Papale
<i>Kailiu ke hoale la, i ike kumu o ka</i>	Stirred up by the salt sea seeking [the]
<i>maomao e!</i>	roots of green verdure,
<i>Ae paha, aohe wahahee e hookoe aku e!</i>	Perhaps so, without falsehood to be set aside.

[Fornander 1919-20:VI:486-487]

The phrase “*malu kuwawa*” also appears in a dirge composed for L.L. Ua, a Lahainaluna teacher, by his students following his death in February of 1854 (Fornander 1919-20:VI:525). The English translation defines “*malu kuwawa*” as “dark clouds.”

60. <i>Malamalama kea lo pouli ke kua.</i>	60. Before was the light and darkness at the rear.
<i>Papale na maka i ke aloha.</i>	Close thy eyes with love.
<i>Ke hoi nei ka uhane I ka malu niu o</i>	The soul is returning to the coconut
<i>Lele;</i>	grove of Lele;
<i>I ka malu kuwawa o Wailuku;</i>	To the dark clouds of Wailuku;
<i>I ka ua naulu noe anu o Kula;</i>	To the cold misty rain of Kula;

[Fornander 1919-20:VI:525]

3.5 Mele (Songs)

The following section draws from the Hawaiian art of *mele*, poetic song intended to create two styles of meaning.

Words and word combinations were studied to see whether they were auspicious or not. There were always two things to consider the literal meaning and the *kaona*, or 'inner meaning.' The inner meaning was sometimes so veiled that only the people to whom the chant belonged understood it, and sometimes so obvious that anyone who knew the figurative speech of old Hawai'i could see it very plainly. There are but two meanings: the literal and the *kaona*, or inner meaning. The literal is like the body and the inner meaning is like the spirit of the poem.

The Hawaiians were lovers of poetry and keen observers of nature. Every phase of nature was noted and expressions of this love and observation woven into poems of praise, of satire, of resentment, of love and of celebration for any occasion that might arise. The ancient poets carefully selected men worthy of carrying on their art. These young men were taught the old *meles* and the technique of fashioning new ones. [Pukui 1949:247]

There exists a number of *mele* that regard or mention Wailuku. These particular *mele* may also be classified as *mele wahi pana* (songs for legendary or historic places).

3.5.1 Na Wai 'Ehā O Maui

This *mele* was composed by Alice Namakelua in 1940 for the Kamehameha Day Celebration in Honolulu. The four waters of Maui, including that of Wailuku, are mentioned in this *mele*.

<i>E Maui nui o Kama</i>	Great Maui of Kama
<i>'Āina ua kaulana</i>	Famous land
<i>O ka heke i 'o no 'oe</i>	You are truly superior
<i>Ua lohe 'ia 'a puni ka honua</i>	Heard around the earth
<i>'Āina 'oe ua wehi</i>	You are the land adorned
<i>Ua 'ohu e ka roselani</i>	Adorned by the rose
<i>He pua ho 'i nāu e lei</i>	A flower for you to wear as an adornment
<i>A e ha 'aheo mau ai 'oe</i>	And continue to wear in pride
<i>Kaulana nā wai 'ehā</i>	Famous are the four waters
<i>He puana he inoa he ha 'ina</i>	A refrain, a name, an answer
<i>Waikapū, Wailuku, Waiehu</i>	Waikapū, Wailuku, Waiehu
<i>A 'o Waihe 'e iho ia wai</i>	Water descends in Waihe'e
<i>He inoa nēia nou</i>	This is a name chant for you
<i>E Maui nui o Kama</i>	Great Maui of Kama

Ha 'aheo 'oe i ka roselani

You are cherished with pride because of the
rose

E o mai i kou inoa

Reply to your name

[Huapala n.d.]

3.5.2 No Na Wai 'Ehā

This 20th century *mele* composed by Scott Hai references Wailuku and other locations on Hai's beloved island home of Maui.

I Waikapū ke aloha

My love is at Waikapū

Ka makani Kokololio

The gusty wind named Kokololio

Pili i ka poli nahenahe

Held close to the soft bosom

He 'īnikiniki mālie

Gently pinching

I Wailuku iho 'oe

You went down to Wailuku

I ka piko a'o 'Īao

To the summit of 'Īao

Lihilihi o ka pua rose

Petals of the roses

He 'īnikiniki mālie

Gently pinching

I Waiehu iho 'oe

You went down to Waiehu

Ka makani Hō'ehaili

Hō'ehaili, the wind that pierces the skin

Me ka uhi wai a'o uka

With the thick fog of the upland

He 'īnikiniki mālie

Gently pinching

I Waihe'e kāua

We were at Waihe'e

Ka makani Kili'o'opu

The wind named Kili'o'opu

Me ka wai a'o Eleile

And the water of Eleile

He 'īnikiniki mālie

Gently pinching

I Lahaina iho 'oe

You went down to Lahaina

Ka makani Kaua'ula

Kaua'ula, the strong mountain wind

Me ka malu ulu a'o Lele

Amid the shade of the breadfruit trees of Lele

He 'īnikiniki mālie

Gently pinching

Ha'ina mai ka puana

Tell the refrain

No na wai 'ehā

Of the four water

E ho'i no e pili

Return and let us be together

He 'īnikiniki mālie

Gently pinching

[Huapala n.d.]

3.5.3 Waikapū/'Iniki Mālie

This song describes the winds of the four water-lands in Maui: Waikapū, Wailuku, Waiehu, and Waihe'e. The meaning of each name is described below by Pukui et al. (1974). Waikapū, water of the conch. A conch found in a cave in this area could be heard anywhere throughout the Hawaiian Islands. It was stolen by a supernatural dog named Puapualenalena whose name meant yellow tail feathers. Wailuku, water of destruction. Wailuku was the battle site where Kalani'ōpu'u's army was nearly annihilated by Kahekili. Waiehu, meaning water spray and Waihe'e, meaning slipping water.

<i>Waikapū makani Kokololio</i>	Waikapū wind in gusts,
<i>He makani houhou 'ili</i>	Skin-stinging wind gently pinching.
<i>'inisinisi ('inikiniki) mālie.</i>	
<i>Wailuku makani Lawemālie</i>	Wailuku wind becoming gentle,
<i>He makani houhou 'ili</i>	Skin-stinging wind gently pinching.
<i>'inisinisi ('inikiniki) mālie.</i>	
<i>Waiehu makani Hō'eha 'ili</i>	Waiehu wind paining the skin,
<i>He makani houhou 'ili</i>	Skin-stinging wind gently pinching.
<i>'inisinisi ('inikiniki) mālie.</i>	
<i>Waihe'e makani Kili'o'opu</i>	Waihe'e graceful wind,
<i>He makani houhou 'ili</i>	Skin-stinging wind gently pinching.
<i>'inisinisi ('inikiniki) mālie.</i>	
<i>Ha'ina mai ana ka puana,</i>	Tell the refrain,
<i>He makani houhou 'ili</i>	Skin-stinging wind gently pinching.
<i>'inisinisi ('inikiniki) mālie.</i>	
[Huapala n.d.]	

Section 4 Traditional and Historical Background

4.1 Pre-Contact to Early Post-Contact Period

Various legends and early accounts of Wailuku Ahupua'a indicate that a notable population of long-settled, pre-Contact Hawaiians inhabited the Wailuku area. In ancient times, Wailuku, specifically the area around Kahului Bay, was known as a chosen gathering and residential site for Maui *ali'i* (James 2001:56). James provides the following description of seventeenth century Wailuku:

From the seventeenth century it was densely populated, by Hawaiian standards, with the Pihanakalani Heiau complex serving as a spiritual center. The beaches were lined with coconut groves, and along the shores were the thatched *hale* of fishermen and those concerned with the high chief's war canoes. Wailuku, Paukūkalo, and Waiehu were popular surfing spots amongst the chiefs of Maui, and from Waihe'e to Wailuku lay the largest continuous area of wetland taro cultivation in the Islands. [James 2001:56]

Handy and Handy reiterate the prolific cultivation of *kalo* in Wailuku District saying that, "in ancient times [Wailuku District] was the largest continuous area of wet-taro cultivation in the islands" (Handy and Handy 1972:496). *Kalo* was perhaps the most distinguished plant within traditional Hawaiian horticulture and society. This is echoed in pre-Contact descriptions of agricultural cultivation in Wailuku which are dominated by passages illustrating the prominence of *kalo*. Handy and Handy describe the multifaceted role taro played in the pre-Contact era and its significance in the socio-cultural order:

The function and nature of the taro plant, its cultivation and use, were responsible not only for its primal place in mythology but for the fact that the cult associated with it, namely that of the male god Kane (= Wakea) as first procreator, and of *Ka-wai-'ola-a-Kane* or "The-life-giving-water-of Kane," although less elaborated than that of the rain-father Lono, was more fundamental, not only in Hawaii but throughout Polynesia. It was, in fact, the basic cult of the primal procreator of nature and man, out of the union of Sky and Earth.

Actually the course of fresh-water streams and ditches patterned the entire subsistence economy, and through this, the whole round and cycle of individual and social activity. The streams and ditches were the regulators, the law givers, in communal relationship; not directly, but because upon their water depended the taro, and upon the taro depended man.

The requirements of labor, in connection with building and maintenance of dams, ditches, terraces, and embankments, and the planting, tending, and harvesting of the taro, determined the ordering of cooperative work and relationships between individuals and families within the community. This cooperation in turn was responsible for the obligations in the matter of work required of individuals and the right of individuals and families to a share in the products.

Finally, taro in its habit of growth established a biological prototype of the form in which heredity and relationship were conceived. The taro growth supplied one of the terms in which the family system of the civilization was framed: *'ohana*, meaning the dispersed biological family group as a whole. *'Oha* means a shoot or sucker from the base of a plant, but essentially and primarily was applied to the buds from the corm of the taro that were broken off and replanted by the gardener. With the substantive suffix added, *'oha-na* literally means “offshoots,” or “that which is composed of offshoots.” The family stock, then, budding and branching from parent stocks, was conceived of in terms of the habit of reproduction of the taro. [Handy and Handy 1972:76]

The well-watered ʻĪao Valley also provided ample shrimp, taro, and fish but was only accessible to commoners during the season of *Makahiki* (James 2001:62). *Makahiki* is the ancient festival beginning about the middle of October and lasting for about four months incorporating sports, religious festivities, and taboo on war.

The high degree of cultivation within Wailuku Ahupuaʻa and its near neighbors give evidence that a substantial population would have been established there during the pre-Contact period. According to Cordy, the settlement of Wailuku represented one of two (or perhaps three) population concentrations on Maui:

The Kaupo, Kipahulu, Hana, Koolau, and Hamakua districts of northeast Maui form a wet, fertile contiguous area that would have been a dominant population center early in Maui's settlement. On West Maui, the large valleys of Waihee and Wailuku would have been another fertile focus, and to the southwest, the permanent streams of Lahaina and Olowalu would have been conceivably another early population area. [Cordy 1981:198-199]

West Maui, which includes the Wailuku district and East Maui, comprised the two rival societies on Maui. It was only in the mid-sixteenth century, during the reign of the Wailuku chief Piʻilani, that the “Hana chiefs finally acknowledged the West Maui king's rule” (Cordy 1981:210). By the second half of the eighteenth century, Maui *aliʻi* are reported to have been residing at Wailuku. Ruling chief, Kamehamehanui, died in Wailuku and was laid to rest at or near Pihana Heiau (*Ka Nupepa Kuokoa*, Dec. 1, 1866). Ruling chief, Kahekili, lived at Pihana and Paukūkalo in Wailuku where “along with the chiefs, his favorites, his companions and his warriors” enjoyed the surf of Kehu and Kaʻakau (Kamakau 1992:83).

Most of the lands of Wailuku lay in the large eastern extension which include present day Kahului Harbor and Kanahā Pond. This eastern portion of Wailuku Ahupuaʻa, of approximately 24,000 acres, was known in Hawaiian as *Ke Kula o Kamaʻomaʻo*. In the nineteenth century this plain became known as “Wailuku Commons.” Wailuku Commons differs most pronouncedly from the Western portion of Wailuku Ahupuaʻa in the virtually complete absence of permanent habitations until the very late nineteenth century.

A description of the configuration of Wailuku Ahupuaʻa was given by W. D. Alexander in “A Brief History of Land Titles in the Hawaiian Kingdom” (Hawaiian Almanac and Annual for 1891:106): “On Maui the lands of Waikapū and Wailuku appropriated almost the whole of the isthmus so as to cut off half of the lands in the district of Kula from access to the sea.” A possible explanation for this might include an effort by the politically powerful land division of Wailuku to

secure valued resources in the eastern portion of greater Kahului Bay. In addition to common marine resources this may have been an effort to control access to drift resources (drift logs from the Pacific Northwest, ivory from drifting whale carcasses, and iron embedded in drifting flotsom or drifting ships) which might tend to collect in the great bay of Kahului exposed as it is to the trade winds.

Another possible explanation is that the northeastern portion of the isthmus was held by Wailuku for more explicitly political purposes. Cordy (1981:198-200) suggested the existence of a “buffer zone” extending across the central portion of Maui Island. This buffer zone is suggested to have served as a relatively unoccupied border or “no man’s land” between the two powerful competing societies of Maui (West Maui and East Maui) until the unification of Maui under the ruling chief Pi’ilani circa 1600. Cordy’s theory suggests the possibility that Wailuku held the northeastern portion of the isthmus in order to minimize conflict with the forces of East Maui. There is evidence to suggest that the Hawaiians of Wailuku were not particularly interested in living in the eastern portion of the *ahupua‘a* (strongly favoring the vicinity of ‘Īao Stream instead.) There would certainly have been economic reasons for excluding Kula people, particularly in terms of reserving access to marine resources. The Wailuku powers may have been interested however in keeping the people of Kula district out for political reasons in addition to economic reasons. By restricting access to the coast, the population, , m. of Kula was kept low and tensions with East Maui were minimized.

Another cultural factor explaining the lack of population within Wailuku Commons may have been fear of war. Maui was on an almost continuous “war footing” with Hawai‘i Island for a century before the final conquest of Kamehameha the Great in 1795. The forces of Maui could not match the demographic might of a unified Hawai‘i Island force and the chiefs of Wailuku could only expect to win a major contest through defensive strategy. The forces of Wailuku were drawn behind natural defensive positions in the battle of the sand hills in 1776 and the battle of ‘Īao in 1790. In such struggle, every available defender may have been sought and hence it may have behooved the Wailuku chiefs to keep the population densely packed within ‘Īao Valley. A population strung out along Wailuku Commons may have elected self-interest in scattering *mauka* rather than in dying defending their ruling chiefs.

Tsunami, such as those that occurred in 1819 and 1837, may have also been factors encouraging residence in the uplands of ‘Īao Valley over coastal portions of Eastern Wailuku Ahupua‘a.

4.1.1 Battle of Kakanilua

In 1776, the army of Kalani‘ōpu‘u landed at Keone‘ō‘io with their war canoes, a force so vast that the area between Makena and Honua‘ula was said to have been completely filled by these canoes. There, the invading army proceeded to ravage the countryside. Kalani‘ōpu‘u then landed with additional forces at Kīheipuko‘a at Keālia to Kapa‘ahu (Kamakau 1992:85). Here his elite army of *Alapa* and *Pi‘ipi‘i* warriors, 800 men strong, landed ready for war. It was alleged that these men were of equal stature and all carried spears of identical length. Their appearance is related as a being a “magnificent spectacle” marching across the plains of Kama‘oma‘o wearing their feather cloaks and helmets. They were ready to battle Kahekili at his stronghold across the isthmus at Wailuku. Their army was said to be eager to drink the waters of the Wailuku Stream (Fornander 1880:152-153).

Samuel Kamakau recounts the invasion of Kalani‘ōpu‘u:

Across the plains of Pu'u'ainako (Cane-trash-hill) and Kama'oma'o shone the feather cloaks of the soldiers, woven in ancient pattern and colored like the hues of the rainbow in red, yellow and green, with helmets on their heads whose arcs shone like a night in summer when the crescent lies within the moon. Kahekili was at Kalanihale just below Kihahale and above the plateau of Ka'ilipoe at Pohakuaokahi. Said Kaleopu'upu'u to Ka-hekili, "The fish have entered the sluice; draw in the net". [Kamakau 1992:85]

Furthermore, Kamakau specifies that:

The great battle took place between Waikapu and Wailuku. Ka-lani-'opu'u expected to enter Wailuku at Kakanilua, but Ka-hekili's men rose at dawn and occupied the sandhills of Kama'oma'o, and a portion of them took their stand on the side toward Waikapu turn, so that the forces of Ka-lani-'opu'u, who had supposed that the battle would be at Kakanilua, found a divided front from which spears, javelins, and other missiles poured like water. Death-dealing weapons poured down like a swift rainstorm beating the sides of the fisherman's canoe and agitating the surface of the sea like a cloudburst over the deep ocean. The terrified soldiers were surrounded and took to flight; they were driven by Ka-hekili's men like leaves before a whirlwind. The plains of Kama'oma'o became like a fishpond through whose sluice gate the sea flooded, Ka-lani-'opu'u's men [became] like the mullet driven by the sound of beating into the sluice gate of 'Uko'a; and the sea rose up to the walls. Like the fiery petals of the lehua blossoms of Pi'iholo were the soldiers of Ka-hekili, red among the leaves of the *koa* trees of Liliko'i or as one glimpses them through the *kukui* trees of Ha'iku. Like the creeping branches of the 'ulei, so moved the cloaked warriors, young and middle-aged, over the 'ilima-covered plain of Paholei. A chill seized Ka-lani-'opu'u as he crouched in the canoe, mourning the dead who lay like fish stupefied by the poison spread by the great fisherman, Ka-hekili. Like grasshoppers on the plain, easily to be caught by women, so they lay in the heat of the sun snuggled close to the blossoms of the grasses. [Kamakau 1992:87]

Kalani'opu'u's army was annihilated in what was called *Ahulau Ka Pi'ipi'i i Kakanilua* or Slaughter-of-the-Pi'ipi'i-at-Kakanilua (Kamakau 1992:86), one of the most legendary battles of pre-Contact Hawai'i.

4.1.2 Captian Cook's Arrival in Maui

When Capt. James Cook and his ships *Resolution* and *Discovery* first entered the waters off the island of Maui on November 26, 1778; *Resolution* was positioned three miles off Kahului. He recorded in his logbook:

In the country was an elevated saddle hill, whose summit appeared above the clouds. From this hill, the land fell in a gentle slope, and terminated in a steep rocky coast, against which the sea broke in a dreadful surf. Finding that we could not weather the island, I bore up, and ranged along the coast to the Westward. It was not long before we saw people on several parts of the shore, and some houses and plantations. The country seemed to be both well wooded and watered; and running streams were seen falling into the sea in various places. [Speakman 1978:23]

Cook recorded that the Hawaiians who came out in canoes to trade for supplies appeared “to be of the same nation with the inhabitants of the islands more to leeward [i.e. O‘ahu and Kaua‘i] which we had already visited [ten months earlier in January 1778]; and [. . .] they knew of our having been there” (Speakman 1978:23-24). More ominously, Cook reported “these people had got amongst them the venereal distemper [which his crew had brought upon Kaua‘i]; and, as yet, I knew of no other way of its reaching them, but by an intercourse with their neighbours since our leaving them” (Speakman 1978:24).

4.1.3 The Battle of ‘Īao

The 1790 invasion of Maui by Kamehameha the Great of Hawai‘i Island, is memorialized in many place names within Wailuku. The Battle of ‘Īao is also known as the Battle of Kepaniwai, meaning the “Dammed Stream.” Prior to the Battle of ‘Īao, Kahekili had gained control of O‘ahu, Lāna‘i and Moloka‘i. However, in 1790, the defining battle establishing Kamehameha’s supremacy over the army defending Maui began at Pu‘unēnē. Crossing the channel from the island of Hawai‘i with his war fleet, Kamehameha I overwhelmed the Maui forces in Hāna en-route to engaging the main island defense force gathered along Maui’s northern coastline. Kamehameha I assembled his invasion forces at Kahului. With Kahekili on O‘ahu, the defense of Maui fell to his son, Kalanikūpule. The Maui forces were swept across the isthmus and destroyed at ‘Īao Valley, above Wailuku. The high chiefs and royalty of Maui fled to other islands, and Kamehameha I went on to defeat the combined forces of Kahekili and Kalanikūpule at Nu‘uanu, on O‘ahu in 1795.

The Battle of ‘Īao is said to have been one of the most bitter battles fought by Kamehameha I in his bid to control the Hawaiian Islands. The following passage recounts the Battle of ‘Īao and Kamehameha’s triumph in detail, citing his arrival to Maui and route through parts of the *ahupua‘a* and *moku* of Wailuku.

One tradition indicates that Kamehameha’s war canoes landed at Kalepolepo near Keālia Pond from where he proceeded inland toward Wailuku. The four streams of this region tell the story of the unfolding battle. Kamehameha placed a *kapu* on the first stream he came to, reserving it for *ali‘i*. Waikapū (“water of the conch”) was where the sacred conch shell was blown sounding the call to war. At Wailuku (“water of destruction”) Stream, the battle became fierce and many warriors were killed. The Maui armies were routed and took flight by way of the third stream, Waiehu (“water spray”), kicking up the water in a frenzied dash to get away. By Waihe‘e (“squid liquid”) Stream the Maui army was utterly defeated and simply melted away like the ink of a fleeing octopus.

However, another description of this decisive battles speaks of a landing at the Kawela area of Kahului Bay, perhaps a second wave, where two days of fighting into ‘Īao Valley took place. Here, with the help of a cannon, a terrible slaughter of commoners took place and in such great numbers that the dead bodies dammed up the water of Wailuku Stream. It has since been referred to as Kepaniwai, or “the water dam.” From here people fled to Kauwa‘upali (“precipice climbers” or “clawed of the cliff”) and ‘Īao Needle, scrambling up the steep cliffs to escape. Women, children, and the elderly fled up the gulch called A‘i, now known as Black Gorge. Chief Kalanikūpule and other Maui *ali‘i* are said to have escaped over the *pali* (cliff) to Lahaina, where they secured canoes and fled to O‘ahu.

Facing the valley entrance, Mauna Kane is the peak on the right, named after one of the major Hawaiian gods. On the left is Mauna Leo, meaning “voice mountain,” which, according to one source was changed to Lī‘ō (“terror”) after the invasion by Kamehameha. This fight between the armies of Hawai‘i and those of Maui is now known as the Battle of ‘Īao. [James 2001:62-63]

4.2 Early Historic Period

Estimates of the early historic period population of Wailuku are difficult to find. In regions where Protestant missionaries were stationed, statistical records are plentiful, but the missionary out-station region of Kahului appeared to have received scant attention during the 1820’s. In 1829, Protestant missionaries recorded school attendance figures for the out-stations of Wailuku as: 612 students in Waihu [Waihe‘e], 329 students in Waikepu [Waikapū], and 103 students in Waiehu, with no mention of Kahului (Richards 1829). The missionary census of 1831-1832 recorded a total population of 2,256 in Wailuku *ahupua‘a*, comprising 918 adult males, 860 adult females, and 478 children (Schmitt 1973:18). By the time of the 1840 census, the Wailuku population had dropped to 1,364, representing a decrease of 892 in just four years (Schmitt 1973:38).

An account by one of the missionaries in Wailuku, Rev. Richard Armstrong, gives a vivid picture of a tsunami at Kahului where the “entire village of 26 native grass houses” was carried away; in his journal entry of Nov. 8, 1837, Armstrong records:

A strange phenomenon appeared last evening in our neighborhood. About seven o’clock in the evening, the waves of the ocean just opposite our station, at a small harbor [*i.e.* Kahului], gradually receded from the shore to a distance of some 15 or 20 rods leaving multitudes of fishes upon the ground, so that the children observing it ran and picked up some of them; leaving a small schooner also, which was at anchor in the harbor, without sufficient water to float her completely, and the wave slowly formed itself as it were into an embankment, or as the natives said, a “steep precipice.” Then, as if having collected strength enough for the onset, the wave rushed back upon the beach, overflowed the banks, and carried away the entire village of 26 native grass houses with all their effects and inhabitants, some 40 or 50 rods inland, throwing most of the wrecks of houses, broken canoes, fowls, beasts, men, women, and children into a small lake of perhaps three miles circumference, which lay immediately inland from the village.

The rush of the wave was so sudden and unexpected, that the inhabitants of the village, unlike Lot in Sodom, had no warning whatever, except a few who seeing the sea receding from the shore suspected a corresponding reflux, and fled inland in season. But it is not easy for water to baffle a Hawaiian, this being the element with which he is most familiar. Some swam single handed with the waves. Others took their children in their arms. Others the sick on their backs and bore them up until the waters ceased from the earth. One man took his old mother on his back and swam with her until he reached the dry land, but, laying her down on the ground, he found she was dead. Another poor old woman, having no one to assist her, and it being dark got into the small lake and was drowned. These are all the lives that were lost. [*Maui News* Nov. 10, 1937]

Armstrong also recorded that the “overflow was confined to less than two miles of coast” and noted a report that “a similar overflow occurred shortly after the death of Kamehameha I, but no houses were destroyed or lives lost.”

James Jarves (1844), the first editor of *The Polynesian*, the third English-language newspaper in the Hawaiian Islands, included news about events in Kahului. He noted a “remarkable oscillation of the ocean” that occurred at Kahului on November 7, 1837:

At Maui, the sea retired about 20 fathoms, and returned with great speed, in one immense wave, which swept before it houses, trees, canoes, and all else exposed to its fury. At the village of Kahului, the inhabitants, as at Honolulu, followed with rapturous delight the retreating wave, when suddenly it turned upon them, rising like a steep wall, rushed forward to the shore, burying the natives in its foam, and destroying the whole hamlet. [Jarves 1844:19-20]

The use of the northern coastline landing at Kahului by early Europeans proved difficult, for far more records exist of early explorers and merchant ships at anchor off the southern, more protected coastline of Maui than along the exposed, northern coast. An account by the American missionary Rufus Anderson (1864) portrays the obstacle of landing in Wailuku District:

We were bound to Wailuku, situated near the western side of the isthmus connecting West and East Maui. After crossing the channel the wind increased, and so rough was the sea that our landing seemed not quite safe. Mr. Alexander met us on the shore, but in such a stand-storm that we were obliged to veil our faces. We breasted the gale for a dozen miles, and near Wailuku were wet to the skin by a storm of rain. [Anderson 1864:176]

During the early and middle 1800s, the Hawaiian demography was affected by two dramatic factors: radical depopulation resulting from Western disease and nucleation around the developing port towns. Traditional Hawaiian populations lived in a largely dispersed settlement pattern. Although there were royal centers and areas of more concentrated population, these areas never came close to rivaling the populations of the historic port towns that developed on Hawai'i's shorelines during the 1800s. Kuykendall (1938) notes that from 1830 to 1854:

The commercial development during this period, by magnifying the importance of a few ports, gave momentum and direction to a townward drift of population; the population of the kingdom as a whole was steadily going down, but the population of Honolulu, Lahaina and Hilo was growing. [Kuykendall 1938:313]

4.2.1 The Māhele and the Kuleana Act

The Organic Acts of 1845 and 1846 initiated the process of the Māhele—the division of Hawaiian lands—that introduced private property into Hawaiian society. On 27 January 1848, the Crown and the *ali'i* began to receive their land titles as *konohiki* (land manager) awards. For *konohiki* lands, a claim first had to be approved by the Land Commissioners. Upon confirmation of the claim, a certificate was awarded to the claimant. This certificate was called a Land Commission Award, which confirmed the claim of an individual for a parcel. The awardee could then obtain from the Minister of the Interior a Royal Patent (RP), which indicated the government's interest in the land had been settled by the payment of a commutation fee. Commutation means “an exchange, or replacement.” The commutation fee was usually set at a maximum of one-third

of the value of the unimproved land. The fee could be settled by the exchange of cash but was usually settled by the return of one-third of the lands (or cumulative value of the lands) originally awarded to the claimant (Chinen 1958:13).

On 19 October 1849, the Hawaiian Privy Council adopted resolutions to protect the rights of native tenants, the *maka'āinana*, or the “common” people. The Kuleana Act of 1850 confirmed these rights. Under this act, the claimant was required to produce two witnesses who knew the claimant and the boundaries of the land, knew that the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim. The land also had to be surveyed. Native tenants or naturalized foreigners who could prove occupancy on the parcels before 1845 could be awarded lands they occupied or that they cultivated as *kuleana* awards. No commutation fee was necessary to apply for a Royal Patent for a *kuleana* award, as the commutation fee had presumably already been paid by the *ali'i / konohiki* who had been awarded the entire *ahupua'a*, or *'ili* in which the native tenant claimed his own small parcels (Chinen 1958:29–30).

It is through records for LCAs generated during the Māhele that the first specific documentation of life in Hawai'i as it had evolved up to the mid-nineteenth century comes to light. Although many Hawaiians did not submit or follow through on claims, or simply were not granted the claims for their lands, the distribution of LCAs can provide insight into patterns of residence and agriculture; many of these patterns probably had existed for centuries past. Examination of the patterns of *kuleana* LCA parcels in the vicinity of the project area can provide insight into the likely intensity and nature of Hawaiian activity in the area.

LCAs in Wailuku Ahupua'a were more commonly awarded in the western portion of the *ahupua'a* while only two LCAs were awarded within the eastern portion, reflecting the settlement patterns in the area.

Following the Great Māhele of 1848 the *ahupua'a* of Wailuku was declared Crown Land to be used to support the Kingdom of Hawai'i. Ruth Ke'elikolani, half-sister of Kamehameha V (Lot Kapuāiwa), inherited the *ahupua'a* of Wailuku from Lot Kapuāiwa on his death in 1872. Ruth Ke'elikolani then sold a portion of her Wailuku land holdings to the sugar-industrialist Claus Spreckels in 1882. Spreckels subsequently received Land Grant 3343 from King Kalakaua, that consisted of 24,000 acres of the southeastern portion of the Wailuku Ahupua'a (Zambucka 1977:48).

Lands were further partitioned and set aside as Government lands, which were defined and managed as indicated below:

...those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act ... (p)rovided, however, that the Minister ... shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdo m... [Kingdom of Hawaii 1848]

In 1850, most of the chiefs ceded a third of their lands to the Government in order to obtain an allodia title for the remainder and thus greatly increasing the Government land base (Alexander 1890:114). The designation of lands to be set aside as Government lands, paved the way for land sales to foreigners. Therefore, in 1850, the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995:41-51).

In designations of lands as either Crown or Government, and through all awards of whole *ahupua'a* and *'ili* (land district), the rights of the native tenants were expressly reserved, “Koe na Kuleana o Kanaka” (Reserving the Rights of Native Tenants) (Alexander 1890:114). In an Act ratified on 6 August 1850, the gathering rights of the common people for personal use, which included the gathering of both terrestrial and marine resources, in addition to the right to water and the right of way on the lands of the *konohiki*, were guaranteed and embodied in Section 10477 of the Civil Code (Alexander 1890:114-115). By this same Act, resolutions passed by the Privy Council granted fee simple titles, free of all commutation, with the exception of awards granted within the towns of Honolulu, Lāhainā, and Hilo, to all native tenants for their cultivated lands and house lots (hereafter referred to as *kuleana* land) (Alexander 1890:115). Claims of the native tenants, or *kuleana* land claims, were presented to the Land Commission whose duty was to:

...ascertain the nature and extent to each claimant's rights in land, and to issue an Award for the same which is prima facie evidence of title “and shall furnish as good and sufficient a ground upon which to maintain an action for trespass, ejection or other real action against any other person or persons whatsoever, as if the claimant, his heirs or assigns had received a Royal Patent for the same” [Alexander 1890:110].

Land Commission Awards (LCAs) are *kuleana* land awards or claims that were approved by the Land Commission and granted by ministers representing the Kingdom of Hawaii's Department of the Interior. These awards were granted to tenants of the land, Native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners who could prove occupancy on the parcels prior to 1845.

The current project area was not within an LCA; however, several LCAs are to the north and LCA 0420, a large sand hill with a house lot containing a stone house, borders the entire southeastern boundary (Figure 9 and Table 2). LCA documentation and testimony was reviewed via the Waihona 'Aina (2000) database. Many of the neighboring LCAs abutted the Wailuku River to the north (Figure 10 and Figure 11). The LCAs in the vicinity are in the *'ili* (land division) of Popohaku and included house lots, *mo'o* (narrow strip of land) of *lo'i* (pond field), *kalo* (taro), *kula* (pasture), *kula wauke* (pasture land for paper mulberry trees), cultivated gardens, and *poalima* (land farmed by tenants for the *ali'i* on one out of five days) or *ko'ele* (tenant labor for a chief on Fridays).

4.3 Mid-Nineteenth to Early Twentieth Centuries

During the American Civil War in the 1860s, Hawaiian sugar prices rose significantly, leading to the formation of 12 large sugar plantations on the island of Maui; the most of any Hawaiian Island. The Wailuku Sugar Company was organized in 1863. The enterprise was a cooperative venture of James Robinson & Company, Thomas Cummins, J. Fuller, and C. Brewer & Company. The Catholic Mission agreed to give the Wailuku Sugar Company a right-of-way across their

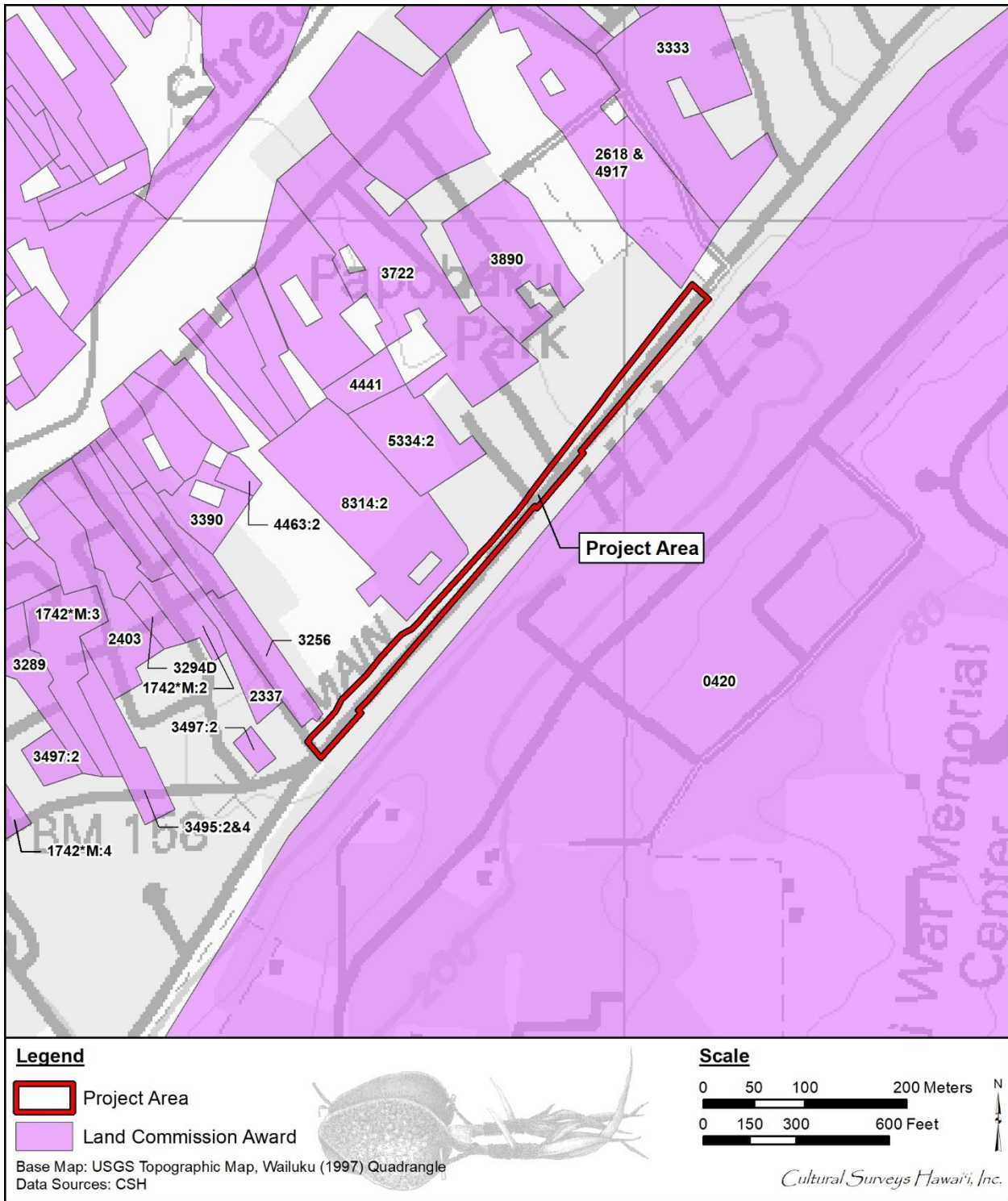


Figure 9. Land Commission Awards in the immediate vicinity of the project area

Table 2. Land Commission Awards in the immediate vicinity of the project area

Land Claim No.	Claimant	'Āpana (Sections)	'Ili (Land Division)	Description
0420	Kuihelani	2	Owa	Land and house lot with stone house
1742*M:2	Kaaupai, Z.	8	Paeohi, Papohaku, Kailoaiki, Wailoanui, Kamani, Kaluaahoo (Kaluaaha), Owa	Land in Wailuku is 7 pieces with 'ili of Papohaku, # 2 was awarded a house lot and reportedly contained 4 <i>mo'o</i> of <i>lo'i</i> and a <i>kula wauke</i>
1742*M:3				Contains 5 <i>lo'i</i> and 3 <i>mo'o</i> of <i>kalo</i>
1742*M:4				Contains 1 <i>lo'i</i>
2337	Ihuole	2	Papohaku, Kupalaalaea	In the 'ili of Papohaku, there are 19 <i>lo'i</i> , 1 <i>hala</i> tree, and 4 cultivated gardens
2403	Kaiaiki	1	Papohaku	Contains 23 <i>lo'i</i> , "from ones with water to the dry ones"
2618	Pokii & Kamaka	2	Kiiwela, Kuipaa	No. 1 is 6 <i>lo'i kula</i> and 3 dry cultivated places in Kiiwela; No. 2 is 3 <i>lo'i</i> in Kuipaa
3256	Haolaua	1	Papohaku	Contains 7 <i>lo'i</i>
3289	Moo	1	Papohaku	Contains 20 <i>lo'i</i>
3294D	Kahue	2	Papohaku, Kapalaalaea	No. 1 is a <i>mo'o</i> of <i>kalo</i> in Papohaku; No. 2 is 2 <i>lo'i</i> of <i>kalo</i> in Kapalaalaea
3333	Nika, wahine	4	Kapaaloa/Kapola, Auhaka	Contains 5 <i>lo'i</i> and a <i>mo'o</i> of <i>kalo</i>
3390	Paele	2	"Kahalui", Pohakea	Contains 22 <i>lo'i</i> , <i>hala</i> , and 1 <i>kula</i> at Pohakea; No. 2 is a house lot in Kalua
3495:2 & 4	Kawaahie/Kawahie, wahine	4	Papohaku	Claimed a total of 18 <i>lo'i</i> ; reportedly # 2 is a section of <i>kalo</i> land and # 4 is a house lot

Land Claim No.	Claimant	'Āpana (Sections)	'Ili (Land Division)	Description
3497:2	Kaulahea	1	Papohaku	Claimed 15 <i>lo'i</i> ; reportedly also a house lot
3722	Moanalua	2	Lamalunui	Claimed 93 <i>lo'i</i> bounded by a stream on the north
3890	Paoa/Pooa	1	Lamalii iki	Claimed 38 <i>lo'i</i> and <i>kula</i>
4441	Kapahi	1	Lamalii	Claimed 15 <i>lo'i</i> and a <i>kula</i>
4463:2	Kalaehaeha	3	Auhaka, Pohakea, Lamalii	No. 2 is 4 <i>lo'i</i> in Pohakea
4917; see also 2618	Kamaka	3	Kaawela, Kiiwela, Pauniukai	Claimed 23 <i>lo'i</i> ; <i>kalo/paalima lo'i</i> in Kiiwela and a house lot in Pauniukai
5334:2	Pupuka	3	Lamalii, Ohia	Claimed 3 <i>lo'i</i> and <i>ko'ele/paalima</i>
8314:2	Kekipi	7	Kalaea, Honohina, Hulaia, Kuaiki, Makoloko, Pauniu	No. 2 is <i>kalo</i> land in Pauniu with 7 <i>paalima</i>

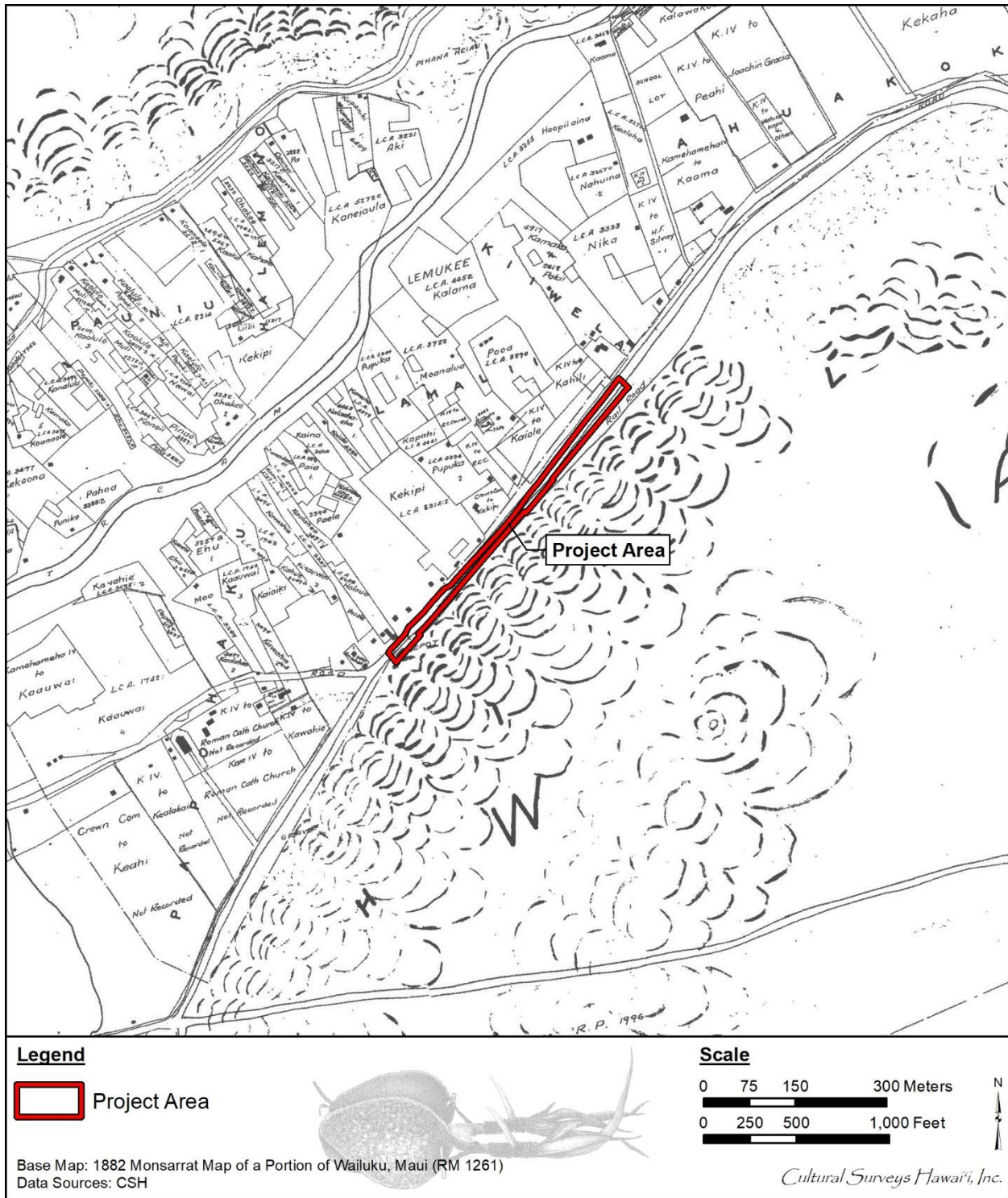


Figure 10. Portion of Monsarrat (1882) map showing the project area in relation to LCAs and the sand hill to the south

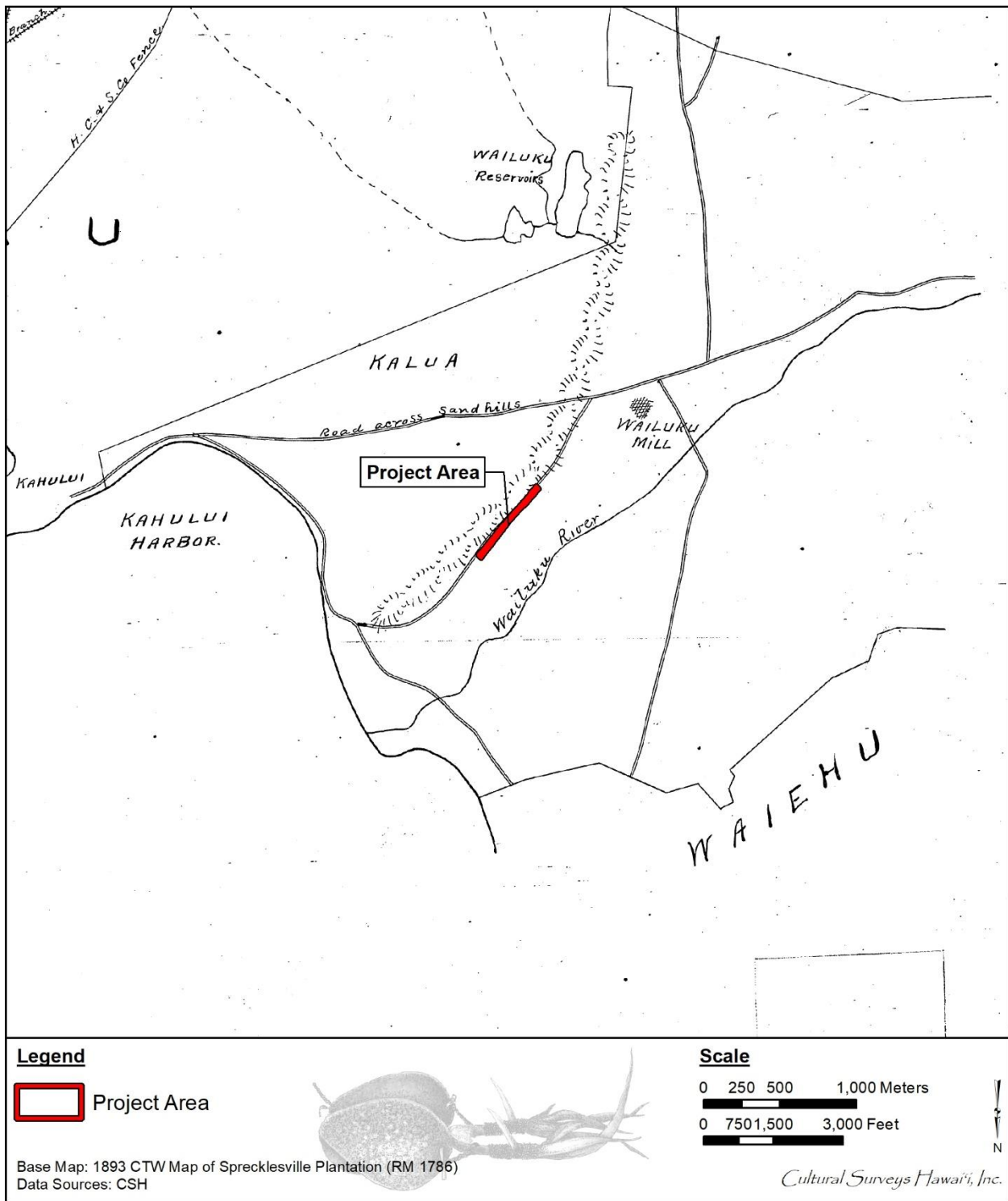


Figure 11. Portion of CTW (1893) map showing the project area in relation to the sand hills at the east, the Wailuku Sugar Mill to the south, and Wailuku River to the west, note the map is oriented south

property for a railroad. In this manner, the enterprise laid a railway line to Waiehu and Waihe'e, by way of Lower Wailuku (Condé and Best 1973:267).

Beginning in 1878, the first steam locomotive of the Kahului and Wailuku Railroad, an English-made Fowler locomotive named "Queen Emma", had been set up on three miles of track at the Kahului Harbor, and in 1879 began to run between the sugar mills of Wailuku and the Port of Kahului (Best 1978:13; Conde 1993:47). In short order, the Hawaiian Commercial & Sugar Company (HC&S) plantation of Claus Spreckels ran English-built Fowler steam locomotives through their fields to move harvested cane to a mill in Spreckelsville and thence to the Kahului Harbor for shipment. The project area is in the Lower Main Street section of the town of Wailuku, in an area once known for the route of the railroad connecting Wailuku with the Port of Kahului (Figure 12).

In these early days of the industry, each sugar mill was powered by oxen. By the 1880s, all the mills were powered by steam. It was during this time that Wailuku became a plantation center predominantly populated by foreign labor.

The economic progress of sugar demanded the importation of people from the Philippine Islands, Japan, Puerto Rico, and Portugal. The sale of government lands in Wailuku for sugar helped to supplement income to the government of Hawai'i, an economic condition which intensified with the collapse of the whaling trade in the 1860s and the signing of the Reciprocity Treaty of 1876, with the United States. The Reciprocity Treaty allowed Hawaiian sugar into the California market duty free. The American settlement of California hastened the need for Hawaiian sugar, following the loss of sugar production in Louisiana during the Civil War. Between 1860 and 1880, Wailuku prospered with approximately 2,250 acres in sugar and a foreign population diversified to effectively harvest nearby forests to burn for steam power, to plant and grow sugar cane, to mill and bag sugar, and to transport the product by railroad to the Port of Kahului (MacLennan 1997:97-104). William H. Bailey bought the Edward Bailey & Sons Plantation from his father and combined it with the Wailuku Sugar Plantation. He became manager in 1878 and president in 1882 (McCullough 2010:252).

Large numbers of sugar laborers arrived on Maui during the late 1800s and early 1900s; many of them Catholics, swelled the settlement of plantation camps around the existing Catholic churches (Figure 13). In this manner, Wailuku and the region around Pu'uohala Village became the centers of plantation camp housing for the Wailuku Sugar Company. In all, there were 11 camps for the Wailuku Sugar Plantation. The sugar mill of the enterprise was located along the 'Īao Stream in the northern portion of Wailuku (Figure 14).

In 1873, the Wailuku Catholic Boy's School had 74 pupils. The changeover from teaching in the Hawaiian language to English was accomplished at the Wailuku Catholic Boy's School by Father Sullivan in 1875. In 1884, the Franciscan Sisters took the helm at St. Anthony's Girls' School. When the Mary Knoll Sisters took over this position in 1928, the school's enrollment went from 400 pupils to over a thousand, at which time work commenced on a new Girl's High School Building, which was completed in 1940 (Schoofs 1978:300-301).

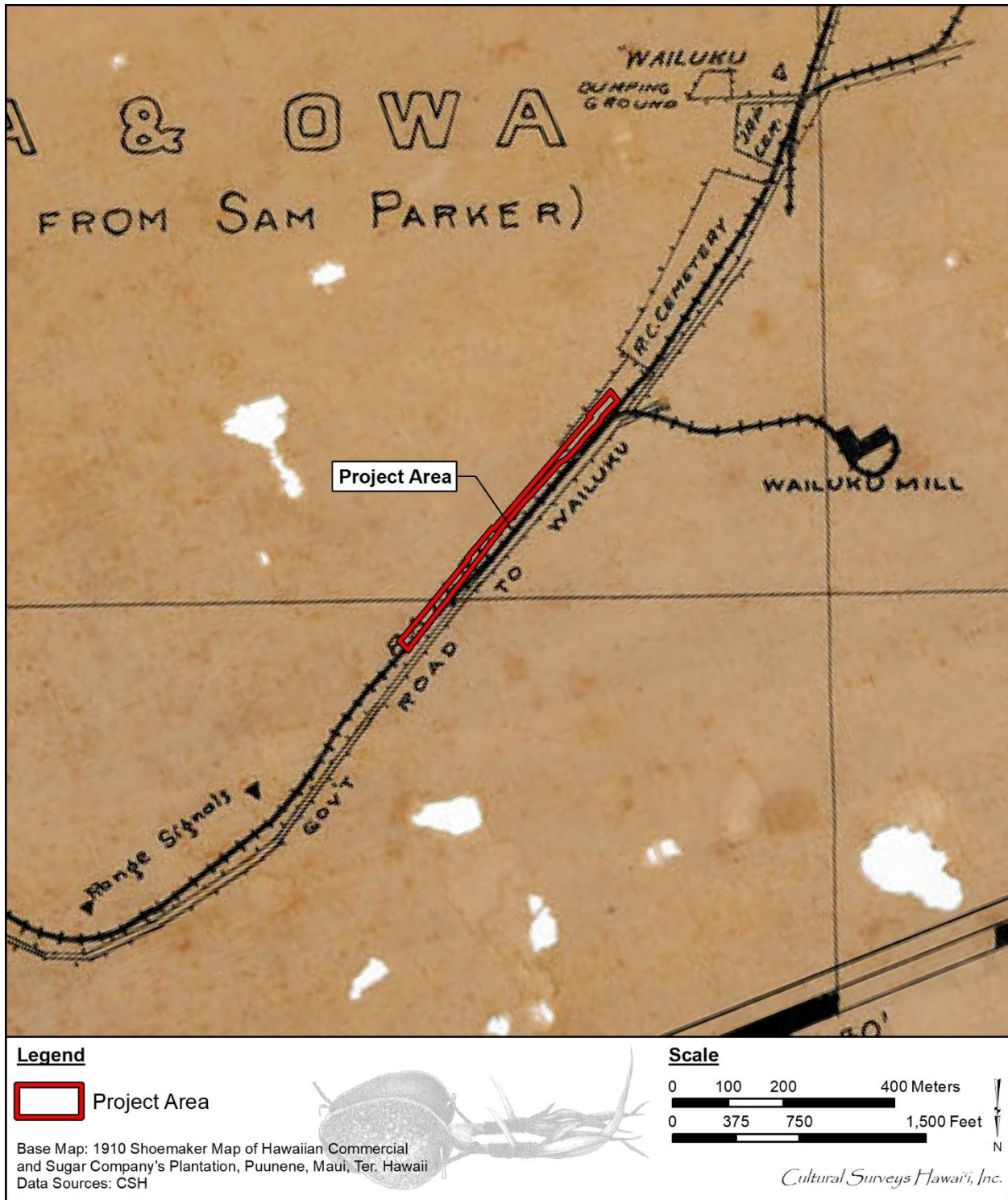


Figure 12. Portion of a 1910 Hawaiian Commercial & Sugar Company map of Central Maui showing the project area in relation to the railroad linking the Wailuku Sugar Company mill with the Port of Kahului; note the map is oriented to south



Figure 13. Circa 1870 photograph showing the town of Wailuku and the spire of the Ka'ahumanu Church (at upper left) and a horse-drawn cart in the foreground appears to be heading toward Kahului on a portion of the government road, present-day Lower Main Street (collection of R. Hill, CSH), view to northwest

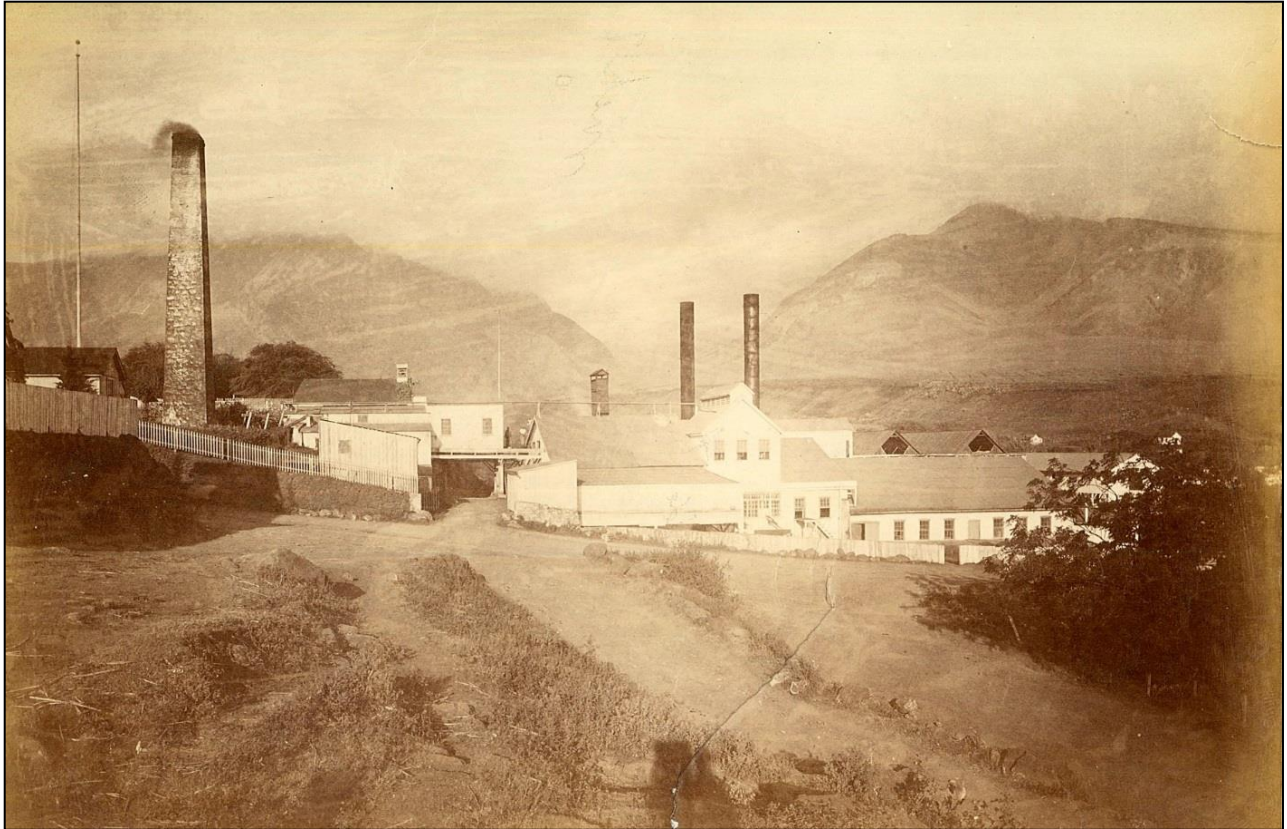


Figure 14. Circa 1870 photograph of the Wailuku Sugar Company mill constructed in the 1860s, located at the end of Market Street (collection of R. Hill, CSH)

4.3.1 The Sugar Industry

A common, introduced crop on nearly all major Hawaiian Islands was sugar cane. In the early nineteenth century, Hung Tai, a Chinese immigrant operated the first sugar mill in Wailuku (Cushing 1985:28). Among the early government grants in the upland area of Wailuku Ahupua'a were lands set aside for the Wailuku Sugar Company, a plantation first organized in 1862 by James Robinson & Company, Thomas Cummins, J. Fuller, and agent C. Brewer & Company. The success of sugar grown in the region resulted in a second large plantation, in Waihe'e, producing over 757 tons of sugar and 45,000 gallons of molasses in 1865. The Waihe'e mill manager was Samuel T. Alexander, and the mill's head foreman was Henry P. Baldwin, both of whom would resign in the late 1860s to establish a small sugar enterprise of their own in upper Pā'ia (Gilmore 1936). Wailuku was soon to become proverbial for the new plantings. S. W. Nailiili would describe Wailuku in 1865 as "*O ka apana nona ka Hekuawa o ka helu akahi o na apana mahi ko*" ("Wailuku, the district to which the Guava trees belong and the number one sugar cane cultivating lands").

In 1869, on land located just west of Pā'ia, a small *kuleana* of 11.94 acres was purchased by S.T. Alexander and his business partner, H.P. Baldwin, both descended from missionary families, who were eager to apply their agricultural experience to their own plantation. This initial land purchase was the beginning of the development of the entire central isthmus for sugar cultivation. In rapid succession, Alexander & Baldwin expanded its operations by purchasing other small *kuleana*, setting up a mill, and attracting more investment capital (Dean 1950).

In 1876, a treaty was signed between the Kingdom of Hawai'i and the United States, which opened larger and more lucrative markets for Hawaiian sugar. Plans were immediately drawn up by Alexander & Baldwin to finance a ditch to bring water from the Hāna region of East Maui to the arid plains of Pā'ia. The Kingdom of Hawai'i issued a lease for the construction right-of-way, and in 1879, the successful venture delivered millions of gallons of water to the Pā'ia region via the Hamakua Ditch (Wilcox 1996:16).

Competition was supplied by Claus Spreckels who engineered a similar irrigation ditch from Honomanū in East Maui to lands located just inland of Kahului, where the Spreckelsville mill and plantation camp were built. Spreckels invested three million dollars in the Hawaiian Commercial & Sugar Company (HC&S), and competed for sugar lands, wharf and warehouse space, railway lines, and shipping schedules with Alexander & Baldwin (Dorrance and Morgan 2000).

In 1882, Spreckels, following his success in building the Honomanu Ditch linking East Maui water sources with his sugar fields in the central isthmus, further capitalized on that success to engineer the Waihe'e Ditch [also named the Spreckels Ditch] in West Maui. The 15-mile-long ditch started at the 435 ft. elevation of Waihe'e Stream, and carried 60 million gallons of water (per 24-hour day) to the Wai'ale Reservoir at the 214 ft. elevation of Wailuku. Spreckels became the first plantation owner to irrigate his fields by water from both Haleakalā and the West Maui mountains (Wilcox 1996). By 1888, the Spreckels plantation covered 28,000 acres, making it the largest sugar plantation in the world. Financial pressures forced Spreckels to give up control of HC&S to Alexander & Baldwin in 1898 after a long and fierce battle (Dean 1950).

In 1899, HC&S determined that cultivating the Pu'unēnē plains required far more water than the original Hamakua Ditch could provide. The Lowrie Ditch project, completed in 1900, was undertaken to provide an additional source of water to the central Maui plains (Thrum 1900). The

ditch began at the Pāpa'a Reservoir, at 1,000 ft. elevation, and maintained a four-foot drop per mile following the ditch's initial plunge from the Kailua reservoir. Steep mountain gulches were traversed using the force of the constant weight of water flowing in a series of siphons. The Halehaku Gulch, at 250 ft. deep, and the Māliko Gulch, at over 350 ft. deep, were both crossed by giant siphons fabricated of three-eighths-inch iron, and set in place by Japanese laborers. At a weir located above Pā'ia, the allocation of water began. The first tenth of the water flow in the Lowrie Ditch was divided out to the Pā'ia Plantation (an 11/20ths share) and the Haikū Plantation (a 9/20ths share) (Thrum 1900).

In 1899, HC&S was planning its new mill at Pu'u Nēnē which processed its first cane in 1902 (Bartholomew and Bailey 1994:121). By 1902, with the new Pu'unēnē mill completed, a new milling contract with HC&S provided that all cane loaded by the Kihei Plantation Company was to be ground and manufactured into sugar by HC&S. Pu'unēnē Mill and Pā'ia Mill, as well as the network of railroad lines connecting the company's fields and villages, experienced continued growth in the early twentieth century. Between 1900 and 1905, acreage harvested doubled, from 2,484 to 4,827 acres. Tons of sugar produced more than doubled, from 17,857 to 39,411 (Gilmore 1936), and the adoption of heavier rails and a wider rail gauge caused HC&S to completely renovate the plantation railroad (Conde and Best 1973).

From the time it opened and for a several years after, Pu'u Nēnē was home to the largest sugar mill in the world (Figure 15). At the height of its production, Pu'u Nēnē mill covered a vast 33,000 acres. A total of 16,000 was used for sugar cane and the remaining acreage saw residential camps, a hospital, a grade school, a church, and recreational facilities for the employees (Bartholomew and Bailey 1994:121).

The plantation villages of the Pu'u Nēnē area grew quickly to surround the new mill. Between a huge influx of immigrant workers in 1909, and the burning of village areas of Pā'ia and Kahului to control smallpox in 1910, changes to the camp system were in full swing. The plantation workforce continued to expand until 1917, when the United States declared war on Germany, and the accompanying draft seriously depleted the labor pool. By 1919, postwar requirements for sugar had driven the price to \$471.40 per ton: an all-time high (Burns 1991).

4.3.2 Kahului Railroad Company

The Kahului Railroad Company, founded by Thomas Hobron, was incorporated on July 1, 1881. By 1886, with a terminal established at Kahului, the railroad comprised a line from Kahului to lower Paia and from Kahului to the town of Wailuku. In 1886, the railroad company was sold to Wilder Steamship Company which subsequently applied for and received, in 1889, authorization from the Hawaiian government to engage in maritime shipping operations. Ten years later, in 1899, the railroad company was once again sold, this time to the Hawaiian Commercial & Sugar Company, headed by Henry P. Baldwin.

The Kahului Railroad berm (Site 50-50-04-3112) was part of the network laid by the Kahului Railroad Company. By the early decades of the twentieth century, the branch of the railroad between Kahului and Wailuku handled transportation of all freight to and from the Wailuku Sugar Company, Libby McNeill & Libby's pineapple plantation, and the businesses within Wailuku town. Additionally, it served as transport for the community, with students and other commuters riding the railway until Kahului Railroad implemented a bus service for its passengers in the mid-1930s (Bartholomew and Bailey 1994:79). The company was responsible for the development of



Figure 15. Hawaiian Commercial & Sugar Company mill (Bartholomew and Bailey 1994)

Kahului Harbor; in addition to its work on the breakwaters, the company improved upon the existing docks in order to provide a sturdier wharf for the shipping of its cargo. This improvement facilitated the harbor's growth as a major shipping port.

The railroad continued to operate until 1966, making it not only the first but also the last operating railroad in Hawai'i. In 1970, a part of the Kahului Railroad was brought to life as a portion of its deserted tracks were laid down in Lahaina and the surrounding area to serve as a scenic, historic railway for tourists and residents (Bartholomew and Bailey 1994:80).

4.4 1900s

By 1900, Wailuku had a system drawing water from 'Īao Valley to a reservoir in town, a newspaper, three hotels, and a power plant was planned for Kahului to supply electricity to Wailuku. 1900 was also the year in which the bubonic plague broke out in Kahului, the first death recorded as caused by the plague occurring on Saturday, February 4th. An article in the *Maui News* of Feb. 17, 1900 announced:

The plague has reached Maui. Six deaths have occurred and the whole of Chinatown [in Kahului] is a heap of ashes. The people of Maui are aroused to action and feel confident of being able to control and stamp out the pest in a short time
...

... Sheriff Baldwin at once established a strict quarantine at Kahului which is still maintained. The Maui Board of Health met at once and selected a site for a pest house and one for a detention camp, the latter being established at the race track of the Maui Racing Association. . .

... by noon on Monday [Feb. 13] the detention camp was ready for its occupants. Over 200 Chinese, Japs and natives were fumigated and dressed in new suits, and at two o'clock the procession quickly moved out to their new quarters.

Scarcely had they reached their destination before everything was prepared for the destruction of their old quarters. At three o'clock a cloud of dust and broken timbers leaped into the air, accompanied by the savage roar of dynamite; then another and another, being the exterior houses of the doomed district. Soon dense volumes of smoke, through which pierced yellow shafts of flame, told that the work of destruction was begun. In two hours the whole block from the Kahului saloon to the Custom House was a heap of glowing ashes. The breeze was from the sea and no trouble was experienced in holding the fire within the prescribed district. [*Maui News*, Feb. 17, 1900]

An account of Wailuku in 1901 states that the newly constructed railroad linking the Kahului wharf to Wailuku, Sprecklesville, and Pā'ia allowed new opportunities in the marketing of fish from Kahului to inland locations (Maly and Maly 2003:452). The fish market of Wailuku sold fish caught in Kahului and was described as, "a small affair with only 5 stalls, which are run by 2 Chinese and 5 natives, and is owned by a private individual" (Maly and Maly 2003:433) (Figure 16). The growth of Wailuku, which was named the county seat in 1903, continued during the first decades of the twentieth century. An early photograph, circa early 1900s, taken from the Wailuku sand hills show the town expanding into former cane fields (Figure 17).



Figure 16. Wailuku Fish Market circa 1886 (Hawaii State Archives)



Figure 17. View toward 'Īao Valley from Wailuku sand hills showing Wailuku Town, ca. early 1900s (Bishop Museum Archives)

4.4.1 Military

In the early 1940s, the harbor town of Kahului was transformed from a sleepy plantation mercantile area to an important military defense depot. Following the entry of the United States in World War II, the rapid construction of military defensive structures demanded the immediate use of plantation wharf space, heavy equipment, and operators. Plantation employees from Wailuku and Kahului were pressed into emergency service until military construction personnel arrived in the Hawaiian Islands.

On January 1, 1942, Kahului Harbor was shelled by Japanese submarines which prompted return fire from U.S. shoreline artillery forces (Clark 1989). By early 1942, the Navy's 39th Construction Battalion had reinforced the pre-war construction gangs composed of Pacific Naval Air Bases (PNAB) personnel and plantation labor. Completion of Naval Air Station (NAS) Pu'unēnē in 1940 and NAS Kahului in 1943 accelerated and heightened coastal defenses on Maui in the World War II era (Woodbury 1946) (Figure 18).

4.4.1.1 Post-War Wailuku

Immediately following the end of World War II, NAS Pu'unēnē was completely dismantled. Over one thousand acres of fertile growing land in north Kīhei were returned to sugar cultivation by HC&S. HC&S became the largest sugar producer in the U.S. when it acquired Maui Agricultural Company in 1948 (Hawaiian Commercial & Sugar Company 2018). On the development side, more improvements were made to the lands of NAS Kahului, to create a modern civilian airport where the U.S. Navy's second Carrier Air Service Unit (CASU) had once been based.

Early in the morning, April 1, 1946, coastal residents of Kahului, NAS Kahului, Spreckelsville, Kaunoa, and Pā'ia found themselves floundering in a quickly rising tide of ocean where their houses had once been. A tidal wave flattened the Officer's Club at NAS Kahului, uprooted trees, and destroyed residences. Including losses on the Ke'anae Peninsula, along the Hāna coastline, 14 people were killed, 77 homes and buildings demolished, and 156 buildings partially damaged (Shepard et al. 1950).

Postwar Maui saw the wholesale development of Kahului as a master-planned community providing fee-simple ownership of single-family homes. The majority of the homes, located between Baldwin High School and Pu'unēnē Avenue, were purchased by plantation employees and servicemen returning from duty overseas. This trend continued throughout the 1950's, with plantation camp populations falling in the outlying communities, including Pu'unēnē, and rising in the central town site of Kahului's new "Dream City" (Dean 1950). The early postwar years (1946-1950) saw the increased construction of urban infrastructure in Wailuku, including projects such as the Maui Memorial Hospital in Wailuku. Areas once occupied by the military returned to cattle ranching, and pineapple and sugar cultivation. The pace of social change began to accelerate. The political power base of the County of Maui began to include Nisei, second-generation Japanese Americans, who had returned from service in Europe during World War II.

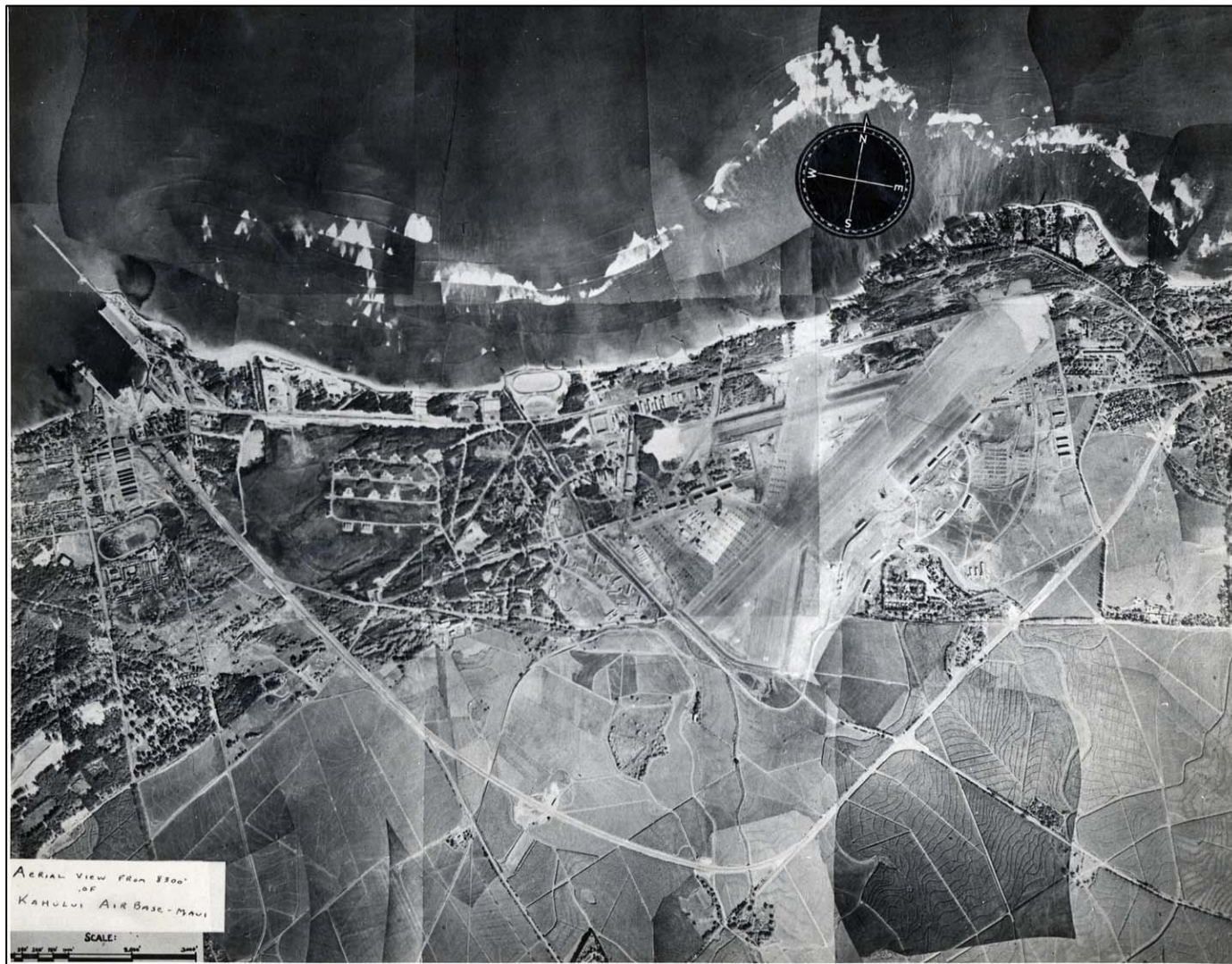


Figure 18. An aerial photograph showing Naval Air Station Kahului, 1945 (Hawai'i Aviation)

Their involvement in county politics began to swing political power from the large agribusiness owners to the union leaders representing plantation workers eager for a change (Speakman 1978:148-149).

In the years during the Korean War (1950-1953), the modernization of the workforce and stronger unions brought a host of changes to the central region of Maui. Gone were the railroads of the prewar age, replaced by trucks and mechanized sugar and pineapple harvesters. The modernization of the Kahului Harbor meant that canned pineapple, bulk sugar and molasses could be loaded onto ships faster.

4.5 Contemporary Land Use

In 1905, the Honolulu Iron Works constructed a new sugar mill for the Wailuku Sugar Company (Figure 19) on a site located just north of the St. Anthony's Church and School (Figure 20), itself adjacent to the County of Maui Papohaku Park.

Many homes and buildings in Wailuku town date from the 1920s; the heyday of prosperity of the Wailuku Sugar Company. Many private and public buildings in Wailuku have plantation-inspired architectural and historical significance. Beginning in the early years of the twentieth century, the Wailuku Sugar Company, took control of the Spreckels Ditch, which runs transverse to and collects water from the Waihe'e, Waiehu, and Wailuku Streams, and engaged in a 20 year dispute with HCS of Kahului over control of the water collected. In 1924 the two companies agreed to a division of the water based on the number of hours each received the flow of water per day and night.

The Wailuku Sugar Company was making a profit at the time of statehood in the late 1950s but cut its last cane crop in 1988. After that it tried diversifying under the name Wailuku Agribusiness, planting macadamia groves and building the Maui Tropical Plantation in Waikapū (Wilcox 1996:122; Wood 2008).

A 1946 Iao Valley Water Rights map shows the development of Baldwin High School within the former sand hills area, east of the project area (Figure 21). A 1977 aerial photo depicts the highly developed land around the project area (Figure 22).

Following statehood for Hawai'i in 1959, mainland retail giants S.H. Kress & Co. and the National Dollar Stores Ltd. expanded their existing locations in Wailuku, and a Ben Franklin Store anchored the new Kahului Shopping Center. Manpower for the construction of new tourist resorts in the outlying leeward areas of Maui would come almost exclusively from Maui's central district (Bartholomew and Bailey 1994:132).

The sugar industry saw further consolidation in 1962 when HC&S became a division of Alexander & Baldwin Inc (Hawaiian Commercial & Sugar Company 2018). In 1966, what was once the quarry department of the Kahului Railroad and the ready-mix concrete and concrete products department of A&B Commercial Company combined to form Concrete Industries Inc., a wholly-owned subsidiary of Honolulu Concrete and Draying, Ltd. Today Kahului is home to Maui's largest population due in part to its status as the main port and industrial center for the Island of Maui.

By 1988, after 125 years of sugar operations, and varied attempts at diversified agriculture, the Wailuku Sugar Company mill was closed, scrapped, and the site redeveloped as an industrial park.

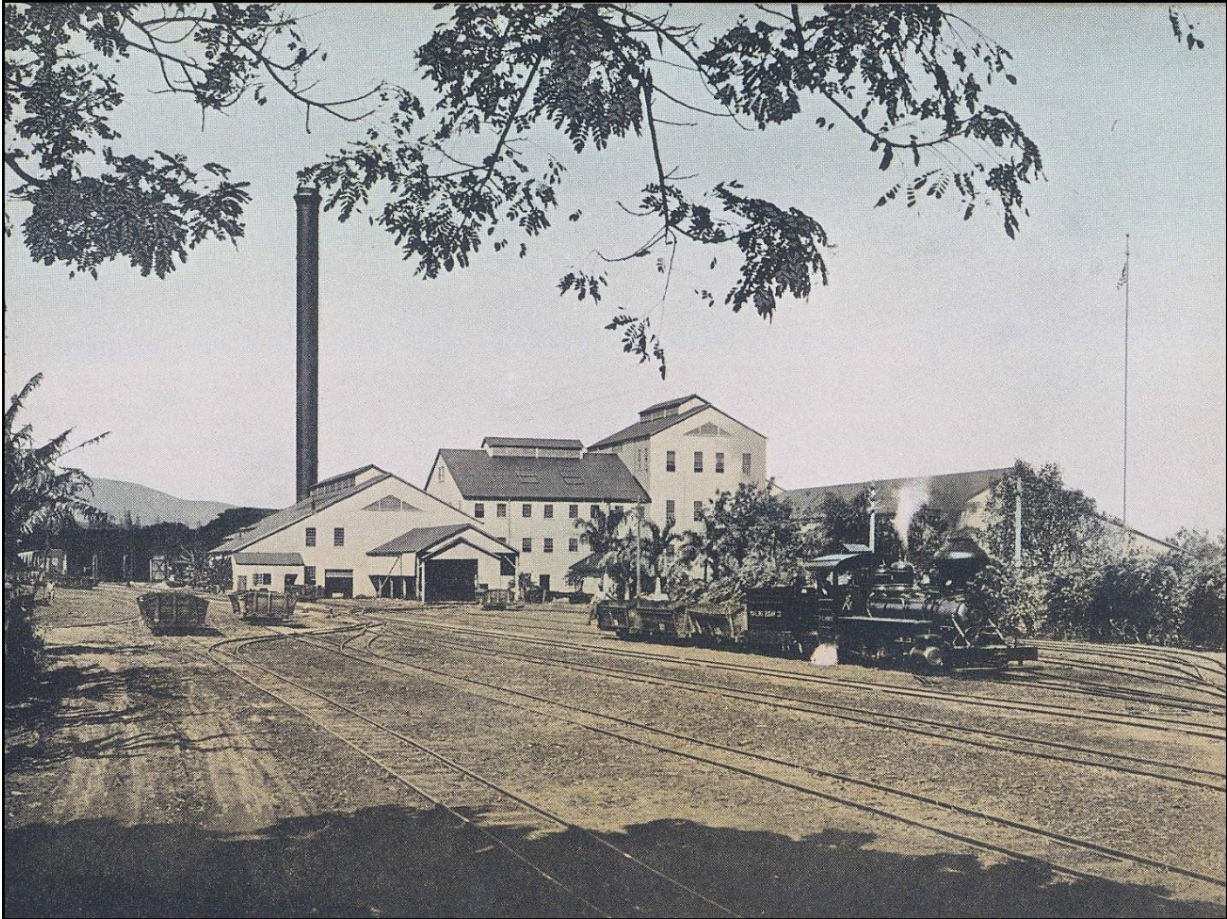


Figure 19. Circa 1924 photograph of the second Wailuku Sugar Mill (built in 1880) located northwest of the present project area, prior to the dissolution of the Wailuku Sugar Company in 1989 (Iron Works 1924)

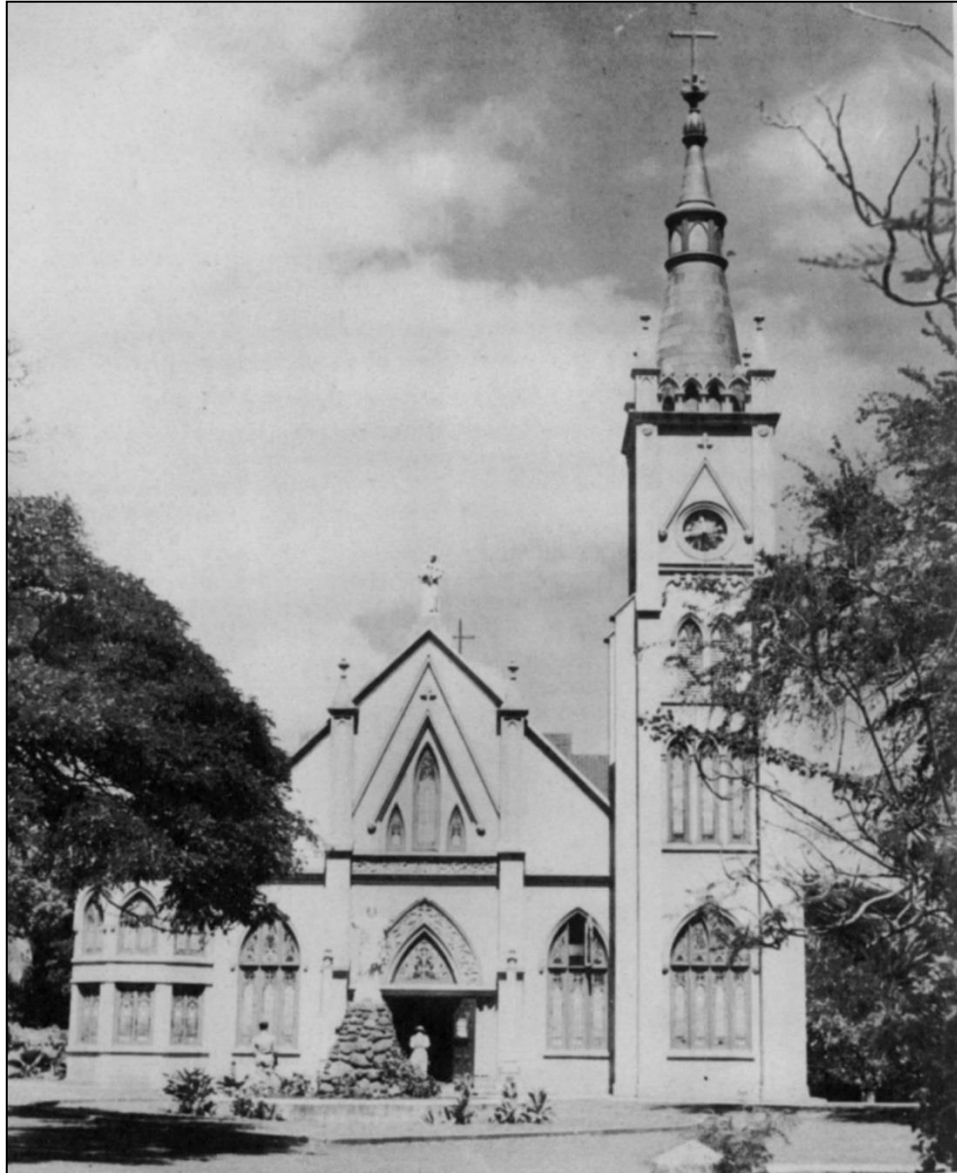


Figure 20. Circa 1945 photograph of St. Anthony's Church, the first stone church in central Maui (News 1945)

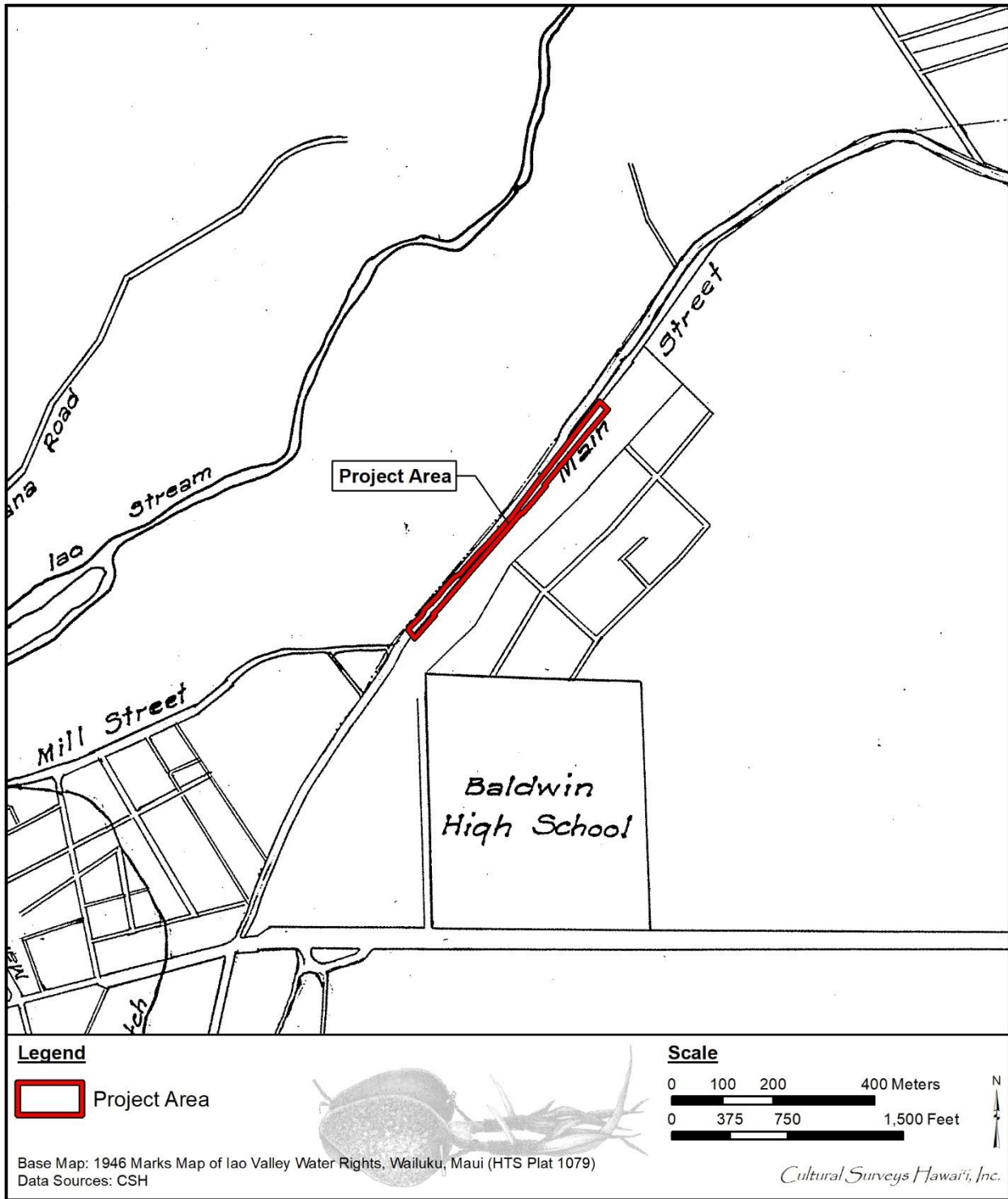


Figure 21. Portion of 1946 Iao Valley Water Rights map showing the project area; note development within the former sand hill area

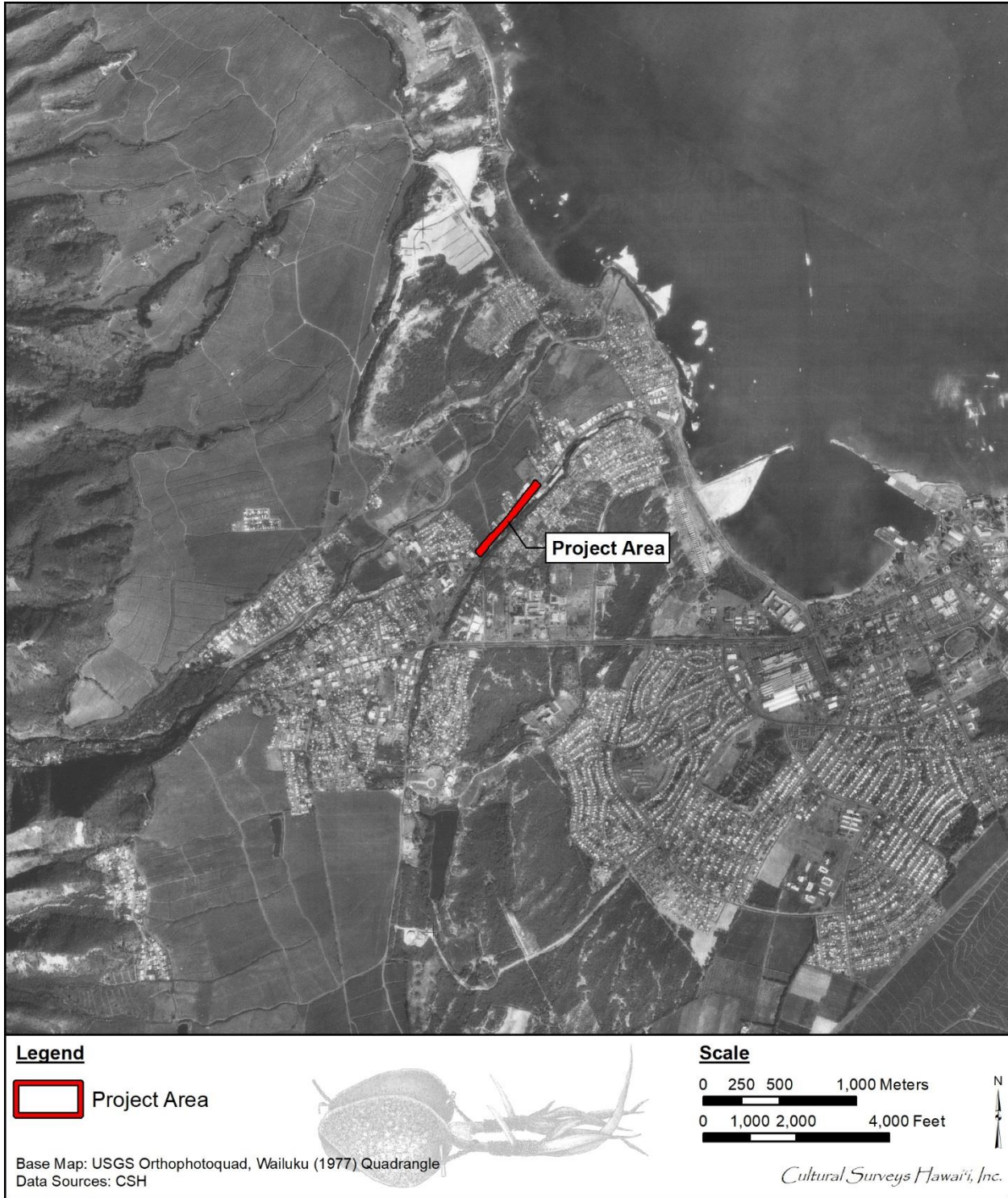


Figure 22. 1977 aerial orthophoto showing extensive development around the project area

Section 5 Previous Archaeological Research

The earliest archaeological studies on the island of Maui were a part of island-wide surveys conducted in the early 1900s (Stokes 1917; Walker 1931). These studies tended to focus on the generation of descriptive lists of large-scale architecture or traditional ceremonial *heiau* sites. No *heiau* or sites were documented in the immediate vicinity of the current project area.

Between 1931 and 1976, only sporadic archaeological studies were undertaken in the area. Following the passage of the National Historic Preservation Act in 1966 and HRS Chapter 6E, which established the Historic Preservation Program in 1976, archaeological studies occurred as a condition of development on a more frequent basis. In this vein, the lands surrounding the current project area have been subject to a variety of studies including archaeological reconnaissance investigations, field inspections, archaeological inventory survey (AIS) investigations and assessments, archaeological monitoring, and burial treatment programs. The previous studies in the immediate vicinity of the project area are detailed below (Figure 23 and Table 3). Several areas containing traditional and historic cultural deposits and human burials have been identified during previous archaeological studies (Figure 24).

5.1.1 Parcel at 1261 Lower Main Street

In December 1990, Xamanek Researches conducted an AIS for a commercial parcel at 1261 Lower Main Street, on the northwest side of the Wailuku Sand Hills, south of the intersection with Kawaipuna Place (TMK: [2] 3-4-39:77). The parcel is the current location of Maui Counter Tops, Inc. The investigation included a surface survey of the area and the creation of a topographic map. The northern half of the property was leveled from the former railroad system and a “large portion of the dune removed from the parcel, probably at the time of railway construction” (Fredericksen and Fredericksen 1990:6). There were no significant findings.

In December 1994, Scientific Consultant Services, Inc. (SCS) conducted an AIS for the Oceanhouse, Inc. Property at 1261 Lower Main Street (TMK: [2] 3-4-39:77) (Burgett and Spear 1996). The testing included one test unit, 13 shovel probes, and an investigation of the slump material at the base of the dune cliff. A partially buried remnant cultural layer, SIHP # -4004, was identified along the upper edge of the dune cliff. The cultural material included traditional artifacts, marine shell, charcoal, and waterworn rocks. Some historic materials also were present, likely from previous disturbance of the deposit. The slump below the cliff face contained dog remains and three bone fragments identified as a human long bone and partial epiphysis. The human remains were turned over to the SHPD for proper disposition (not reported). SIHP # -4004 was interpreted as a temporary habitation area (Burgett and Spear 1996:27). Archaeological monitoring of any machine activity was recommended for future ground work due to the potential of encountering human burials within the sand dune.

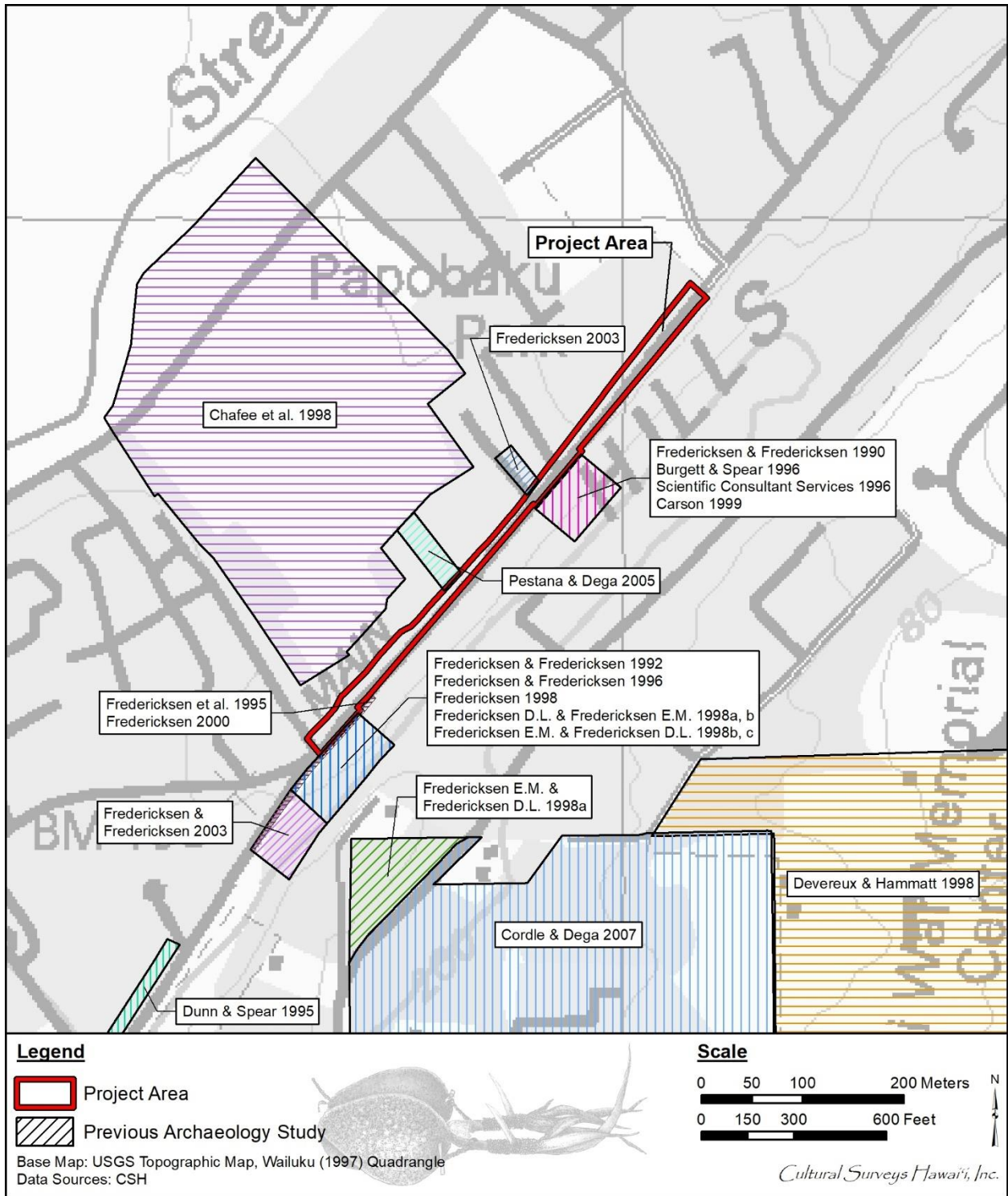


Figure 23. Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing previous archaeological studies in the immediate vicinity of the project area (U.S. Geological Survey 1997)

Table 3. Previous archaeological studies in the vicinity of the project area

Reference	Type of Study	Location	Results (SIHP # 50-50-04-)
Fredericksen and Fredericksen (1990)	AIS	1261 Lower Main St	No significant findings
Fredericksen and Fredericksen (1992)	Surface survey	Lower Main St at the intersection with Mill St (76 Station)	Identified a remnant feature of SIHP # -3112, Kahului Railroad bed
Dunn and Spear (1995)	Archaeological monitoring	Waiale Rd from Wainu Rd to Main St overpass	Identified three sites: SIHP # -4005 is a previously disturbed burial; SIHP # -4067 is an isolated hearth; and SIHP # -4068 is a cultural layer with 16 pre-Contact burials and 21 habitation features
Fredericksen et al. (1995)	AIS	Easement along Lower Main St and the intersection with Mill St	Documented surface remnants of SIHP # -3112, the Kahului Railroad bed and identified SIHP # -4127, a buried habitation site with a potential burial pit outline
Burgett and Spear (1996)	AIS	1261 Lower Main St	Identified SIHP # -4004, a buried temporary habitation site containing human remains
Fredericksen and Fredericksen (1996)	Archaeological data recovery	Lower Main St at the intersection with Mill St (76 Station)	Investigated SIHP # -4127, a buried habitation site, encountered an intentional immature monk seal (<i>Monachus schauinslandi</i>) burial
Scientific Consultant Services (1996)	Archaeological monitoring	1261 Lower Main St	Discovered two incomplete burials, likely associated with SIHP # -4004, a buried temporary habitation site containing human remains
Chaffee et al. (1998)	AIS	Wailuku Parkside Property	No significant findings
Devereux and Hammatt (1998)	Archaeological monitoring	Maui War Memorial Stadium	No significant findings

Reference	Type of Study	Location	Results (SIHP # 50-50-04-)
D. L. Fredericksen and E. M. Fredericksen (1998a)	AIS	Lower Main St at the intersection with Mill St (76 Station)	Identified a continuation of SIHP # -4127, buried remnant habitation layer, and newly identified SIHP # -4414, burial containing two individuals and associated cultural layer
Fredericksen (1998)	Inadvertent Discovery	Lower Main St at the intersection with Mill St (76 Station)	Reported a total of 10 burials (SIHP # -4414) discovered during archaeological monitoring
E. M. Fredericksen and D. L. Fredericksen (1998a)	AIS	150 Lunalilo St	Identified SIHP # -4418, buried habitation layer
E. M. Fredericksen and D. L. Fredericksen (1998b)	Archaeological data recovery	Lower Main St at the intersection with Mill St (76 Station)	Encountered two human burials within SIHP # -4414, a buried habitation site, as reported in a mitigation plan for the parcel
E. M. Fredericksen and D. L. Fredericksen (1998c)	Mitigation	Easement along Lower Main St and the intersection with Mill St	Discovered a human burial, designated a component of SIHP # -4127, buried remnant habitation layer
Carson (1999)	Archaeological monitoring	1261 Lower Main St	No significant findings
Fredericksen (2000)	Inadvertent discovery	Easement along Lower Main St and the intersection with Mill St	Reported an inadvertent burial, designated a component of SIHP # -4127, that was discovered during archaeological monitoring
Fredericksen (2003)	Archaeological monitoring	1234 Lower Main St	No significant findings
Fredericksen and Fredericksen (2003)	Archaeological monitoring	MECO substation	Identified a continuation of SIHP # -4127, buried remnant habitation layer
Pestana and Dega (2005)	Archaeological assessment	709 Uluhea Way	No significant findings
Cordle and Dega (2007)	Archaeological monitoring	Henry Perrine Baldwin High School	No significant findings; the high school was previously designated SIHP # -1630/NRHP # 00000667

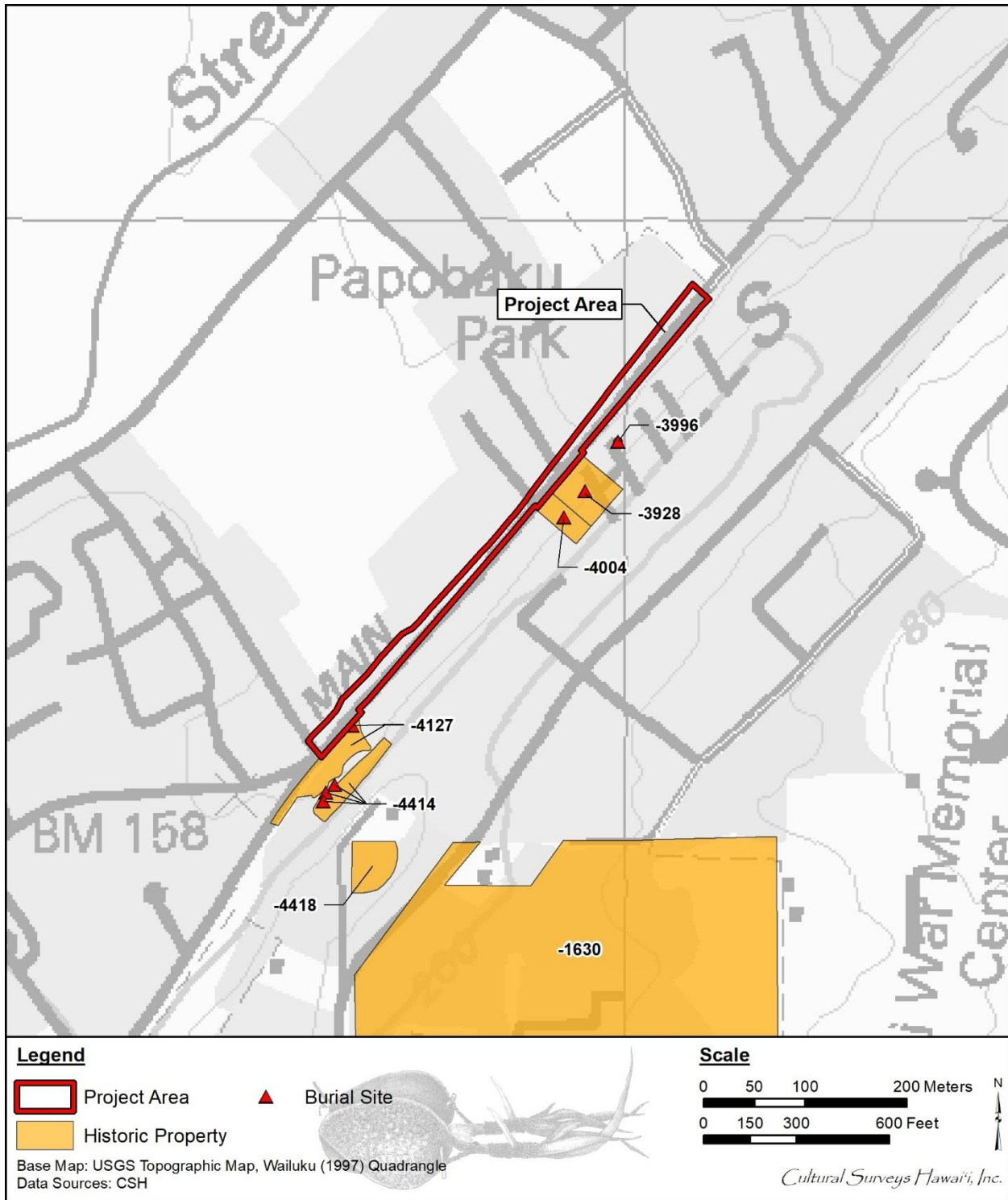


Figure 24 Portion of the 1997 Wailuku USGS 7.5-minute topographic quadrangle showing historic properties in the immediate vicinity of the project area (U.S. Geological Survey 1997)

In March 1995, SCS monitored machines removing sand from the property at 1261 Lower Main Street (TMK: [2] 3-4-39:77) in order to create a slope along the face of the dune following a collapse in the northern portion. The project findings were summarized in a letter to the SHPD (Scientific Consultant Services 1996). The remains of two burials were discovered near the northeast property boundary. Burial 1 was identified as a juvenile individual. The remains were incomplete, likely due, in part, to recent disturbance from the backhoe that displaced the entire burial. Burial 2 was represented by portions of a previously disturbed and isolated cranium. Although it was not reported, the burials are likely associated with SIHP # -4004. The disposition of the remains was not reported.

Between April and August 1999, SCS conducted archaeological monitoring for the Nicholes Building Project (TMK: [2] 3-4-39:77), at 1261 Lower Main Street (Carson 1999). A continuation of the buried remnant cultural layer, SIHP # -4004, was not observed during monitoring. No significant cultural remains were encountered during the project.

An unspecified number of burials have been found in the area of this parcel along Lower Main Street. To the south and north of this parcel, D. L. Fredericksen and E. M. Fredericksen (1998a:v) note three areas of "burials relocated before 1990" that do not have supporting documentation or site numbers in addition to the following finds:

...Site 3996 which is an identified human burial that is eroding from the face of the dune; Site 3928 is a remnant of a habitation site which contained burials. A radiocarbon date from that site gives a range from AD 1424 to 1635 (Donham, CRC Meeting). (D. L. Fredericksen and E. M. Fredericksen 1998a:11)

At this time, CSH does not have the "Donham, CRC Meeting" documentation that was referenced by D. L. Fredericksen and E. M. Fredericksen (1998a).

5.1.2 Mid-Pac Petroleum Parcel (76 Gas Station) and Easement

In 1992, Xamanek Researches conducted a surface survey at TMK: [2] 3-4-039:82 for a proposed Texaco Service Station. the site of the current 76 Station. This parcel is directly north of the MECO Wailuku Substation #3 property, and it is currently owned by Mid-Pac Petroleum and has an active 76 Gas Station business. They noted the presence of a "feature containing a concentration of water-worn stones" near the roadway (Fredericksen and Fredericksen 1992:3). The feature is remnant from the Kahului Railroad bed, designated SIHP # -3112. Due to dense vegetation of the area, archaeological monitoring was recommended.

In June 1995, Xamanek Researches conducted an archaeological inventory survey (AIS) for the right-of-way easement along Lower Main Street fronting the gas station parcel and the current project area for a Maui Public Works project to widen the road and install traffic signals at the intersection with Mill Street (TMK: [2] 3-4-039:81-83) (Fredericksen et al. 1995). The project area was approximately 450 ft long. Remnants of the Kahului Railroad bed (SIHP # -3112) were documented on the surface, extending about 1 to 1.5 m above the ground level. Subsurface testing included seven backhoe trenches, five auger tests, and a test unit within Parcel 82. Overall, the area appeared heavily impacted by development. However, a buried habitation site (SIHP # -4127) was identified in the northern portion of the project area. SIHP # -4127 consisted of a remnant cultural layer with a possible burial pit outline, traditional artifacts, and shell midden. A data recovery project was recommended. In 1996, Xamanek Researches completed an archaeological

data recovery on SIHP # -4127 (Fredericksen and Fredericksen 1996). Two strata of cultural layers were identified. The upper layer, Layer 1, contained evidence of historic disturbances, as well as 18 features. The underlying Layer II contained a considerable amount of food midden, traditional artifacts, and 16 features including an intentional immature monk seal (*Monachus schauinslandi*) burial with a severely fractured skull. Radiocarbon dating of Layer II supported a late pre-Contact period (D. L. Fredericksen and E. M. Fredericksen 1998a:21).

During the summer of 1997, Xamanek Researches conducted an AIS for the proposed Texaco Service Station project (D. L. Fredericksen and E. M. Fredericksen 1998a). Twelve backhoe trenches were excavated in the lower portion of the project area, between Lower Main Street and the area less than 160 ft AMSL. Safety precautions restricted the use of the backhoe in the upper portion, above 160 ft AMSL. A continuation of the previously identified buried habitation site (SIHP # -4127) was remnant in nine trenches in the lower portion. SIHP # -4127 included a sand cultural layer containing historic and traditional artifacts in addition to at least seven pit features and a possible waterworn cobble pavement. Previously disturbed cultural material was observed in the other three backhoes trenches. The previous disturbance to the area primarily was caused by the dismantling of the Kahului Railroad (D. L. Fredericksen and E. M. Fredericksen 1998a:40).

The investigation in the upper portion of the project area included the monitoring of seven geotechnical test pits and the manual excavation of one test trench. A burial containing a minimum of two individuals was discovered during the excavation of Test Pit (TP) 5a. Individual # 1 was in a flexed position, and Individual # 2 was indicated by an articulated hand and forearm that extended into the sidewall. The burials were preserved in place. The burials were associated with a cultural layer that also contained traditional and post-Contact artifacts, charcoal, and features. The cultural layer and burial site were designated as SIHP # -4414. The authors note that

There is no clear evidence that Sites 4127 and 4414 are contiguous. Site 4127 lies some 20 to 30 feet below Site 4414. The latter probably originates from the top of the dune to the south, while the former appears to be associated with habitation sites along the level of Lower Main Street. (D. L. Fredericksen and E. M. Fredericksen 1998a:50)

Radiocarbon dating on a basin-shaped pit feature (Feature 1.1b) sample from SIHP # -4414 yielded a conventional age of 410 +/- 100 and calibrated date ranges of AD 1325 to 1340 and AD 1390 to 1670 (two sigma, 95% probability). D. L. Fredericksen and E. M. Fredericksen (1998a:50) reported that "the two sites identified on the parcel are not one contiguous site, but rather represent [two] occupation periods separated by as much as 100 to 200 years."

In October 1997, Xamanek Researches conducted a mitigation project in the easement along Lower Main Street, fronting the gas station parcel. Notably, at this time, CSH has been unable to obtain a copy of the mitigation report by E. M. Fredericksen and D. L. Fredericksen (1998c). According to Fredericksen and Fredericksen (2003), a human burial was discovered at 75 cmbs. The burial is a component of SIHP #-4127, habitation area. The burial was preserved in place and the proposed electrical conduit was rerouted. According to D. L. Fredericksen and E. M. Fredericksen (1998b:4-5), Xamanek Researches conducted archaeological monitoring for the easement project in late 1997 to January 1998 for an electrical conduit trench and installation of two man-hole boxes. They report that an *in situ* burial was found and preserved in place, and disarticulated human remains were to be reinterred at a later date. It was also noted that the report

of findings for the monitoring project was pending. It is not clear whether the burial is the same as the one discussed for the mitigation project. Rather, it may be the same or in addition to one noted by Fredericksen (1997) in a letter report to the SHPD. The letter notes that an *in situ* pre-Contact burial, designated a component of SIHP # -4127, was inadvertently discovered on 8 December 1997 during excavations in the right-of-way for a Lower Main Street public utilities project. The burial was of an older adult, possibly female individual. The burial was preserved in-place with several artifacts (three waterworn rocks and a probable shell fishhook tab) that may have been associated. The burial was to be described more fully in the final monitoring report, which is not available at this time. As such, the exact locations and number of burials associated with SIHP # -4127 are not known.

Beginning in 1998, Xamanek Researches conducted an archaeological data recovery at SIHP # -4414, within the former Texaco parcel. According to the archaeological mitigation plan by E. M. Fredericksen and D. L. Fredericksen (1998b), Burial 1 and Burial 2 were discovered in March and April 1998, respectively. The two burials were preserved in place and the proposed retaining wall was realigned. The data recovery was ongoing at the time of the finds, and a final report is currently not available.

In 1998, Xamanek Researches conducted archaeological monitoring for a gas service station. Notably, a final report of findings was never submitted to the SHPD. Ten burials were inadvertently discovered during monitoring and were summarized in letter updates from Xamanek Researches to the SHPD. The burials consisted of four subadult burials (Find #s 1–3 and 6), a disturbed/scattered subadult burial (Find # 9), four adult burials (Find #s 4-5 and 7-8), and one whose age had not yet been determined (Find # 10) (Fredericksen 1998). The locations of the finds were not included, and no historic property designations were assigned at the time. According to a later study by Xamanek Researches, the ten burials were associated with SIHP # -4414 and “[m]ost were found in the excavation for the retaining wall, and were relocated with the assistance of Maui/Lana‘i Islands Burial Council members” (Fredericksen and Fredericksen 2003:5).

In a letter report on 24 April 2000, Xamanek Researches noted an additional inadvertent burial, designated a component of SIHP # -4127, that was discovered during archaeological monitoring for the GTE Hawaiian Tel improvements project in the easement along Lower Main Street and Mill Street (Fredericksen 2000). Exposed remains of the burial consisted of three cervical vertebrae. The find was between 40 and 50 cmbs, and the MECO manhole box was approximately 70 cm to the east. It was noted that the burial found during their MECO monitoring project was approximately 25 m to the northeast. The burial was preserved in place. The monitoring was ongoing at the time of the find, and a final report is currently not available.

5.1.3 Dunn and Spear (1995)

From February through April 1995, Scientific Consultant Services, Inc. (SCS) conducted archaeological monitoring for an 18” sewer line project along the eastern side of Waiale Road (TMKs: [2] 3-4-002:36; 3-4-003:19; 3-4-10:2) (Dunn and Spear 1995). The project extended from Waiinu Road north toward the Main Street overpass and into Lower Main Street, south of the current project area. No historic properties were identified in the current project area vicinity. However, three historic properties were identified along the Sand Hills area. SIHP # 50-50-04-4005 is a previously disturbed human burial encountered in the backfill surrounding a previous pipeline trench located south of West Kaahumanu Avenue. SIHP # -4067 is an isolated hearth

feature located south of Olulua Drive. Radiocarbon dating of charcoal from the feature supported a pre-Contact time frame.

SIHP # -4068 was identified as a very fine sand cultural layer containing 16 pre-Contact burials and 21 habitation features, located north of Nakoa Drive. The habitation features were interpreted as nine pre-Contact postholes, four post-Contact postholes, three hearths, a possible burial pit, and concentration of non-human remains, and three unknown features (Dunn and Spear 1995:14). Various traditional and historic artifacts also were recovered from SIHP # -4068 including basalt and volcanic glass flakes, shell scrapers, echinoid abraders, marine shell, mammal and fish bones, charcoal, and glass, ceramic, and metal fragments. Scattered human remains also were recovered during probe trenches on the southeast side of Waiale Road at the intersection with Kaohu Street.

A reinterment site was established at the location of SIHP # -4068 Burial #s 1 and 8 for all the recovered remains found during the project. Three concrete caps were used to preserve the areas. Portions of some SIHP # -4608 burial features (#s 5, 9, and 12) remained *in situ* beyond the excavation areas. Burial #s 10 and 11 also were preserved in place.

5.1.4 Chaffee et al. (1998)

In January 1998, SCS conducted an AIS for the proposed Wailuku Parkside Property (TMK: [2] 3-4-30:19, 20 por., 23 por.) located north of the current project area. The investigation included 40 backhoe trenches throughout the 24.64-acre project area. No significant cultural deposits or features were encountered. The area appeared “heavily impacted by prior mechanical development of the soil” including sugarcane cultivation and grubbing activities (Chaffee et al. 1998:i, 16). Overall, the stratigraphy consisted of various fill material overlying decomposing bedrock or an old riverbed deposit near the ‘Iao Stream.

5.1.5 E. M. Fredericksen and D. L. Fredericksen (1998a)

Between July and September 1997, Xamanek Researches conducted an AIS of an unutilized 1.679-acre parcel for the Na Leo Pulama O Maui Immersion Preschool and Family Language Resource Center (TMK: [2] 3-8-07:47), located adjacent to the northwest corner of the Henry Perrine Baldwin High School property, at 150 Lunalilo Street. The parcel is within the Wailuku Sand Hills and the Pu‘uone sand dune complex. Subsurface testing revealed a relatively undisturbed historic property identified as a traditional habitation layer and designated as SIHP # -4418. The buried cultural layer extended over approximately 2,000 sq m (0.49 acres) in the northwestern portion of the parcel and was encountered between 10 and 30 cmbs. Cultural materials also had been exposed on the surface in the area. Nine features were identified, consisting of five basin-shaped pits, two hearths, a refuse pit, and a possible posthole (E. M. Fredericksen and D. L. Fredericksen 1998a:42). The traditional materials included worked human bone, various coral, shell, urchin, bone, and stone tools, faunal and marine remains, charcoal, fire-cracked rock, and waterworn pebbles. SIHP # -4418 was interpreted as dating between the sixteenth and seventeenth centuries based on radiocarbon analysis results (E. M. Fredericksen and D. L. Fredericksen 1998a). Intact sand dune deposits were present over the entirety of the project area.

5.1.6 Henry Perrine Baldwin High School

Several studies were conducted on the property of the Henry Perrine Baldwin High School (TMK: [2] 3-8-007:004), which is a registered historic property, SIHP # -1630, and National Register of Historic Places (NRHP) Building Number 00000667. One study is in the immediate vicinity of the current project area. Notably, CSH has conducted archaeological monitoring for the new library project, however a draft report has not been submitted to the SHPD at this time.

Between May 2004 and August 2005, SCS conducted archaeological monitoring for the Henry Perrine Baldwin High School for a proposed Eight Classroom Building (Cordle and Dega 2007). It was noted that the excavation documentation for this project had been lost and was not available for the report of findings. However, reportedly, the ground disturbances associated with the new building were relatively shallow (<100 cmbs) and no significant cultural materials or deposits were observed. No natural sand deposits were reported. It was noted that the dune sand likely had been removed from the area previously (Cordle and Dega 2007:10).

5.1.7 Devereux and Hammatt (1998)

In January 1998, CSH conducted archaeological monitoring of approximately 12,000 square feet for construction of a television and communication compound at the Maui War Memorial Stadium (TMK [2] 3-8-07:55) (Devereux and Hammatt 1998). Monitored ground disturbance included grubbing of the vegetation and grading on the western side of the stadium. Grading exposed topsoil and a disturbed loamy sand. No significant cultural materials were encountered.

5.1.8 Maui Electric Company Parcel

Between October and November 2002, Xamanek Researches conducted archaeological monitoring for a proposed MECO Substation in TMK: [2] 3-4-039:051 (Fredericksen and Fredericksen 2003). It was noted that five marked post-Contact graves were present in the parcel. Ground disturbance included the removal of a portion of the sand dune behind the substation, a retaining wall, and a conduit trench to Lower Main Street. The excavation areas were around the outside of the current substation, on the eastern and southwestern side and along the Lower Main Street shoulder. Overall, fill material was present in the upper 30 to 50 cm of the excavations and was overlying natural dune sand. A continuation of a previously identified buried habitation site (SIHP # -4127) was encountered during excavations for the retaining wall and for the conduit trench that extended in between the substation and a manhole box near the Lower Main Street easement. The cultural layer contained considerable traditional artifacts, marine midden, fish and mammal remains, charcoal, and burnt *kukui* nut shells. As described above, SIHP # -4127 was initially documented by Fredericksen et al. (1995) during an AIS of the right-of-way along the adjacent gas station parcel. The site was subsequently documented by Fredericksen and Fredericksen (1996) during an archaeological data recovery and by D. L. Fredericksen and E. M. Fredericksen (1998a) during an AIS of the gas station parcel. Fredericksen and Fredericksen (2003:3) stated it was likely that SIHP # -4127 continued within the MECO property. Archaeological monitoring was recommended for any future ground work.

5.1.9 Fredericksen (2003)

In September 2003, Xamanek Researches conducted archaeological monitoring for the removal of a concrete slab at 1234 Lower Main Street (TMK: [2] 3-4-23:024) (Fredericksen 2003). The stratigraphy primarily consisted of fill with areas of natural reddish brown silty clay loam present at 20 cmbs. No cultural materials or deposits were encountered.

5.1.10 Pestana and Dega (2005)

In July 2005, SCS completed an archaeological assessment of 0.45-acre lot at 709 Uluhea Way (TMK: [2] 3-4-22:05), off Lower Main Street, north of the current project area (Pestana and Dega 2005). The investigation included nine backhoe trenches. No significant cultural deposits or features were encountered. Overall the stratigraphy consisted of various fill material overlying “an extremely densely-bedded cobble and boulder layer” (Pestana and Dega 2005:12). Based on the cultural sensitivity of the Lower Main Street area, archaeological monitoring was recommended for any future ground work.

Section 6 Community Consultation

6.1 Introduction

Throughout the course of this assessment, an effort was made to contact and consult with Native Hawaiian Organizations (NHOs), agencies, and community members including descendants of the area, in order to identify individuals with cultural expertise and/or knowledge of the *ahupua'a* of Wailuku. CSH initiated its outreach effort in August 2019 through letters, email, telephone calls, and in-person contact.

6.2 Community Contact Letter

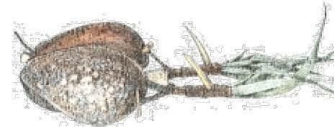
Letters (Figure 25 and Figure 26) along with a map and an aerial photograph of the project were mailed with the following text:

At the request of Legacy Wailuku LLC, on behalf of the County of Maui, Department of Environmental Management (DEM) Wastewater Reclamation Division, Cultural Surveys Hawai'i, Inc. (CSH) is conducting a cultural impact assessment (CIA) for the Lower Main Street New Sewer Line Improvements Project, Wailuku District, Wailuku Ahupua'a, TMK: [2] 3-4. The County of Maui DEM proposes the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street. The proposed project will be located within the Lower Main Street right-of-way, which is a County-owned facility. In the vicinity of the proposed sewerline installation, Lower Main Street is a two-lane, two-way roadway. With the exception of a short segment at the Waena Street approach, there are no curbs, gutters, or sidewalks along this stretch of Lower Main Street. Various commercial, light industrial, and multi-family residential uses line Lower Main Street in the vicinity of the proposed project. The project site is located within the State Land Use "Urban" district. While the proposed project will not involve work on properties outside of the right-of-way, it is noted that lands along Lower Main Street in the vicinity of the sewerline installation are designated "M-1, Light Industrial" and "B-2, Business Community". The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including Kehalani, Waiolani, and Waikapū area of Wailuku. The project is depicted on a portion of the Wailuku (1997) USGS 7.5-minute topographic quadrangle and a 2017 aerial photograph.

The purpose of this CIA is to gather information about the project area and its surroundings through research and interviews with individuals knowledgeable about this area in order to assess potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the planned 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**

Cultural Surveys Hawai'i, Inc.
 Archaeological and Cultural Impact Studies
 Hallett H. Hammatt, Ph.D., President



399 Hualani Street Hilo, Hawai'i 96720 Ph: (808) 965-6478 Fax: (808) 965-6582
 Job code: WAILUKU 65 spencer@culturalsurveys.com www.culturalsurveys.com

November 2019

Aloha,

At the request of Legacy Wailuku LLC, on behalf of the County of Maui, Department of Environmental Management (DEM) Wastewater Reclamation Division, Cultural Surveys Hawai'i, Inc. (CSH) is conducting a cultural impact assessment (CIA) for the Lower Main Street New Sewer Line Improvements Project, Wailuku District, Wailuku Ahupua'a, TMK: [2] 3-4. The County of Maui DEM proposes the construction of 1,950 lineal feet of 15-inch gravity sewerline parallel to an existing 12-inch line on Lower Main Street. The proposed project will be located within the Lower Main Street right-of-way, which is a County-owned facility. In the vicinity of the proposed sewerline installation, Lower Main Street is a two-lane, two-way roadway. With the exception of a short segment at the Waena Street approach, there are no curbs, gutters, or sidewalks along this stretch of Lower Main Street. Various commercial, light industrial, and multi-family residential uses line Lower Main Street in the vicinity of the proposed project. The project site is located within the State Land Use "Urban" district. While the proposed project will not involve work on properties outside of the right-of-way, it is noted that lands along Lower Main Street in the vicinity of the sewerline installation are designated "M-1, Light Industrial" and "B-2, Business Community". The proposed project is a necessary upgrade that will improve sewer flows and will benefit communities in the region, including Kehalani, Waiolani, and Waikapū area of Wailuku. The project is depicted on a portion of the Wailuku (1997) USGS 7.5-minute topographic quadrangle (Figure 1) and a 2017 aerial photograph (Figure 2).

The purpose of this CIA is to gather information about the project area and its surroundings through research and interviews with individuals knowledgeable about this area in order to assess potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the planned 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 sites that may be impacted by future development of the project area—for example, 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 *mo'olelo* and traditional uses**
- **Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands**

Figure 25. Community consultation letter, page one

CIA for the Lower Main Street Sewer Line Improvements Project

Page 2

- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area**

In advance, we appreciate your assistance in our research effort. If you are interested in participating in this study, please contact Chantellee Spencer at espencer@culturalsurveys.com. We are also available by phone at (808) 965-6478.

Me ka ha'aha'a,

Chantellee Konohia Spencer
Cultural Researcher

Figure 26. Community consultation letter, page two

- **Knowledge of cultural sites that may be impacted by future development of the project area—for example, 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 *mo'olelo* and traditional uses**
- **Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands**
- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area**

In most cases, two or three attempts were made to contact individuals, organizations, and agencies. Community outreach letters were sent to a total of 89 individuals or groups, ten responded, and two of these *kama'āina* and/or *kupuna* met with CSH for more in-depth interviews. In order to preserve the privacy of the individuals contacted, only the correspondence between those who gave their approval are presented in Table 4.

6.3 Community Contact Table

Below in **Error! Reference source not found.** Table 4 are names, affiliations, dates of contact, and comments from NHOs, individuals, organizations, and agencies contacted for this project who allowed CSH to print their correspondence. Results are presented below in alphabetical order.

Table 4. Consultation Table

Name	Affiliation	Comments
Ampong, Foster	Wailuku Representative Moku	Letter and figures sent via email 20 August 2019 Letter and figures sent via email 6 November 2019 CSH emailed Mr. Ampong 3 December 2019 to coordinate a date and time to meet for an interview Interview date set for 12 December 2019 CSH contacted Mr. Ampong to set a time to meet

		Mr. Among replied and said he needed to reschedule due to a family emergency
Fisher, Scott	Chief Conservation Officer, Hawaiian Islands Land Trust (HILT)	<p>Letter and figures sent via email 20 August 2019</p> <p>Letter and figures sent via USPS 7 November 2019</p> <p>Letter and figures sent via email 6 November 2019</p> <p>Mr. Fisher replied to CSH with the following correspondence:</p> <p><i>I would be happy to help out in any way I can. The proposed work area is known to be an area with a high concentration of iwi kupuna. Although most are known, I would be happy to provide a summary of the iwi kupuna found in that area that have been discussed during my tenure on the Maui/Lana'i Island Burial Council. Please let me know when Chantelle would like to meet.</i></p> <p>CSH replied same day:</p> <p><i>Mahalo nui loa. That is very much appreciated and needed. I will forward your message to Chantelle Spencer. We look forward to meeting with you and gaining knowledge regarding iwi kupuna.</i></p> <p>Mr. Fisher replied acknowledging receipt of email.</p> <p>CSH emailed Mr. Fisher on 12 November 2019:</p> <p><i>Aloha e Scott and mahalo for your interest in participating. I can't wait to hear what you have to share! I'm a bit tied up for the next couple of weeks. What does</i></p>

		<p><i>your schedule look like for the first week of December? Perhaps we could plan to meet then. Alternatively, you may provide a written statement if you'd like. Whatever you decide, just let me know. Mahalo for getting back to us and I look forward to your reply.</i></p> <p>Mr. Fisher replied</p> <p><i>Meeting in December sounds great. I look forward to it.</i></p> <p>CSH replied acknowledging email</p> <p>CSH emailed Mr. Fisher on 3 December 2019 with possible meeting dates</p> <p>Mr. Fisher replied with his availability</p> <p>CSH replied same day</p> <p>Mr. Fisher replied</p> <p>CSH replied 4 December 2019</p> <p>Mr. Fisher replied same day</p> <p>CSH emailed Mr. Fisher on 11 December 2019 with details of the interview</p> <p>Mr. Fisher replied with his availability</p> <p>Interview set for Thursday, 12 December 2019 at Mr. Fisher's office in Wailuku</p>
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6.4 *Kama'āina* Interviews

The authors and researchers of this report extend our deep appreciation to everyone who took the time to speak and share their *mana'o* and *'ike* with CSH whether in interviews or brief consultations. We request that if these interviews are used in future documents, the words of contributors are reproduced accurately and in no way altered, and that if large excerpts from interviews are used, report preparers obtain the express written consent of the interviewee/s.

6.4.1 Foster Among

On 16 January 2020, CSH conducted a telephone interview with community member Foster Among regarding the Lower Main Street New Sewer Line Improvements Project. Though initially scheduled to meet in-person in December of 2019, unforeseen circumstances delayed the interview which ultimately led to a telephone interview.

Mr. Among is a resident of Maui and resides in Waiehu. While Mr. Among's family genealogy spans the *pae 'āina*, he is a lineal descendant of several ancestors that lived in the Lahaina, Ka'ānapali, and Wailuku districts since before the early 1800s. Mr. Among is also a lineal descendant of *kūpuna* once buried at Pu'u Keka'a, now known as Black Rock, situated in the Honokowai Ahupua'a. In about 1962, immediate family members of Mr. Among's mother, Emma Ka'iu Kimokeo, were disinterred and moved elsewhere so construction of the Sheraton Maui Hotel could be completed.

As a young adult, Mr. Among spent a lot of time *mauka* and *makai*. He enjoyed surfing and often found himself in the *kuahiwi* connecting with the natural elements, seeking sanctuary from the stresses of life, and developing a greater understanding of his cultural identity. Although he grew up in Lahaina, he had many relatives in Wailuku and would visit them often. Today, Mr. Among's connectivity to the natural elements of the *pae 'āina* continues and like his mother, father, and numerous relatives that passed on their generational knowledge to him, Mr. Among teaches these experiences with his children.

Mr. Among's mother, Emma Ka'iu Kimokeo, was born at Keka'a (known today as "Kaanapali") and was the youngest of four girls. Mr. Among's mother and her siblings began working in their early-teens to help support their family. This allowed them more time with *kūpuna* and they became accustomed to the "generational knowledge" passed down to them. This is somewhat similar to the traditional practice of *hānai*, which, in Western thinking is like an informal adoption. Pukui et al. explains,

Traditionally, the hiapo [first born] was given outright to grandparents as their hānai or foster child. [Pukui et al.1972:51]

[...] a grandparent was given a grandchild, and the relationship that resulted was stronger than that of parent and child. Customarily, grandparents also took over the education of all grandchildren.[Pukui et al. 1972:12]

Hawaiians placed great value on traditional ways and in knowing family genealogy and the family ancestor gods (*aumākua*). Yet there was no written language to record this history. The hiapo was the "living history book." While other children of the 'ohana learned to fish and tend taro, the hiapo memorized the family genealogical chants, social and religious customs, *kapus* (taboos) and specialized skill and knowledge. To do this he became the constant companion of the grandparents, listening, learning, rehearsing, so even the tempo and cadence of each *pule* (prayer) and *oli* (chant) would be traditional correct. [Pukui et al. 1972:52]

As mentioned above, this knowledge was strictly *ha'i waha* or told verbally without written documentation. In the same way his mother's generation learned from their grandparent's, Mr. Among learned from his mother and other family elders. His interest in his family genealogy grew when historical documents, from the time of the Māhele and before, were presented to him.

This new knowledge pushed him to look further into Hawaii's land and political history as a Hawaiian and community member of Wailuku.

Through research of historical documents, Mr. Among is able to trace his familial ties to ruling chiefs of Maui through his mother's family line, and in April, 2019 at the Maui-Lana'i Island Burial Council Meeting, Mr. Among appeared and presented his genealogy (oral and written) to the Council in Executive Session. This resulted in the approval of Mr. Among's cultural descendancy claim to *iwi kupuna* dug out from the *pu'u one* at the Maui Lani Phase Developments in Wailuku.

The most prominent natural feature of this area are the sand dunes or *pu'u one* that stretches contiguously from the Ahupua'a of Waihe'e, Wai'ehu, Wailuku, Waikapū, across the isthmus to Pu'u Olae in the Moku of Honoa'ula. In some areas, sections of sand dunes have been leveled for development or taken elsewhere to replenish shorelines. Past and present development does not extinguish the historical importance and value of the *pu'u one*. Mr. Among mentioned that it is widely known by numerous descendants of Maui that this *pu'u one* complex, throughout its entirety for centuries are the chosen burial grounds of Maui's native Hawaiian communities.

Mr. Among shared that although this area of Wailuku is widely developed, there is a strong likelihood that workers may encounter burials because it is part of the *pu'u one* complex. Because of this likelihood, Mr. Among strongly recommends the presence of monitors at every location where there is earth moving activity as he knows there were burials discovered in close vicinity to the project area. He is strongly against using ground penetrating radar to identify burials as it will ultimately lead to extraction.

6.4.2 Scott Fisher

On 12 December 2019 Cultural Surveys Hawai'i (CSH) met with Mr. Scott Fisher to discuss the proposed Lower Main Street Sewer Line Improvements project. Mr. Fisher is the Chief Conservation Officer for the Hawaiian Islands Land Trust (HILT), a 501 (c) (3) land conservancy organization, which formed when four island-based land trusts: Hawaii Island Land Trust, Maui Coastal Land Trust, Oahu Land Trust, and Kauai Public Land Trust, merged in 2011. Combined, HILT has "protected over 18,000 acres of Hawaii's most precious lands and natural resources for Kau on Hawaii Island to Hanalei, Kauai" (Hawaii Island Land Trust 2019a)

HILT takes a uniquely Hawaiian and holistic approach to land conservation. We conserve lands that enable Hawai'i's long-term well-being, lands with *scenic views, agricultural resources, wildlife habitats, water resource areas, cultural and historical values, and outdoor recreation opportunities*. We seek to complement the stewardship others are providing for mountaintop watersheds by concentrating largely on needs and opportunities for coastal and agricultural lands. [Hawaiian Islands Land Trust 2019a]

Mr. Fisher also spoke in his capacity as a member of the Maui-Lana'i Island Burial Council. He presented some past issues brought before the burial council relative to the project area. He mentioned that the main corridor of Main Street is a culturally rich area and dense burial site. He continued on by explaining Nā Wai 'Ehā or the "Four Rivers" which reference Wailuku, Wai'ehu, Waihe'e, and Waikapū. These four *ahupua'a* were, by terms of population and productivity, as Mr. Fisher mentioned, culturally rich and highly favorable amongst *ali'i*. He also mentioned that

of the 220 or so *ahupua'a* on Maui, Wailuku had the largest number of *heiau*. Ka'ahumanu Church, located just off of Main Street on South High Street, was previously the site of a *heiau*. Further research by CSH, and presented in previous sections of the CIA, show a concentrated number of *heiau* in this area near Ka'ahumanu Church. Mr. Fisher shared that the intersection between what is now called Main Street and Hae Street was the *kapu* area or boundary beyond which *maka'ainana* could not pass. Beyond this area is 'Īao Valley which was a very sacred place. Mr. Fisher shared that he was told Kahekili (ruler of Maui) and his soon Kalanikupule took up residence near where One Main Plaza is today, further confirming the importance of Wailuku as a place where *ali'i* resided.

Regarding cultivation, Nā Wai 'Ehā was a concentrated area of productivity whose rivers would have supported an abundance of *kalo*. Mr. Fisher shared that right outside the door of his office he found some very interesting artifacts including *ulu maika*. Perhaps one of the most interesting, he shared, was finding a *pōhaku ku'i 'ai*, known loosely as “poi pounder”. He shared:

We found a poi pounder that was clearly cut in half [...] neatly and then cut in half again. We called it a quarter pounder because it was literally a quarter of a poi pounder. It was cleaved in half and cleaved in half. So that demonstrates two things, [...] this area was very rich culturally in [...] productivity and there was a lot going on here.

His discovery of the *ulu maika* and *pōhaku ku'i 'ai* suggested to him that this area was once a dwelling that could have possibly had a *ulu maika* track. There is no doubt for Mr. Fisher that the general area where his office is was once culturally rich with “mostly lo'i *kalo* scattered, with scattered *kau hale*” as well.

Regarding cultural sites, Mr. Fisher mentioned several times how important Wailuku Ahupua'a was in the days of *ali'i* due to its location and abundance of religious sites within the *ahupua'a*. He mentioned Pi'ihanakalani and Haleki'i *heiau* on the sand dunes near the coast. Though it is often times spelt and pronounced Pihanakalani, Mr. Fisher was told it should be Pi'ihanakalani. He shared that the last person to be sacrificed on Maui was a woman by the name of Poloahilani and she was sacrificed at Pi'ihanakalani. It was unusual that a female was being sacrificed, especially on a *luakini* type *heiau*. Further research on this matter is presented below:

After the battle of Hana, Kamehameha I and soldiers stopped at Naholo-ku [*Kaupo*], to visit the high chiefess Kalanikaukooluaole, a daughter of Kamehamehanui, whom he knew to be one of the chiefesses of exclusive tabu. Crossing the stream, he saw a young woman taking her bath, and asked the way to the house—which was indicated. At the house, the *kahu* said she was at the stream (the attendants had hidden). Kamehameha I felt he had been insulted, stamped his foot and exclaimed: Ka! Ike ia na 'lii o Maui i ka pepeiao. Pshaw! The Maui chiefs are recognized by their ears. After the battle of Iao, he sent for the princess (to be sacrificed at Pihana). Poloahilani came instead, on the advice of the priest, and saved the life of the alii.

After the victory of Kamehameha I at Kepaniwai, he observed the *kapu* at Pihana, the *kapu* of Kaloa—where in offering to his war god, he thought of the incident at Naholo-ku. On the priest's advice, he sent his messenger in haste for the princess' custodian. Sadly the priests were consulted and omen's studied; lot were drawn

between the princess and her foster-sister, the priests meanwhile chanting prayers. The princess drew the long straw, and her foster-sister the short one, thus pointing to their roads to tread.

After the custom of ancient Hawaii, custodians of royalty were chosen from near kin. Their duties were to rear their charges to the highest attainments, giving their all on all, even their very life blood without fear or murmur—it meant added honor to their prerogatives.

Poloahilani with her attendant took the road through Hamakualoa, reaching Wailuku on the eve of the last Kaloa and in time for the kapu heiau. Thus she was sacrificed at Pihana heiau to appease the gory thirst of the war god of Kamehameha I, the slayer of chiefs. The princess, accompanied by the priest, took the long route through Kahikinui, reaching Wailuku after the kapu was free. She lived incognito, burying her identity with the monument of an ahu at Lamalii, Wailuku.

Poloahilani was the last sacrifice. Pihana was demolished by Kalanimakakaualii and Kauanaulu during Kaahumanu's proclamation, 1819. [Sterling 1998:76]

An interesting find that Mr. Fisher shared was that though Maui was not popular for its fishponds, Nā Wai 'Ehā had a number of them! He recalls one at Waihe'e called Kapoho that was actually a *loko kalo i'a* meaning it doubled as both an irrigated plot to cultivate *kalo* but was also maintained to harbor fish. Mr Fisher shared that there was one in Waihe'e named Kapoho and one in Wai'ehu named Ka'a. Kapoho was seven acres in size and is now owned by Hawaii Land Trust which Mr. Fisher shared they hope to restore. Ka'a was a bit larger at 12 acres. Additional research about Kapoho lead CSH to the work of W.M. Walker. In shorts, his record of Kapoho is as follows:

[...] The site of the Kapoho heiau was back from the beach in a little meadow which has since been plowed for cultivation. [...] Most of Kapoho was once a fishpond with the entrance near a rock, Pohakunui. [Sterling 1998:67]

Still on the topic of fishponds, Mr. Fisher shared his *mana'o* on Kanahā and Mauoni. He explained that “Kanahā was built by chief Kapi'ioho and named after his children, Kanahā and Mauoni.” He speculates that it was probably more of a *loko pu'uone* than a *loko kalo i'a* “unless Kalialianui Gulch coming down was actually still running then.” Unfortunately, most of Mauoni was backfilled when the Kahului Harbor was built.

Regarding the *ahupua'a* as a whole, Mr. Fisher shared that Wailuku was very important and valuable in terms of “harvesting the abundance of the ocean” and “the productivity of the land.” Mr. Fisher believes that if any chief was aspiring to unify the Hawaiian Islands, as with Kahekili and Kamehameha, Maui's central location in the archipelago would be a huge gain and easier to manage. Mr. Fisher shared the following regarding the acquisition of Wailuku:

So if you had control of the Wailuku district, you had control of Wailuku moku, you had both productivity and central control so you could feed your army and as Napoleon pointed out, armies travel on their stomach. [...] If you control Wailuku district, you control the archipelago, at least in theory.

Mr. Fisher talked about Kahekili who was the “*ali'i 'ai mokupuni*” on Maui from roughly about the 1770s through about 1790 at the time when Kamehameha the Great conquered Maui. Kahekili

spread out to attack Kohala which he had control of for a short while, then he conquered O'ahu, Moloka'i, and Lana'i, and Maui was already under his control. He had an alliance with the ruler of Kaua'i so essentially Kaua'i was under his control too. Mr. Fisher continued on that Kahekili basically had the entire archipelago under his control with exception to Hawai'i Island. According to Mr. Fisher, Kamehameha was an amazing tactician who understood Kahekili's power, position, and control across the archipelago. In 1790 Kamehameha landed in Wailuku at what is now Kahului Harbor. His *peleleu* fleet was massive and stretched from Kalae'ili'ili in Waihe'e, property now owned by Hawaiian Islands Land Trust, to essentially the area where sits Kanahā and Mauoni. He explained that now when we look along that stretch of coast it is not an ideal place to land but about 230-240 years ago you probably could have, which Kamehameha did. Mr. Fisher wanted to make a clear distinction that Kamehameha didn't just conquer Maui first, he conquered Wailuku first.

Mr. Fisher spoke about *iwi kūpuna* and the speculation of whether or not these bones were from fallen soldiers from past historical battles and especially of warriors from Hawai'i Island. He shared that osteologically, there is a possibility that if you found bones they would show no indication of a battle wound. In imagining the warfare that took place at this time, they were very deadly and brutal and probably resulted in multiple broken bones. He made clear that he is not an archaeologist or osteologist and this is not his area of expertise, but the brutality of warfare would be evident on the remains found. He did share that to his knowledge and recollection, none of the *iwi* found and presented to the burial council showed evidence of having died in battle.

Regarding the corridor of which the project area is situated, Mr. Fisher shared that there is a lot of *iwi kupuna* in that area and is pleased that a CIA is being conducted. Mr. Fisher shared that the area where Tasty Crust is, which is not within the corridor of the project area but nearby, there were fauna remains from pre-human Hawai'i preserved there. There were findings of birds that have long since gone extinct shortly after the arrival of humans. Remains of a stilt owl (*Gallistrix*) were found where Tasty Crust is located. Mr. Fisher shared that the Hawaiian stilt owl was the dominant owl in Hawai'i prior to its extinction.

Mr. Fisher shared his logic on why sand dunes were most fitting for burials which is why a number of burials have been found within the *pu'u one* complex. One main reason was that sand was not used for cultivation and therefore was not productive. However, it is easier to dig in which would have made it easier to bury someone. He went deeper to explain the cultural significance of the *pu'u one*. He began to talk about the *pu'u one* complex from Kalaekaho'omano (now called Waihe'e Point) to Pi'ihanakalani Heiau. He goes on to explain:

It's what's known as a transverse dune in that it is perpendicular to the coast [...] said to have been created by the goddess Haumea. [...] She successfully delivered a child on the island on Moloka'i and was given a ho'okupu of a sacred tree and that tree was known as Kalauokekahuli. She planted it on a hill just mauka of Waihe'e and then built that sand dune system in order to protect it from the ka makani kili'o'opu, the winds of Waihe'e. In doing so, that became then not a *pu'u one*, [...] it was a mauna which is really strange, a mauna 'ihi and whether or not mauna 'ihi, the kaona, refers to 'ihi as being sacred or if it refers to 'ihi as in the plant *Portulaca*, it's hard to say but nonetheless it was created by Haumea to protect the very sacred

tree. Did that have something to do with why people wanted to be buried in there?
I don't know.

Perhaps the significance of the tree gifted to Haumea creates balance in terms of life and death. These are only things Mr. Fisher can infer.

Mr. Fisher shared his concerns and recommendations regarding the project. His main concern is the prevention of any main breaks that would result in raw sewage seeping into Wailuku Stream. This event would have detrimental effects on the fauna in Wailuku Stream like the *hīhīwai* (*Neretina granosa*) and 'o'opu (*Gobiidae*). Additionally, he highly recommends "intense" monitoring in this area due to the high volume of burials. His "most urgent" recommendation is having a monitor on site at all times when any ground disturbance is happening. He also shared that in the case where boring might be an option, it is the least preferable option and does more damage during inadvertent discoveries.

Section 7 Traditional Cultural Practices

Timothy R. Pauketat succinctly describes the importance of traditions, especially in regards to the active manifestation of one's culture or aspects thereof. According to Pauketat,

People have always had traditions, practiced traditions, resisted traditions, or created traditions . . . Power, plurality, and human agency are all a part of how traditions come about. Traditions do not simply exist without people and their struggles involved every step of the way. [Pauketat 2001:1]

It is understood that traditional practices are developed within the group, in this case, within the Hawaiian culture. These traditions are meant to mark or represent aspects of Hawaiian culture that have been practiced since ancient times. As with most human constructs, traditions are evolving and prone to change resulting from multiple influences, including modernization as well as other cultures. It is well known that within Hawai'i, a "broader "local" multicultural perspective exists" (Kawelu 2015:3) While this "local" multicultural culture is deservedly celebrated, it must be noted that it has often come into contact with "traditional Hawaiian culture." This contact between cultures and traditions has undoubtedly resulted in numerous cultural entanglements. These cultural entanglements have prompted questions regarding the legitimacy of newly evolved traditional practices. The influences of "local" culture are well noted throughout this section, and understood to represent survivance or "the active sense of presence, the continuance of native stories, not a mere reaction, or a survivable name. Native survivance stories are renunciations of dominance, tragedy and victimry" (Vizenor 1999:vii). Acknowledgement of these "local" influences help to inform nuanced understandings of entanglement and of a "living [Hawaiian] contemporary culture" (Kawelu 2015:3). This section strives to articulate traditional Hawaiian cultural practices as were practiced within the *ahupua'a* in ancient times, and the aspects of these traditional practices that continue to be practiced today; however, this section also challenges "tropes of authenticity," (Cipolla 2013) and acknowledges the multicultural influences and entanglements that may "change" or "create" a tradition.

This section integrates information from Sections 3-6 in examining cultural resources and practices identified within or in proximity of the project area in the broader context of the encompassing Wailuku landscape. Excerpts from interviews are incorporated throughout this section where applicable.

7.1 Settlement and Habitation

Various legends and early accounts of Wailuku Ahupua'a indicate that a notable population of long-settled, pre-Contact Hawaiians inhabited the Wailuku area. A review of maps of Wailuku outline the streams within the *ahupua'a*. These streams would be able to provide adequate flowing water to *lo'i kalo* sustain the large population of Wailuku.

Following the Great Māhele of 1848 the *ahupua'a* of Wailuku was declared Crown Land to be used to support the Kingdom of Hawai'i. Ruth Ke'elikolani, half-sister of Kamehameha V (Lot Kapuāiwa), inherited the *ahupua'a* of Wailuku from Lot Kapuāiwa on his death in 1872. Ruth Ke'elikolani then sold a portion of her Wailuku land holdings to the sugar-industrialist Claus Spreckels in 1882. Spreckels subsequently received Land Grant 3343 from King Kalakaua, that

consisted of 24,000 acres of the southeastern portion of the Wailuku Ahupua'a (Zambucka 1977:48).

Community informant Scott Fisher shared that the Wailuku Ahupua'a was very important in the days of the *ali'i* due to its location and abundance of religious sites. He believed that if any chief was aspiring to unify the Hawaiian Islands, Maui's central location in the archipelago would be a huge gain and easier to manage.

7.2 Subsistence and Gathering

Handy and Handy reiterate the prolific cultivation of *kalo* in Wailuku District saying that, "in ancient times [Wailuku District] was the largest continuous area of wet-taro cultivation in the islands" (Handy and Handy 1972:496). *Kalo* was perhaps the most distinguished plant within traditional Hawaiian horticulture and society.

The well-watered 'Īao Valley also provided ample shrimp, taro, and fish but was only accessible to commoners during the season of *Makahiki* (James 2001:62). *Makahiki* is the ancient festival beginning about the middle of October and lasting for about four months incorporating sports, religious festivities, and taboo on war.

The high degree of cultivation within Wailuku Ahupua'a and its near neighbors give evidence that a substantial population would have been established there during the pre-Contact period.

Mr. Fisher shared that Nā Wai 'Ehā, Wailuku, Wai'ehu, Waihe'e, and Waikapū, was a concentrated area of productivity whose rivers would have supported an abundance of *kalo*. Nā Wai 'Ehā also had a number of *loko kalo i'a*. There was one in Waihe'e named Kapoho and another in Wai'ehu named Ka'a.

7.3 Religious Practices and Burials

Though no significant *wahi pana* are mentioned in close vicinity of the project area, a concentration of *heiau* were documented about a mile and half south of the project area near the present-day Ka'ahumanu Church. This concentration of *heiau* suggests a heavily populated area, where many hands were needed for construction; and a continuous living quarters for *ali'i*, as *heiau* are religious structures consecrated by *ali'i*.

The Pihana Heiau complex was built in the time of Kakae, *mō'i* (king) of Maui in the early sixteenth century. Pihana Heiau is located on the west side of 'Īao Stream crested upon a sand ridge across from the modern-day Wailuku Sugar Co. mill. The Pihana complex consists of a *luapa'u* (refuse pit), burials, a cave, and adjacent *heiau*. Pihana Heiau is classified as a *luakini*, or sacrificial heiau, where "human scarifies were performed only on the most important occasions" at this "heiau of the highest class" (Sterling 1998:77). According to Thrum (1908), Pihana Heiau was once used for sacrifices by Kamehameha I before defeating Maui forces in the Battle of Kepaniwai.

The Kapela Burial Cave, located in 'Īao Valley, is where numerous Maui *ali'i* and other famous persons were laid to rest.

Community informant Foster Ampong shared that the most prominent natural feature of this area are the sand dunes or *pu'u one* that stretches contiguously from the Ahupua'a of Waihe'e, Wai'ehu, Wailuku, Waikapū, across the isthmus to Pu'u Olae in the Moku of Honoa'ula. Mr.

Ampong mentioned that it is widely known by numerous descendants of Maui that this *pu'u one* complex, throughout its entirety for centuries are the chosen burial grounds of Maui's native Hawaiian communities.

Mr. Fisher shared that of the 220 or so *ahupua'a* on Maui, Wailuku had the largest number of *heiau*. The intersection between what is now Main Street and Hae Street was the *kapu* area or boundary beyond which *maka'ainana* could not pass. Beyond this area is 'Īao Valley which is considered a very sacred place. Mr Fisher also talked about Pi'ihanakalani and Haleki'i Heiau. The last person to be sacrificed on Maui was a woman by the name of Poloahilani and she was sacrificed at Pi'ihanakalani. It is unusual that a female was sacrificed especially on a *luakini* type *heiau*.

Section 8 Summary and Recommendations

CSH undertook this CIA at the request of Legacy Wailuku LLC. The research broadly covered the entire *ahupua'a* of Wailuku, including the current project area.

8.1 Results of Background Research

Background research for this study yielded the following results, presented in approximate chronological order:

1. The project area is situated in the *ahupua'a* of Wailuku which is located in the larger *moku* of Wailuku on the central isthmus of the island of Maui. The notably large and sprawling *ahupua'a* of Wailuku is home to the urban centers of Kahului and Wailuku as well as the sacred 'Īao Valley.
2. Wailuku Ahupua'a was included in the traditional '*okana* of Nā Wai Eha, or "The Four Streams". This area is home to the four largest streams found on the windward coast of Maui; Waikapu, Waichu, Wailuku, and Waihe'e. The streams of Wailuku include the perennial 'Īao Stream also known as Wailuku River. The streams of Wailuku include the perennial 'Īao Stream also known as Wailuku River. Tributaries that flow into Wailuku River include Nākalaloo, Po'onāhoahoa, Kīnihāpai, and Ae streams.
3. A concentration of *heiau* were once erected in Wailuku near Ka'ahumanu Avenue, these include: Keahukū, Olokua, Olopio, Malena, Pohakuokahi, Lelemako, Kawelowelo, Kaulupala, Palamaihiki, and Oolookalani. Pihana(kalani) and Haleki'i *heiau* are nearer to the coast.
4. Wailuku was the site of Kalanihale, the royal palace of the ruling chief of Maui, Kahekili.
5. An article first published in the Hawaiian newspaper *Ke Au Hou* then cited in Sterling's *Sites of Maui* explains the Kapela Burial Cave in 'Īao Valley. Sources say it was Maui's noted burial place for *ali'i*. The following *ali'i* were said to have been put to rest at Kapela cave: Heleipawa, Aikanaka, Kahaiānuia, Hema, Luanuu, Kamea, Hua, Pau, Paumakua, Haho, Palena, Hanalaaiku, Kakaalaneo, Kekaulike, Kamehameha-nui, Laka, and Kalanikuihonoikamoku (Sterling 1998:80).
6. The high degree of cultivation within Wailuku Ahupua'a and its near neighbors give evidence that a substantial population would have been established there during the pre-Contact period. According to Cordy, the settlement of Wailuku represented one of two (or perhaps three) population concentrations on Maui (Cordy 1981:198-199).
7. In 1776, the army of Kalani'ōpu'u landed at Keone'ō'io with their war canoes, a force so vast that the area between Makena and Honua'ula was said to have been completely filled by these canoes. There, the invading army proceeded to ravage the countryside. Kalani'ōpu'u then landed with additional forces at Kīheipuko'a at Keālia to Kapa'ahu (Kamakau 1992:85). Here his elite army of *Alapa* and *Pi'ipi'i* warriors, 800 men strong, landed ready for war. Kalani'ōpu'u's army was annihilated in what was called *Ahulau Ka Pi'ipi'i i Kakanilua* or Slaughter-of-the-Pi'ipi'i-at-Kakanilua (Kamakau 1992:86), one of the most legendary battles of pre-Contact Hawai'i.
8. The 1790 invasion of Maui by Kamehameha the Great of Hawai'i Island, is memorialized in many place names within Wailuku. The Battle of 'Īao is also known as the Battle of

- Keponiwai, meaning the “Dammed Stream.” The Battle of ‘Īao is said to have been one of the most bitter battles fought by Kamehameha I in his bid to control the Hawaiian Islands.
9. Land Commission Awards (LCAs) in Wailuku Ahupua‘a were more commonly awarded in the western portion of the *ahupua‘a* while only two LCAs were awarded within the eastern portion, reflecting the settlement patterns in the area. Although almost 300 individual parcels were awarded by the Land Commission for Kuleana Lands within the *ahupua‘a* of Wailuku, these claims represented lands which were located in the upland portion of the *ahupua‘a*.
 10. In 1869, on land located just west of Pā‘ia, a small *kuleana* of 11.94 acres was purchased by S.T. Alexander and his business partner, H.P. Baldwin, both descended from missionary families, who were eager to apply their agricultural experience to their own plantation. This initial land purchase was the beginning of the development of the entire central isthmus for sugar cultivation.
 11. In 1876, a treaty was signed between the Kingdom of Hawai‘i and the United States, which opened larger and more lucrative markets for Hawaiian sugar. Plans were immediately drawn up by Alexander & Baldwin to finance a ditch to bring water from the Hāna region of East Maui to the arid plains of Pā‘ia. The Kingdom of Hawai‘i issued a lease for the construction right-of-way, and in 1879, the successful venture delivered millions of gallons of water to the Pā‘ia region via the Hamakua Ditch (Wilcox 1996:16).
 12. In 1899, HC&S determined that cultivating the Pu‘unēnē plains required far more water than the original Hamakua Ditch could provide. The Lowrie Ditch project, completed in 1900, was undertaken to provide an additional source of water to the central Maui plains (Thrum 1900). The ditch began at the Pāpa‘a‘ea Reservoir, at 1,000 ft. elevation, and maintained a four-foot drop per mile following the ditch’s initial plunge from the Kailua reservoir. Steep mountain gulches were traversed using the force of the constant weight of water flowing in a series of siphons.
 13. The Kahului Railroad Company, founded by Thomas Hobron, was incorporated on July 1, 1881. By 1886, with a terminal established at Kahului, the railroad comprised a line from Kahului to lower Paia and from Kahului to the town of Wailuku. In 1886, the railroad company was sold to Wilder Steamship Company which subsequently applied for and received, in 1889, authorization from the Hawaiian government to engage in maritime shipping operations. Ten years later, in 1899, the railroad company was once again sold, this time to the Hawaiian Commercial & Sugar Company, headed by Henry P. Baldwin.

8.2 Results of Community Consultations

CSH attempted to contact Hawaiian organizations, agencies, and community members as well as cultural and lineal descendants in order to identify individuals with cultural expertise and/or knowledge of the project area and vicinity. Community outreach letters were sent to a total of 89 individuals or groups; ten responded and two of these *kama‘āina* and/or *kūpuna* met with CSH for more in-depth interview. Consultation was received from the following community members:

1. Foster Ampong, *Kama‘āina*
2. Scott Fisher, *Kama‘āina*, Chief Conservation Officer, Hawaiian Islands Land Trust

8.3 Impacts and Recommendations

Based on information gathered from the cultural and historical background and the community consultation, CSH has identified the following potential impacts and makes the following preliminary recommendations.

1. Mr. Ampong shared that although this area is already well-developed, he strongly recommends the presence of monitors at every location where there is earth moving activity. He personally knows of burials that were discovered in close vicinity to the project area.
2. Mr. Ampong is strongly against using ground penetrating radar to identify burials as it will ultimately lead to extraction.
3. Mr. Fisher highly recommends “intense” monitoring and to have a monitor on site at all times when any ground disturbance is happening.
4. Mr. Fisher is concerned about the precautions taken in the event of a main break which could possibly result in raw sewage seeping into Wailuku Stream. This event would have detrimental effects on the *hīhīwai* (*Neretina granosa*) and ‘o‘opu (*Gobiidae*) and other fauna in Wailuku Stream.
5. Mr. Fisher shared that boring is the least preferable option in terms of digging. He shares that by scraping or even controlled digging, you are less likely to inadvertently disturb *iwi kupuna* but also, you may be able to identify remains before any catastrophic damage.
6. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease and the SHPD will be notified pursuant to HAR §13-280-3.
7. In the event that *iwi kūpuna* are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.

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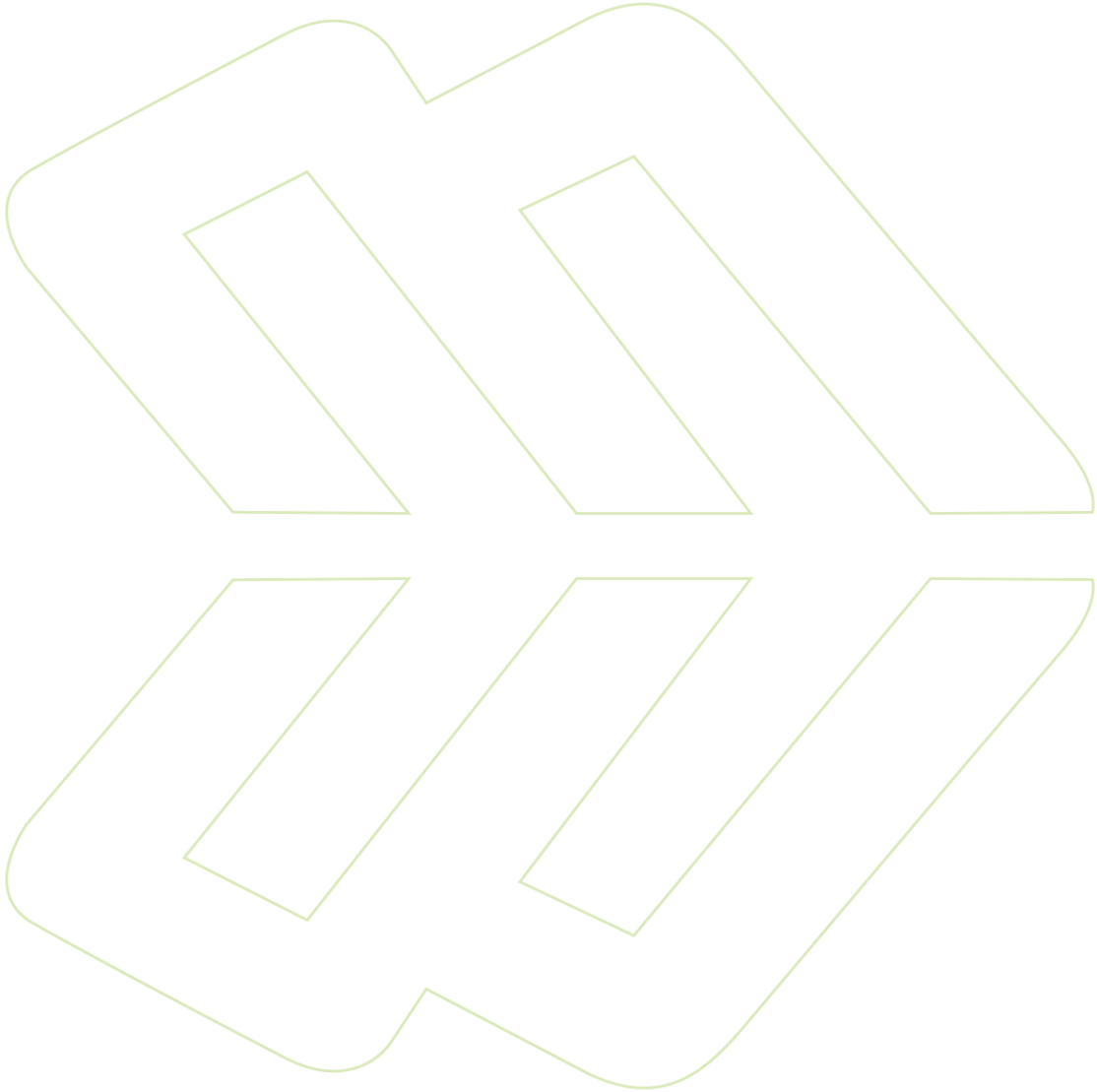
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