JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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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

October 28, 2024

BOR-PM-0784-24

Mary Alice Evans, Director
State of Hawai'i Office of Planning and Sustainable Development
Environmental Review Program
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

Subject: Publication of the Draft Environmental Assessment for the Proposed United States Coast Guard Expansion of Station Maui Facilities
Maalaea, Wailuku, Island of Maui
TMK: (2) 3-8-014:028(por.)

Dear Director:

The Department of Land and Natural Resources has authorized SSFM International, Inc., consultant for the applicant United States Coast Guard, to transmit the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the Expansion of Station Maui Facilities at Maalaea Small Boat Harbor, situated on a portion of TMK (2) 3-8-014:028 (por.), Maalaea, Wailuku, on the island of Maui, for publication in next available edition of the Environmental Notice.

If there are any questions, please contact DOBOR Property Manager, Richard Howard at (808) 587-1964.

Sincerely,

Dawn N.S. Chang
Chairperson
Board of Land and Natural Resources

Enclosures

**From:** webmaster@hawaii.gov
**To:** DBEDT OPSD Environmental Review Program
**Subject:** New online submission for The Environmental Notice
**Date:** Tuesday, October 29, 2024 8:09:37 AM

---

**Action Name**

USCG Expansion of Station Maalaea Facilities

**Type of Document/Determination**

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

**HRS §343-5(a) Trigger(s)**

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

**Judicial district**

Wailuku, Maui

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

(2) 3-8-014:028 (por.)

**Action type**

Agency

**Proposing/determining agency**

Department of Land and Natural Resources

**Agency jurisdiction**

State of Hawaii

**Agency contact name**

Cami Miyakado

**Agency contact email (for info about the action)**

cami.r.miyakado@hawaii.gov

**Email address for receiving comments**

cami.r.miyakado@hawaii.gov

**Agency contact phone**

(808) 587-2683

**Agency address**

4 Sand Island Access Road
Honolulu, HI 96819
United States
Map It

**Is there a consultant for this action?**

Yes

**Consultant**

SSFM International, Inc.

**Consultant contact name**

Jennifer Scheffel

**Consultant contact email**

jscheffel@ssfm.com

**Consultant contact phone**

(808) 356-1273

**Consultant address**

99 Aupuni Street, Suite 202
Hilo, HI 96720
United States
Map It

**Action summary**

The proposed action includes the construction of a new 17,982 G.S.F., three-story facility and renovation of the existing Station building where each floor houses dedicated Station Maui functions, allowing the Station to effectively conduct day-to-day operations. Each floor would include stacked building support spaces centrally located near the stairs and elevator. The proposed new three-story building would accommodate 36 personnel and would include the following primary functional areas: Administrative, Command & Operations Center, Marine Maintenance, Weapons Space & Operations, Berthing, Dining/Kitchen/Training, and Facility Support.

**Reasons supporting determination**

See Section 3: Affected Environment, Potential Impacts, and Avoidance and Minimization Measures in the DEA.

**Attached documents (signed agency letter & EA/EIS)**

- DLNR-Authorization-for-Publication-of-DEA.pdf
- 240909-USCG_StationMaui_DraftEA_w-Appendices-signed.pdf

**Action location map**

- USCG-Maui-Map.zip

**Authorized individual**

Cami Miyakado

**Authorization**

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

# United States Coast Guard
# Expansion of Station Maui Facilities

## Draft Environmental Assessment

November 2024

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# Draft Environmental Assessment

# United States Coast Guard

# Expansion of Station Maui Facilities

Māʻalaea Harbor, Island of Maui, Hawaiʻi

*Prepared for:*

United States Coast Guard

*Prepared by:*

SSFM International, Inc.

November 2024

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**UNITED STATES COAST GUARD (COAST GUARD)**
**DRAFT ENVIRONMENTAL ASSESSMENT FOR**
**EXPANSION OF STATION MAUI FACILITIES, HAWAII**

This Coast Guard Draft Environmental Assessment (DEA) was prepared in accordance with Environmental Planning Policy, COMDTINST 5090.1 (series) and is in compliance with the National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321 to 4370(h) and the Council on Environmental Quality Regulations dated 28 November 1978 (40 C.F.R. §§ 1500-1508).

This DEA serves as a concise public document to briefly provide sufficient evidence and analysis for determining the need to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). This DEA concisely describes the proposed action, the need for the proposal, the alternatives, and the environmental impacts of the proposal and alternatives. This DEA also contains a comparative analysis of the action and alternatives, a statement of the environmental significance of the preferred alternative, and a list of the agencies and persons consulted during DEA preparation.

ELLIS.JEFFREY.BRYAN.1176110526

Digitally signed by ELLIS.JEFFREY.BRYAN.1176110526
Date: 2024.10.25 09:44:05 -07'00'

| Date | Bryan Ellis | Senior Planner<br>SILC-ESD |
|---|---|---|

I reviewed the DEA and submitted my written comments to the Proponent.

Digitally signed by AMUNDSON.DEAN.JAY.1274011862
Date: 2024.10.25 09:34:50 -07'00'

| Date | Dean Amundson | Env Protection Specialist<br>SILC-EMD | Level III Warrant |
|---|---|---|---|

I reviewed the DEA and submitted my written comments to the Proponent.

Digitally signed by AMUNDSON.DEAN.JAY.1274011862
Date: 2024.10.25 09:35:26 -07'00'

| Date | Dean Amundson | Env Protection Specialist<br>SILC-EMD | Level III Warrant |
|---|---|---|---|

In reaching my decision/recommendation on the Coast Guard's proposed action, I considered the information contained in this DEA and considered and acknowledge the written comments submitted to me from the Environmental Reviewers.

Digitally signed by MACCUMBEE.SCOTT.M.1041867538
Date: 2024.10.25 14:18:12 -07'00'

| Date | CAPT Scott MacCumbee | Commanding Officer<br>Civil Engineering Unit, Oakland |
|---|---|---|

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# Project Summary

| | |
|---|---|
| **Project Name** | United States Coast Guard Expansion of Station Maui Facilities |
| **Location** | Māʻalaea Harbor, Island of Maui, Hawaiʻi |
| **District** | Pūʻali Komohana |
| **Project Site Tax Map Key** | (2) 3-8-014:028 |
| **Landowner** | State of Hawaiʻi Department of Land and Natural Resources, Division of Boating and Ocean Recreation |
| **Existing Use** | Unpaved parking area |
| **State Land Use** | Urban |
| **HRS § 343-5(a) Trigger** | Propose the use of state of county lands or state or county funds |
| **Proposed Action** | The Proposed Action includes the issuance of a lease from DOBOR to accommodate the expansion and long-term operation of the Coast Guard's Station Maui. The key mission critical factors that are addressed by the Proposed Action include accommodating basic square footage requirements and equipping the facility to support boat maintenance, response readiness, training, and berthing for Duty Standers. The Proposed Action would be divided between two separate buildings: the new Station Maui building and the existing facility that would be used by the Marine Safety Team (MST) Maui. Specifically, the Proposed Action includes construction of a new three-story facility and renovation of the existing facility. |
| **Anticipated Impacts** | As discussed in **Chapter 3: Affected Environment, Potential Impacts, and Avoidance and Minimization Measures**, the Proposed Action would have short-term and temporary impacts during construction that would be less than significant to water resources, biological resources, archaeological and historic resources, cultural practices and beliefs, geology and soils, traffic and transportation, air quality, the noise environment, and public facilities and services. Best Management Practices (BMPs) and other measures would be implemented to minimize impacts, as applicable.<br><br>There would be beneficial impacts associated with natural hazards and climate change by bringing the existing facility up to current standards. In addition, there would be beneficial impacts to the economy through the increase in personnel that would increase revenue in the area. |
| **Anticipated Determination** | Finding of No Significant Impact (FONSI) |
| **Permits and Approvals** | See **Table 1** |

| | |
|---|---|
| **Approving Agency** | State of Hawai‘i Department of Land and Natural Resources |
| **Applicant** | United States Coast Guard |
| **EA Preparer** | SSFM International, Inc.<br>99 Aupuni Street, Suite 202<br>Hilo, Hawai‘i 96720<br>Contact: Jennifer Scheffel<br>(808) 356-1273 |
| **Consultations** | See **Section 6** |

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# Appendices

# Acronyms

| | |
|---|---|
| **µg/m³** | micrograms per cubic meter |
| **AAQS** | Ambient Air Quality Standards |
| **ADA** | Americans with Disabilities Act |
| **ADT** | average daily traffic |
| **BFE** | base flood elevation |
| **CAA** | Clean Air Act of 1972 |
| **CIA** | Cultural Impact Assessment |
| **Coast Guard** | United States Coast Guard |
| **CZM** | Coastal Zone Management |
| **CZMA** | Coastal Zone Management Area |
| **DFE** | design flood elevation |
| **DLNR** | Department of Land and Natural Resources |
| **DOBOR** | Division of Boating and Ocean Recreation |
| **DOH** | Department of Health |
| **EISPN** | Environmental Impact Statement Preparation Notice |
| **FONSI** | Finding of No Significant Impact |
| **gpd** | gallons per day |
| **GSF** | gross square feet |
| **HAR** | Hawai‘i Administrative Rules |
| **HDOT** | Hawai‘i Department of Transportation |
| **HRS** | Hawai‘i Revised Statutes |
| **LID** | low impact development |
| **LOS** | level of service |
| **LRFI** | Literature Review and Field Inspection |
| **MAPPS** | Maui’s Automated Planning and Permitting System |
| **MECO** | Maui Electric Company |

| | |
|---|---|
| **MST** | Marine Safety Team |
| **NAAQS** | National Ambient Air Quality Standards |
| **NOAA** | National Oceanic and Atmospheric Administration |
| **NSF** | net square footage |
| **OPSD** | Office of Planning and Sustainable Development |
| **ppm** | parts per million |
| **RB-S** | Response Boat – Small |
| **RB-M** | Response Boat – Medium |
| **SHPD** | State Historic Preservation Division |
| **SMA** | Special Management Area |
| **TCPs** | Traditional Cultural Properties |
| **USFWS** | U.S. Fish and Wildlife Service |
| **v/c** | volume to capacity |

# 1. Introduction

## 1.1. Project Background

Station Maui is located on the south shore of central Maui in Māʻalaea Bay on land leased from the State of Hawaiʻi's Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation (DOBOR). Initially constructed as an administrative support facility, the existing Station Maui's facilities are undersized and functionally deficient to meet U.S. Coast Guard (Coast Guard) standards and current operational needs.

The U.S. Coast Guard (Coast Guard) proposes to lease property adjacent to the existing Station from DOBOR to expand the existing Station Maui to meet current and future mission demands of the Coast Guard Following issuance of a lease to the Coast Guard by DOBAR, the Coast Guard would construct a new facility on the adjacent leased parcel, as well as renovate the existing station building.

Station Maui's primary mission is to support Maritime Homeland Security and Search and Rescue operations. Secondary mission operations include the following:

1. To enforce federal laws and treaties on U.S. waters and the high seas.
2. To provide port and environmental safety, enforce federal water pollution laws, and support port protection activities.
3. To provide marine environmental response as directed within area of responsibility and to provide support to other agencies in support of this mission.
4. To ensure all aids are watching properly and provide maintenance service support to other Coast Guard units.
5. To promote Recreational Boating Safety and enforce recreational boating safety laws and regulations.
6. To cooperate with other federal, state, and local agencies in the execution of their missions.
7. To provide logistical support for all other federal, state, and local agencies and Coast Guard units.

The existing Station Maui facilities, which were constructed to support a single 95-foot Coast Guard vessel, currently occupy approximately 1,800 square feet, which is approximately 13,500 square feet less than what is required to meet the needs of the current complement of three (3) small boats and 20 personnel.

In 2008 the Coast Guard began a preliminary planning review to look at potential alternatives to expand Station Maui. This study evaluated six (6) alternatives (see **Section 2.5**), plus the No-Action Alternative, and ultimately recommended development of expanded Station Maui facilities on a vacant property northeast of the existing Station owned by DOBOR (i.e., DOBOR Southern Split). The DOBOR property is located northeast of the existing Station Maui facility between residential and commercial uses. The property is currently used for paid public parking and is one of the last undeveloped and developable properties in Māʻalaea Harbor. DOBOR has indicated an initial willingness to lease the property to the Coast Guard, subject to completion of an Environmental Assessment (EA) to evaluate potential impacts from DOBOR's lease to the Coast Guard and the Coast Guard's development and use of the property.

## 1.2. Project Location

Station Maui is located in Māʻalaea Bay on Tax Map Key (TMK) (2) 3-6-001:002 on a parcel of land leased from DOBOR. The proposed Station Maui expansion would be located on a second, adjacent parcel of land owned by owned by DOBOR (i.e., DOBOR Southern Split). The proposed new lease and development area includes TMK (2) 3-8-014:028 and comprises 0.42 acre as shown in **Figure 1**.

## 1.3. Purpose and Need

### 1.3.1. Purpose of the Proposed Action

The purpose of the Proposed Action is to create a fully functional Station Maui that meets the Coast Guard's long-term mission in its Area of Responsibility. The Proposed Action would ensure that the Coast Guard can support its primary and secondary missions as described in **Section 1.1** by leasing additional land from DOBOR adjacent to the existing leased area (i.e., DOBOR Southern Split). Under the Proposed Action, Station Maui would be expanded by constructing a new facility that would provide critical elements to support the Coast Guard mission, including but not limited to the following providing ready-berthing facilities to allow crew to stay on-site, maintenance facilities, and watchstander facilities, as well as renovation of existing, deficient Station facilities.

### 1.3.2. Need for the Proposed Action

Per the Coast Guard's Shore Facilities Standards Manual (COMDINST M11012.9), approximately 15,304 net square footage (NSF) of mission facilities are required to accommodate the 36 persons and three boats currently at Station Maui. The existing Station Maui facilities are approximately 1,789 gross square feet [GSF]); a shortfall of approximately 13,515 square feet. The Proposed Action would renovate the existing Station Maui building and build a new facility at Station Maui to address space and functional deficiencies that impair current operations and mission readiness.

Station Maui's primary responsibility for Maritime Homeland Security (MHLS) and Search and Rescue (SAR) is reliant on its response readiness. The current facility is unsuited for its heavy-weather mission operations. Lack of ready-berthing facilities and inadequate training and physical fitness areas result in operational gaps and cause a drop in nighttime readiness standards. This leaves operators vulnerable and ultimately impacts Station Maui's ability to achieve its mission and avert loss of property and lives.

There is no available space within the existing facilities for station training or to accommodate an adequate basic crew watchstanders. The existing facility lacks adequate boat maintenance facilities, with the current trailerable boat being maintained within a designated fence line on the adjacent pier and maintenance personnel working out of a trailer. The underlying infrastructure is at or exceeding capacity. For example, the sewer system at the existing station is nearing its capacity and may have trouble handling surges in water consumption that could result from additional personnel. Lastly, the existing facility fails to meet the 30-foot inside and outside clear zone security setbacks required by the Coast Guard Physical Security and Force Protection (COMDINST M5530.1C).

***Figure 1. Project Location Map***

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# 2. Alternatives

## 2.1. No-Action Alternative

Under the No-Action Alternative, Station Maui would not be expanded or renovated. The existing Maui Station would remain and continue operating at its existing capacity. Lack of ready-berthing facilities would continue to result in operational gaps and a drop in nighttime readiness standards which would leave operators vulnerable and ultimately impact Station Maui's ability to achieve its mission to avert the loss of property and lives.

## 2.2. Proposed Action

The Proposed Action includes the issuance of a lease from DOBOR to accommodate the expansion and long-term operation of the Coast Guard's Station Maui. The key mission critical factors that are addressed by the Proposed Action include accommodating basic square footage requirements and equipping the facility to support boat maintenance, response readiness, training, and berthing for Duty Standers.

The Proposed Action includes construction of a new three-story facility and renovation of the existing Station building. The newly leased parcel would accommodate a new building for Station Maui functions, while the existing leased parcel and building would be renovated to accommodate the Marine Safety Team (MST) Maui.

The new three-story building would be approximately 17,982 GSF. The design concept is a new facility where each floor houses dedicated Station Maui functions, allowing the Station to effectively conduct day-to-day operations. Each floor would include stacked building support spaces centrally located near the stairs and elevator. The proposed new three-story building would accommodate 36 personnel and would include the following primary functional areas:

- **Administrative:** Administrative spaces would serve as the primary work area within the facility and include private office spaces for the Office in Charge and the Executive Petty Officer, open office space for supervisory enlisted personnel and shared office space for remaining personnel.
- **Command and Operations Center:** The Command and Operations Center would serve to monitor outdoor conditions and situations for responsive operations of the facility.
- **Marine Maintenance:** The Marine Maintenance space would house the boat maintenance work bay. The space would also include workshops and storage areas. Station Maui is assigned three boats: one Response Boat – Small (RB-S), which is a 29-foot-long trailerable boat, and two Response Boat – Medium (RB-M), which are 47-feet-long non-trailerable boats. The boat work bay and maintenance area would be designed on the assigned RB-S trailerable boat.
- **Weapons Space and Operations:** The Weapons Space and Operations spaces would include a weapons storage area for the storage of ammunition and weapons and a gear storage area.
- **Berthing:** The berthing spaces would serve as the main recreation and sleeping quarters for the 24/7 Duty Standers but may also be used as an affordable housing option for On-Duty personnel that must live within 15 minutes of the station, which can be a challenge given the high housing costs and local traffic conditions.

- **Dining/Kitchen/Training:** The dining/kitchen/training space would serve to support the berthing area for overnight shifts and training sessions. It would include a small kitchen with a pantry and a multi-purpose mess deck and training area.
- **Facility Support:** The facility support spaces would serve to support the general upkeep of facility operations and include personnel support and building support areas.

The site plan has been configured to locate the parking area on the north side of the site adjacent to the existing residential condominium development. The building is proposed to be sited as far south on the property as possible to minimize potential impacts on existing sight lines towards the mountains to the west and Māʻalaea Bay to the south. The siting of the new Station Maui building within the southern portion of the site would also facilitate harbor access and entry/exit of the boat and trailer from Māʻalaea Road into the boat storage area. The proposed site plan is shown in **Figure 3**. The proposed site layout of the proposed facility is shown in **Figure 3**.

The floorplan of the proposed facility is shown in **Figure 3** and described below.

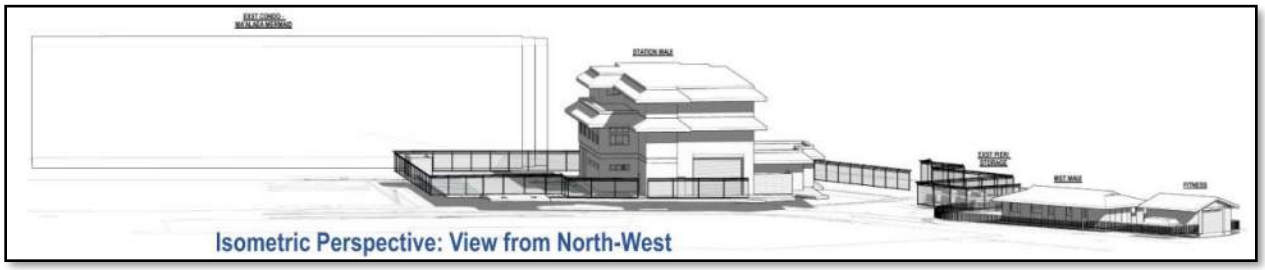
- **First Floor:** The first floor would prioritize Boat Maintenance Facilities to accommodate boat trailering and gear upkeep, along with the weapons space and gear storage for ease of access in response situations.
- **Second Floor:** The second floor would consist of administrative spaces and a command operations center for main day-to-day operations.
- **Third Floor:** The third floor would be smaller in size and would consist of berthing space, a kitchen, and recreational space for duty members to rest and recreate.

The existing Station Maui facility would be renovated to accommodate MST Maui's administrative offices, meeting/interview room, and waiting area. The existing garage would be renovated to accommodate the fitness area for both MST Maui and Station Maui. Work at the existing facility would primarily consist of interior alterations with minor exterior alterations as needed. The floorplan of the renovated facility is shown in **Figure 5**.

Upon completion, the Station Maui Facility's (i.e., MST Maui and Station Maui buildings) proposed building floor area would be 19,771 GSF which meets the basic square footage requirements for the facilities.

***Figure 2. Proposed Site Plan***

***Figure 3. Proposed Site Layout***



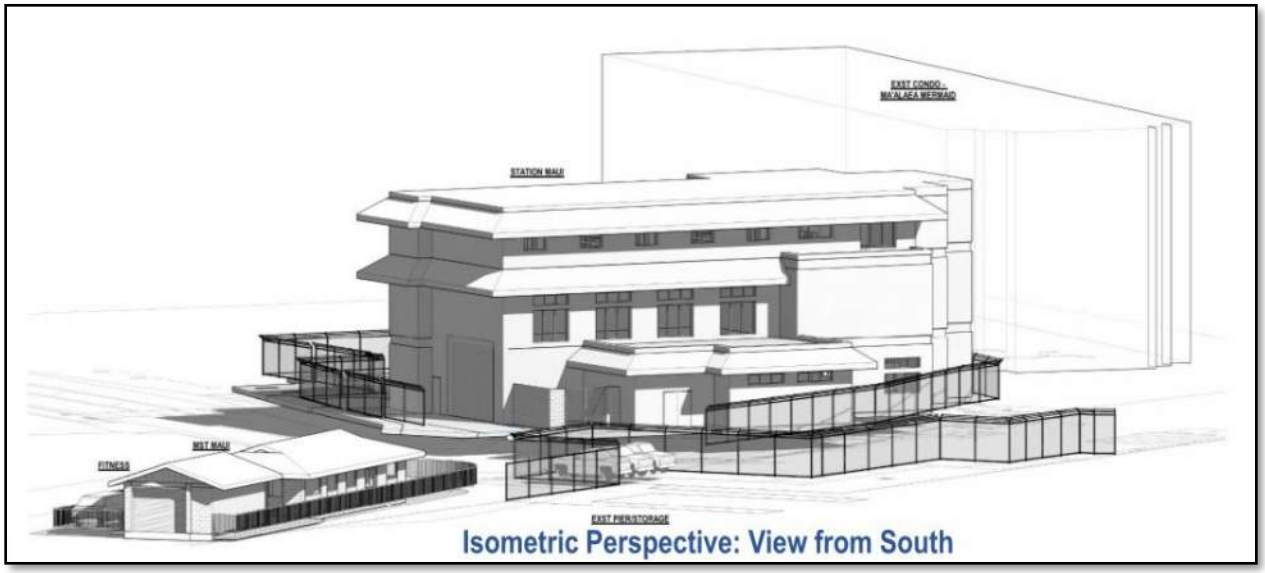
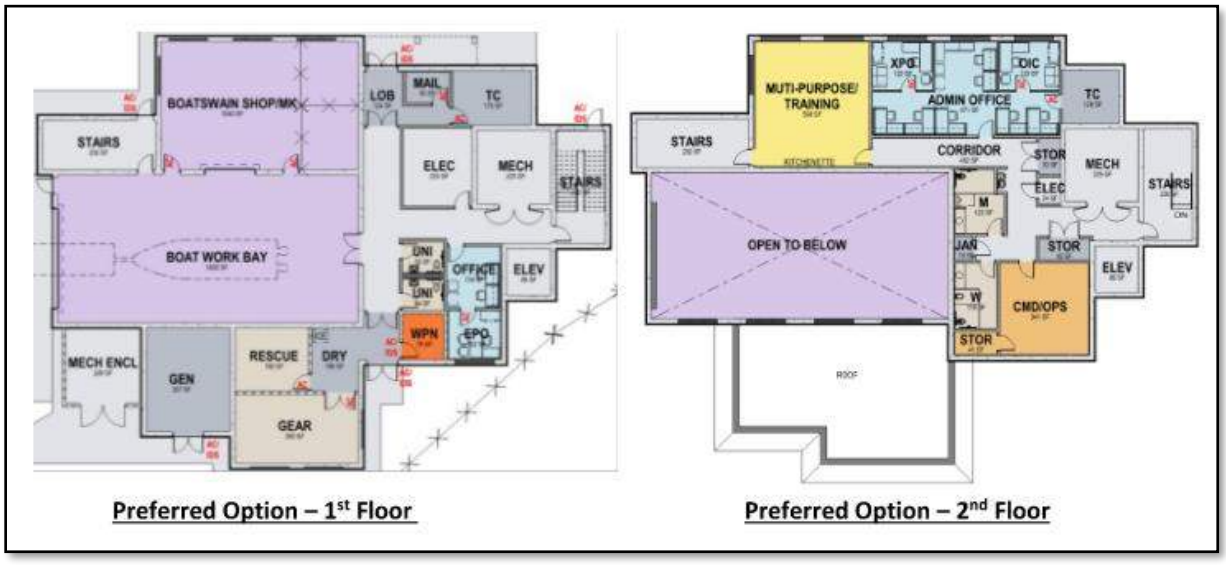



***Figure 4. Proposed Floorplan for New Station Maui Facility at DOBOR Southern Split***



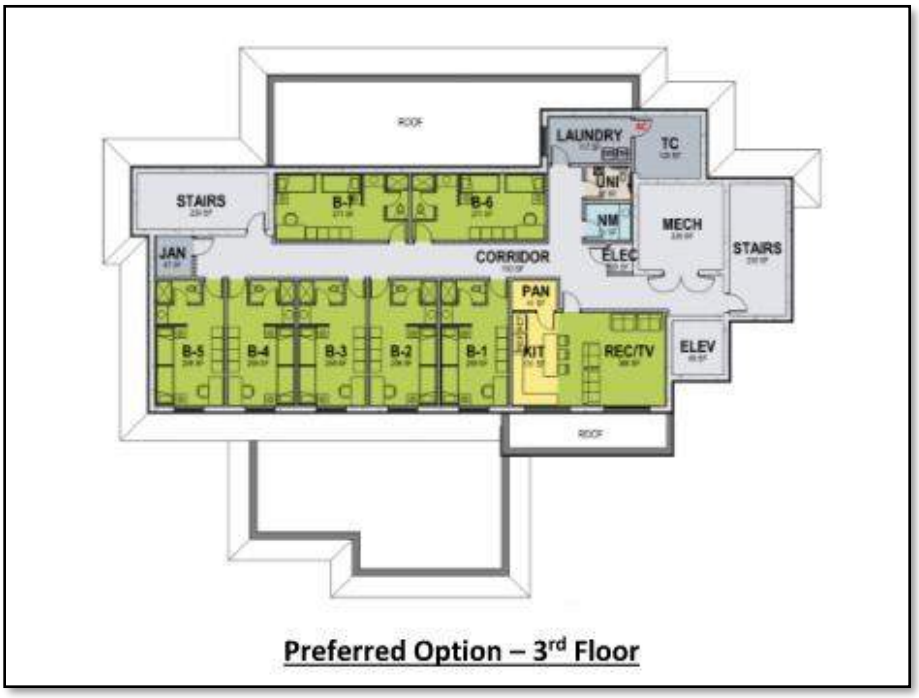
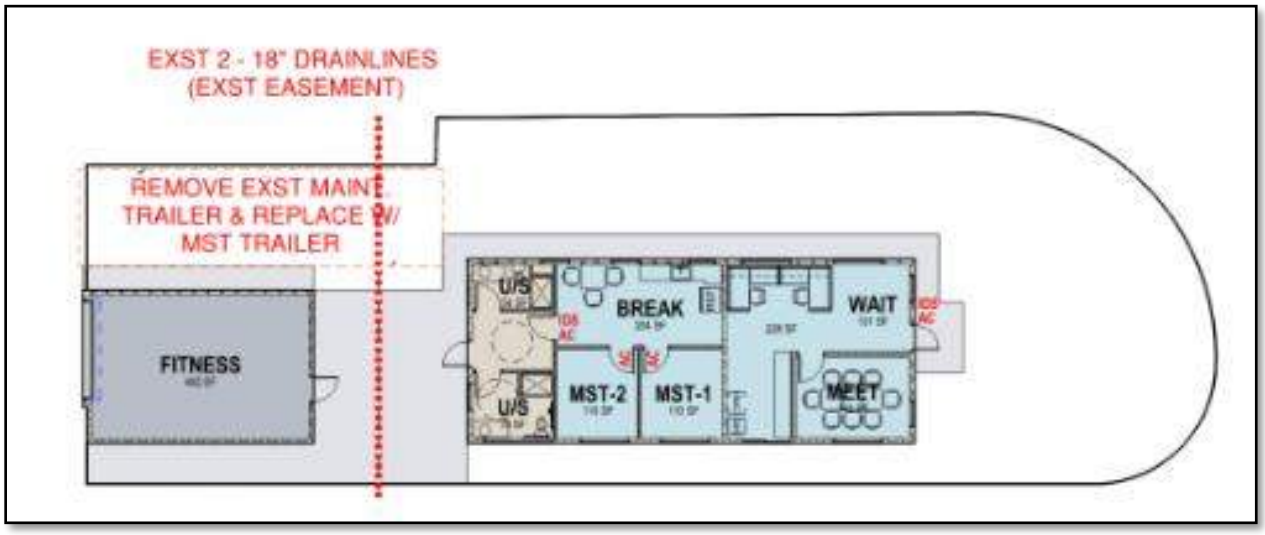



***Figure 5. Proposed Floorplan for Renovated Existing Facility to Accommodate MST Maui***




### 2.2.1. Site Demolition

There is currently no development on DOBOR Southern Split site. Demolition would therefore be limited to asphalt removal to allow for utility installation, service connections, and sidewalk construction.

### 2.2.2. Site Work for New Station Maui Facility

New site work would include construction of the new Station Maui building, parking lot, two loading zones, and security fencing. Construction at the site would include, but not necessarily be limited to, constructing concrete masonry unit (CMU) or cast-in-place concrete walls over conventional shallow foundations in addition to concrete slab-on-grade, steel beams, metal decking with concrete topping at floors, metal decking with TPO roofing system, metal roofing system over mansard roof(s), windows, doors, elevator, fire protection, mechanical systems, electrical systems, and communications systems. This would be designed to meet Coast Guard standards. The building would meet hurricane, seismic, tsunami, and progressive collapse design standards as required. While not subject to County of Maui Zoning, site and exterior building features would consider zoning requirements to the extent practicable.

Site grading, with some minor retaining walls not exceeding four feet in height, would be required along the southern perimeter of the property to match existing grades without extending beyond the property limits. On-site parking would include 20 parking stalls, one Americans with Disabilities Act (ADA) van-accessible parking stall, and two loading zones. Security fencing would be required and would be eight feet high. Large vehicle gates would be provided at each access point to the parking area. Two pedestrian gates would be provided: one on Māʻalaea Road and one closer to the ocean on the access lane between Māʻalaea Road and the harbor.

#### *Water Supply*

Water supply would include a connecting to the existing 8-inch diameter waterline on Māʻalaea Road along with the installation of a new water service line for domestic water supply. The peak water demand is estimated to be 10 gallons per minute (gpm) to accommodate 18 personnel residing on-site plus 18 office staff. To convey the required flow rate, a 1.5-to-2-inch waterline would be required.

A new fire hydrant would be required in front of the DOBOR Southern Split site to ensure that the maximum hose coverage length of 350 feet is not exceeded. An 8-inch fire line connected to the County of Maui water system would be provided to provide water supply for the building fire sprinkler system.

*Stormwater Management*

Site grading would be designed to direct water away from impervious site features and provide positive drainage for the parking areas, walkways, and buildings. The site grading and drainage would then follow the existing runoff patterns that flow towards Māʻalaea Bay. Site drainage would be collected in grass or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed to accommodate the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed toward the western property limits and conveyed through the on-site system.

Water quality treatment would be provided in conformance with the County of Maui stormwater drainage criteria. Since on-site detention and infiltration is not feasible, a flow-based water quality treatment system, including modular filtration units, was used as the initial design basis for anticipated flow. The water quality treatment unit would be placed near the lowest point on the site and would connect to the existing 7-foot by 12-foot box culvert that is located west of the DOBOR Southern Split site.

### 2.2.3. Site Work at Existing Station Maui Facility

Work at the MST Maui would primarily consist of interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations that included adding hurricane ties to the trusses.

### 2.2.4. Off-site Improvements

Frontage improvements along Māʻalaea Road may be required such as extension of the concrete sidewalk along the east side of Māʻalaea Road connecting the existing sidewalk to the harbor area and relocation of the existing crosswalk due to conflicts with the proposed driveway and an extension of the existing sidewalk on the west side of Māʻalaea Road.

## 2.3. Project Schedule

The anticipated project milestones are as follows:

- **Final EA and Finding of No Significant Impact (FONSI):** January 2025
- **Land Use Lease:** Quarter 3 2025 through Quarter 3 2027
- **Design:** Quarter 2 2029 through Quarter 4 2030
- **Construction:** Quarter 2 2031 through Quarter 1 2033

## 2.4. Permits and Approvals Which May be Required for the Proposed Action

Implementation of the Proposed Action would require coordination with Federal, State, and County agencies for permits or approvals. Federal agencies are not subject to all state and local regulations. While not beholden to the regulations, the Coast Guard would aim to meet intent of the regulation/permit to

the extent practicable. The permits and approvals presented in **Table 1** would be required for the Proposed Action.

***Table 1. Permits and Approvals That Would Be Required for the Proposed Action***

| Permit or Approval | Description | Regulation(s) | Administrative Authority |
|---|---|---|---|
| **FEDERAL** | | | |
| Environmental Assessment and FONSI | Required for all Federal agencies to assess the environmental effects of their proposed actions prior to making decisions. | • National Environmental Policy Act | Council on Environmental Quality |
| Historic Preservation Review | Required for all Federal agencies to consider the effects on historic properties of projects they carry out, assist, fund, permit, license, or approve. | • Section 106 National Historic Preservation Act | Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) |
| Endangered Species Review | Required for all Federal agencies to ensure their activities are not likely to jeopardize the continued existence of Federally-listed species or destroy or adversely modify designated critical habitat. | • Section 7, Endangered Species Act | U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) |
| Coastal Zone Consistency Determination | Required for all Federal agencies to ensure that their proposed actions are consistent, to the maximum extent practicable, with the enforceable policies of a coastal state or territory's Federally-approved Coastal Management Plan. | • Coastal Zone Management Act | State of Hawai'i Office of Planning and Sustainable Development (OPSD), Coastal Zone Management Program |
| **STATE** | | | |
| Environmental Assessment and FONSI | Required for projects that "trigger" environmental review, including those that propose the use of state or county lands and the use of state or county funds. | • HRS Chapter 343, Environmental Impact Statements<br>• HAR Title 11 Section 200.1, Environmental Impact Statement Rules | OPSD, Environmental Review Program |
| Historic Preservation Review | Required for projects that may affect historic property or a burial site. | • HRS Chapter 6E | DLNR-SHPD |

## 2.5. Alternatives Considered but Not Carried Forward for Further Analysis

Four (4) site alternative sites that were not carried forward for further analysis are discussed in **Section 2.5.1**. Additional alternatives not carried forward focused on different floor plans and configurations of the existing and planned facility on the DOBOR Southern Split site. Scenarios for the redevelopment of the existing station are provided in **Section 2.5.2**. Scenarios for the proposed new building at the DOBOR Southern Split are discussed in **Section 2.5.3**.

### 2.5.1. Alternative Sites

Mā‘alaea Harbor is the location of the current Station and is an optimal location for execution of Station Maui's mission as it has access to busy sea lanes and boating areas. It also has less road congestion than surrounding harbor locations, which allows Station Maui easy access to transit its 25-foot response boat to the north shore for anti-terrorism and boat inspection activities (at least 15 trips per month). The location is also permits easy access for air travel and cargo needs in and out of the island. Therefore, alternative sites that were considered for expansion of Station Maui were all in close proximity to Mā‘alaea Harbor and the current Station facility.

Four (4) site alternatives at Mā‘alaea Harbor, in addition to the Proposed Action and No-Action Alternative evaluated in this Environmental Assessment, were considered in the initial Coast Guard planning (see **Figure 6**).

***Figure 6. Alternative Sites***


- **Store Site:** The Store Site alternative would involve conversion of an existing, formerly retail/light industrial property immediately north of the existing facility on Mā‘alaea Road. The benefits of this site are its proximate and convenient location and potential to achieve energy and environmental design advantages based on site reuse and tuck-under parking that would reduce non-pervious paving. The site is constrained by the aquarium to the east and adjacent properties to the north making meeting security setbacks impossible to achieve and limiting the development capability and expansion. Redevelopment of the site would require installation of blast resistant walls and flooring to meet security standards. The site contained toxic soils contamination but has been remediated according to initial environmental review. The site is also linked to a cesspool and may have ground water seepage with the potential for additional remediation. For these reasons, the Store Site was not carried forward for further analysis.

- **Aquarium Site:** The Aquarium Site alternative would involve development of an undeveloped site approximately 0.1-mile north of the current Station Maui facility. This site is relatively long and narrow, sloping upward from the Māʻalaea Road and Hauʻoli Street intersection. It is directly north of the Maui Ocean Center and shopping center and faces a public parking lot. The site's parking would be a dedicated portion of the existing aquarium's unsecured parking lot. This site does not allow for security setbacks as the exterior walls of the adjacent aquarium facility directly abut the property lines on the southern edge. In addition, this site offers only a limited view of the harbor area. For these reasons, the Aquarium Site was not carried forward for further analysis.
- **Sugar Cane Site:** The Sugar Cane Site alternative would involve development of vacant site approximately 0.125-mile north on Māʻalaea Road at the intersection with Hauʻoli Street. The site is flat and is a sugar cane field. This site has a long southward view over Māʻalaea Bay but is the furthest from the current facility and waterfront. As the potential site would require subdivision from the much larger agricultural parcel, its exact future shape and size is flexible and could better accommodate security setbacks and might permit a more spacious arrangement of a multiple building mini-campus format. However, this site is located on "Prime Farmland" that is not desirable to develop, and there is the potential for nuisances (e.g., spraying, farm equipment noise, dust) as long as the adjacent land is in agricultural operation. For these reasons, the Sugar Cane Site was not carried forward for further analysis.
- **DOBOR Northern Split Site:** This DOBAR Northern Split Site alternative would include completely relinquishing the existing facility, rather than refurbishing them, and consolidation of all functions into the DOBOR Northern Split Site. To accomplish this, an additional 4,200 GSF of land would be necessary to accommodate the new facilities. In addition, the boat maintenance facility would have to relocate off the harbor which would require the transport of tools and/or parts between the boats and their maintenance space by truck or small vehicle. The site is not adjacent to the harbor which is also not considered ideal. For these reasons, the DOBOR Northern Split Site was not carried forward for further analysis.

### 2.5.2. Redevelopment of Existing Station

Three (3) scenarios were evaluated for the redevelopment of the existing station:

- **Scenario A:** This scenario explored the option to keep the administrative offices and command and operations center at the existing station to minimize the number of systems that would need to be relocated to the expansion site (e.g., the existing antenna that supports the command and operations center). An addition would need to be constructed to meet the basic square footage requirements for these functions. One option would be to construct an addition over the existing courtyard to connect the existing facilities; however, this is infeasible since it would be constructed over an existing County of Maui drainage easement, as shown in **Figure 7**. The existing station is also in Flood Zone VE and has a slab-on-grade finish floor estimated to be approximately 9.4 feet. Unified Facilities Criteria (UFC) 3-201-01 Civil Engineering guideline for high risk and essential facilities such as Station Maui require the Design Flood Elevation (DFE) be the area's base flood elevation (BFE) plus three feet for freeboard. To meet this requirement, the building's DFE would need to be 14 feet. Substantial improvements would be required to construct the building addition and to upgrade it to conform to current UFC. Therefore, Scenario A is not a viable option and has not been carried forward for further analysis.

- **Scenario B:** This scenario explored the option to reconfigure the existing station to include the gear, rescue and survival, and weapons storage areas, as well as the fitness area and generator (see **Figure 8**). Any space for weapons storage would have to be an armory, which requires specialized construction such as hardening of the perimeter and providing a dedicated electronic security system. Creating an armory would significantly add cost to the project. This scenario also considered locating the generator in the existing garage since it is the furthest space from the existing condominium building and would reduce potential noise impacts to the condominium residents. Locating the generator in the garage would require the generator to be upsized to compensate for the voltage drop in the conduit run due to the distance from the proposed new facility at the DOBOR Southern Split, which is not desirable in terms of costs to acquire or operate. Therefore, Scenario B is not a viable option and has not been carried forward for further analysis.

***Figure 7. Scenario A Floor Plan***

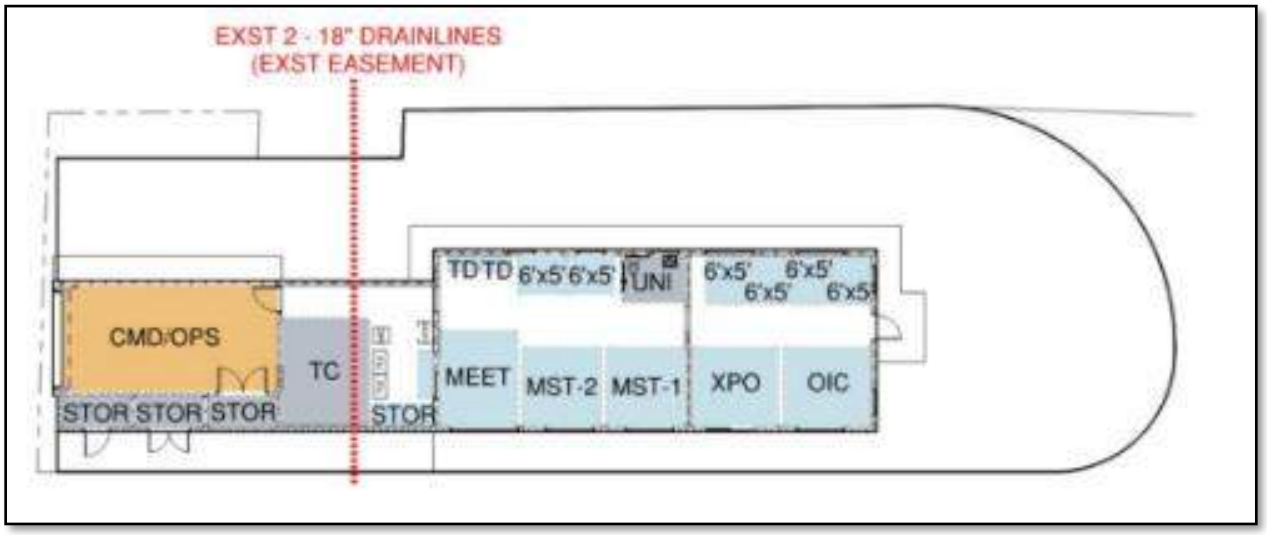
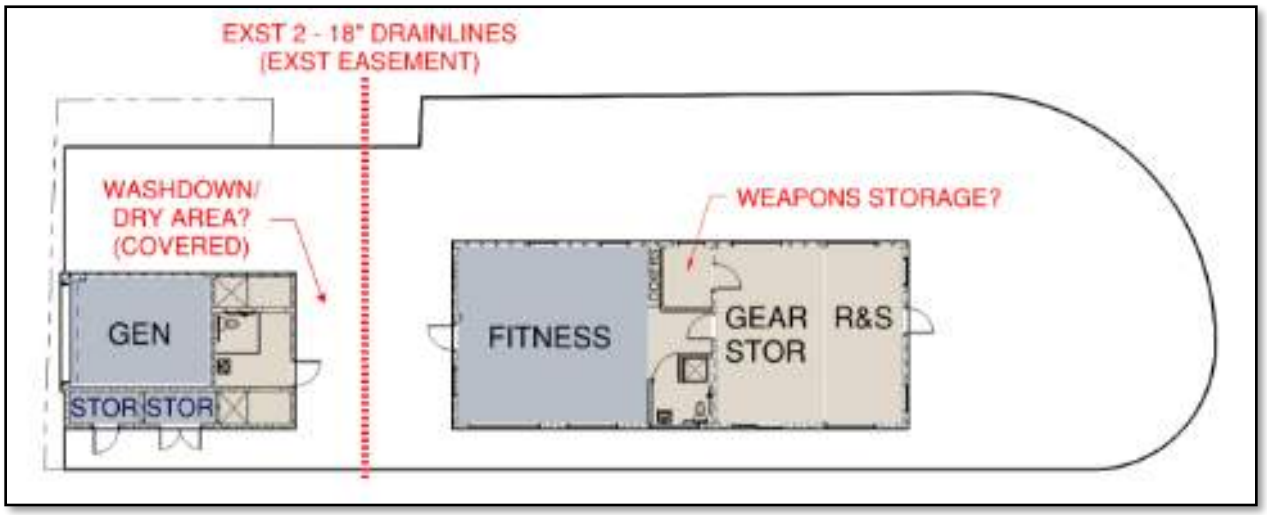
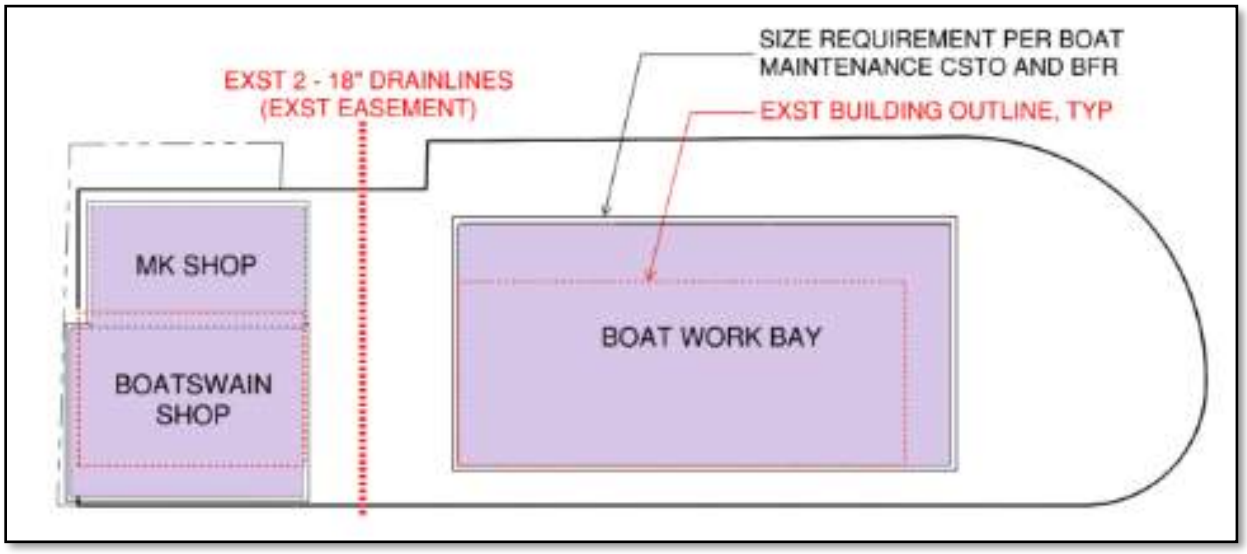



***Figure 8. Scenario B Floor Plan***



- **Scenario C:** This scenario considered the option of locating the Boat Work Bay and Maintenance Shop on the existing site since this location is closest to the Coast Guard pier (see **Figure 9**), which is highly desirable for Station efficiency. However, the RB-S assigned to the station requires a boat maintenance work bay of 61-feet-long by 30-feet-wide and 21-feet-high to the bottom of the overhead crane hook per Coast Guard requirements. These specifications exceed the existing station building's footprint. In addition, the existing 532 square foot garage does not meet the basic square footage requirements for the Boatswain Shop and Machine and Engine Shop. Therefore, both existing facilities would have to be demolished and reconstructed to meet design requirements. Any new construction with Flood Zone VE would be infeasible due to required compliance with UFC. Therefore, Scenario C is not a viable option and has not been carried forward for further analysis.

***Figure 9. Scenario C Floor Plan***




### 2.5.3. New Construction at the DOBOR Southern Split Site

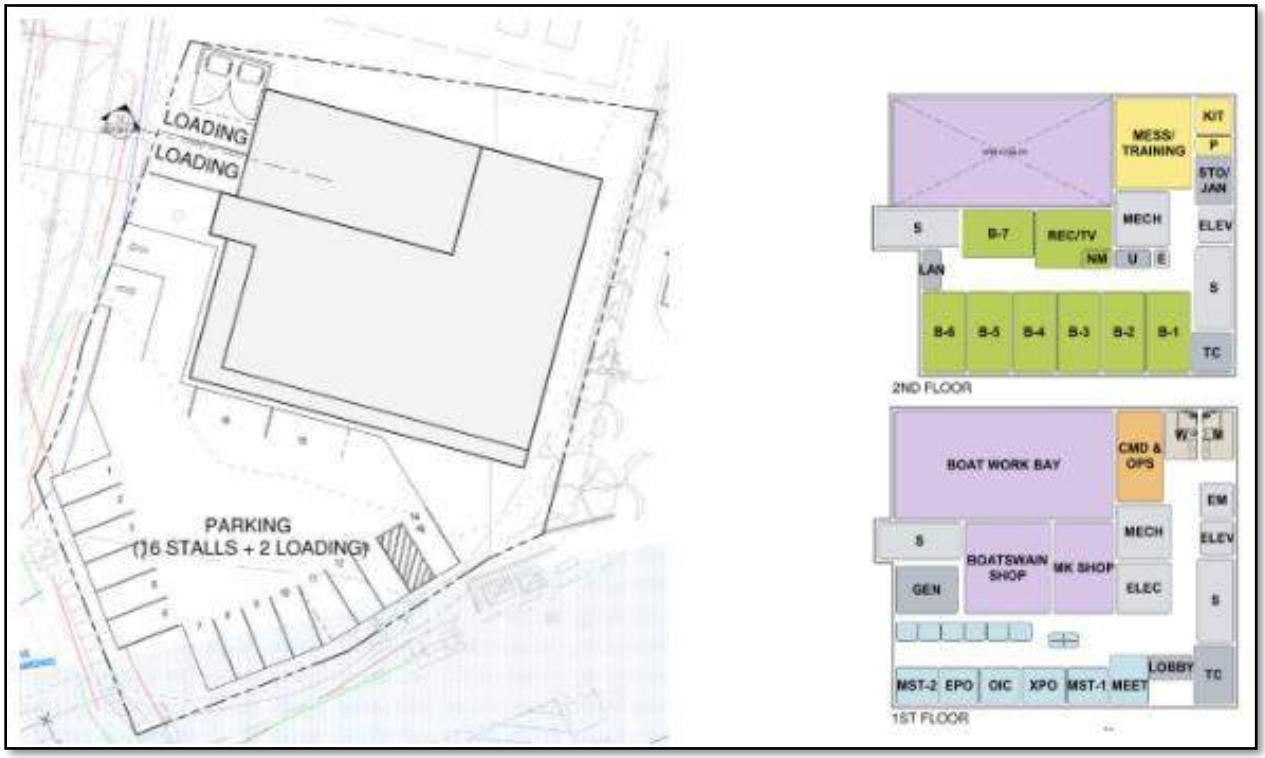
Six (6) scenarios were evaluated for construction of the new Station Maui on the DOBOR Southern Split:

- **Scenario 1:** This scenario considered a single floor facility but was ruled out since a ±13,515 square foot building footprint would take up the majority of the lot. This would result in limited to no area to provide the required 21 parking stalls and two loading spaces, a dumpster enclosure, site infrastructure including low impact development (LID) features, and a fuel tank for a 21-day fuel supply for the stand-by generator, as needed to conform with Coast Guard facility requirements and align with County of Maui Zoning. Therefore, Scenario 1 is not a viable option and has not been carried forward for further analysis.
- **Scenario 2:** This scenario considered a two-story facility that would include administrative offices, open office area, and a meeting room to be shared with MST Maui on the first floor. The first floor would also include the boat work bay, boatswain shop, and machine and engine shop. The second story would include the berthing areas and kitchen/dining/training area. Coast Guard desires that there be separation between MST Maui and Station Maui offices since they have different mission operations, for example, MST Maui frequently meets with visitors for interviews supplementary

to their inspections and general maritime safety cases, whereas Station Maui is law enforcement and must operate in a secured environment with restricted public access.

In addition, UFC 3-201-01 Civil Engineering guideline for high risk and essential facilities such as Station Maui require the DFE be the area's base flood elevation (BFE) plus three feet for freeboard. To meet this requirement, the building's DFE would need to be 14 feet. The site elevation at the southern-most location on the property is 8.2 feet and the site slopes up to the north to approximately 15.3 feet. To meet the DFE and to minimize the boat ramp length and slope the building would need to be located on the northern half of the property. A two-story building on the northern half of the property would block views of Pu'u Kukui (West Maui) mountain range for neighboring residential units located on the southwestern side of the condominium. **Figure 10** shows the site plan and floor plan for Scenario 2. For these reasons, Scenario 2 is not a viable option and has not been carried forward for further analysis.

***Figure 10. Scenario 2 Site Plan and Floor Plan***




- **Scenario 3:** This scenario considered providing a DRE of 11 feet rather than meeting the UFC DFE requirement of 14 feet. Under this scenario, locating the new Station Maui building on the southern portion of the site would be achievable since the ramp from street elevation to the boat work bay would be minimal. Moving the building to the southern portion of the site is also desirable since it would not block mountain views for residents in the adjacent condominium building. This scenario would require locating the boat work bay at the southwest corner of the building with access off Mā'alaea Road, which is not a practical location since the access drive would be blocked by an existing electrical box. Lastly, a fuel tank would need to be provided on-site and set back from the building 10 to 25 feet. The fuel tank would have to be located more than 25 feet from the generator necessitating a fuel pump, which is not desirable for emergency

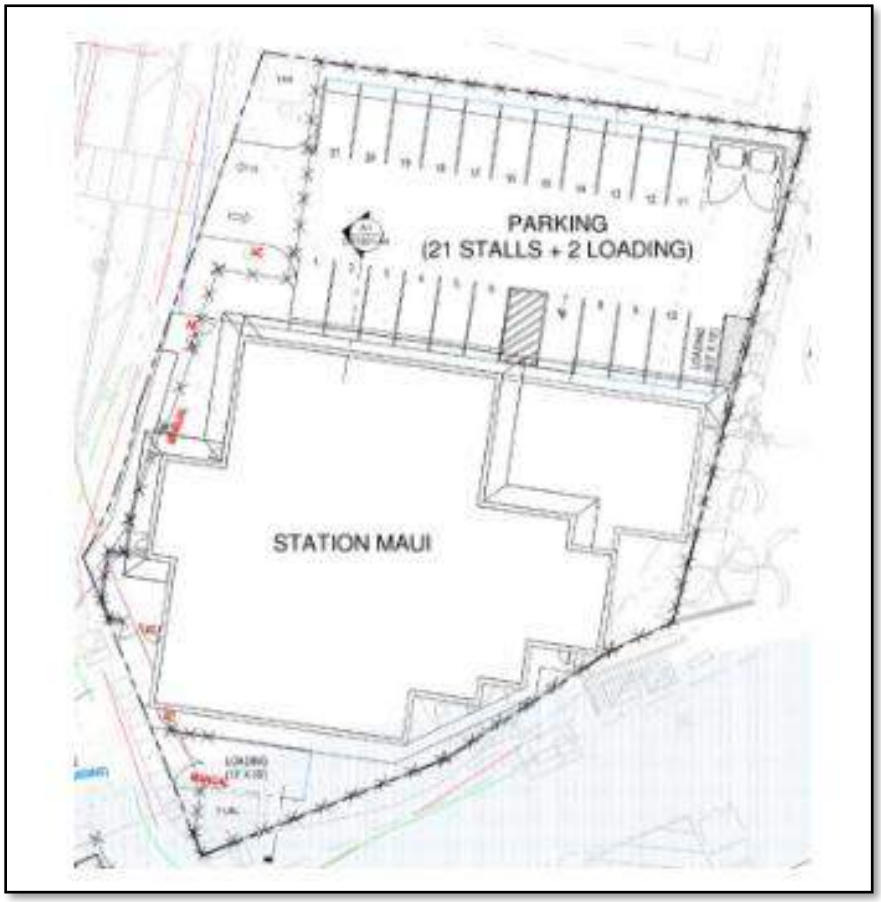
generator operations. **Figure 11** shows the site plan for Scenario 3. For these reasons, Scenario 3 is not a viable option and has not been carried forward for further analysis.

***Figure 11. Scenario 3 Site Plan***


- **Scenario 4:** This scenario includes a two-story building located on the southern portion of the site. As shown in **Figure 12**, the first floor would be for Marine Maintenance, Operations, Weapons Storage, and Administration areas and the second floor would serve as the berthing area and multipurpose training area. The mechanical enclosure and generator room would be on the southwest corner of the site to minimize acoustical equipment disturbances to the neighboring condominium. Parking and loading stalls would be located on the northern portion of the site as shown in **Figure 13**.

***Figure 12. Scenario 4 Floor Plan***


***Figure 13. Scenario 4 Site Plan***



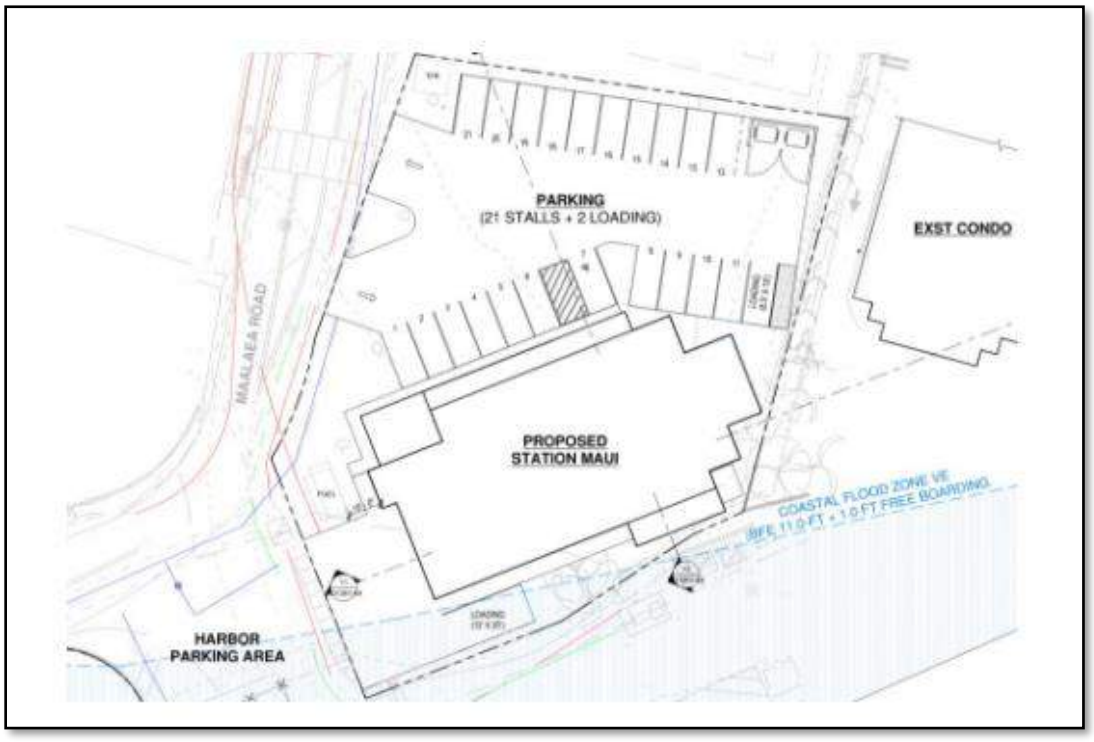
Although the notional site and floor plan is a workable solution to meet the project's program needs, Coast Guard stakeholders and users identified that this option as not ideal solution for their functional and physical security needs. Specifically, the following issues were identified:

- The double-floor Boat Work Bay would be situated in the northwest corner of the facility resulting in pedestrian access from the pier to the Boat Work Bay through the Boatswain shop rather than direct access.
- The preferred location of the training room is adjacent to the Administrative and Command and Operations Center.
- The building footprint only allows a one to three-foot building setback from the property line on three sides of the building.
- There are too many points of entry for site access and egress due to interrupted fence lines.

For these reasons, Scenario 4 is not a viable option and has not been carried forward for further analysis.

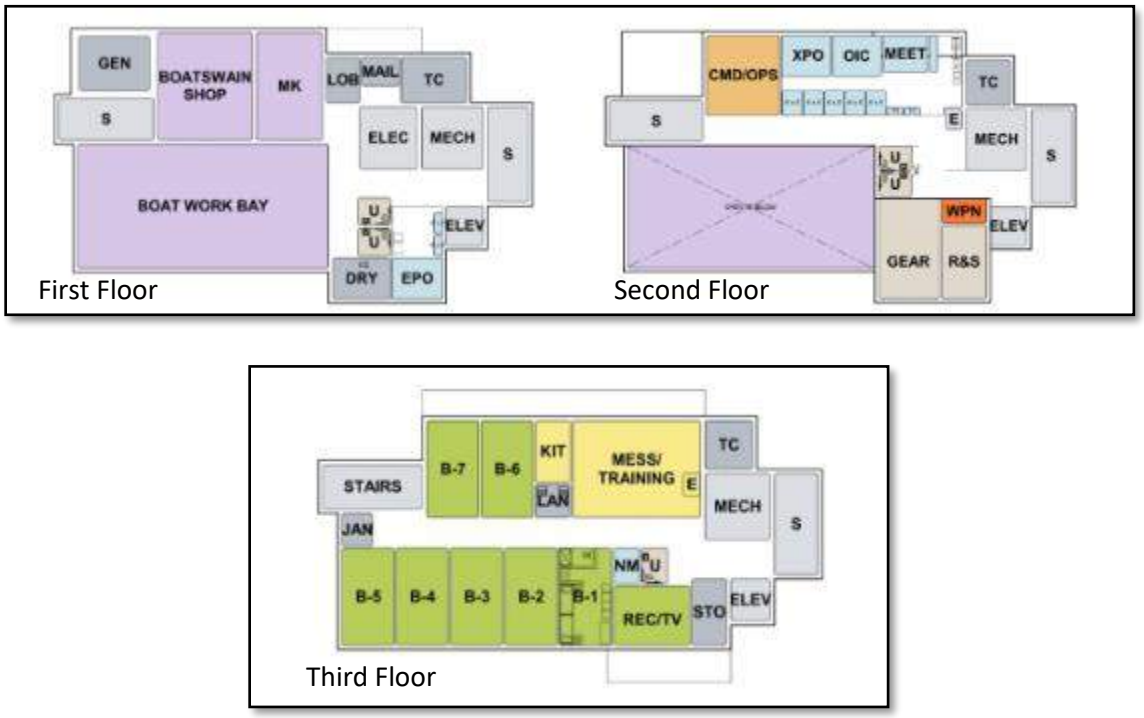
- **Scenario 5:** This scenario considered a three-story building to provide larger setbacks from the property line for security reasons. This scenario would minimize traffic disruption on Mā'alaea Road by having the entrance to the Boat Work Bay from the adjacent harbor parking lot on the south side of the property as shown in **Figure 14**. The double-floor Boat Work Bay requires approximately 31 feet which only provides 10.5 feet to the top of roof height for the third floor. For these reasons, Scenario 5 is not a viable option and has not been carried forward for further analysis.

***Figure 14. Scenario 5 Site Plan***



- **Scenario 6:** This scenario considered access to the Boat Work Bay directly off Mā‘alaea Road. As shown in **Figure 15**, the Gear Storage, Rescue and Survival Storage, and Weapons Storage would have to be on the second floor; these spaces need to be on the first floor for quicker response and efficiency. Therefore, Scenario 6 is not a viable option and has not been carried forward for further analysis.

***Figure 15. Scenario 6 Floor Plan***



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# 3. Affected Environment, Potential Impacts, and Avoidance and Minimization Measures

Issuance of a lease by DOBOR would have no direct impacts on the environment; however, the lease issuance would result in indirect effects by the Coast Guard's Proposed Action. The following sections identify the potential impacts associated with the Proposed Action and the No-Action Alternatives, as well as measures to avoid or minimize those potential impacts.

## 3.1. Air Quality

The Clean Air Act of 1972 and its 1990 Amendments (CAA) and subsequent legislation regulate air emissions from area, stationary, and mobile sources. Both the U.S. Environmental Protection Agency (USEPA) and the State of Hawai'i have instituted Ambient Air Quality Standards (AAQS) to maintain air quality in the interest of public health and secondary public welfare. At the present time, seven parameters are regulated: particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone and lead. The Hawai'i AAQS are in some cases considerably more stringent than the comparable National Ambient Air Quality Standards (NAAQS). In particular, the Hawai'i 1-hour AAQS for carbon monoxide is four times more stringent than the comparable national limit. **Table 2** illustrates the NAAQS and State AAQS and the units of measure (micrograms per cubic meter [$\mu g/m^3$] and parts per million [ppm]). The Clean Air Act General Conformity Rule ensures that Federal actions do not cause or contribute to new violations of the NAAQS, do not worsen existing violations of NAAQS, and that attainment of the NAAQS is not delayed.

In addition to the NAAQS and the State AAQS, the State of Hawai'i Department of Health (DOH) regulates fugitive dust. HAR Section 11-60.1-33, Fugitive Dust, states that no person shall cause or permit visible fugitive dust to become airborne without taking reasonable precautions, and no person shall cause or permit the discharge of visible fugitive dust beyond the property lot line on which the fugitive dust originates (DOH, 2019). While Federal agencies are not subject to these regulations, the Coast Guard would aim to meet intent of the regulation/permit to the extent practicable.

### 3.1.1. Affected Environment

The air quality in the Mā'alaea area and Maui in general is relatively good. Prevailing winds throughout the year are the northeasterly trade winds. These trade winds generally help maintain good air quality conditions as they disperse emissions quickly.

The DOH operates a network of air quality monitoring stations at various locations throughout the state, including two on Maui: Kahului and Kihei. The station nearest the project site is the Kihei station, which was established in February 1999 to monitor $PM_{2.5}$. The station is located in Hale Pi'ilani Park next to a recent residential development on what was once agricultural land. The monitoring objective is "Population Exposure." In 2021, the Kihei station was in attainment with the 24-hour and annual $PM_{2.5}$ AAQS.

***Table 2. State of Hawai'i and National Ambient Air Quality Standards***

| Pollutant | Units | Averaging Time | Maximum Allowable Concentration | | |
|---|---|---|---|---|---|
| | | | National Primary | National Secondary | State of Hawai'i |
| Particulate Matter <10 microns ($PM_{10}$) | µg/m³ | Annual<br>24 Hours | -<br>150[a] | -<br>150[a] | 50<br>150[b] |
| Particulate Matter <2.5 microns ($PM_{2.5}$) | µg/m³ | Annual<br>24 Hours | 12[c]<br>35[d] | 15[c]<br>35[d] | -<br>- |
| Sulfur Dioxide ($SO_2$) | ppm | Annual<br>24 Hours<br>3 Hours<br>1 Hour | -<br>-<br>-<br>0.075[e] | -<br>-<br>0.5[b]<br>- | 0.03<br>0.14[b]<br>0.5[b]<br>- |
| Nitrogen Dioxide ($NO_2$) | ppm | Annual<br>1 Hour | 0.053<br>0.100[f] | 0.053<br>- | 0.04<br>- |
| Carbon Monoxide (CO) | ppm | 8 Hours<br>1 Hour | 9[b]<br>35[b] | -<br>- | 4.4[b]<br>9[b] |
| Ozone ($O_3$) | ppm | 8 Hours | 0.070[g] | 0.070[g] | 0.08[g] |
| Lead | µg/m³ | 3 Months<br>Quarter | 0.15[h]<br>1.5[i] | 0.15[h]<br>1.5[i] | -<br>1.5[i] |
| Hydrogen Sulfide | ppb | 1 Hour | - | - | 25[b] |

*Notes:* [a]Not to be exceeded more than once per year on average over three years.
[b]Not to be exceeded more than once per year.
[c]Three-year average of the weighted annual arithmetic mean.
[d]98th percentile value averaged over three years.
[e]Three-year average of fourth-highest daily 1-hour maximum.
[f]98th percentile value of the daily 1-hour maximum averaged over three years.
[g]Three-year average of annual fourth-highest daily 8-hour maximum.
[h]Rolling 3-month average.
[i]Quarterly average.

*Source:* DOH, 2015

### 3.1.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would have short-term and temporary impacts to air quality from the generation of dust or particulate matter and exhaust fumes from vehicular travel to and from the project site and from equipment operations during construction. Construction activities would include grading and vehicle and equipment engine operations. Emissions would begin with mobilization, staging, and construction support activities and would fluctuate throughout the construction phase with emissions peaking during construction events. However, because levels of criteria pollutants in Hawai'i are consistently below NAAQS and State AAQS, and because the prevailing trade winds rapidly carry pollutants offshore limiting the effect on receptors, increases in levels of criteria pollutants at the project site from construction activities are not expected to significantly impact air quality. Pursuant to the CAA,

the proposed action is exempt from the General Conformity Rule, as there will be no reasonably foreseeable direct or indirect emissions in nonattainment or maintenance areas.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no air quality impacts.

### *Operation*

Operation of the Proposed Action would support existing and programmed operations as well as an associated increase of on-site personnel. As discussed in **Section 2.2**, the new Station Maui would accommodate 36 personnel. This increase in personnel is not expected to significantly increase emissions. In accordance with applicable laws and regulations, the Coast Guard would include design elements to improve resiliency and sustainability. The Coast Guard would conduct construction in accordance with *The Guiding Principles for Sustainable Federal Buildings and Associated Instructions* (Guiding Principles) (CEQ, 2020) or applicable guidance at the time of construction. The Guiding Principles provide agencies with a means to meet statutory provisions relating the high-performance sustainable buildings. The Guiding Principles ensure Federal buildings adhere to the following:

- Employ integrated design principles,
- Optimize energy performance,
- Protect and conserve water,
- Enhance the indoor environment,
- Reduce the environmental impact of materials, and
- Assess and consider building resilience.

All actions pursuant to the objectives of the Guiding Principles must be consistent with applicable laws and regulations and are subject to the availability of appropriations or other authorized funding.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to air quality.

### *Overall Potential Impacts*

The Proposed Action is anticipated to have a less than significant impact on air quality. Construction of the Proposed Action would temporarily impact air quality due to dust, particulate matter, and exhaust emissions from vehicles and equipment. These impacts would fluctuate throughout the construction phase, peaking during certain activities. However, because pollutant levels in Hawai‘i are consistently below national and state air quality standards, and prevailing trade winds quickly disperse pollutants offshore, the construction's impact on air quality is expected to be minimal. The Proposed Action is exempt from the General Conformity Rule under the Clean Air Act, as no significant emissions are expected in nonattainment areas. The new Station Maui would support increased personnel but is not expected to significantly raise emissions. The Coast Guard would adhere to sustainable building practices, following The Guiding Principles for Sustainable Federal Buildings, to optimize energy use, conserve water, enhance indoor environments, reduce material impacts, and ensure building resilience, in compliance with applicable laws and funding availability.

Under the No-Action Alternative, no construction activities would take place and there would be no expansion of the existing facilities. There would be no associated changes to or impacts on air quality.

### 3.1.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize impacts to air quality:

- A dust control plan shall be developed and implemented to minimize fugitive dust during construction. Measures to control fugitive dust during construction may include, but not be limited to, the following:
    - Watering of active work areas and project access roads, as needed.
    - Screening piles of materials from wind, if appropriate.
    - Covering open trucks carrying construction materials.
    - Limiting areas to be disturbed at any given time and hydromulch or grass finished areas on a timely basis.
- Contractors shall be required to maintain equipment with emissions controls.

## 3.2. Noise

Noise is defined as "any sound that may produce adverse physiological or psychological effects or interfere with individual or group activities, including but not limited to communication, work, rest, recreation, or sleep" (HAR Title 11, Chapter 46). A number of factors affect sound as it is perceived by the human ear. These include the actual level of the sound (i.e., noise), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels (HAR, Title, Chapter 200.1 – Occupational Noise Exposure).

The Noise Control Act of 1972 (42 U.S.C. §4901) establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. Primary responsibility for the control of noise rests with State and local governments. Programs of all Federal agencies undertaking activities that generate noise must comply with State and local noise control regulations. The State of Hawai'i regulates noise exposure in the following statutes and rules:

- HRS Chapter 342F – Noise Pollution
- HAR, Title 11, Chapter 46 – Community Noise Control

The State of Hawai'i Community Noise Control Rules (HAR Title 11, Chapter 46) defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to stationary noise sources such as air-conditioning units, exhaust systems, and generators. The accepted unit of measure for noise levels is the decibel (dB). The Community Noise Control Rules do not address most moving sources, such as vehicular traffic noise, air traffic noise, or rail traffic noise. However, the Community Noise Control Rules do regulate noise related to construction activities, which may not be stationary.

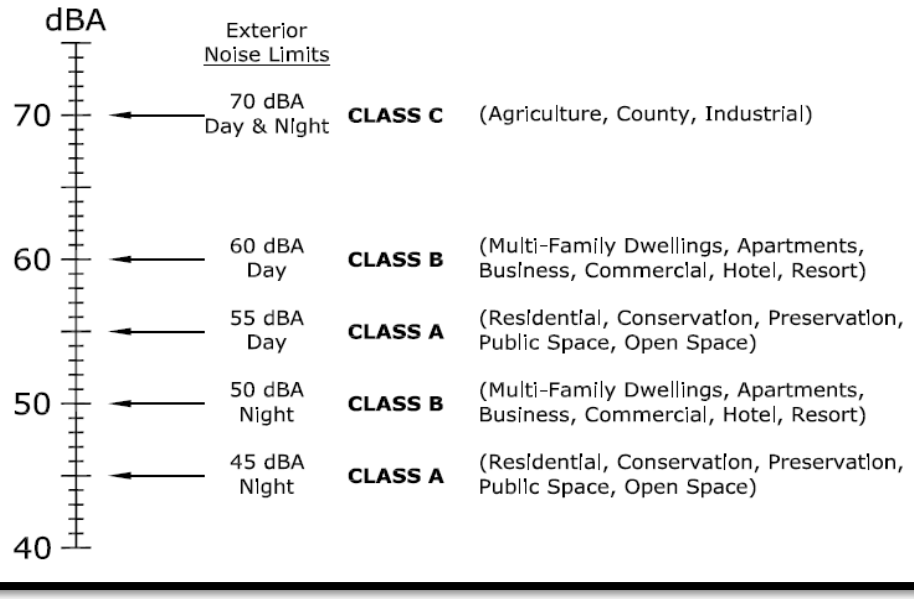
The maximum permissible noise levels are enforced by the DOH for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in **Figure 16**. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is considered by the DOH.

Noise-sensitive receptors are those locations where land uses are particularly susceptible to interruption by unwanted noise. These locations include residences (single- and multi-family), rental housing and hotels, schools, hospitals, daycare centers, and nursing homes. Residential, institutional, cultural, and

recreational land uses are generally most sensitive to ambient noise. Industrial land uses are the least sensitive to surrounding noise due to the inherently high levels of ambient noise associated with industrial activities.

***Figure 16. Hawai'i Maximum Permissible Sound Levels for Various Zoning Districts***

| Zoning District | Day Hours (7 AM to 10 PM) | Night Hours (10 PM to 7 AM) |
|---|---|---|
| **CLASS A** Residential, Conservation, Preservation, Public Space, Open Space | 55 dBA (Exterior) | 45 dBA (Exterior) |
| **CLASS B** Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort | 60 dBA (Exterior) | 50 dBA (Exterior) |
| **CLASS C** Agriculture, Country, Industrial | 70 dBA (Exterior) | 70 dBA (Exterior) |




### 3.2.1. Affected Environment

As discussed in **Section 4.3.3**, the Proposed Action is located in the M-1, Light Industrial zone, which is designated as "Class C" as are the adjacent properties.

The project site is subject to noise generated from traffic on Mā'alaea Road and Hauoli Street, as well as boat traffic in Mā'alaea Harbor. In addition, there is intermittent noise from interisland flight paths of arriving and departing aircraft at Kahului Airport, located approximately nine miles to the northeast of the project site. It should also be noted that noise from wind adds to the overall ambient noise level from all of the aforementioned human sources.

Noise-sensitive receptors in the area include the Mā‘alaea Mermaid condominium complex adjacent to the project site. The complex consists of 40 units. No other noise-sensitive receptors occur within the vicinity of the Proposed Action.

### 3.2.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would temporarily increase the ambient noise level in the area. Noise from construction equipment would be similar to those used in most common construction activities and would be short-term and temporary. Typical noise emission levels are provided in **Table 3**. Impacts from construction equipment would be minimized to meet Hawai‘i DOH maximum permissible sound levels and to the extent practicable by using appropriate sound-dampening devices (e.g., baffles, mufflers) and by properly maintaining equipment.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no noise impacts.

***Table 3. Typical Noise Emission Levels for Construction Equipment***

| Type of Equipment | Noise Level at 50 feet (dBA) |
|---|---|
| Air Compressor | 81 |
| Backhoe | 80 |
| Bulldozer | 82 |
| Chain Saw | 85 |
| Concrete/Grout Pumps | 82 |
| Crawler Service Crane (100-ton) | 83 |
| Dump Truck | 88 |
| Excavator | 85 |
| Front End Loader | 80 |
| Generator | 81 |
| Jackhammer (compressed air) | 85 |
| Lift Booms | 85 |
| Pick-Up Truck | 55 |
| Power-Actuated Hammer | 88 |
| Water Pump | 76 |
| Water Truck | 55 |

*Source:* FHWA, 2015

#### *Operation*

Operation of the Proposed Action is not expected to significantly increase ambient noise levels. The proposed new facility has been sited to mitigate acoustical disturbances caused by the running equipment. Specifically, the uncovered Mechanical Enclosure, Generator Room, and Fuel Tank would be situated on the southwest corner of the building, which is the furthest location on site from the neighboring condo building to mitigate acoustical disturbances caused by the running equipment to the adjacent condominium building. Other noise producing activities such as boat maintenance for the RB-M are expected to remain as they are under current conditions. The RB-S would be maintained in the boat bay. Therefore, there would not be a significant change to ambient noise levels.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no change to ambient noise levels.

### 3.2.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize noise impacts:

- Construction contractors shall be required to adhere to State and County noise regulations. including HRS Chapter 342F, Noise Pollution, and HAR Chapter 11-46, Community Noise Control.
- The construction contractor shall obtain a Community Noise Permit from the DOH Indoor and Radiological Health Branch, if applicable.
- Construction activities shall be conducted to ensure decibels generated do not exceed the maximum permissible sound levels in conformance with State of Hawai'i standards. Construction activities would occur during daytime hours, on weekdays, and Saturdays.
- The contractor shall use reasonable and standard practices to mitigate noise, such as using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc.
- Additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain kinds of construction activities, may be utilized.
- The use of hoe rams and jack hammers 25 pounds or larger, high-pressure sprayers, chain saws, and pile drivers shall be restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday.
- Construction equipment and on-site vehicles or devices whose operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, shall be equipped with mufflers.

## 3.3. Geological Resources

Geological resources refer to the geology, soils, and topography of an area as described below:

- **Geology** refers to the underlying rock that supports the overlying soil, vegetation, and human environment. An area's geology is typically described by the rock type, age, and composition as well as the presence or absence of structural features that contribute to shaping the surrounding landscape and define the potential for geophysical hazards to occur.
- **Soil** refers to unconsolidated materials overlying parent material (i.e., material from which soil horizon forms). Soils are typically described in terms of their type, slope, physical characteristics, and relative compatibility or constraining properties with regard to particular construction activities and types of land use. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ground's ability to be subject to displacement and to support man-made structures.
- **Topography** is the change in elevation over the surface of a land area. An area's topography is influenced by many factors, including human activity, underlying geologic material, seismic activity, climatic conditions, and erosion.

Hirata & Associates, Inc. conducted a geotechnical investigation of the project site in July 2023. The report, *Geotechnical Investigation Recapitalization of Station Maui Facilities at Station Maui United States Coast Guard, Mā'alaea Harbor, Maui, Hawai'i* is provided in **Appendix A** of this EA. This study included the following:

- A visual reconnaissance of the project site to observe existing conditions,
- A review of available in-house soils information pertinent to the site,
- Drilling and sampling four exploratory borings to depths of 24.5 and 25.5 feet,
- Drilling three test holes to depths of approximately five feet and performing falling head percolation tests in the test holes,
- Laboratory testing of selected soils samples,
- Engineering analyses of the field and laboratory data, and
- Preparation of report presenting the results of the study.

### 3.3.1. Affected Environment

As shown in **Figure 17**, the geology of the project site is Qa, Alluvium. This geological unit consists of quarternary age unconsolidated sediments. At the project site, this is younger alluvial fan deposits from upslope mountains composed of sand and gravel (Stearns and Macdonald, 1942).

As shown in **Figure 18**, soil at the project site is EsB, ʻEwa silty clay, three to seven percent slopes. This soil type is well drained with medium runoff. The parent material is basic igneous rocks. There is no frequency of flooding or ponding (NRCS, 2019). Soil borings conducted as part of the geotechnical investigation encountered surface soil classified as reddish-brown clayey gravel in medium stiff to stiff conditions, extending to a depth of approximately one foot. Underlying the clayey gravel was reddish-brown silty clay with gravel generally in a medium stiff to stiff condition with a few firm pockets extending the maximum depths drilled.

The project site slopes towards Māʻalaea Bay at a grade of approximately three to four percent. Total relief over the site is approximately seven feet with elevations ranging from +15 feet on the north side to +8 feet on the south side of the site. Runoff from the undeveloped land to the north of the DOBOR Southern Split site flows directly onto the site and continues towards Māʻalaea Bay. There is evidence of some erosion and sediment transport into the downgradient area, including the existing asphalt pavements within the harbor area.

### 3.3.2. Potential Impacts

#### *Construction*

The total disturbed area would be 0.42 acre. The project site would be cleared of all vegetation, demolition debris, and other material. Prior to fill placement, the exposed subgrade would be scarified to a minimum depth of six inches and moisture conditioned to about two percent above the optimum moisture content and compacted as determined by ASTM D1557. Excavations would be completed using conventional excavating equipment. The onsite clayey gravel and silty clay could be reused in compacted fills and backfills. Any rock fragments larger than three inches would be removed prior to reuse on site. Imported structural fill would be well-graded, non-expansive granular material. Temporary erosion and sediment control measures would be implemented during construction to minimize transport of soils off site.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur and there would be no impacts to geological resources.

***Figure 17. Geological Units***

*Operation*

Long-term operation of the Proposed Action would have no impacts on geological resources. The Proposed Action would be designed to account for the underlying geological resources. This includes using a conventional shallow foundation bearing a minimum of 12 inches of imported granular fill. The imported granular structural fill would extend laterally a minimum of 12 inches beyond the edge of the footings. Foundations would be designed for an allowable bearing value of 2,500 pounds per square foot. Spread footings would be a minimum of 16 inches in width and embedded a minimum of 24 inches below finish adjacent grade.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no change to geological resources.

*Overall Potential Impacts*

Overall, the Proposed Action would result in the clearing of and debris demolition in a 0.42-acre area to facilitate the necessary expansion of Station Maui operations. The grading and fill placement activities are expected to have less than significant impacts on the surrounding geology and soils, with any potential effects being minimized by the implementation of temporary erosion and sediment control measures during construction. The operation of the Proposed Action is not anticipated to impact the surrounding geology and soils.

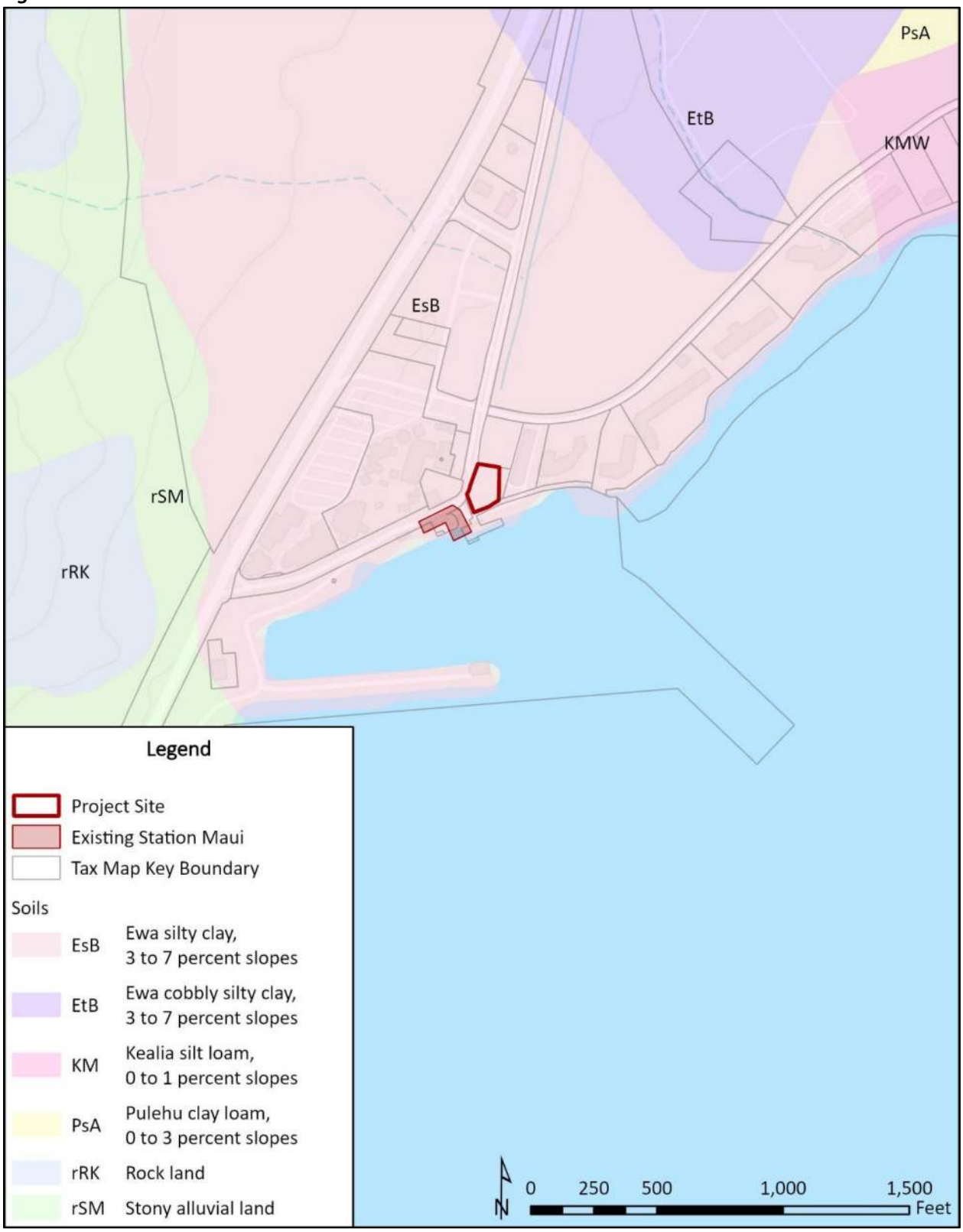
Under the No-Action Alternative, no construction activities would take place and there would be no expansion of the existing facilities. There would be no associated changes to or impacts on geological resources.

### 3.3.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize impacts to geology and soils:

- Temporary erosion control measures shall be implemented during construction. These may include, but not necessarily be limited to, the following:
    - Silt fencing,
    - Filter socks,
    - Stabilized construction entrance/exit points, and
    - Concrete truck wash facility.
- All construction activities shall adhere to the extent practicable with the provisions of HAR Chapter 11-60.1, Air Pollution Control, and HAR Section 11-60.1-33, Fugitive Dust. A dust control plan would be developed and implemented to minimize fugitive dust during construction. Measures to control fugitive dust during construction may include, but not be limited to, the following:
    - Watering of active work areas and project access roads, as needed;
    - Screening piles of materials from wind, if appropriate;
    - Covering open trucks carrying construction materials; and
    - Limiting areas to be disturbed at any given time.

***Figure 18. Soils***



- A geotechnical engineer shall monitor the site work operations to observe whether undesirable materials are encountered and confirm whether the exposed subsurface conditions are similar to those anticipated.
- All construction shall conform to the most recent International Building Code.
- All work shall be confined to the designated area of work. Any damage caused by the contractor shall be repaired by the contractor.

## 3.4. Water Resources and Water Quality

### 3.4.1. Affected Environment

There are no surface water resources or wetlands at the project site.

The project site is approximately 90 feet from the Pacific Ocean. Nearshore waters in the vicinity of the Proposed Action are classified as "Class A Marine Waters." As per HAR Title 11 Chapter 54, Water Quality Standards, Class A Marine Waters are to be protected for recreational purposes and aesthetic enjoyment. Uses are permitted if the use is compatible with the protection and propagation of fish, shellfish, and wildlife, as well as with recreation (DOH-CWB, 2014).

As shown in **Figure 19**, the Proposed Action is located within the Wailuku Sector of the Waikapū System (Aquifer Code 60101). This aquifer system contains ground water as basal and high level. All reported ground water use is pumped from the basal zone (CWRM, 2019). Groundwater was encountered in all four borings at depths ranging from approximately 10.5 feet to 11.2 feet below existing ground elevation. The depth to groundwater can be expected to vary with tidal fluctuations.

Regarding stormwater conveyance, there is an existing 7-foot by 12-foot box culvert that extends from Māʻalaea Road to an ocean outfall in Māʻalaea Bay east of the existing Station Maui site. The box culvert is situated between the existing Station Maui site and the DOBOR property. The box culvert is part of a major storm drainage conveyance system that follows Māʻalaea Road fronting the DOBOR property. The upstream components include a 13-foot by 8.3-foot pipe arch culvert.

### 3.4.2. Potential Impacts

*Construction*

There are no water bodies at the project site; therefore, there would be no direct impacts to surface waters from construction of the Proposed Action. Construction activities may produce sediment from soil erosion during and after excavation. With the implementation of best management practices (BMPs), impacts to water resources during the short-term construction period would be less than significant.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur and there would be no impacts to water resources.

***Figure 19. Aquifers***

*Operation*

The Proposed Action would increase the impervious surface of the project site. Stormwater runoff would continue to be generated from storm events that could result in sheetflow over impervious surfaces. Site grading would be designed to direct water away from impervious site features and provide positive drainage for the parking areas, walkways, and buildings. The site grading and drainage would follow the existing runoff patterns and would flow towards Māʻalaea Bay. Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. It is expected that the surface runoff would be directed towards the western property limits and conveyed through the on-site system.

Section 313 of the Clean Water Act requires Federal agencies to comply with all Federal, State, and County requirements respecting the control and abatement of water pollution. Water quality treatment would be provided in conformance with the County of Maui stormwater drainage criteria. Since on-site detention and infiltration are not feasible within the site, a flow-based water quality treatment system, including modular filtration units, is anticipated and was used as the initial design basis. The water quality treatment unit would be placed near the lowest point on the site and would connect to the existing 7-foot by 12-foot box culvert that is located west of the DOBOR Southern Split site.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no change to water resources.

*Overall Potential Impacts*

Due to a lack of water bodies at the project site, the Coast Guard does not anticipate direct impacts to surface waters from construction activities related to the Proposed Action. Both the short-term construction and long-term operations are expected to have less than significant impacts on the surrounding water bodies as a result from stormwater runoff. These potential effects would be minimized by the implementation of BMPs such as the implementation of swales and stormwater drainage pipes.

Under the No-Action Alternative, no construction activities would take place and there would be no expansion of the existing facilities. There would be no associated changes to or impacts on water resources or water quality.

### 3.4.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts to water resources:

- Construction plans and specifications shall include BMPs to minimize erosion on the project site during and after construction, as well as measures to contain runoff on-site during construction.
- Temporary erosion control measures shall be used during construction to prevent soil loss and to minimize surface runoff.
- A Stormwater Management Plan shall be prepared and implemented to minimize impacts during long-term operation of the Proposed Action.

# 3.5. Biological Resources

## 3.5.1. Affected Environment

### *Flora*

The project site has been cleared and graded and is currently used as an unpaved, paid parking area. There is no vegetation on site.

### *Mammals*

The State-listed ʻŌpeʻapeʻa or Hawaiian hoary bat (*Lasiurus cinerus semotus*) could potentially occur within the vicinity of the project site and may roost in nearby trees. There are no trees on the project site, but the Hawaiian hoary bat may traverse the area.

The project site is directly adjacent to Federally-designated Hawaiian monk seal (*Neomonachus schauinslandi*) critical marine habitat. Hawaiian monk seals spend most of their life at sea, but they also rely on land habitat for resting, molting, pupping, nursing, and avoiding marine predators. Monk seals can often be seen hauling out on sand, corals, and volcanic rock to rest during the day and to give birth, preferring to be protected surrounded by shallow waters when pupping. There are no basking areas for the Hawaiian monk seal adjacent to the project site since the area is a built marina.

### *Reptiles*

Adult green sea turtles (*Chelonia mydas*) and hawksbill sea turtles *(Eretmochelys* imbricata) commonly forage in shallow and nearshore areas and coral reefs. Sea turtles use both terrestrial habitats (beaches for nesting and/or basking) and offshore open ocean habitats. Nesting usually occurs between May through September, peaking in June and July, with hatchlings usually emerging through November and December.

### *Seabirds*

Four special-status seabirds have the potential to occur in the project vicinity based on their movement patterns: Hawaiian petrel (*Pterodroma sandwichensis*), Newell's shearwater (*Puffinus newelli*), wedge-tailed shearwater (*Ardenna* pacificus), and band-rumped storm-petrel (*Oceanodroma castro*). Major threats to these species include attraction of adults and newly fledged juveniles to bright lights while they transit between their nest sites and the ocean. Juvenile birds are particularly vulnerable to light attraction and are sometimes grounded when they become disoriented by lights, rendering them vulnerable to mammalian predators or being struck by vehicles.

### *Waterbirds*

Three special-status waterbirds have the potential to occur in the project vicinity: Aeʻo or Hawaiian stilt (*Himantopus mexicanus knudseni*), ʻAlae keʻokeʻo or Hawaiian coot (*Fulica alai*), and Nēnē or Hawaiian goose (*Branta sandivicensis*).

## 3.5.2. Potential Impacts

### *Construction*

There is no vegetation on the project site; therefore, there would be no impacts to flora during construction of the Proposed Action.

Construction of the Proposed Action would have limited short-term impacts to the existing terrestrial fauna species that reside or forage within the project vicinity. Therefore, impacts to terrestrial fauna species during construction of the Proposed Action would be insignificant, short-term, and temporary.

Construction of the Proposed Action would not involve trimming or removing trees greater that 15-feet-tall; therefore, there would be no impacts to roosting juvenile bats. During construction of the Proposed Action, the Hawaiian hoary bat may be temporarily displaced from the project area. The temporary displacement of these individuals at the project site is not expected to affect individual survival or overall species populations.

Hawaiian seabirds are attracted to lights. After circling the lights, they may collide with nearby wires, buildings, or other structures, or they may land on the ground due to exhaustion. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Outdoor lighting during construction of the Proposed Action could result in seabird disorientation, fallout, and injury or mortality. It is not expected that there would be any nighttime construction or outdoor lighting. If nighttime construction is required, the measures described in **Section 3.5.3** would be implemented. Therefore, construction of the Proposed Action is not expected to impact Hawaiian seabirds.

Hawaiian waterbirds are not expected to occur at the project site due to lack of suitable habitat. If a waterbird is observed during construction, the measures described in **Section 3.5.3** would be implemented.

Under the No-Action Alternative, no construction would occur and there would be no construction-related impacts to biological resources.

#### *Operation*

Long-term operation of the Proposed Action is not expected to impact biological resources. The project site is located in a built environment and does not contain appropriate habitat for special-status species although Hawaiian seabirds may fly over the area. Outside lighting would be designed in accordance with seabird-friendly light styles to protect seabirds.

Under the No Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no change to biological resources.

#### *Overall Potential Impacts*

The Proposed Action is anticipated to have a less than significant impact on biological resources. Since there is no vegetation on the project site, flora would not be affected. The short-term effects on local terrestrial fauna, including the temporary displacement of certain species like the Hawaiian hoary bat, are expected to be less than significant. While Hawaiian seabirds could potentially be impacted by outdoor lighting, this risk is minimized because there is no nightwork planned during construction and any installed lighting would be designed in accordance with seabird-friendly light styles. It is expected that the U.S. Fish and Wildlife Service would concur with a determination of “affect, not likely to adversely affect” species protected under Section 7 of the Endangered Species Act. Any necessary avoidance and minimization measures are listed in **Section 3.5.3** below.

Under the No-Action Alternative, no construction activities would take place and there would be no expansion of the existing facilities. There would be no associated changes to or impacts on biological resources.

### 3.5.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts to biological resources:

- Any fences that are erected during construction of the Proposed Action shall have barbless top-strand wire to prevent Hawaiian hoary bats from becoming entangled on barbed wire.
- Construction activity shall be restricted to daylight hours as much as practicable during the seabird peak fledgling fallout period (September 15 to December 15) to avoid the use of nighttime lighting that could attract seabirds.
- If nighttime construction is required during the seabird fledgling season (September 15 to December 15), a qualified biologist shall be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling the area, lights shall be turned off. If a downed seabird is detected, the DLNR Division of Forestry and Wildlife (DOFAW) recommended response protocol would be followed (https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/#response).
- All outdoor lights, if used, shall be shielded to prevent upward radiation to reduce the potential for seabird attraction and shall not be directed to travel across property boundaries toward the shoreline and ocean waters.
- Outside lights not needed for security or safety shall be turned off from dusk through dawn during the fledgling fallout period.
- If waterbirds are present during construction, all work within 100 feet shall cease and the bird or birds would not be approached. Work would continue after the bird(s) leave the area of their own accord.
- Native plant species appropriate for the area would be used for landscaping. No invasive species would be planted.
- Movement of plant or soil material shall be minimized to the extent practicable to avoid movement of detrimental fungal pathogens (e.g., Rapid ʻŌhiʻa Death), vertebrate and invertebrate pests (e.g., Coqui frogs, little fire ants, etc.), or invasive plant parts (e.g., miconia, mullein, etc.) that could harm native species and ecosystems.
- Construction plans and specifications shall include BMPs to minimize erosion on the project site during and after construction, as well as measures to contain runoff on-site during construction, to protect nearshore waters.

## 3.6. Archaeological and Historic Resources

Nohopapa Hawaiʻi, LLC (Nohopapa) conducted a Literature Review and Field Inspection (LRFI) study for the Proposed Action in August 2023. The report, *Literature Review and Field Inspection Study to Inform an Environmental Assessment for Hawaiʻi Revised Statutes (HRS) §343 and National Environmental Policy Act Environmental Review for the U.S. Coast Guard Station Expansion Project, Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui TMK: (2) 3-8-014:028,* is included in **Appendix B** of this EA. The LRFI study reports results from the background research literature review and field inspection and uses them to:

- Synthesize what is known about the project area, vicinity, and greater ahupua'a's environmental context, natural and cultural landscape and resources, historical trajectory, and previous archaeological studies;
- Summarize known and newly-noted wahi kupuna (Hawaiian ancestral places)/historic properties in their cultural landscape contexts;
- Provide a predictive model for the presence of possible additional wahi kupuna/historic properties in the project area and vicinity; and
- Generate next steps and historic preservation compliance recommendations for the wahi kupuna/historic properties in order to inform wahi kupuna stewardship, project planning, and satisfy historic preservation compliance requirements.

### 3.6.1. Affected Environment

Background research and the survey of previous archaeological studies performed for the LRFI study show that the project area in Mā'alaea is situated within a greater, contiguous landscape and integrated system of resource management established by Native Hawaiians with Mā'alaea long serving as a settled, agricultural landscape and canoe landing referenced in Hawaiian oral traditions. The following sites may have been located partially or wholly within the project site (historical records are unclear):

- **Hika's LCA 2959:** One of the few LCAs and coastal house lots awarded in Waikapū's southern coastal plains, Hika's LCA 2959, was likely located partially or wholly within the project site. Records associate 10 lo'i with the coastal land parcel and house lot. Hika's LCA may have overlapped the central southern portion of the project site or may have been located partially or wholly within the project site; historical records are unclear.
- **Alanui Aupuni:** Records indicate that Alanui Aupuni (Kingdom roadway of the sovereign Hawaiian nation) was located to the west of the project site and may have overlapped the western periphery of the project site, been included more fully in it, or located in proximity to it; historical records are unclear.

Beginning in the 19th century, Mā'alaea was transformed into a historical settlement and harbor. The local manifestation of global, extractive sugar industries and economies began in Central Maui and on the lands just north of the project area beginning in the 1820s. Extensive alteration of the vegetation, topography, and hydrography of the project area and vicinity continued and persisted with development concentrated along the coast and adjoining hinterlands over the course of the 20th century.

No previously identified wahi kūpuna/historic properties were located in the project area through background research or the field inspection although four wahi kūpuna/historic properties were identified directly west of the project site:

- **SIHP 50-50-09-3553:** Human skeletal remains
- **SIHP 50-50-09-3554:** Burial
- **SIHP 50-50-09-4480:** Burial
- **SIHP 50-50-09-1604:** Mā'alaea Fishing Jinja

Three additional wahi kupuna/historic properties were identified further west of the project site:

- **SIHP 50-50-09-4137:** Two terrace segments

- **SIHP 50-50-09-4138:** An alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs
- **SIHP 50-50-09-4139:** An enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders with petroglyphs

The background research indicates that while portions of the project area and vicinity have been heavily modified by agricultural activities and development, there is the likelihood of encountering iwi kupuna, subsurface cultural deposits related to the house lot and loʻi it contained, wahi kupuna, and historic properties.

### 3.6.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would not result in any adverse impacts to any above-ground archaeological or historic resources since none were identified at the project site. There is the possibility of subsurface deposits in the area based on the findings in the LRFI study. The Coast Guard is currently consulting with the State Historic Preservation Division (SHPD) regarding the Proposed Action and will comply with all requirements.

Under the No-Action Alternative, no construction activities would occur; therefore, there would be no potential for impacts to historic and archaeological resources.

#### *Operation*

Long-term operation of the Proposed Action would not result in impacts to archaeological or historic resources.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to archaeological or historic resources.

#### *Overall Potential Impacts*

The Proposed Action would not result in any adverse impacts to above-ground archaeological or historic resources since none were identified at the project site. Nohopapa Hawaiʻi, LLC (Nohopapa) conducted a LRFI study for the Proposed Action in August 2023. The report, *Literature Review and Field Inspection Study to Inform an Environmental Assessment for Hawaiʻi Revised Statutes (HRS) §343 and National Environmental Policy Act Environmental Review for the U.S. Coast Guard Station Expansion Project, Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui TMK: (2) 3-8-014:028*, is included in **Appendix B** of this EA. There is the possibility of subsurface deposits in the area based on the findings in the LRFI study. The Coast Guard is currently consulting with the SHPD regarding the Proposed Action and will comply with all requirements.

Under the No-Action Alternative, no construction activities would take place and there would be no expansion of the existing facilities. There would be no associated changes to or impacts on archaeological or historic resources.

### 3.6.3. Avoidance and Minimization Measures

The Coast Guard shall continue to consult with SHPD and will comply with all requirements to identify potential subsurface archaeological and historic resources. In addition, the following measures would be implemented to minimize impacts to archaeological and historic resources:

- If subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sinkholes are identified during the construction, all work shall be ceased in the immediate vicinity of the find, the find would be protected from additional disturbance, and SHPD would be notified.
- If human remains are discovered during construction, further disturbances and activities would cease in the area or nearby areas suspected to overlie the remains and SHPD would be contacted immediately.

## 3.7. Cultural Practices and Beliefs

Nohopapa Hawai'i, LLC (Nohopapa) conducted a Cultural Impact Assessment (CIA) for the Proposed Action in May through October 2023. The report, *A Cultural Impact Assessment to Inform an Environmental Assessment for Hawai'i Revised Statutes (HRS) §343 and National Environmental Policy Act Environmental Review for the U.S. Coast Guard Station Expansion Project, Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui TMK: (2) 3-8-014:028,* is included in **Appendix C** of this EA. Through ethnohistorical background research and consultation, the CIA provides an assessment of the Proposed Action's potential impacts to cultural resources, defined as practices and features, which may include Traditional Cultural Properties (TCPs) of ongoing cultural significance that may be eligible for inclusion in the Hawai'i Register of Historic Places in accordance with HRS Chapter 6E Guidelines for significance criteria under Criterion E. The CIA consisted of the following four primary tasks:

- Ethnohistorical background research;
- Community ethnographic interviews, summaries, and recommendations;
- Cultural impact assessment; and
- Results reporting.

### 3.7.1. Affected Environment

As discussed in **Section 3.6.1**, no previously identified wahi kūpuna/historic properties were located in the project area through background research or the field inspection although four wahi kūpuna/historic properties were identified directly west of the project site: SIHPs 50-50-09-3553, 50-50-09-3554, 50-50-09-4480, and 50-50-09-1604. Three additional wahi kupuna/historic properties were identified further west of the project site: SIHPs 50-50-09-4137, 50-50-09-4138, and 50-50-09-4139.

Ethnohistorical and historical research, previous archaeological studies, and consultation efforts identified the following cultural resources within the vicinity of the Proposed Action:

- **Iwi kupuna (Native Hawaiian Burials):** Previously identified at the Maui Ocean Center and potentially associated with the project site.
- **Kokololio, Mumuku, and Moa'e winds:** Throughout the vicinity of the Proposed Action.
- **Kili'o'opu and Kololio rains:** Throughout the vicinity of the Proposed Action.
- **'Uhaloa (*Heteropogon contortus*) and 'Ilima (*Sida fallx*) shrubs:** Throughout the vicinity of the Proposed Action.

- **LCA 2959, awarded to Hika:** May have overlapped the central southern portion of the project site or may have been located partially or wholly within the project site; historical records are unclear.
- **Waikoli, a natural spring:** Within the project vicinity. A restroom was constructed over the spring that likely contaminates it while also preventing its natural flow into the ocean and limiting the ability of limu kohu to root.
- **The Kāne variety of ʻalaea soil:** Throughout the vicinity of the Proposed Action. ʻAlaea is gathered medicinally.
- **Limu:** Several varieties such as ʻohiʻohi and manauea or ogo are gathered on the Kīhei side of Māʻalaea.
- **Surfing spots:** In Māʻalaea Harbor.
- **Japanese fishing shrine:** Located at the northeast end of the Maui Ocean Center.
- **Fish:** Several species such as halalū, juvenile akule, ʻōpelu, ulua, ʻōmilu, and mākoi in Māʻalaea Harbor.
- **ʻUpena hoʻolei (throw net):** In Māʻalaea Harbor.
- **Salt production and gathering:** In the Kanaio area northeast of the project site.
- **Kiʻi Pōhaku:** In the vicinity of the Proposed Action and translocated near Buzz's Wharf.
- **Other fishing and gathering practices:** Throughout the vicinity of the Proposed Action and in Māʻalaea Harbor.

### 3.7.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action could have impacts to iwi kupuna if they are located on the project site. Construction activities may produce sediment from soil erosion during and after excavation. With the implementation of BMPs, impacts to water resources during the short-term construction period would be less than significant.

Under the No-Action Alternative, no construction activities would occur and there would be no impacts to water resources.

#### *Operation*

Long-term operation of the Proposed Action would not result in impacts to cultural resources or practices. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Māʻalaea Harbor where cultural practices take place.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to cultural resources.

#### *Overall Potential Impacts*

The Proposed Action is anticipated to have a less than significant impact on cultural resources. Construction activity on the project site could result in the disturbance of human remains. Avoidance and minimization measures for this potential are proposed in **Section 3.7.3** below. The project site is not a known to host cultural activities. Station Maui operations would restrict access to the project site; however, this is not expected to restrict cultural practices.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no associated changes to or impacts on cultural resources.

### 3.7.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts to cultural resources and practices:

- A cultural monitor would be on site during all ground disturbing activities.
- If human remains are discovered during construction, further disturbances and activities would cease in the area or nearby areas suspected to overlie the remains and SHPD would be contacted immediately. Care for iwi kupuna would be enacted through the Maui Island Burial Council.
- Access to Māʻalaea Harbor would not be restricted to ensure continued access for local fishermen and surfers.
- Construction plans and specifications would include BMPs to minimize erosion on the project site during and after construction, as well as measures to contain runoff on-site during construction.
- Temporary erosion control measures would be used during construction to prevent soil loss and to minimize surface runoff.
- A Stormwater Management Plan would be prepared and implemented to minimize impacts during long-term operation of the Proposed Action.

## 3.8. Scenic Resources

### 3.8.1. Affected Environment

Maui contains a diversity of scenic resources that include developed and undeveloped sections of shoreline, tropical rainforests, rugged valleys, mountains with jagged peaks, vast open spaces, historic towns and settlements surrounded by productive agricultural land, and panoramic Pacific Ocean views. The beauty of these scenic resources enriches the quality of life for residents and serves as a primary visitor attraction. However, the dramatic growth of the visitor industry and urbanization has dramatically impacted the island's scenic resources. Development has been approved that has blocked views to the ocean shoreline, created visual clutter along State and County roadways, and produced urban sprawl conditions on agricultural lands that once separated distinct country town communities.

The Proposed Action is located in an area that is a tourist destination and includes the Maui Ocean Center Aquarium and retail shops (i.e., Maui Harbor Shops) across Māʻalaea Road and Māʻalaea Harbor. Condominium buildings line the coastline spanning from the harbor to the northeast. The views to and along the ocean as well as to the West Maui Mountains are the principal visual resources in the vicinity of the Proposed Action and are enjoyed by residents and tourists. Existing views from the project site are shown below.

*View towards Maui Harbor Shops and Aquarium*

*View towards West Maui Mountains*

*Ocean View*

*Mā'alaea Road fronting Maui Harbor Shops*

### 3.8.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would introduce construction equipment and activity along a part of the shoreline in a tourist area. Construction activities would be visible from Mā'alaea Road, Hauoli Street, Maui Harbor Shops, Mā'alaea Harbor, and visitors and residents of the area. Construction activities would not block views to and along the ocean or the West Maui Mountains Construction activities would be short-term and temporary and would not have significant impacts to the existing scenic and visual environment.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no construction-related impacts to visual resources.

#### *Operation*

The proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area. There would be no impacts to

views from renovation of the existing facility. Therefore, impacts to scenic resources are expected to be less than significant.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to scenic resources.

*Overall Potential Impacts*

The Proposed Action is anticipated to have a less than significant impact on scenic resources. Construction of the proposed new facility and renovations on the existing building would cause temporary visual disruptions; however, these effects would be short-term and less than significant. The proposed new facility is sited to conserve mountain and ocean views from the existing condominium and would be designed consistent with the existing architecture of the area.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes to or impacts on scenic resources.

### 3.8.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts to scenic resources:

- The proposed new facility would be sited on the southern portion of the project site.
- The proposed new facility would be designed consistent with the existing architecture of the area.

## 3.9. Roadways and Traffic

A traffic assessment was prepared for the project in June 2023. The report, *Recapitalize Station Facilities at Station Maui, Traffic Assessment, Wailuku, Maui,* is included in **Appendix D** of this EA. The report analyzes existing traffic operations in the surrounding area and projected future traffic operations, including any potential traffic impacts associated with expansion of the facility.

### 3.9.1. Affected Environment

The project site is located on the makai side of Honoapiʻilani Highway (State Route [SR] 30) along Māʻalaea Road. There is one transit stop in the area: Māʻalaea Harbor Village transit stop approximately 150 feet west of the existing Station Maui. Two Maui Bus routes operate at this stop:

- **Route 15, Kihei Villager:** Offers a connection between Māʻalaea and Kihei (Piʻilani Shopping Center) and operates once per hour between 6:00am and 9:00pm.
- **Route 20, Lahaina Islander:** Offers a connection between Māʻalaea and Lahaina with the route also passing through Wailuku and Kahului terminating at Qween Kaʻahumanu Transit Center and operates once per hour between 5:55am and 8:30pm.

The State of Hawaiʻi Department of Transportation (HDOT) collects average daily traffic (ADT) at various times of the year throughout the island. Traffic counts are collected along Honopiʻilani Highway at mile post (MP) 12.14 approximately 5.7 miles west of Māʻalaea Harbor. Due to the undeveloped nature of the corridor between the project site and the count location, it is projected that traffic volumes collected at the station are reflective of the traffic in the project area. **Table 4** shows average weekday ADTs along Honopiʻilani Highway.

**Table** 5 shows the peak hour volumes along Honopiʻilani Highway.

***Table 4. HDOT ADT Along Honopiʻilani Highway***

| Year | Bi-Directional ADT |
|---|---|
| 2016 | 27,922 |
| 2017 | Unavailable |
| 2018 | 28,752 |
| 2019 | Unavailable |
| 2020* | 18,140 |
| 2021 | 26,722 |
| July – December 2021** | 27,996 |

* Travel restrictions due to COVID-19
** Average of last six months of 2021 to show ADT rebounding to pre-COVID volumes

***Table 5. HDOT Peak-Hour Volumes Along Honopiʻilani Highway (May 2023)***

| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
|---|---|---|---|
| AM | 1,028 | 893 | 1.921 |
| PM | 1,102 | 1,151 | 2,253 |

HCS 2010 – TwoLane software was used to analyze the existing roadway capacity and operations along the two-lane section of Honopiʻilani Highway to the southwest of the project area, as well as for the one lane of southbound traffic between the northern and southern intersections of Māʻalaea Road and Honopiʻilani Highway. HCS 2010 – Multilane software was used to analyze the existing roadway capacity and operations along Honopiʻilani Highway in the four-lane section northeast of the project area, as well as for the one lane of northbound traffic between the northern and southern intersections of Māʻalaea Road and Honopiʻilani Highway. Level of Service (LOS) and volume to capacity ratio (v/c) were calculated, as defined below.

- **LOS:** A rating system to measure the effectiveness of roadway operating conditions. There are six LOS conditions ranging from A to F where LOS A is defined as being the least interrupted flow conditions with little or no delays and LOS F is defined as conditions where extreme conditions exist.
- **v/c:** Expresses the directional roadway volumes compared to directional roadway capacity.

**Table 6** shows the existing peak hour LOS and v/c along Honopiʻilani Highway in the vicinity of the Proposed Action. Currently, in areas where there is only one lane in both directions, the corridor operates at LOS E throughout the AM and PM peak hours. When the northbound direction widens to two lanes, LOS improves to B in the northbound direction but maintains a LOS E in the southbound direction during the AM and PM peak hours. Where Honopiʻilani Highway widens to four lanes (two lanes in each direction), the corridor operates at LOS B in the AM and PM peak hours.

***Table 6. Existing Peak Hour LOS and v/c***

| Direction | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | LOS | v/c | LOS | v/c |
| **Southwest of Project Area (1 Northbound Lane, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.66 | E | 0.70 |
| Towards Kahului | E | 0.58 | E | 0.73 |
| **Fronting Project Area (2 Northbound Lanes, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.66 | E | 0.70 |
| Towards Kahului | B | - | B | - |
| **North of Project Area (2 Northbound Lanes, 2 Southbound Lanes)** | | | | |
| Towards Lahaina | B | - | B | - |
| Towards Kahului | B | - | B | - |

The surrounding area growth rate from the *Federal-Aid Highway 2035 Transportation Plan for the District of Maui* (CH2MHill, 2014) was used to project future traffic volumes along Honopiʻilani Highway. It is projected that traffic volumes would increase by 1.71% per year between 2007 known vehicular volumes and projected 2035 vehicular volumes. Eight years of compounded growth was applied along Honopiʻilani Highway to determine projected future peak hour volumes in 2031 when the Proposed Action is expected to be completed. The results are provided in **Table 7**. Projected future LOS and v/c is shown in **Table 8**.

***Table 7. Projected Future (2031) Peak Hour Volumes Along Honopiʻilani Highway Without Proposed Action***

| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
|---|---|---|---|
| AM | 1,177 | 1,023 | 2,200 |
| PM | 1,262 | 1,318 | 2,580 |

***Table 8. Projected Future (2031) LOS and v/c Along Honopiʻilani Highway Without Proposed Action***

| Direction | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | LOS | v/c | LOS | v/c |
| **Southwest of Project Area (1 Northbound Lane, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.76 | E | 0.80 |
| Towards Kahului | E | 0.66 | E | 0.83 |
| **Fronting Project Area (2 Northbound Lanes, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.76 | E | 0.80 |
| Towards Kahului | B | - | B | - |
| **North of Project Area (2 Northbound Lanes, 2 Southbound Lanes)** | | | | |
| Towards Lahaina | B | - | B | - |
| Towards Kahului | B | - | B | - |

### 3.9.2. Potential Impacts

*Construction*

The Proposed Action would have minor, short-term direct and indirect impacts on Honopiʻilani Highway and Māʻalaea Road from project-related vehicles, equipment, materials delivery, and personnel access to the project site. Transportation of equipment and materials to and from the project site would require oversized and/or overweight loads. The contractor would be required to obtain a permit from HDOT to transport oversized and/or overweight materials and equipment on State highways.

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no construction-related impacts to roadways and traffic.

*Operation*

The proposed facility is anticipated to be expanded and sized for 36 personnel from the 20 current personnel. Of those 36 personnel, 30 are anticipated to be active duty with the remaining six being reservists. Of the 30 active-duty personnel, 18 are duty standers, which are further broken up into two shifts, which work 48-hour shifts (two days on, two days off). The remaining 12 active-duty commute to work daily during standard peak hours. The six reservists fold into normal station shifts based on duty and could be Maui residents or commute from a neighbor island as needed. It is assumed that 18 of the 20 existing personnel commute to and from the site during peak hours, as the current facility can only accommodate up to two overnight personnel.

Future project conditions analyzed the worst-case scenario in which all 36 personnel must be present at Station Maui, resulting in 36 peak hour trips. Note that this would only occur if all six reservists were present, and on shift-change days when the duty standers rotate. Assuming that 18 of these trips are already present in the existing condition, it is projected that this project will generate up to 18 additional trips during both the AM and PM peak hours. As it is unknown where each of the personnel is commuting to/from, it was estimated that half of these trips would be coming from the Lahaina-direction and half would be coming from the Kahului-direction. The projected roadway volumes with the Proposed Action are shown in **Table 9**. Projected future LOS and v/c with the Proposed Action is shown in **Table 10**.

***Table 9. Projected Future (2031) Peak-Hour Volumes Along Honopiʻilani Highway With Proposed Action***

| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
|---|---|---|---|
| AM | 1,186 | 1,032 | 2,218 |
| PM | 1,271 | 1,327 | 2,598 |

***Table 10. Project Future (2031) LOS and v/c Along Honopi'ilani Highway with Proposed Action***

| Direction | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | LOS | v/c | LOS | v/c |
| **Southwest of Project Area (1 Northbound Lane, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.76 | E | 0.80 |
| Towards Kahului | E | 0.67 | E | 0.84 |
| **Fronting Project Area (2 Northbound Lanes, 1 Southbound Lane)** | | | | |
| Towards Lahaina | E | 0.76 | E | 0.80 |
| Towards Kahului | B | - | B | - |
| **North of Project Area (2 Northbound Lanes, 2 Southbound Lanes)** | | | | |
| Towards Lahaina | B | - | B | - |
| Towards Kahului | B | - | B | - |

As shown in **Table 9**, these additional trips, when compared to the bi-directional peak hour projected volumes in **Table 7** equate to under 1% of roadway volumes. Additionally, LOS is not projected to change in any of the three segments between the future without and with project conditions, as shown in **Table 10**. Therefore, the long-term operation of the Proposed Action would have less than significant impacts to traffic conditions.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. Traffic volumes and LOS are expected to be the same as shown in **Table 7** and **Table 8**. To improve roadway LOS of future conditions, Honopi'ilani Highway would have to be widened to two lanes in all areas, which is not likely feasible due to the nature of the roadway and existing topographic constraints. Any future widening would be triggered by regional traffic growth.

#### *Overall Potential Impacts*

The Proposed Action is expected to have less than significant and short-term impacts on traffic along Honopi'ilani Highway and Mā'alaea Road due to project-related vehicles, equipment, and personnel access. The facility expansion would increase personnel from 20 to 36, potentially generating up to 18 additional peak-hour trips, with half coming from the Lahaina direction and half from the Kahului direction. However, these additional trips would constitute less than 1% of roadway volumes, and traffic conditions, including LOS, are not expected to change significantly.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes to or impacts on roadways and traffic.

### 3.9.3. Avoidance and Minimization Measures

No measures are proposed to minimize potential impacts to traffic, and none are expected to be required due to the minimal impacts associated with the Proposed Action.

# 3.10. Utilities

## 3.10.1. Affected Environment

### *Electrical Supply*

The project location is within the Maui Electric Company (MECO) service area. There is an existing MECO handhole located across Māʻalaea Road.

### *Telecommunications*

The project location is within the telecommunication service area of Verizon, Hawaiian Telcom, and Spectrum. There is an existing telecommunication utility handhole located across Māʻalaea Road.

### *Water Supply*

The project location is within the County of Maui Board of Water service area. There is an existing eight-inch-diameter watermain along Māʻalaea Road but there is no existing water service lateral or meter for the project site. There are two (2) existing fire hydrants located near the project site, including one within the Station Maui fenced compound. The second fire hydrant is located on the west side of Māʻalaea Road, north of the DOBOR property.

### *Sanitary Sewer*

The Māʻalaea Harbor area is not serviced by the County of Maui wastewater collection system. There are several privately-owned and operated wastewater collection and treatment systems that service the existing commercial and residential developments, including the Māʻalaea Triangle system that services the commercial developments.

DLNR operates a wastewater collection and treatment system to service the Māʻalaea Small Boat Harbor and DOBOR properties. There are three to four sewage pump stations within the existing DLNR system that convey the wastewater to the treatment plant located on Highway 40 at the west end of Māʻalaea Harbor. The existing pump stations and wastewater treatment plant do not have permanent standby generators and were designed with plug-ins to accept a portable generator.

The existing Station Maui site includes an on-site aerobic treatment unit and seepage pits. The design capacity of the system is rated at 370 gallons per day (gpd).

## 3.10.2. Potential Impacts

### *Construction*

Under the No-Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no construction-related impacts to public facilities and services.

### *Operation*

#### Electrical Supply

The primary electrical service for Station Maui would originate from the existing MECO handhole located across Māʻalaea Road. A MECO transformer would be located on the project site. The transformer would be sized and installed by MECO and would be located at the corner of the project site near Māʻalaea Road for easy vehicular access. Metering equipment would be provided and installed with MECO standards.

The location of the meter would be accessible to MECO personnel. A standby diesel generator would be installed inside the generator room to provide backup power in case of a power outage.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to the existing electrical supply service.

### Telecommunications

Telephone, data, and CATV services would be provided by available telecommunication utilities from Māʻalaea road and may include Verizon, Hawaiian Telcom, and Spectrum. A new telecommunication room would be provided within Station Maui to house the new telecommunication infrastructure equipment and main grounding bus. Support for additional telecommunication systems, which includes infrastructure (e.g., conduit, boxes, and pull string) for automatic access control, intrusion detection, audio/visual, public address system, closed circuit television, antenna, and cable television systems would be provided. Infrastructure would be provided between Station Maui and MST Maui buildings to support interconnectivity between special systems, as required. The telecommunication service at the existing building would remain to service MST Maui.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to the existing telecommunications service.

### Water Supply

Water supply would include a connection to the existing 8- inch diameter waterline on Māʻalaea Road and installation of a new water service line for domestic water supply. Based on a population count of 18 residing on site plus 18 office staff, the peak water demand is estimated at 10 gpm. To convey the required flow rate, a 1.5-to-2-inch waterline would be required.

A new fire hydrant would be required in front of the DOBOR Southern Split site to ensure that the maximum hose coverage length of 350 feet is not exceeded. An 8-inch fire line with a connection to the County of Maui water system would be provided to provide water supply for the building fire sprinkler system.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts to the existing water supply service.

### Sanitary Sewer

DLNR has indicated an initial acceptance for the Coast Guard to connect to the existing wastewater collection system. There is an existing wastewater pump station located to the south of the DOBOR property which could provide gravity service to the new building. Sanitary sewer service to the DOBOR Southern Split site would include a 6-inch sanitary sewer line extending from the south side of the building and connecting to the existing DLNR wastewater pump station. Based on the design service population, the peak sanitary sewer flow rate is estimated to be in the range of 8 to 10 gpm.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts associated with sanitary sewer service.

*Overall Potential Impacts*

The Proposed Action is expected to have less than significant impacts on utility services. Utility access for the Proposed Action would include connections to existing electrical, water, and wastewater systems, with necessary on-site infrastructure such as transformers, generators, and telecommunications equipment. The project would ensure that all utilities, including power, water, wastewater, and telecommunications, are appropriately integrated to support the facility's operations, with provisions for backup power, fire safety, and interconnectivity between systems. These connections and installations would comply with relevant standards.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes to or impacts on utilities.

### 3.10.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts to utility service:

- A service request shall be submitted to each utility provider for review of design (if required) and approval of service.

## 3.11. Hazardous Materials

Myounghee Noh & Associates, LLC dba MNA Environmental conducted a soils screening survey in for the Proposed Action in June 2023. The letter report, *Soil Screening Survey for Recapitalize Station Facilities USCG Station Maui, Wailuku, HI* is included in **Appendix E** of this EA. The purpose of the screening survey was to identify the presence of any potentially hazardous soil contaminants that may be encountered during soil disturbance and construction. Chemicals of potential concern include the following:

- **Pesticides:** Chlorinated pesticides are synthetic compounds that were historically used as insecticides on food crops and as termiticides in and around buildings. The use and commercial production of many of these pesticides was prohibited from the mid to late 1980s. However, residues may still be present beneath and around structures that were treated prior to their prohibition. There is the potential that chlorinated pesticides were applied near the adjacent condominium complex.
- **Heavy metals:** Lead, cadmium, and chromium are occasionally found in the surface soil due to paint release and metal leaching from exterior heavy metal-containing paints. Arsenic can be found due to the potential past use of herbicides.
- **Petroleum contaminants and Polychlorinated Biphenyls (PCB):** Petroleum compounds are common contaminants at military installations due to fuel leaks/releases. PCB can be found in military operation areas due to oil leaks from electrical equipment (e.g., transformers, electrical cables).

MNA collected five multi-increment soil samples from 30 borings within the project site. Sampling depths were 0 to 0.5 feet, 0.5 to 1.5 feet, and 1.5 to 3.0 feet below ground surface.

### 3.11.1. Affected Environment

The project site exhibits no signs of surface contamination. There were no signs of soil contamination observed during soil sampling, such as stained soil or petroleum odors. Laboratory analysis of the soil

samples resulted in measurable levels of polycyclic aromatic hydrocarbons (PAH) in the 0 to 0.5 feet samples and heavy metals were found in all samples. However, the concentrations were below the Environmental Action Levels (EAL) for unrestricted land use. No measurable levels of diesel/residual range organics, chlorinated herbicides, or pesticides were identified.

### 3.11.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would involve ground disturbing activities. Although no contaminants above action levels were detected in the collected soil samples, there is the potential to encounter contaminated soil below the sampling level of three feet below ground surface.

Under the No Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no impacts associated with hazardous materials.

#### *Operation*

Station Maui would include hazardous material storage and use areas. The use of hazardous materials to support operations at Station Maui may increase with the increase in support functions. Use and storage of hazardous materials would be managed in compliance with the Coast Guard Hazardous Waste Management Directive. Construction of a boat maintenance facility would provide for a reduced risk of hazardous material or waste spills affecting surrounding waters or public areas since the dedicated, indoor boat maintenance facility would provide better functional safety and containment.

Under the No Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. The use of hazardous materials at the existing Station Maui would remain the same as current operations. There would be no additional impacts associated with hazardous materials.

#### *Overall Potential Impacts*

The Proposed Action is expected to have less than significant impacts related to hazardous materials. Construction of the Proposed Action would involve ground-disturbing activities with a potential risk of encountering contaminated soil below three feet; however, no contaminants above action levels were detected in initial soil samples. Station Maui would include areas for hazardous material storage and use, which may increase with expanded operations. These materials would be managed according to the Coast Guard Hazardous Waste Management Directive. The construction of an indoor boat maintenance facility is expected to reduce the risk of hazardous material or waste spills.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes or impacts related to hazardous materials.

### 3.11.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts associated with hazardous materials:

- The contactor shall conduct excavation monitoring to observe for signs of contamination during soil disturbance.

- Excavated soil shall be reused within the project site under pavement provided it meets the geotechnical requirements.
- All excess soil shall be characterized, including sampling and analysis, and disposed of in accordance with Federal, State, and County regulations.
- A dust control plan shall be developed and implemented to minimize fugitive dust during construction. Measures to control fugitive dust during construction may include, but not be limited to, the following:
    - Watering of active work areas and project access roads, as needed.
    - Screening piles of materials from wind, if appropriate.
    - Covering open trucks carrying construction materials.
    - Limiting areas to be disturbed at any given time and hydromulch or grass finished areas on a timely basis.
- Construction plans and specifications shall include BMPs to minimize erosion on the project site during and after construction, as well as measures to contain runoff on-site during construction.
- Temporary erosion control measures shall be used during construction to prevent soil loss and to minimize surface runoff.
- Use and storage of hazardous materials shall be managed in compliance with existing Federal, State, and County laws and regulations as well as the Coast Guard Hazardous Waste Management Directive.

## 3.12. Natural Hazards

### 3.12.1. Affected Environment

#### *Floods*

The Federal Emergency Management Agency (FEMA) creates Flood Insurance Rate Maps (FIRM) that delineate flood hazard areas. The FEMA FIRM flood zone designations include the following:

- A – Areas of 100-year flood, base flood elevations not determined
- AE – Areas of 100-year flood, base flood elevation determined
- XS – Areas of 500-year flood; areas of 100-year flood with average depths of less than one foot or within the drainage area less than one square mile, and areas protected by levees from 100-year flood
- X – Areas determined to be outside the 500-year floodplain
- D – Areas in which flood hazard is undetermined
- VE – Areas of 100-year coastal flood with velocity (wave action), base flood elevations determined (Coastal High Hazard District)

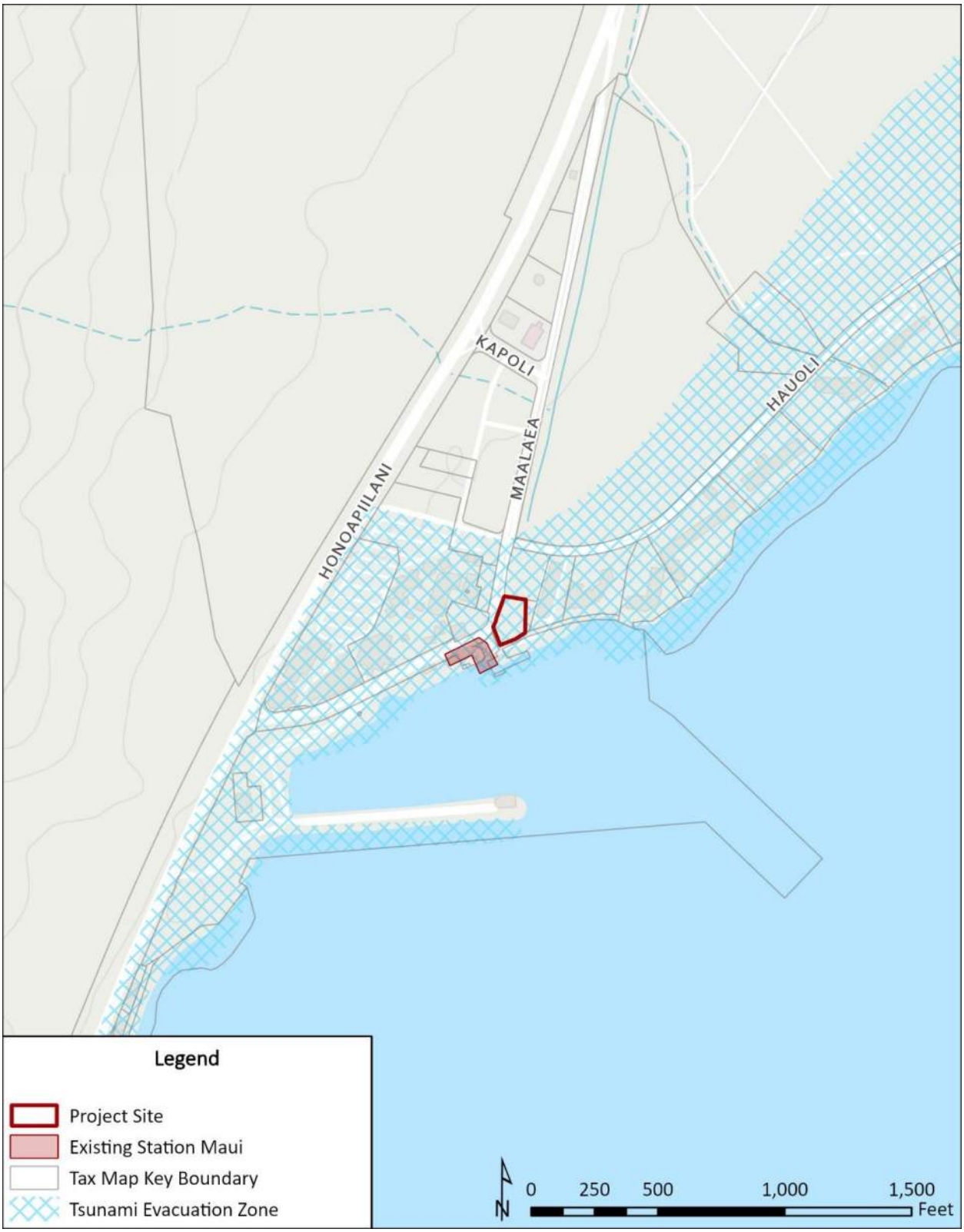
As shown in **Figure 20**, a portion of the proposed site lies in Flood Zone VE. The proposed facility has been oriented on the site to remain outside of Flood Zone VE.

#### *Tsunami*

A tsunami involves the generation of a series of destructive ocean waves that can affect all shorelines. These waves can occur at any time with limited or no warning and are most commonly generated by earthquakes in marine and coastal regions (National Oceanic and Atmospheric Administration (NOAA), 2017). As shown in **Figure 21**, the proposed site is within the tsunami evacuation zone.

***Figure 20. Flood Hazard Zones***

***Figure 21. Tsunami Evacuation Zone***



*Earthquakes*

Strong earthquakes endanger people and property by shaking structures and by causing ground cracks, ground settling, and landslides. The size of an earthquake is commonly expressed by its magnitude on the Richter scale, which is a measure of the relative size of the earthquake wave recorded on seismographs. Thousands of earthquakes occur every year in Hawai'i, most on and around the island of Hawai'i. Many of these earthquakes are directly related to volcanic activity. The island of Maui has a low risk of earthquake.

*Hurricanes*

The Hawaiian Islands are seasonally affected by Pacific hurricanes from June through November. On average, there are between four and five tropical cyclones observed in the Central Pacific every year. The state has been affected by significant hurricanes and tropical storms over the years. These include Hiki (1950), Nina (1957), Dot (1959), Iwa (1982), 'Iniki (1992), Iselle (2014), Lane (2018), and Olivia (2018).

According to a report presented at the International Union of Conservation of Nature World Conservation Congress, global climate change could mean that Hawai'i may experience more frequent and more severe hurricanes in the future.

### 3.12.2. Potential Impacts

*Construction*

Construction of the Proposed Action would not create conditions that would exacerbate natural hazards. The County of Maui Emergency Management Agency directs and coordinates the County's emergency preparedness and response program to ensure prompt and effective action when natural or man-caused disaster threatens or occurs anywhere in the County of Hawai'i. Construction personnel would respond to any emergency messages or alerts, as appropriate, to ensure their safety during construction.

Under the No Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur and there would be no change in existing conditions.

*Operations*

Station Maui would be designed to meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version. Therefore, there would be beneficial impacts associated with natural hazards.

Under the No Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no impacts associated with natural hazards.

Overall Potential Impacts

The Proposed Action is expected to have less than significant impacts related to natural hazards. The proposed facility would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes or impacts related to natural hazards.

### 3.12.3. Avoidance and Minimization Measures

The following measures would be implemented to minimize potential impacts associated with natural hazards:

- The new building shall be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards.
- The existing facilities shall be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version.

## 3.13. Climate and Climate Change

### 3.13.1. Affected Environment

Climate change is a long-term shift in patterns of temperature, precipitation, humidity, wind, and seasons. Scientific data show that earth's climate has been warming. This warming is mostly attributable to rising levels of carbon dioxide and other greenhouse gases (GHG) generated by human activity. These changes are already impacting Hawaii through rising sea levels, increasing ocean acidity, changing rainfall patterns, decreasing stream flows, and changing wind and wave patterns. While the earth's climate experiences natural change and variability over geologic time, the changes that have occurred over the last century due to human input of GHG into the atmosphere are unprecedented (HCCMAC, 2017).

Sea levels are rising at increasing rates due to global warming of the atmosphere and oceans and melting of glaciers and ice sheets (HCCMAC, 2017). These rising seas and the projection for more increased tropical storms in the Pacific Ocean would increase Hawai'i's vulnerability to coastal inundation and erosion. As shown in **Figure 22**, the project site is located outside the 3.2-foot scenario Sea Level Rise Exposure Area (SLR-XA).

### 3.13.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would result in the emissions of GHGs from the operation of construction equipment. These emissions would be short-term and temporary and would not be substantial and would not exacerbate climate change.

Under the No Action Alternative, the Coast Guard would not obtain a lease from DOBOR and no construction activities would occur; therefore, there would be no impacts regarding climate change.

#### *Operation*

In accordance with applicable laws and regulations, the Coast Guard would include design elements to improve resiliency and sustainability. The Coast Guard would conduct construction in accordance with *The Guiding Principles for Sustainable Federal Buildings and Associated Instructions* (Guiding Principles) (CEQ, 2020) or applicable guidance at the time of construction. The Guiding Principles provide agencies with a means to meet statutory provisions relating the high-performance sustainable buildings. The Guiding Principles ensure Federal buildings adhere to the following:

- Employ integrated design principles,
- Optimize energy performance,
- Protect and conserve water,
- Enhance the indoor environment,
- Reduce the environmental impact of materials, and
- Assess and consider building resilience.

All actions pursuant to the objectives of the Guiding Principles must be consistent with applicable laws and regulations and are subject to the availability of appropriations or other authorized funding.

Under the No Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be no additional impacts associated with climate change.

#### *Overall Potential Impacts*

The Proposed Action is expected to have less than significant impacts related to climate and climate change. Construction of the Proposed Action would result in temporary greenhouse gas emissions from construction equipment, but these emissions are not expected to be substantial or contribute significantly to climate change. The Coast Guard would incorporate design elements to enhance resiliency and sustainability, following The Guiding Principles for Sustainable Federal Buildings as applicable and where funding is available.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes or impacts related to climate and climate change.

### 3.13.3. Avoidance and Minimization Measures

No avoidance and minimization measures are proposed or anticipated to be required.

***Figure 22. Sea Level Rise Exposure Area***

## 3.14. Socioeconomics and Environmental Justice

Socioeconomics considers the human environment, particularly population and economic activity. Population is affected by natural growth rates as well as the net migration in or out of an area. Economic activity typically comprises employment, personal income, and industrial growth. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* requires Federal agencies to ensure disproportionately high and adverse human health or environmental effects on minority and low-income communities are identified and addressed.

### 3.14.1. Affected Environment

Between 2000 and 2020, the population of the island of Maui increased from 117,644 to 154,100, approximately a 31% increase. The Wailuku District increased from 61,346 to 83,777, an increase of approximately 36.6%. The population of the census tract (Census Tract 15009032000) that comprises the project site is 934. A review of the Environmental Protection Agency's (EPA) EJScreen indicates that the median annual income of Census Tract 15009032000 is $65,260. Twenty-three percent (23%) of the population is considered low income compared with 21% statewide. The population is 28% non-white compared to 74% of non-white people statewide.

### 3.14.2. Potential Impacts

#### *Construction*

Construction of the Proposed Action would result in direct, short-term, beneficial impacts to the local economy associated with the hiring of construction personnel, spending on materials, and local secondary spending associated with these increased activities during construction.

Under the No Action Alternative, no construction activities would occur; therefore, there would be no beneficial impacts to the local economy.

#### *Operation*

Long-term operation of Station Maui would involve a new Station Maui and renovation of the existing building to accommodate MST Maui. The existing crew complement would increase from 20 personnel to 36 personnel. Impacts on local and regional socioeconomic indicators would be beneficial as the new and renovated facilities would be more efficient and would eliminate the need for repairs and renovations within aging facilities. There would be an increase in personnel that would increase revenue in the area. This new revenue would occur in local establishments such as stores, restaurants, and attractions. Therefore, operation of the Proposed Action would have beneficial impacts.

#### *Overall Potential Impacts*

The Proposed Action is expected to have less than significant impacts related to socioeconomics and environmental justice. Construction of the Proposed Action would have direct, short-term benefits for the local economy through the hiring of construction personnel, spending on materials, and increased local spending. Operation of the proposed new facility along with the renovation of the existing Station Maui would increase personnel from 20 to 36, leading to greater efficiency, reducing the need for repairs generating additional revenue for surrounding businesses.

Under the No-Action Alternative, there would be no expansion of the existing facilities. The existing Station Maui would continue to operate in its current condition unless renovated. There would be associated changes or impacts related to socioeconomics and environmental justice.

### 3.14.3. Avoidance and Minimization Measures

No avoidance and minimization measures are proposed or anticipated to be required.

## 3.15. Secondary and Cumulative Impacts

### 3.15.1. Secondary Impacts

Secondary impacts are those effects that are caused by an action and are later in time or farther removed in distance but are reasonably foreseeable. They 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 to effects on air and water or other natural systems. The Proposed Action would not result in changes in land use patterns, population density, or growth rate. Impacts on air, water, and other natural systems would be limited to the construction period. Therefore, secondary impacts are not expected.

### 3.15.2. Cumulative Impacts

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

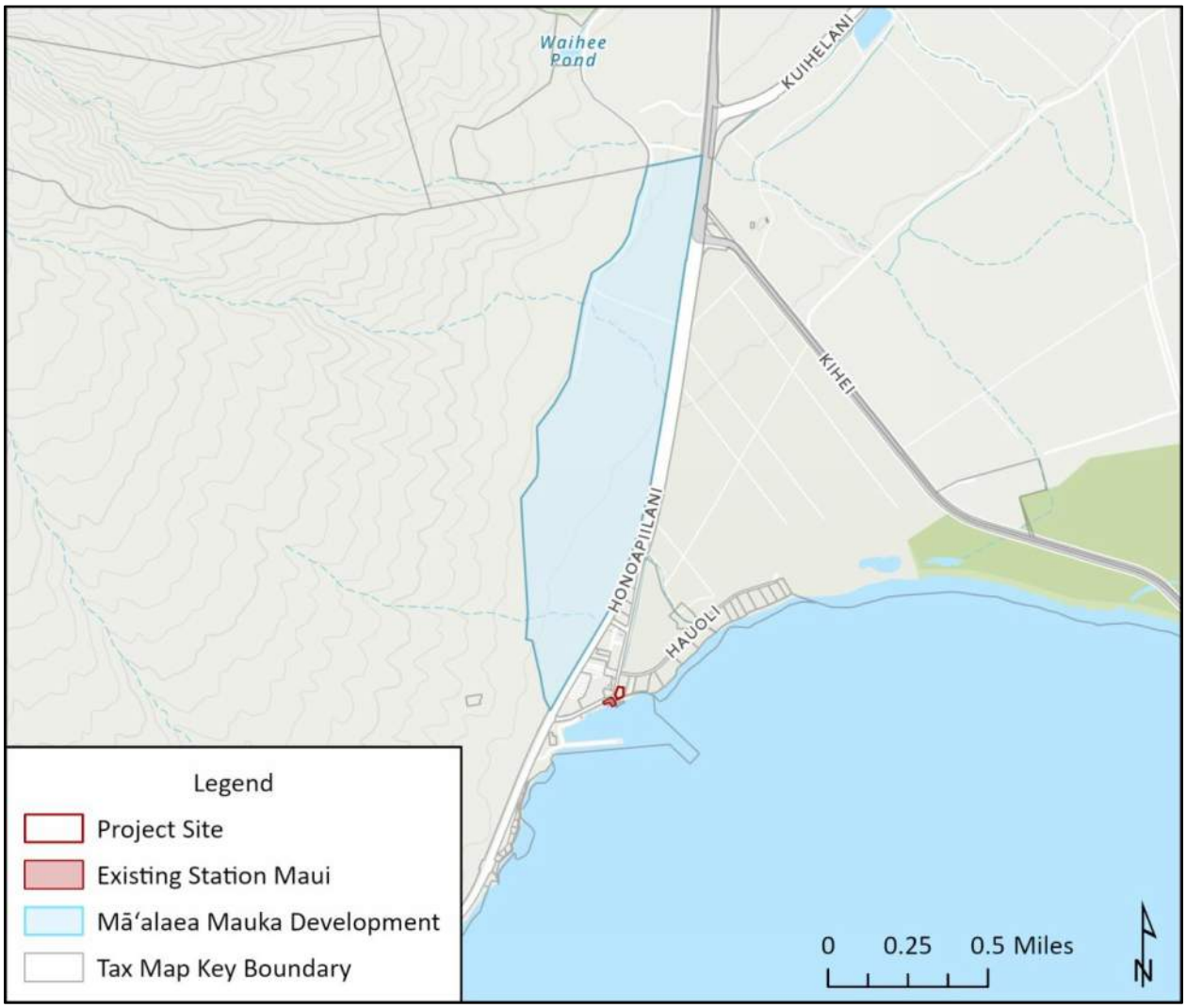
There have been several proposed developments mauka of the project site over the past 20 years that have not been successfully approved The location of these developments is shown in

**Figure** 23.

- **2004:** Māʻalaea Mauka (Project District 12) was a proposed 950-unit residential development. The Maui County Planning Director opposed the development location.
- **2009:** ʻOhana Kai Village was a proposed development consisting of 1,100 residential units, a 7-acre commercial area, and a 16-acre possible school site. The Maui County Planning Director opposed the development location, and the Environmental Impact Statement was successfully challenged.
- **2012:** New Māʻalaea Mauka project proposed 527 units on 102 acres including 16 5-acre agricultural lots, 7-acre commercial area, and 18-acre possible renewable energy facility. The project had no reliable water supply, no traffic solutions, and included major drainage impacts; therefore, the project was not pursued.
- **2014:** Māʻalaea Plantation proposed a 257-acre subdivision including 116 units. The project had no reliable water supply, no sewage system, no traffic solutions, and included drainage impacts. The Maui County Planning Director opposed the project, and the Environmental Assessment was successfully challenged.
- **2015:** New version of Māʻalaea Plantation proposed for 113 units on 257 acres. The new version still had no reliable water supply, no sewage system, no traffic solutions, and included drainage impacts. The project was not submitted for County approval.
- **2021:** Māʻalaea Plantation proposed an agricultural subdivision on 257 acres with 21 agricultural lots with individual septic systems. The Planning Commission responded that it is “highly unlikely that County DWS [Department of Water Supply] will give approval on a building permit” due to competing demand from project wells and Waikapu Town wells.

The 257 acres that have been repeatedly planned for development have never been approved. This area was sold in 2022 to a new developer; however, no development applications have been submitted at present. In addition, it must be noted that the potential development site is outside the urban growth boundary designation in the *Maui Island Plan.* Therefore, development in this area is not reasonably foreseeable and, as such, there are no other cumulative actions that, in combination with the Proposed Action, would result in cumulative impacts.

***Figure 23. Mā‘alaea Mauka Developments Location***



# 4. Relationship to Land Use Plans and Policies

## 4.1. Federal

### 4.1.1. Coastal Zone Management Act

Coastal zone management addresses development within coastal areas by balancing protection of coastal access, resources, and ecosystems with programmed best uses and economic growth. Goals of coastal zone management are to preserve, protect, develop, enhance, and restore coastal resources.

The National Coastal Zone Management (CZM) Program was created with the passage of the Coastal Zone Management Act of 1972 (CZMA). The CZMA requires Federally-funded actions that have the potential to affect coastal zone resources to be carried out in a manner consistent with the applicable state CZM program policies. The Hawai'i CZM area includes all lands within the State and the areas seaward to the extent of the State's management jurisdiction. Upon issuing a lease of the project site to the Coast Guard, the property no longer falls under State jurisdiction, and therefore the CZM area designation no longer applies. However, impacts to surrounding offsite properties must be considered and appropriate avoidance and minimization measures taken. A Coastal Zone Consistency Determination would be required for the Proposed Action by the State Office of Planning and Sustainable Development. A discussion of the Proposed Action's consistency with the Hawai'i CZM is provided in **Section 4.2.3**.

## 4.2. State of Hawai'i Planning Documents

### 4.2.1. HRS Chapter 226, The Hawai'i State Plan

The Hawaii State Plan, codified as HRS Chapter 226, provides goals, objectives, policies, and priorities for the State. The Hawaii State Plan also provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. It establishes a set of themes, goals, objectives, and policies that are meant to guide the State's long-range growth and development activities. As the Federal government has preeminence and does not comply with State and local plans and policies, the discussion of HRS Chapter 226 is applicable to the potential issuance of a lease from DOBOR. Applicable sections of HRS Chapter 226 to the Proposed Action are shown in **Table 11**. Applicable sections are further discussed below.

***Table 11. Summary of Applicability of HRS Chapter 226 to the Proposed Action***

| HRS Chapter 226 Hawaii State Planning Act | Applicability to Project |
|---|---|
| **Part I. Overall Theme, Goals, Objectives, and Policies** | |
| §226-5 Objective and policies for population | Not applicable |
| §226-6 Objectives and policies for the economy--in general | Not applicable |
| §226-7 Objectives and policies for the economy-- agriculture | Not applicable |
| §226-8 Objective and policies for the economy--visitor industry | Not applicable |
| §226-9 Objective and policies for the economy--federal expenditures | **Applicable** |
| §226-10 Objective and policies for the economy--potential growth and innovative activities | Not applicable |

| HRS Chapter 226 Hawaii State Planning Act | Applicability to Project |
|---|---|
| §226-10.5 Objectives and policies for the economy--information industry | Not applicable |
| §226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources | **Applicable** |
| §226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources | **Applicable** |
| §226-13 Objectives and policies for the physical environment--land, air, and water quality | **Applicable** |
| §226-14 Objective and policies for facility systems--in general | Not applicable |
| §226-15 Objectives and policies for facility systems--solid and liquid wastes | Not applicable |
| §226-16 Objective and policies for facility systems--water | Not applicable |
| §226-17 Objectives and policies for facility systems--transportation | Not applicable |
| §226-18 Objectives and policies for facility systems--energy | Not applicable |
| §226-18.5 Objectives and policies for facility systems--telecommunications | Not applicable |
| §226-19 Objectives and policies for socio-cultural advancement--housing | Not applicable |
| §226-20 Objectives and policies for socio-cultural advancement--health | Not applicable |
| §226-21 Objective and policies for socio-cultural advancement--education | Not applicable |
| §226-22 Objective and policies for socio-cultural advancement--social services | Not applicable |
| §226-23 Objective and policies for socio-cultural advancement--leisure | Not applicable |
| §226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being | Not applicable |
| §226-25 Objective and policies for socio-cultural advancement--culture | Not applicable |
| §226-26 Objective and policies for socio-cultural advancement--public safety | **Applicable** |
| §226-27 Objective and policies for socio-cultural advancement--government | Not applicable |
| **Part II.** | |
| The themes of Part II of the Hawaiʻi State Plan are not applicable to the Proposed Action since the Proposed Action does not involve the preparation of planning documents. | |
| **Part III. Priority Guidelines** | |
| §226-103 Economic priority guidelines | Not applicable |
| §226-104 Population growth and land resources priority guidelines | Not applicable |
| §226-105 Crime and criminal justice | Not applicable |
| §226-106 Affordable housing | Not applicable |
| §226-107 Quality education | Not applicable |
| §226-108 Sustainability | Not applicable |
| §226-109 Climate change adaptation priority guidelines | **Applicable** |

***Section 226-9: Objective and policies for the economy – federal expenditures***

(a) 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 Hawai'i's economy.
(b) To achieve the Federal expenditures objective, it shall be the policy of this State to:
    (1) Encourage the sustained flow of Federal expenditures in Hawai'i that generates long-term government civilian employment;
    (2) Promote Hawai'i's supportive role in national defense in a manner consistent with Hawai'i'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 Hawai'i's economy;
    (3) Promote the development of Federally supported activities in Hawai'i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment;
    (4) Increase opportunities for entry and advancement of Hawai'i's people into Federal government service;
    (5) Promote Federal use of local commodities, services, and facilities available in Hawai'i;
    (6) Strengthen Federal-State-County communication and coordination in all Federal activities that affect Hawai'i.

Discussion: The Proposed Action would include the issuance of a lease from DOBOR to the Coast Guard. The Proposed Action would provide a stable Federal investment base as an integral component of Hawai'i's economy. In addition, it would continue to allow Hawai'i to play a supportive role in national defense. Long-term operation of Station Maui would increase the existing crew complement from 20 personnel to 36 personnel. Impacts on local and regional socioeconomic indicators would be beneficial as the new and renovated facilities would be more efficient and would eliminate the need for repairs and renovations within aging facilities. There would be an increase in personnel that would increase revenue in the area. This new revenue would occur in local establishments such as stores, restaurants, and attractions. Therefore, operation of the Proposed Action would have beneficial impacts.

***Section 226-11: Objectives and policies for the physical environment – land-based, shoreline, and marine resources***

(a) 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 Hawai'i's land-based, shoreline, and marine resources.
    (2) Effective protection of Hawai'i's unique and fragile environmental resources.
(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:
    (1) Exercise an overall conservation ethic in the use of Hawai'i'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.

Discussion: The Proposed Action has been evaluated in this Environmental Assessment to ensure that it would not have negative impacts to Hawai'i's environment (see **Section 3**). The Proposed Action would

not impact shoreline or marine resources. The Coast Guard is committed to environmental stewardship and protection and is guided by and complies with Federal regulations. The Proposed Action would incorporate BMPs to minimize impacts to natural resources. The new building would be designed using the latest version of the International Building Code adopted by the County of Maui to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version at the time of construction.

***Section 226-12. Objectives and policies for the physical environment – scenic, natural beauty, and historic resources.***

(a) 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.
(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:
    (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
    (5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion: The proposed new facility has been sited to conserve mountain views from the existing, adjacent condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area.

Construction of the Proposed Action would not result in any adverse impacts to any above-ground archaeological or historic resources since none were identified at the project site. There is the possibility of subsurface deposits in the area based on the findings in the LRFI study. The Coast Guard is currently consulting with the State Historic Preservation Division (SHPD) regarding the Proposed Action and will comply with all requirements.

***Section 226-13. Objectives and policies for the physical environment – land, air, and water quality.***

(a) 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 Hawai'i's land, air, and water resources.
(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:
    (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.

Discussion: The Proposed Action would incorporate BMPs to minimize impacts to land, air, and water quality during construction.

Station Maui would be designed to would meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code adopted by the County of Maui to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version.

Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed towards the western property limits and conveyed through the on-site system.

Water quality treatment would be provided in conformance with the County of Maui stormwater drainage criteria. Since on-site detention and infiltration are not feasible within the site, a flow-based water quality treatment system, including modular filtration units, is anticipated and was used as the initial design basis. The water quality treatment unit would be placed near the lowest point on the site and would connect to the existing 7-foot by 12-foot box culvert that is located west of the DOBOR Southern Split site.

***Section 226-26. Objectives and policies for socio-cultural advancement – public safety.***

(a) 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 major other disturbances;
    (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.

(d) To further achieve the public safety objectives related to emergency management, it shall be the policy of this State to:
    (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.

Discussion: The Proposed Action would ensure that the Coast Guard can support its primary and secondary missions as described in **Section 1.1** by leasing additional land from DOBOR adjacent to the existing leased area (DOBOR Southern Split). The Proposed Action would create a fully functional station for the Coast Guard's long-term mission in its Area of Responsibility by constructing a new facility that would provide critical elements to support the mission, including but not limited to the following: ready-berthing facilities to allow crew to stay on site, maintenance facilities, and watchstanders.

***Section 226-109. Climate change adaptation priority guidelines.***

(a) Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation;

water resources; the built environment, such as housing, recreation, transportation; and the economy shall:

(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;

(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.

Discussion: Construction of the Proposed Action would result in the emissions of GHGs from operation of construction equipment. These emissions would be short-term and temporary and would not be substantial and would not exacerbate climate change.

Station Maui would be designed and operated in accordance with applicable laws and regulations, Coast Guard policy, and Coast Guard guidance. The Coast Guard would include design elements to improve resiliency and sustainability of future facilities. Design features would result in overall improvements to building and operational efficiencies that would result in an overall reduction in GHG emissions associated with long-term operation of Station Maui. Operation of Station Maui would include use of a backup generator, as needed, in case of a power outage. The use of the generator would not result in a significant increase in GHG emissions and therefore would not contribute to climate change.

### 4.2.2. HRS Chapter 205, State Land Use Law

Hawai‘i was the first of the fifty States to have a State Land Use Law and a State Plan. Today, Hawai‘i remains unique among the fifty states with respect to the extent of control that the state exercises in land use regulation. The State Land Use Law, HRS Chapter 205, was originally adopted by the State Legislature in 1961. This law establishes an overall framework of land use management whereby all lands in the State of Hawai‘i are classified into one of four land use districts: Urban, Agricultural, Conservation, and Rural.

Discussion: As shown in **Figure 24**, the Proposed Action is located in the Urban State Land Use District. The Urban district permits “any and all uses permitted by the counties.” As discussed in **Section 4.3.3**, the Proposed Action is in compliance with the permitted uses as per County of Maui Zoning. Therefore, the issuance of a lease from DOBOR is consistent with State Land Use Law.

***Figure 24. State Land Use Districts***

### 4.2.3. Hawai'i Coastal Zone Management Program

Hawaii's CZM Program, established pursuant to HRS Chapter 205A, as amended, is administered by the State of Hawaii Office of Planning and Sustainable Development and provides for the beneficial use, protection, and development in the State's coastal zone. The objectives and policies of the Hawaii CZM Program encompass a wide array of concerns including impacts to recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. The Hawaii CZM area includes all lands within the State and the areas seaward to the extent of the State's management jurisdiction. Upon issuing a lease of the project site to the Coast Guard, the property no longer falls under State jurisdiction, and therefore the CZM area designation no longer applies. However, impacts to surrounding offsite properties must be considered and appropriate avoidance and minimization measures taken. A Coastal Zone Consistency Determination would be required for the Proposed Action by the State Office of Planning and Sustainable Development. The Proposed Action is consistent with the following objectives and policies of the Hawaii CZM Program:

**RECREATIONAL RESOURCES**

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

1) Improve coordination and funding of coastal recreational planning and management.
2) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
    a) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas.
    b) 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.
    c) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value.
    d) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation.
    e) 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.
    f) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.
    g) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing.
    h) 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 Hawaii Revised Statutes, section 46-6.

Discussion: Long-term operation of the Proposed Action would not result in impacts to recreational resources. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Māʻalaea Harbor where recreational activities take place.

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

**Policies:**

1) Identify and analyze significant archaeological resources.
2) Maximize information retention through preservation of remains and artifacts or salvage operations.
3) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion: Construction of the Proposed Action would not result in any adverse impacts to any above-ground archaeological or historic resources since none were identified at the project site. There is the possibility of subsurface deposits in the area based on the findings in the LRFI study. The Coast Guard is currently consulting with SHPD regarding the Proposed Action and will comply with all requirements.

**SCENIC AND OPEN SPACE RESOURCES**
**Objective:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

**Policies**:

1) Identify valued scenic resources in the coastal zone management area.
2) 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.
3) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.
4) Encourage those developments that are not coastal dependent to locate in inland areas.

Discussion: The proposed new facility has been sited to conserve mountain views from the existing, adjacent condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area.

**COASTAL ECOSYSTEMS**
**Objective:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

**Policies:**

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

2) Improve the technical basis for natural resource management.
3) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance.
4) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land water uses, recognizing competing water needs.
5) 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.

Discussion: The Proposed Action would incorporate BMPs to minimize impacts to coastal ecosystems during construction.

Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed towards the western property limits and conveyed through the on-site system.

**ECONOMIC USES**

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

**Policies:**

1) Concentrate coastal development in appropriate areas.
2) 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.
3) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
   a) Use of presently designated locations is not feasible;
   b) Adverse environmental effects are minimized; and
   c) The development is important to the State's economy.

Discussion: The Proposed Action would include the issuance of a lease from DOBOR to the Coast Guard. The Proposed Action would provide a stable Federal investment base as an integral component of Hawai'i's economy. The Proposed Action has been evaluated in this Environmental Assessment to ensure that it would not have negative impacts to Hawai'i's environment (see **Section 3**). The Coast Guard is committed to environmental stewardship and protection and is guided by and complies with Federal regulations.

The Proposed Action would incorporate BMPs to minimize impacts to natural resources during construction. As a coastal dependent development, the proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be

on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area.

**COASTAL HAZARDS**
**Objective:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

**Policies:**

1) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards.
2) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.
3) Ensure that developments comply with requirements of the Federal Flood Insurance Program.
4) Prevent coastal flooding from inland projects.

Discussion: Station Maui would be designed to meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version.

**MANAGING DEVELOPMENT**
**Objective:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

**Policies:**

1) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development.
2) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements.
3) 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.

Discussion: Opportunities for public awareness, education, and participation in coastal management are provided through the regulatory review processes. A 30-day consultation period was provided prior to the preparation of the Draft Environmental Assessment to gather comments on the Proposed Action from Federal, State, and County agencies as well as the public. This Draft Environmental Assessment is being provided for public comment and review. Additional opportunities for review would come during the permit review process.

**PUBLIC PARTICIPATION**
**Objective:** Stimulate public awareness, education, and participation in coastal management.

**Policies:**

1) Promote public involvement in coastal zone management processes.
2) 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.
3) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion: Opportunities for public awareness, education, and participation in coastal management are provided through the regulatory review processes. A 30-day consultation period was provided prior to the preparation of the Draft Environmental Assessment to gather comments on the Proposed Action from Federal, State, and County agencies as well as the public. This Draft Environmental Assessment is being provided for public comment and review.

**BEACH PROTECTION**
**Objective:** Protect beaches for public use and recreation.

**Policies:**

1) 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.
2) 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.
3) Minimize the construction of public erosion-protection structures seaward of the shoreline.
4) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor.
5) 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.

Discussion: The Proposed Action is located inland from the shoreline; therefore, there would be no effect on the use of beaches for public use and recreation. Long-term operation of the Proposed Action would not result in impacts to recreational resources. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Mā'alaea Harbor where recreational activities take place.

**MARINE RESOURCES**
**Objective:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

**Policies:**

1) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.
2) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency.
4) 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.
5) 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.

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

Discussion: The Proposed Action would not have direct effects on marine resources. The Proposed Action would incorporate BMPs to minimize indirect impacts to marine resources during construction.

Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed towards the western property limits and conveyed through the on-site system.

## 4.3. County of Maui Planning Documents

### 4.3.1. County of Maui 2030 General Plan 2030

The *County of Maui 2030 General Plan* (Countywide Policy Plan) was adopted in March 2010. The Maui Island Plan provides for a recommended path for the County's development. As a Federal agency, the Coast Guard is not subject to local planning requirements; however, the issuance of a lease by DOBOR, and the indirect effects of such a lease, including the Coast Guard's Proposed Action, are consistent with the following applicable objectives and policies of the Countywide Policy Plan:

***Protect the Natural Environment***

*GOAL: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.*

*OBJECTIVE*

*3. Improve the stewardship of the natural environment*

*POLICIES*

*a. Preserve and protect natural resources with significant scenic, economic, cultural, or recreational value.*
*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.*
*f. Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.*
*h. Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.*
*i. Educate the construction and landscape industries and property owners about the use a best management practices to prevent erosion and nonpoint source pollution.*

Discussion: The Proposed Action would incorporate BMPs to minimize impacts to coastal ecosystems during construction.

The proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area.

Station Maui would be designed to meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version.

Long-term operation of the Proposed Action would not result in impacts to recreational resources or cultural practices. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Māʻalaea Harbor where recreational activities and cultural practices take place.

***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*

- *b. Direct urban and rural growth to designated areas.*
- *g. Restrict development in areas that are prone to natural hazards, disasters, or sea level rise.*
- *k. Preserve the public's rights of access to and continuous lateral access along shorelines.*

Discussion: The Proposed Action is located in an urban area and is zoned M-1 Light Industrial District (see **Section 4.3.3**). As a coastal dependent facility, Station Maui would be designed to would meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version. Although access to the Station Maui property would be restricted, this would not restrict access to areas of Māʻalaea Harbor where recreational activities and cultural practices take place.

*OBJECTIVE*

3. *Design all developments to be in harmony with the environment and to protect each community's sense of place.*

*POLICIES*

*c. Protect and enhance the unique architectural and landscape characteristics of each Community Plan Area, small town, and neighborhood.*

*i. Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.*

Discussion: In accordance with applicable laws and regulations, the Coast Guard would include design elements to improve resiliency and sustainability. The Coast Guard would conduct construction in accordance with the Guiding Principles or applicable guidance at the time of construction. The Guiding Principles provide agencies with a means to meet statutory provisions relating the high-performance sustainable buildings. The Guiding Principles ensure Federal buildings adhere to the following:

- Employ integrated design principles,
- Optimize energy performance,
- Protect and conserve water,
- Enhance the indoor environment,
- Reduce the environmental impact of materials, and
- Assess and consider building resilience.

All actions pursuant to the objectives of the Guiding Principles must be consistent with applicable laws and regulations and are subject to the availability of appropriations or other authorized funding.

The proposed new facility has been sited to mitigate acoustical disturbances caused by the running equipment. Specifically, the uncovered Mechanical Enclosure, Generator Room, and Fuel Tank would be situated on the southwest corner of the building, which is the furthest location on site from the neighboring condo building.

The building would be designed consistent with the existing architecture of the area.

### 4.3.2. Maui Island Plan

The *Maui Island Plan* was adopted in December 2012 and provides direction for future growth, the economy, and social and environmental decisions on the island through 2030. As a Federal agency, the Coast Guard is not subject to local planning requirements; however, the issuance of a lease by DOBOR, and the indirect effects of such a lease, including the Coast Guard's Proposed Action, are consistent with the following applicable goals, objectives, and policies:

***Cultural, Historical, and Archaeological Resources Issues***

*GOAL: Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.*

*OBJECTIVE: Enhance the island's historic, archaeological, and cultural resources.*

*POLICY:*

*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 the projects.*

Discussion: Issuance of a lease and subsequent construction of the Proposed Action would not result in any adverse impacts to any above-ground archaeological or historic resources since none were identified at the project site. There is the possibility of subsurface deposits in the area based on the findings in the LRFI study. The Coast Guard is currently consulting with SHPD regarding the Proposed Action and will comply with all requirements.

***Watersheds, Streams, and Wetlands Issues***

*GOAL: Healthy watersheds, streams, and riparian environments*

*OBJECTIVE: Decreased NPS and point source pollution*

*POLICY:*

a. *Enforce water pollution related standards and codes.*

Discussion: The Proposed Action would incorporate BMPs to minimize indirect impacts to marine resources during construction.

Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed towards the western property limits and conveyed through the on-site system.

***Scenic Resources***

*GOAL: Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.*

*OBJECTIVE: A greater level of protection for scenic resources*

*POLICIES:*

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.*
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.*

Discussion: The proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building.

The building would be designed consistent with the existing architecture of the area. All outdoor lights, if used, would be shielded to prevent upward radiation to limit light emissions to protect night-sky resources.

*OBJECTIVE: Reduce impacts of development projects and public-utility improvements on scenic resources.*

*POLICIES:*

a. *Enforce the policies and guidelines of the SMA regarding the protection of views.*
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.*
c. *Require appropriate building setbacks and limits on wall heights to protect views along scenic corridors.*

Discussion: The issuance of a lease by DOBOR would not be considered "Development" as per the SMA Rules (HAR Chapter 205A).

The proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building.

***Natural Hazards***

*GOAL: Maui will be disaster resilient.*

*OBJECTIVE: Greater protection of life and property.*

*POLICIES:*

c. *Strengthen current development standards to minimize destruction of land and property.*
d. *Encourage the use of construction techniques that reduce the potential for damage from natural hazards.*

Discussion: Station Maui would be designed to meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version. Therefore, there would be beneficial impacts associated with natural hazards.

### 4.3.3. Maui County Zoning

As shown in **Figure 25** the Proposed Action is located within the M-1 Light Industrial District. Permitted uses within the M-1 Light Industrial District include the following:

- Any use permitted in a Business District,
- Harbor facilities,
- Machine/metal shop,

- Radio transmitting stations,
- Small boat building, and
- Storage and warehouses.

### 4.3.4. County of Maui Special Management Area

Pursuant to the Hawai'i CZM Program, HRS Chapter 205A, the counties have enacted ordinances establishing Special Management Areas (SMA). The County of Maui's SMA rules are provided in Chapter 202, Special Management Area Rules for the Maui Planning Commission. Any "development" within the geographically defined SMA with a construction cost of greater than $500,000 requires an SMA Assessment Major Permit. The permit is processed by the County's Planning Department, requires a public hearing, and must be approved by the Maui Planning Commission. Proposed developments are evaluated for consistency with the CZM objectives and policies, as discussed in **Section 4.2.3**.

Discussion: As shown in **Figure 26**, the project site is located wholly within the Special Management Area (SMA). The issuance of a lease by DOBOR would not be considered "Development" as per the SMA Rules (HAR Chapter 205A) and would not require the issuance of an SMA permit. Construction and operation of Station Maui would not require an SMA permit as Federal agencies have preeminence and do not comply with State and local plans and policies. However, the Coast Guard would ensure consistency with the CZM objectives and policies, as discussed in **Section 4.2.3**.

***Figure 25. Maui County Zoning***

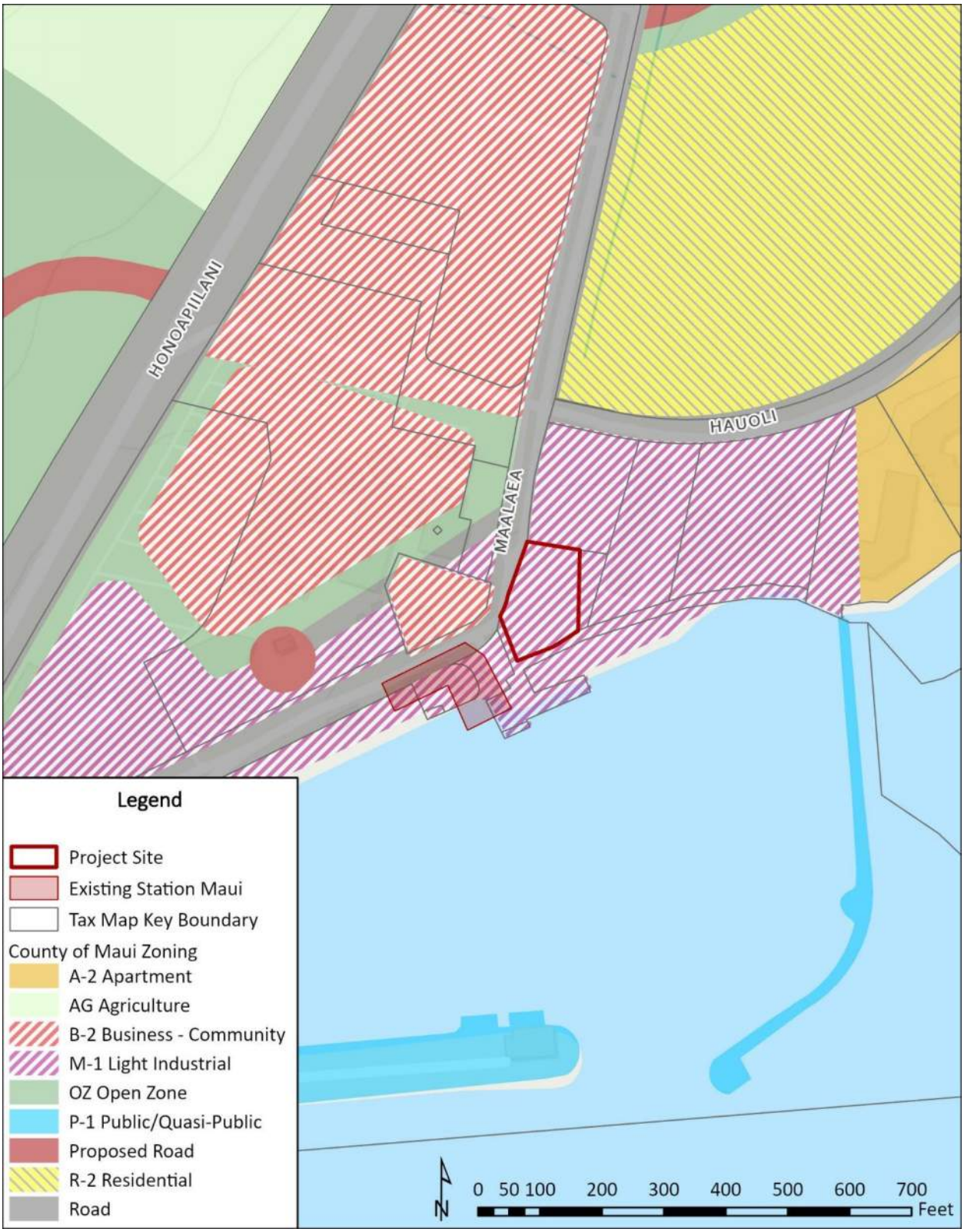


***Figure 26. Special Management Area***

# 5. Agency Roles and Decisions to be Made

## 5.1. U.S. Coast Guard (NEPA)

The Coast Guard has prepared this Draft Environmental Assessment in compliance with NEPA. Upon completion of the public comment period, the Coast Guard shall make a determination of whether the Proposed Action would have significant impacts on the environment. If it is determined that the Proposed Action would not have significant impacts, the Coast Guard shall issue a FONSI. A FONSI is a document that presents the reasons why the Federal agency has concluded that there are no significant environmental impacts projected to occur upon implementation of the Proposed Action.

## 5.2. State of Hawaii Department of Land and Natural Resources (HRS Chapter 343)

Decisions to be made by State agencies related to this Environmental Assessment would be made by the State DLNR's Board of Land and Natural Resources. Under HRS Chapter 343, the agency with the greatest responsibility for approving the action as a whole is the approving agency. The State-owned land is under the management of the DLNR's DOBOR; thus, DLNR would be the approving agency for the State. Under HAR Section 11-200.1-22, the approving agency shall issue a determination within 30 days of receiving the Final Environmental Assessment. If the approving agency determines that the Proposed Action is not likely to have a significant effect, it shall issue a notice of a FONSI. If the approving agency determines that the Proposed Action may have a significant effect, it shall issue an Environmental Impact Statement Preparation Notice (EISPN). The approving agency shall send the notice of determination for a FONSI or EISPN to the applicant (i.e., Coast Guard).

### 5.2.1. Significance Criteria

HAR Chapter 11-200.1 provides significance criteria for which all projects in Hawaii are assessed. These significance criteria and their relationship to the Proposed Action are as follows:

*(1) Irrevocably commit a natural, cultural, or historic resource.*

Although the project site is currently a dirt lot that provides minimal habitat, construction of the Proposed Action may temporarily displace any present fauna species that live or transit through the space. Construction would be short-term and temporary and fauna species are expected to be able to find suitable foraging habitat nearby. Upon completion of construction, the primary potential impact that the Proposed Action poses is to Hawaiian seabirds that may become disoriented by new exterior lighting. To minimize potential impacts to Hawaiian seabirds, minimization and mitigation measures would be implemented, as described in **Section 3.5.3**.

Construction of the Proposed Action could have impacts to iwi kupuna if they are located on the project site. Construction activities may produce sediment from soil erosion during and after excavation. With the implementation of BMPs, impacts to water resources during the short-term construction period would be less than significant.

Long-term operation of the Proposed Action would not result in impacts to cultural resources or practices. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Mā'alaea Harbor where cultural practices take place.

*(2) Curtail the range of beneficial uses of the environment.*

There would be no change to the current or potential land use within the project area with implementation of the Proposed Action.

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

As discussed in **Chapter 4: Relationship to Land Use Plans and Policies**, the Proposed Action is consistent with State and County policies and goals as they pertain to the environment. BMPs would be implemented during construction to minimize impacts associated with ground-disturbance. In addition, resource specific measures would be implemented to minimize impacts associated with construction and operation of the Proposed Action.

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

Construction of the Proposed Action would result in direct, short-term, beneficial impacts to the local economy associated with the hiring of construction personnel, spending on materials, and local secondary spending associated with these increased activities during construction. Long-term operation of Station Maui would involve a new Station Maui and renovation of the existing building to accommodate MST Maui. The existing crew complement would increase from 20 personnel to 36 personnel. Impacts on local and regional socioeconomic indicators would be beneficial as the new and renovated facilities would be more efficient and would eliminate the need for repairs and renovations within aging facilities. There would be an increase in personnel that would increase revenue in the area. This new revenue would occur in local establishments such as stores, restaurants, and attractions.

Construction of the Proposed Action could have impacts to iwi kupuna if they are located on the project site. Construction activities may produce sediment from soil erosion during and after excavation. With the implementation of BMPs, impacts to water resources during the short-term construction period would be less than significant.

Long-term operation of the Proposed Action would not result in impacts to cultural resources or practices. Access to the Station Maui property would be restricted, but this would not restrict access to areas of Mā‘alaea Harbor where cultural practices take place.

*(5) Have a substantial adverse effect on public health.*

The Proposed Action would have some temporary, minor impacts on air, noise, and water quality during construction; however, these impacts would be minimized to the extent practicable by the employment of BMPs and compliance with permit conditions. The Proposed Action would not result in any post-construction or long-term effects on public health.

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

The Proposed Action would not result in changes in land use patterns, population density, or growth rate. Impacts on air, water, and other natural systems would be limited to the construction period. Therefore, secondary impacts are not expected.

*(7) Involve a substantial degradation of environmental quality.*

As discussed in **Chapter 3: Affected Environment, Potential Impacts, and Avoidance and Minimization Measures**, other than short-term construction impacts, the Proposed Action would not result in impacts that can be expected to degrade the environmental quality in the project area.

*(8) Is individually limited but cumulatively has a considerable effect upon the environment or involves a commitment for larger actions.*

No reasonably foreseeable future actions are known, and the Proposed Action would not have cumulative impacts, as discussed in **Section 3.15.2**. It is expected that future projects would undergo a cumulative impact assessment as part of their environmental documentation in compliance with NEPA and/or HRS Chapter 343. Upon issuance of the FONSI, the Coast Guard would apply for a lease for the DOBOR Southern Split site from DOBOR which would preclude development of the site until the Coast Guard constructs the new Station Maui facility.

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

Construction of the Proposed Action would have limited short-term impacts to the existing terrestrial fauna species that reside or forage within the project vicinity. During construction of the Proposed Action, there may be short-term and temporary impacts to the Hawaiian hoary bat and seabirds. These impacts would be minimized with implementation of the measures provided in **Section 3.5.3**.

Long-term operation of the Proposed Action is not expected to impact biological resources. The project site is located in a built environment and does not contain appropriate habitat for special-status species although Hawaiian seabirds may fly over the area. Outside lighting would be designed in accordance with seabird-friendly light styles to protect seabirds.

*(10)Have a substantial adverse effect on air and water quality or ambient noise levels.*

Construction of the Proposed Action would have short-term and temporary impacts to air quality from the generation of dust or particulate matter and exhaust fumes from vehicular travel to and from the project site and from equipment operations during construction activities. Construction activities would include grading and vehicle and equipment engine operations. Emissions would begin with mobilization, staging, and construction support activities and would fluctuate throughout the construction phase with emissions peaking during construction events. However, because levels of criteria pollutants in Hawai‘i are consistently below Federal and State AAQS, and because the prevailing trade winds rapidly carry pollutants offshore limiting the effect on receptors, increases in levels of criteria pollutants at the project site from construction activities are not expected to be significant. It is not anticipated that Federal or State AAQS would be exceeded during construction activities.

Operation of the Proposed Action would support existing and programmed operations as well as an associated increase of on-site personnel. As discussed in **Section 2.2**, the new Station Maui would accommodate 36 personnel. This increase in personnel is not expected to significantly increase emissions. In accordance with applicable laws and regulations, the Coast Guard would include design elements to improve resiliency and sustainability. The Coast Guard would conduct construction in accordance with *The Guiding Principles for Sustainable Federal Buildings and Associated Instructions* (Guiding Principles) (CEQ, 2020) or applicable guidance at the time of construction. The Guiding Principles provide agencies with a means to meet statutory provisions relating the high-performance sustainable buildings. The Guiding Principles ensure Federal buildings adhere to the following:

- Employ integrated design principles,
- Optimize energy performance,
- Protect and conserve water,
- Enhance the indoor environment,
- Reduce the environmental impact of materials, and
- Assess and consider building resilience.

All actions pursuant to the objectives of the Guiding Principles must be consistent with applicable laws and regulations and are subject to the availability of appropriations or other authorized funding.

The Proposed Action would increase the impervious surface of the project site. Stormwater runoff would continue to be generated from storm events that could result in sheetflow over impervious surfaces. Site grading would be designed to direct water away from impervious site features and provide positive drainage for the parking areas, walkways, and buildings. The site grading and drainage would follow the existing runoff patterns and would flow towards Māʻalaea Bay. Site drainage would be collected in grassed or asphalt swales and conveyed to the stormwater drainage pipes. The on-site drainage system would be designed for the 10-year recurrence interval with site grading to provide a safe overland flow route for storms exceeding the 10-year event. A drainage swale and grade change wall would be constructed along the north edge of the parking area to intercept runoff from the gravel parking area north of the project site. The surface runoff would be directed towards the western property limits and conveyed through the on-site system.

Construction activities may produce sediment from soil erosion during and after excavation. BMPs would be implemented during construction activities to minimize potential impacts to nearshore water resources.

Water quality treatment would be provided. Since on-site detention and infiltration are not feasible within the site, a flow-based water quality treatment system, including modular filtration units, is anticipated and was used as the initial design basis. The water quality treatment unit would be placed near the lowest point on the site and would connect to the existing 7-foot by 12-foot box culvert that is located west of the DOBOR Southern Split site.

Construction of the Proposed Action would temporarily increase the ambient noise level in the area. Noise from construction equipment would be similar to those used in most common construction activities and would be short-term and temporary.

Operation of the Proposed Action is not expected to significantly increase ambient noise levels. The proposed new facility has been sited to mitigate acoustical disturbances caused by the running equipment. Specifically, the uncovered Mechanical Enclosure, Generator Room, and Fuel Tank would be situated on the southwest corner of the building, which is the furthest location on site from the neighboring condo building.

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

A portion of the proposed site lies in Flood Zone VE. The proposed facility has been oriented on the site to remain outside of Flood Zone VE. The proposed site is also located within the tsunami evacuation zone.

Station Maui would be designed to meet hurricane, seismic, tsunami, and progressive collapse design as required. Specifically, the building would be designed using the latest version of the International Building Code to ensure it can withstand potential impacts from natural hazards. The existing facility interior alterations with minor exterior alterations as needed. The existing facilities would be upgraded per the 2021 Seismic Evaluation Report recommendations, or latest version. Therefore, there would be beneficial impacts associated with natural hazards.

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

The proposed new facility has been sited to conserve mountain views from the existing condominium building. Specifically, the proposed parking lot would be on the northern half of the site adjacent to the condominium building and the Station Maui facility would be constructed on the southern portion of the site. There would be no impacts to ocean views from the existing condominium building. The building would be designed consistent with the existing architecture of the area.

*(13)Requires substantial energy consumption or emit substantial greenhouse gases.*

In accordance with applicable laws and regulations, the Coast Guard would include design elements to improve resiliency and sustainability. The Coast Guard would conduct construction in accordance with the Guiding Principles or applicable guidance at the time of construction. The Guiding Principles provide agencies with a means to meet statutory provisions relating the high-performance sustainable buildings. The Guiding Principles ensure Federal buildings adhere to the following:

- Employ integrated design principles,
- Optimize energy performance,
- Protect and conserve water,
- Enhance the indoor environment,
- Reduce the environmental impact of materials, and
- Assess and consider building resilience.

All actions pursuant to the objectives of the Guiding Principles must be consistent with applicable laws and regulations and are subject to the availability of appropriations or other authorized funding.

### 5.2.2. Anticipated Finding of No Significant Impact

Based on the significance criteria set forth in HAR Chapter 11-200.1 and discussed in **Section 5.1**, it is anticipated that the Proposed Action would not have a significant effect on the environment and that a Finding of No Significant Impact (FONSI) would be filed with the State of Hawai‘i Office of Planning and Sustainable Development’s Environmental Review Program following the public comment period.

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# 6. Agency and Public Consultation

A pre-assessment consultation letter was provided to Federal, State, and Federal agencies as well as all landowners and businesses in the Mā‘alaea Harbor area. The pre-assessment consultation period began on May 26, 2023, and ended on June 26, 2023. A total of 23 comment letters were received. Copies of these letters and the responses are provided in **Appendix F**.

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# 7. List of Contributors

**Table 12** provides a list of those who contributed to the preparation of this EA.

***Table 12. List of Contributors***

| Organization | Name | Project Role |
|---|---|---|
| **U.S. Coast Guard** | Bryan Ellis | Contracting Officer's Representative and Planning |
| | Dean Amundson | Environmental Planning Program Manager |
| | LTDR Christopher Grabe | Planning and Real Property Chief |
| | Damion Dunlap | Planning |
| | Phillip Curran | TACOPS Product Line |
| | Beverly Freitas | Real Property Specialist |
| | David Brumley | Real Property |
| | Mark Marini | Environmental |
| | LCDR Jordan Bogden | Charrette Participant |
| | David McConky | Charrette Participant |
| | Susan Papuga | Charrette Participant |
| | CDR Jarod Toczko | Planner |
| | John Eastman | Security Manager |
| | LT Josh Dodson | Charrette Participant |
| | LT Vadim Ilin | Charrette Participant |
| | ITCS Lou Dato | Charrette Participant |
| | Diane Chong | Charrette Participant |
| | Russ Washington | Planning and Budgeting |
| | LT Ben Gonski | Charrette Participant |
| | LCDR Michael Davis | Charrette Participant |
| | Chief Carlo Patrizio | End Users Representative |
| | EPO Clayton Wendelgass | End Users Representative |
| **RMA Architects, Inc.** | Bryan Ginoza | Principal in Charge |
| | Laurie Chikazawa | Project Architect |
| | Ethan Rivera | Architectural Designer |
| **SSFM International, Inc.** | Jennifer Scheffel | Environmental Assessment |
| | Heather Bartlett | Environmental Assessment/Graphics |
| | Lulu Chun | Graphics |
| | Michael Packard | Traffic Impact Assessment |
| | Harrison Burke | Traffic Impact Assessment |
| | Robin Barnes | Civil Engineer |
| | Corey Matsuoka | Project Manager |
| **Kai Hawaii, Inc.** | Jonathan Murai | Structural Engineer |
| **InSynergy Engineering, Inc.** | Loui Bem | Fire Protection |
| | Robert Suster | Fire Protection |
| | Owen Crabtree | Mechanical Engineer |
| | Shaun Arakaki | Electrical/Telecommunications |
| **MNA Environmental** | Gordon Lewis | Environmental Engineer |

| Organization | Name | Project Role |
|---|---|---|
| | Myounghee Noh | Environmental Engineer |
| | Kyle Alcorn | Environmental Scientist |
| **ControlPoint Surveying, Inc.** | Chad Kodama | Topographic Surveyor |
| **Hirata & Associates, Inc.** | Barron Leu | Geotech Engineer |
| | Rick Yoshida | Geotech Engineer |
| **Nohopapa Hawai'i, LLC** | Rachel Hoerman, Ph.D. | Archaeological and Cultural |
| | Momi Wheeler | Archaeological and Cultural |
| | Kelley Uyeoka | Archaeological and Cultural |
| | Ka'id Naboa-Cordy | Māhele Land Records Translations |
| **J. Uno Associates** | Daniel Ing | Cost Estimating |

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# Appendix A
# Geotechnical Report

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# GEOTECHNICAL INVESTIGATION RECAPITALIZATION OF STATION FACILITIES AT STATION MAUI UNITED STATES COAST GUARD MAALEA HARBOR, MAUI, HAWAII CG SFRL PROJECT NO.: 417443

**for**

# RMA ARCHITECTS, INC.

**HIRATA & ASSOCIATES, INC.**
**W.O. 23-6851**
**July 28, 2023**

July 28, 2023
W.O. 23-6851

Hirata & Associates
Geotechnical Engineering
Hirata & Associates, Inc.
99-1433 Koaha Pl
Aiea, HI 96701
tel 808.486.0787
fax 808.486.0870

Mr. Herb Leong
RMA Architects, Inc.
1150 South King Street, 8th Floor
Honolulu, Hawaii 96814

Dear Mr. Leong:

Our report, "Geotechnical Investigation, Recapitalization of Station Facilities at Station Maui, United States Coast Guard, Maalaea Harbor, Maui, Hawaii, CG SFRL Project No.: 417443," dated July 28, 2023, our Work Order 23-6851 is enclosed. This investigation was conducted in general conformance with the scope of work presented in our proposal dated February 15, 2022.

Our borings primarily encountered reddish brown silty clay with gravel in a medium stiff to stiff condition, with isolated firm pockets, from depths of about a foot, extending to the maximum depths drilled. Laboratory tests indicated that the silty clay has a low expansion potential. The silty clay was overlain by surface fill consisting of approximately 1 foot of reddish brown clayey gravel in a medium dense to dense condition. Groundwater was encountered in our borings at depths ranging from about 10.5 to 11.2 feet below existing ground elevation. The depth to groundwater can be expected to vary with tidal fluctuations.

Conventional shallow foundations may be used for support of the proposed three-story building. However, due to the anticipated site grading and the variable condition of the underlying silty clay, and in order to provide more uniform support, we recommend that all foundations be underlain by a minimum 12 inches of imported granular structural fill. The following is a summary of our geotechnical recommendations. This summary is not intended to be a substitute for our report which includes more detailed explanations of our recommendations, as well as additional requirements.

- Allowable bearing value = 2,500 psf
- Coefficient of friction = 0.4
- Passive earth pressure = 300 pcf

We appreciate this opportunity to be of service. Should you have any questions concerning this report, please feel free to call on us.

Very truly yours,

HIRATA & ASSOCIATES, INC.

Jennifer H. Yamaguchi President

JHY:BCL

# TABLE OF CONTENTS

# APPENDICES

**APPENDIX A**



**APPENDIX B**

# GEOTECHNICAL INVESTIGATION
# RECAPITALIZATION OF STATION FACILITIES AT STATION MAUI UNITED STATES COAST GUARD MAALAEA HARBOR, HAWAII
# CG SFRL PROJECT NO.: 417443

## INTRODUCTION

This report presents the results of our geotechnical investigation performed for the proposed three-story Station Maui building at Maalaea Harbor, Maui, Hawaii. Our scope of services for this study included the following:

- A visual reconnaissance of the site to observe existing conditions which may affect the project. The general location of the project site is shown on the enclosed Location Map, Plate A2.1.

- A review of available in-house soils information pertinent to the site and the proposed project.

- Drilling and sampling four exploratory borings to depths of about 24.5 and 25.5 feet. A description of our field investigation is summarized on Plates A1.1 and A1.2. The approximate exploratory boring locations are shown on the enclosed Boring Location Plan, Plate A2.2, and the soils encountered in the borings are described on the Boring Logs, Plates A4.1 through A4.4.

- Drilling three test holes to depths of about 5 feet and performing falling head percolation tests in the test holes in general accordance with Department of Health guidelines. Percolation test results are presented on Department of Health Site Evaluation/Percolation Test Forms (Plates A5.1 through A5.3).

- Laboratory testing of selected soil samples. Testing procedures are presented in the Description of Laboratory Testing, Plates B1.1 and B1.2. Test results are presented in the Description of Laboratory testing, and on the Unified Soil Classification System chart (Plate A3.2), Boring Logs (Plates A4.1 through A4.4), Consolidation Test reports (Plates B2.1 and B2.2), Direct Shear Test reports (Plates B3.1 and B3.2), Modified Proctor Test Report (Plate B4.1), and CBR Test Report (Plate B5.1).

- Engineering analyses of the field and laboratory data.

- Preparation of this report presenting the results of our exploratory fieldwork and laboratory testing, and geotechnical recommendations for the design of foundations, seismic considerations, resistance to lateral pressures, concrete slabs-on-grade, flexible and rigid pavement, and site grading.

## PROJECT CONSIDERATIONS

Information regarding the proposed project was provided by your office.

The proposed project will consist of renovations to the one-story Station building and the construction of a new three-story Station Maui building. The proposed three-story Station Maui building will be located northeast of the existing Station building and will be of concrete and steel construction. The existing Station building has a footprint area of about 1,685 square feet, while the new three-story Station Maui building will have a footprint area of about 7,500 square feet. The project will also include a new on-grade parking lot on the north side of the new building. There will be two free standing retaining walls, a 17 feet long, 1.5 feet high wall on the southwest side of the building and a 115 feet long, 4 feet high wall on the southeast side of the building.

Finish floor elevation for the first floor of the proposed three-story Station building will be at +12. Building floors will be constructed with steel beams and girders with metal deck and concrete topping. Existing grade elevations in the footprint of the proposed three-story Station Maui building range from about +8.5 to +14.6. Therefore, site grading is expected to consist fills of up to 3.5 feet and cuts on the order of about 2.6 feet.

## SITE CONDITIONS

The proposed project site is located on the northeast side of Maalaea Harbor. The site is bordered on the north side by a public parking lot, on the east by a four-story apartment complex, on the west by Maalaea Road, and on the south by the North

Loading Dock. The existing Station Maui USCG building is located to the southwest of the site.

The proposed project site is currently vacant and is being used as a gravel parking lot. Total relief over the site is about 7 feet with elevations ranging from about +15 on the north side to about +8 on the south.

## SOIL CONDITIONS

Our borings encountered surface soil classified as reddish brown clayey gravel in a medium stiff to stiff condition, extending to a depth of about 1 foot. Underlying the clayey gravel was reddish brown silty clay with gravel, generally in a medium stiff to stiff condition with a few firm pockets, extending to the maximum depths drilled. Laboratory testing indicated that the silty clay has a low expansion potential.

Groundwater was encountered in all four borings at depths ranging from about 10.5 to 11.2 feet below existing ground elevation. The depth to groundwater can be expected to vary with tidal fluctuations.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our exploratory fieldwork and laboratory testing, it is our opinion that due to the anticipated site grading and the variable condition of the underlying silty clay, and in order to provide more uniform support, we recommend that conventional shallow foundations bearing on a minimum of 12 inches of imported granular structural fill may be used to support the proposed three-story Station Maui building.

### Foundations

Conventional shallow foundations such as spread footings, founded on a minimum of 12 inches of imported granular structural fill may be used to support the proposed three-story Station Maui building. Overexcavation of the onsite soils may be required for placement of the granular structural fill section. The imported granular structural fill should also extend laterally a minimum 12 inches beyond the edge of footings. The imported structural fill should conform to, and be placed in accordance with, recommendations presented in the *Site Grading* section of this report.

Foundations may be designed for an allowable bearing value of 2,500 pounds per square foot. The allowable bearing value is for the total of dead and frequently applied live loads and may be increased by one-third for short duration loading which includes the effects of wind and seismic forces.

Spread footings should be a minimum 16 inches in width. Foundations supporting the three-story structure, should be embedded a minimum 24 inches below finish adjacent grade. The bottom of footing excavations should be cleaned of loose material prior to placement of reinforcing steel and concrete.

In areas where imported granular structural fill is open to the environment, we recommend that the granular material be capped with a minimum 12 inches of low permeability soil, such as the onsite silty clay. The silty clay capping layer should

be compacted in lifts to a minimum 90 percent compaction as determined by ASTM D1557.

## Seismic Design

Based on the borings drilled as part of this study and our knowledge of the deep soil conditions in the area, the subsurface soils can be characterized as a stiff soil profile. Therefore, based on the 2018 International Building Code, Site Class D is recommended for this site.

## Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations, and by passive earth pressure acting on the buried portions of foundations.

A coefficient of friction of 0.4 may be used with the dead load forces for foundations bearing on the medium stiff to stiff silty clay. Passive earth pressure may be computed as an equivalent fluid having a density of 300 pounds per cubic foot with a maximum earth pressure of 3,000 pounds per square foot. Unless covered by pavement or concrete slabs, the upper 12 inches of soil should not be considered in computing lateral resistance.

## Retaining Walls

Retaining wall foundations should be embedded a minimum of 18 inches below finish adjacent grade and may be designed using recommendations in the *Foundations*, *Seismic Design*, and *Lateral Design* sections of this report.

For active earth pressure considerations, equivalent fluid pressures of 40 and 50 pounds per cubic foot may be used for level and sloping backfill conditions, respectively. An equivalent fluid pressure of 55 pounds per cubic foot may be used for restrained conditions. Weepholes or subdrains should be included in the design of all retaining structures.

To prevent the buildup of hydrostatic pressures, retaining structures should be well-drained. The standard of practice consists of placing a minimum 12-inch thick layer of free-draining gravel at the back of the wall. The gravel should extend from the base of the wall, around subdrains and/or weepholes, and up to within 12 inches of finish grade. Alternatively, prefabricated drainage geocomposites, such as Miradrain or J-drain, may be used in lieu of the free-draining gravel. As with the free-draining gravel, the drainage geocomposites should be placed at the back of the wall, be connected with the weepholes and/or subdrains (in accordance with manufacturer's specifications), and extend to within 12 inches of finish grade. For freestanding walls, the drainage system should be covered by at least 12 inches of low permeability soil, such as the onsite silty clay.

### Foundation Settlement

Structural loads were not available at the time of this report. The final building loads, when available, should be forwarded to our office for review.

### Slabs-on-Grade

Due to the site grading of the building footprint being both cut and fill, we recommend that slabs-on-grade be underlain by a minimum 12 inches of imported granular fill to provide more uniform support. The upper four inches should consist of the cushion of clean gravel with the remaining granular fill section consisting of imported granular structural fill. The gravel cushion should consist of clean gravel, such as #3 Fine (ASTM C33, Size No. 67), and protected by a vapor barrier placed over the cushion material.

The silty clay subgrade should be scarified to a minimum depth of six inches, moistened to about 2 percent above optimum moisture content, and compacted to a minimum 90 percent compaction as determined by ASTM D 1557. The overlying gravel cushion should be compacted to a level surface using a vibratory compactor.

Floor slabs subjected to equipment vibrations should be underlain by a minimum12 inches of imported granular structural fill with the upper 6 inches consisting of base course in lieu of the standard gravel cushion. A vapor barrier should be placed over the base material. The imported granular structural fill and base course should be compacted to a minimum 95 percent compaction as determined by ASTM D 1557.

Exterior slabs-on-grade and concrete walkways should be underlain by a minimum of 12 inches of imported granular structural fill with the upper 6 inches consisting of base course. The imported granular structural fill and base course should be compacted to a minimum 95 percent compaction as determined by ASTM D 1557.

## Pavement Design

We assume that the parking lot traffic will primarily consist of passenger vehicles, light trucks, periodic garbage trucks and occasional emergency vehicles, such as fire trucks or ambulances. Flexible pavement for the parking lot may be designed based on the following section:

| | |
|---|---|
| 3.0" | Asphaltic Concrete |
| 6.0" | Base Course (CBR = 85 minimum) |
| 9.0" | Total Thickness |

Rigid pavement may be designed based on the following section:

| | |
|---|---|
| 6.0" | Portland Cement Concrete |
| 6.0" | Base Course (CBR = 85 minimum) |
| 12.0" | Total Thickness |

The subgrade should be scarified to a depth of about 6 inches, moisture conditioned to about 2 percent above the optimum moisture content, and compacted to a minimum 95 percent compaction as determined by ASTM D 1557. The aggregate base course should be compacted in lifts to a minimum 95 percent compaction as determined by ASTM D 1557.

## Site Grading

**Site Preparation** - The project site should be cleared of all vegetation, demolition debris, and other deleterious material. Prior to fill placement, the exposed subgrade should be scarified to a minimum depth of 6 inches and moisture conditioned to about 2 percent above the optimum moisture content and compacted to a minimum 90 percent compaction as determined by ASTM D1557.

**Structural Excavations** - Based on our exploratory borings, excavations into the clayey gravel and silty clay can generally be accomplished using conventional excavating equipment.

Temporary cuts into the clayey gravel and silty clay should be stable at slope gradients of 1H:1V or flatter. However, it should be the Contractor's responsibility to conform to all OSHA safety standards for excavations.

**Onsite Fill Material** – The onsite clayey gravel and silty clay will be acceptable for reuse in compacted fills and backfills. Rock fragments larger than 3 inches in maximum dimension should be removed prior to reuse.

**Imported Fill Material** - Imported structural fill should be well-graded, non-expansive granular material. Specifications for imported granular structural fill should indicate a maximum particle size of 3 inches, and state that between 8 and 20 percent of soil by weight shall pass the #200 sieve. In addition, the plasticity index (P.I.) of that portion of the soil passing the #40 sieve shall not be greater than 10. Imported structural fill should have a CBR expansion value no greater than 1.0 percent and a minimum CBR value of 15 percent, when tested in accordance with ASTM D 1883.

**Compaction** – Cohesive soils, such as the onsite silty clay, should be placed in horizontal lifts restricted to 8 inches in loose thickness, and compacted to a minimum 90 percent compaction as determined by ASTM D 1557.

Granular fills and backfills should be placed in horizontal lifts restricted to 8 inches in loose thickness and compacted to a minimum 95 percent compaction as determined by ASTM D 1557.

Fill placed in areas which slope steeper than 5H:1V should be continually benched as the fill is brought up in lifts.

## ADDITIONAL SERVICES

We recommend that we perform a general review of the final design plans and specifications. This will allow us to verify that the foundation design and earthwork recommendations have been properly interpreted and implemented in the design plans and construction specifications.

For continuity, we recommend that we be retained during construction to (1) observe the bottom of foundation excavations prior to placement of structural fill, reinforcing steel and concrete, (2) observe structural fill and backfill placement and perform compaction testing, (3) review and/or perform laboratory testing on import borrow to determine its acceptability for use in compacted fills, (4) perform compaction testing on the pavement subgrade, as well as the base course material, and (5) provide geotechnical consultation as required.

Our services during construction will allow us to verify that our recommendations are properly interpreted and included in construction, and if necessary, to make modifications to those recommendations, thereby reducing construction delays in the event subsurface conditions differ from those anticipated.

## LIMITATIONS

The boring logs indicate the approximate subsurface soil conditions encountered only at those times and locations where our borings were made, and may not represent conditions at other times and locations.

This report was prepared specifically for RMA Architects, Inc. and their sub-consultants for design of the proposed three-story Station Maui building at Maalaea Harbor, Hawaii. The boring logs, laboratory and percolation test results, and recommendations presented in this report are for design purposes only, and are not intended for use in developing cost estimates by the contractor.

During construction, should subsurface conditions differ from those encountered in our borings, we should be advised immediately in order to re-evaluate our recommendations, and to revise or verify them in writing before proceeding with construction.

Our recommendations and conclusions are based upon the site materials observed, the preliminary design information made available, the data obtained from our site exploration, our engineering analyses, and our experience and engineering judgment. The conclusions and recommendations in this report are professional opinions which we have strived to develop in a manner consistent with that level of care, skill, and competence ordinarily exercised by members of the profession in good standing, currently practicing under similar conditions in the same locality. We will be responsible for those recommendations and conclusions, but will not be responsible for the interpretation by others of the information developed. No warranty is made regarding the services performed, either express or implied.

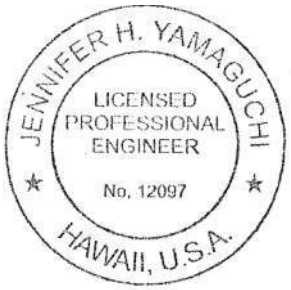
Respectfully submitted,

HIRATA & ASSOCIATES, INC.

Barron Leu, Project Engineer

Jennifer H. Yamaguchi, P.E.

JHY:BCL




This work was prepared by me or under my supervision.
Expiration Date of License:
April 30, 2024

# APPENDIX A

# FIELD INVESTIGATION

# DESCRIPTION OF FIELD INVESTIGATION

## GENERAL

The site was explored on June 6 and 7, 2023, by performing a visual reconnaissance of the site and drilling four exploratory borings to depths of about 24.5 and 25.5 feet using a Mobile B53 truck-mounted drill rig.

During drilling operations, the soils were continuously logged by our field engineer and classified by visual examination in accordance with the Unified Soil Classification System. The boring logs indicate the depths at which the soils or their characteristics change, although the change could actually be gradual. If the change occurred between sample locations, the depth was interpreted based on field observations. Classifications and sampling intervals are shown on the boring logs. A Boring Log Legend is presented on Plate A3.1. The Unified Soil Classification System is shown on Plate A3.2. The soils encountered are logged on Plates A4.1 through A4.4.

Borings were located in the field by measuring/taping offsets from existing site features shown on plans. The surface elevation of each boring was estimated based on the topographic survey map provided by ControlPoint Surveying, Inc. dated March 31, 2023. The accuracy of the boring locations shown on Plate A2.2, and the boring elevations shown on Plates A4.1 through A4.4 are therefore approximate, in accordance with the field methods used.

## SOIL SAMPLING

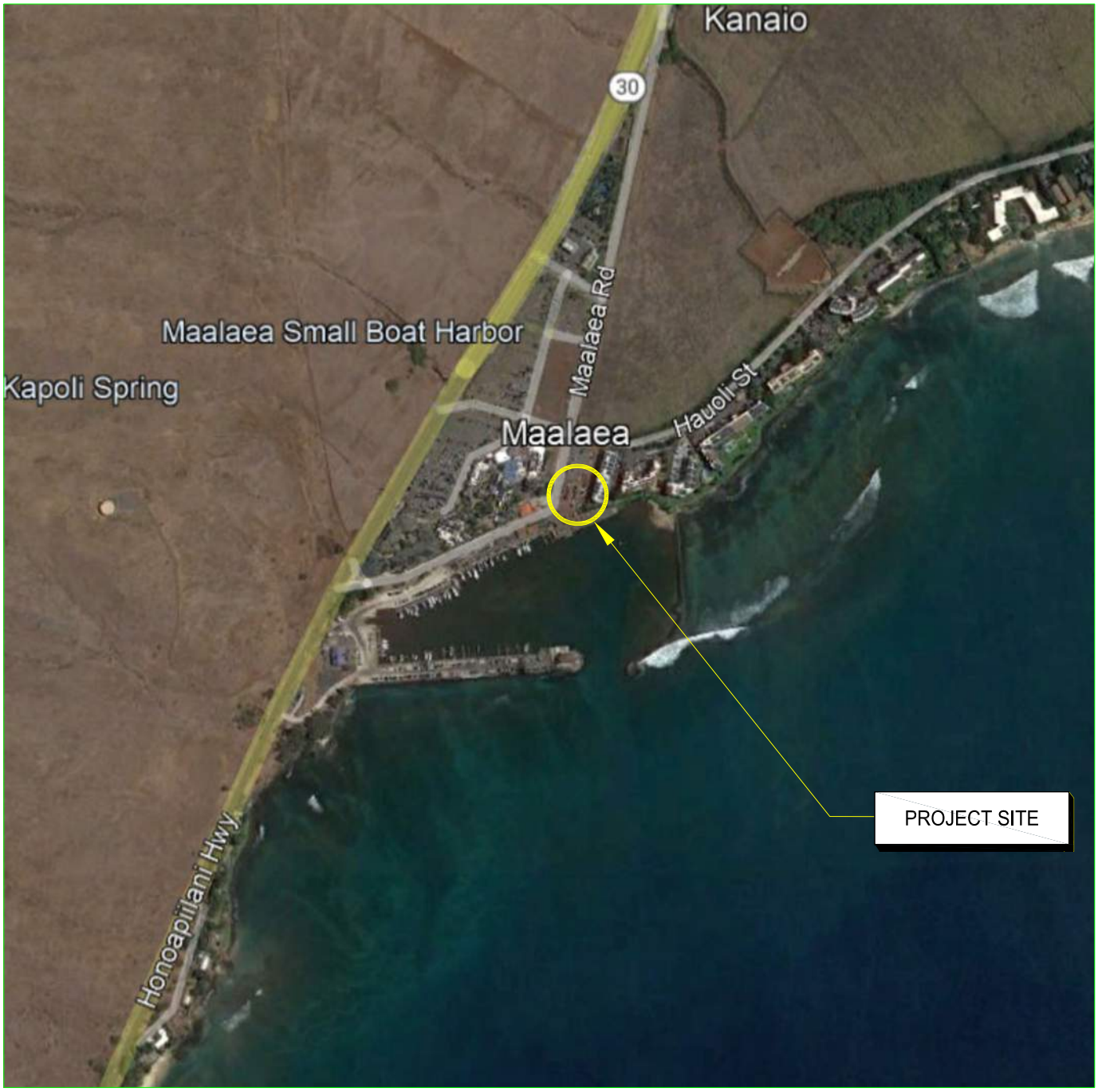
Representative samples were recovered from the borings for selected laboratory testing and analyses. Representative samples were recovered by driving a 3-inch O.D. split tube sampler a total of 18 inches with a 140-pound hammer dropped from a height of 30 inches. The number of blows required to drive the sampler the final 12 inches are recorded at the appropriate depths on the boring logs, unless noted otherwise. A bulk soil sample was recovered from near boring B2 at a depth of

about 1 to 4 feet below ground surface. The approximate location of B2 is shown on Plate A2.2.

## PERCOLATION TESTS

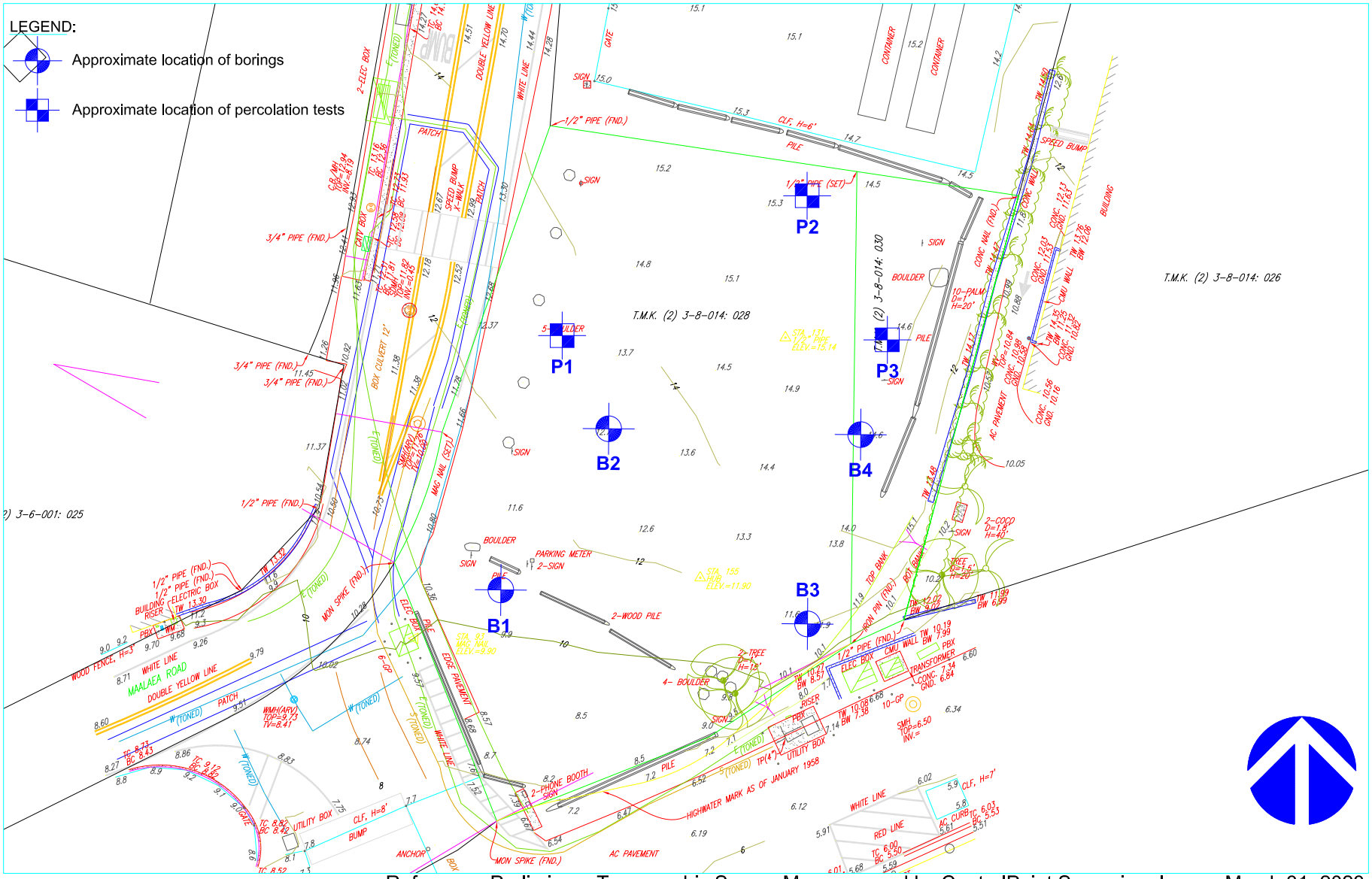
Three percolation test holes were drilled to depths of about 5 feet. Falling head percolation tests were performed in general accordance with Department of Health guidelines. The approximate test locations are shown on Plate A2.2, and test results are shown on Plates A5.1 through A5.3. The following table presents the results of our falling head percolation tests and the estimated infiltration rates. The infiltration rates were estimated using the Porchet Method. The Porchet Method takes into account the water level during the test.

| Test Hole | Depth (ft) | Percolation Rate (min./in.) | Infiltration Rate (in./hr.) |
|---|---|---|---|
| P1 | 5 | 53.3 | 0.13 |
| P2 | 5 | 32.0 | 0.20 |
| P3 | 5 | 80.0 | 0.08 |




Reference: Google Earth 2023

| | | | |
|---|---|---|---|
| | Recapitalization of Station Facilities at Station Maui United States Coast Guard | | |
| | HIRATA & ASSOCIATES, INC.<br>Geotechnical Engineering | **LOCATION MAP** | Plate<br>A2.1 |
| | W.O. 23-6851 | | |




Reference: Preliminary Topographic Survey Map prepared by ControlPoint Surveying, Inc. on March 31, 2023.

GRAPHIC SCALE:

0 20 40 80 FT.

1" = 40'

Recapitalization of Station Facilities at Station Maui United States Coast Guard

HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

W.O. 23-6851

# BORING LOCATION PLAN

Plate
A2.2

| MAJOR DIVISIONS | | | GROUP DIVISIONS | TYPICAL NAMES |
|---|---|---|---|---|
| COARSE GRAINED SOILS (More than 50% of the material is LARGER than No. 200 sieve size.) | GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size.) | CLEAN GRAVELS (Little or no fines.) | GW | Well graded gravels, gravel-sand mixtures, little or no fines. |
| | | | GP | Poorly graded gravels or gravel-sand mixtures, little or no fines. |
| | | GRAVELS WITH FINES (Appreciable amt. of fines.) | GM | Silty gravels, gravel-sand-silt mixtures. |
| | | | GC | Clayey gravels, gravel-sand-clay mixtures. |
| | SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size.) | CLEAN SANDS (Little or no fines.) | SW | Well graded sands, gravelly sands, little or no fines. |
| | | | SP | Poorly graded sands or gravelly sands, little or no fines. |
| | | SANDS WITH FINES (Appreciable amt. of fines.) | SM | Silty sands, sand-silt mixtures. |
| | | | SC | Clayey sands, sand-clay mixtures. |
| FINE GRAINED SOILS (More than 50% of the material is SMALLER than No. 200 sieve size.) | SILTS AND CLAYS (Liquid limit LESS than 50.) | | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity. |
| | | | CL | Inorganic clays of high plasticity, lean clays. |
| | | | OL | Organic silts and organic silty clays of low plasticity. |
| | SILTS AND CLAYS (Liquid limit GREATER than 50.) | | MH | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts. |
| | | | CH | Inorganic clays of high plasticity, fat clays. |
| | | | OH | Organic clays of medium to high plasticity, organic silts. |
| HIGHLY ORGANIC SOILS | | | PT | Peat and other highly organic silts. |
| FORMATIONS | | | | FRESH TO MODERATELY WEATHERED BASALT |
| | | | | VOLCANIC TUFF / HIGHLY TO COMPLETELY WEATHERED BASALT |
| | | | | CORAL |

**SAMPLE DEFINITION**

| | | |
|---|---|---|
| 2" O.D. Standard Split Spoon Sampler | Shelby Tube | RQD: Rock Quality Designation |
| 3" O.D. Split Tube Sampler | Core Sample | Water Table |

Recapitalization of Station Facilities at Station Maui United States Coast Guard

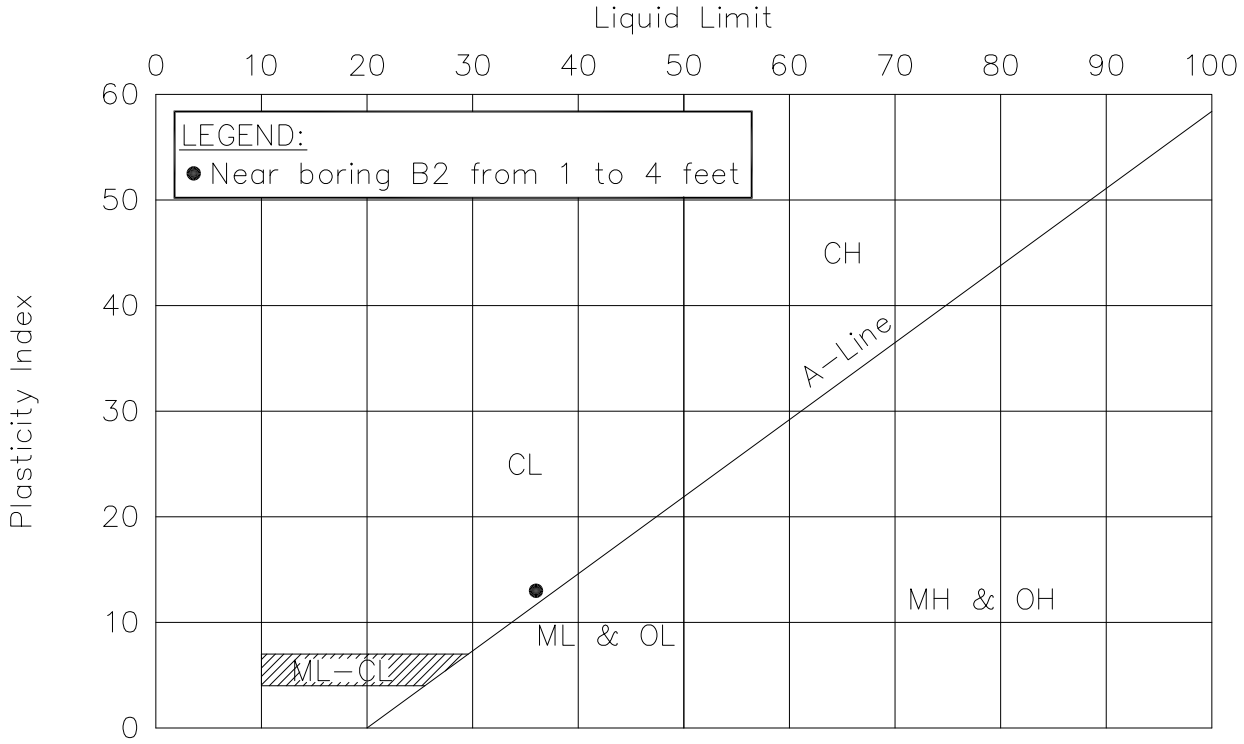
HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

W.O. 23-6851

# BORING LOG LEGEND

Plate A3.1

# PLASTICITY CHART




# GRADATION CHART

| COMPONENT DEFINITIONS BY GRADATION | |
|---|---|
| COMPONENT | SIZE RANGE |
| Boulders | Above 12 in. |
| Cobbles | 3 in. to 12 in. |
| Gravel<br>Coarse gravel<br>Fine gravel | 3 in. to No. 4 (4.76 mm)<br>3 in. to 3/4 in.<br>3/4 in. to No. 4 (4.76 mm) |
| Sand<br>Coarse sand<br>Medium sand<br>Fine sand | No. 4 (4.76 mm) to No. 200 (0.074 mm)<br>No. 4 (4.76 mm) to No. 10 (2.0 mm)<br>No. 10 (2.0 mm) to No. 40 (0.42 mm)<br>No. 40 (0.42 mm) to No. 200 (0.074 mm) |
| Silt and clay | Smaller than No. 200 (0.074 mm) |

Recapitalization of Station Facilities at Station Maui United States Coast Guard

Hirata & Associates, Inc.
Geotechnical Engineering

W.O. 23-6851

**UNIFIED SOIL CLASSIFICATION SYSTEM**

Plate A3.2

Hirata & Associates, Inc.
GEOTECHNICAL ENGINEERING

**Boring No.**
**B1**

# BORING LOG

PROJECT NAME Recapitalization of Station Facilities at Station Maui United States Coast Guard
WORK ORDER NO. 23-6851 DRIVING WT. 140 lb. START DATE 6/6/23
SURFACE ELEV. 10.5 ± * DROP 30 in. END DATE 6/7/23

| REMARKS/ SAMPLE NO. | CORE RECOVERY (%) | RQD (%) | BLOWS PER FOOT | DRY DENSITY (pcf) | MOISTURE CONTENT (%) | DEPTH (ft) | GRAPHIC LOG | SAMPLE | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Clayey GRAVEL (GC) - Reddish brown, moist, medium dense. |
| | | | 9 | 88 | 19 | | | | Silty CLAY (CL) - Reddish brown, moist, firm, with gravel. |
| | | | 23 | 97 | 27 | | | | Stiff from 3 feet. |
| | | | 21 | 99 | 24 | 5 | | | |
| | | | 22 | 79 | 40 | 10 | | | |
| | | | 36 | 91 | 35 | 15 | | | |
| | | | 80 | 94 | 28 | 20 | | | With weathered basalt fragments at 19.5 feet. |
| | | | 25 | 73 | 42 | 25 | | | |
| | | | | | | 30 | | | End boring at 25.5 feet. |
| | | | | | | | | | Groundwater encountered at 11.2 feet at 10:32 am on June 7, 2023. |
| | | | | | | 35 | | | *Elevations based on Preliminary Topographic Survey Map prepared by ControlPoint Surveying, Inc. on March 31, 2023. |

Plate A4.1

Hirata & Associates, Inc.
GEOTECHNICAL ENGINEERING

**Boring No.**
**B2**

# BORING LOG

PROJECT NAME Recapitalization of Station Facilities at Station Maui United States Coast Guard
WORK ORDER NO. 23-6851 DRIVING WT. 140 lb. START DATE 6/7/23
SURFACE ELEV. 12.7 ± DROP 30 in. END DATE 6/7/23

| REMARKS/ SAMPLE NO. | CORE RECOVERY (%) | RQD (%) | BLOWS PER FOOT | DRY DENSITY (pcf) | MOISTURE CONTENT (%) | DEPTH (ft) | GRAPHIC LOG | SAMPLE | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | | Clayey GRAVEL (GC) - Reddish brown, moist, medium dense. |
| | | | 12 | 75 | 31 | | | | Silty CLAY (CL) - Reddish brown, moist, medium stiff, with gravel. |
| | | | 23 | 95 | 28 | 5 | | | |
| | | | 24 | 95 | 31 | 10 | | | |
| | | | 25 | 80 | 40 | 15 | | | |
| | | | 9 | 54 | 39 | 20 | | | Firm from 18 feet. |
| | | | 26 | 81 | 41 | | | | Stiff from 23 feet. |
| | | | | | | 25 | | | End boring at 24.5 feet. |
| | | | | | | | | | Groundwater encountered at 10.5 feet at 8:26 am on June 7, 2023. |
| | | | | | | 30 | | | |
| | | | | | | 35 | | | |

Plate A4.2

Hirata & Associates, Inc.
GEOTECHNICAL ENGINEERING

**Boring No.**
# B3

## BORING LOG

PROJECT NAME Recapitalization of Station Facilities at Station Maui United States Coast Guard
WORK ORDER NO. 23-6851 DRIVING WT. 140 lb. START DATE 6/7/23
SURFACE ELEV. 11.8 ± DROP 30 in. END DATE 6/7/23

| REMARKS/ SAMPLE NO. | CORE RECOVERY (%) | RQD (%) | BLOWS PER FOOT | DRY DENSITY (pcf) | MOISTURE CONTENT (%) | DEPTH (ft) | GRAPHIC LOG | SAMPLE | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | | Clayey GRAVEL (GC) - Reddish brown, moist, medium dense. |
| | | | 33 | 94 | 26 | | | | Silty CLAY (CL) - Reddish brown, moist, stiff, with gravel. |
| | | | 16 | 91 | 31 | 5 | | | Medium stiff from 4 feet. |
| | | | 20 | 92 | 29 | | | | Stiff from 8 feet. |
| | | | | | | 10 ▼ | | | |
| | | | 18 | 73 | 39 | | | | Medium stiff from 13 feet. |
| | | | | | | 15 | | | |
| | | | 18 | 85 | 42 | | | | |
| | | | | | | 20 | | | |
| | | | 30 | 85 | 40 | | | | Stiff from 23 feet. |
| | | | | | | 25 | | | End boring at 24.5 feet. |
| | | | | | | | | | Groundwater encountered at 10.9 feet at 12:30 pm on June 7, 2023. |
| | | | | | | 30 | | | |
| | | | | | | 35 | | | |

Plate A4.3

Hirata & Associates, Inc.
GEOTECHNICAL ENGINEERING

**Boring No.**
**B4**

# BORING LOG

PROJECT NAME Recapitalization of Station Facilities at Station Maui United States Coast Guard
WORK ORDER NO. 23-6851 DRIVING WT. 140 lb. START DATE 6/7/23
SURFACE ELEV. 14.5 ± DROP 30 in. END DATE 6/7/23

| REMARKS/ SAMPLE NO. | CORE RECOVERY (%) | RQD (%) | BLOWS PER FOOT | DRY DENSITY (pcf) | MOISTURE CONTENT (%) | DEPTH (ft) | GRAPHIC LOG | SAMPLE | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Clayey GRAVEL (GC) - Reddish brown, moist, dense. |
| | | | 27 | 88 | 25 | | | | Silty CLAY (CL) - Reddish brown, moist, stiff. |
| | | | 30 | 95 | 25 | | | | |
| | | | 14 | 91 | 29 | 5 | | | Medium stiff from 5 feet. |
| | | | 24 | 99 | 24 | 10 | | | Stiff from 9 feet. |
| | | | 20 | 78 | 43 | 15 | | | |
| | | | 20 | 99 | 26 | 20 | | | |
| | | | 23 | 90 | 38 | 25 | | | |
| | | | | | | | | | End boring at 25.5 feet. |
| | | | | | | | | | Groundwater encountered at 10.9 feet at 2:37 pm on June 7, 2023. |
| | | | | | | 30 | | | |
| | | | | | | 35 | | | |

Plate A4.4

## SITE EVALUATION/PERCOLATION TEST

| | |
|---|---|
| Date/Time: | June 7, 2023 / 8:48 am |
| Test performed by: | Hirata & Associates, Inc. |
| Owner: | USCG |
| Tax Map Key: | TMK 2-3-8-014: 028 & 030 |
| Test Number: | P1 |

Elevation: +13.1 ft.
Depth to Groundwater Table: 10.5 ft. below grade (based on nearby boring B2)
Depth to Bedrock (if observed): >24.5 ft. below grade (based on nearby boring B2)
Diameter of Hole: 4 in.
Depth to Hole Bottom: 5 ft. below grade

| **Depth** (inches) | **Soil Profile** (Color, texture, other) |
|---|---|
| 0-10 | Reddish brown clayey gravel |
| 10-60 | Reddish brown silty clay with gravel |
| | |

## PERCOLATION READINGS

Time 12 inches of water to seep away: >30 min.
Time 12 inches of water to seep away: >30 min.

_____ For percolation tests in sandy soils, record time intervals and water drops every 10 minutes for at least 1 hour.

__✓__ For percolation tests in non-sandy soils, presoak the test hole for at least 4 hours. Record time intervals and water drops at least every 10 minutes for 1 hour; or if the time for the first 6 inches to seep away is greater than 30 minutes, record time intervals and water drops at least every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

| Time interval | Drop in inches | Time interval | Drop in inches |
|---|---|---|---|
| 30 min. | 15/16 | 30 min. | 9/16 |
| 30 min. | 5/8 | 30 min. | 9/16 |
| 30 min. | 5/8 | | |
| 30 min.* | 9/16 | | |
| 30 min. | 1/2 | | |
| 30 min. | 5/8 | | |

Percolation Rate (time/final water level drop): 53.3 min/in

* Added water to test hole.

As the engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results were acceptable.

Engineer's Signature/Stamp

Plate A5.1

## SITE EVALUATION/PERCOLATION TEST

| | |
|---|---|
| Date/Time: | June 7, 2023 / 8:52 am |
| Test performed by: | Hirata & Associates, Inc. |
| Owner: | USCG |
| Tax Map Key: | TMK 2-3-8-014: 028 & 030 |
| Test Number: | P2 |

Elevation: +15.0 ft.
Depth to Groundwater Table: 10.9 ft. below grade (based on nearby boring B4)
Depth to Bedrock (if observed): >25.5 ft. below grade (based on nearby boring B4)
Diameter of Hole: 4 in.
Depth to Hole Bottom: 5 ft. below grade

| **Depth** (inches) | **Soil Profile** (Color, texture, other) |
|---|---|
| 0-10 | Reddish brown clayey gravel |
| 10-60 | Reddish brown silty clay with gravel |
| | |

## PERCOLATION READINGS

Time 12 inches of water to seep away: >30 min.
Time 12 inches of water to seep away: >30 min.

_____ For percolation tests in sandy soils, record time intervals and water drops every 10 minutes for at least 1 hour.

__✓__ For percolation tests in non-sandy soils, presoak the test hole for at least 4 hours. Record time intervals and water drops at least every 10 minutes for 1 hour; or if the time for the first 6 inches to seep away is greater than 30 minutes, record time intervals and water drops at least every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

| Time interval | Drop in inches | Time interval | Drop in inches |
|---|---|---|---|
| 30 min. | 1-3/16 | 30 min.* | 7/8 |
| 30 min. | 13/16 | 30 min. | 15/16 |
| 30 min. | 5/16 | | |
| 30 min.* | 13/16 | | |
| 30 min. | 15/16 | | |
| 30 min. | 7/8 | | |

Percolation Rate (time/final water level drop): 32.0 min/in

* Added water to test hole.

As the engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results were acceptable.

Engineer's Signature/Stamp

## SITE EVALUATION/PERCOLATION TEST

| | |
|---|---|
| Date/Time: | June 7, 2023 / 9:10 am |
| Test performed by: | Hirata & Associates, Inc. |
| Owner: | USCG |
| Tax Map Key: | TMK 2-3-8-014: 028 & 030 |
| Test Number: | P3 |

Elevation: +14.6 ft.
Depth to Groundwater Table: 10.5 ft. below grade (based on boring B4)
Depth to Bedrock (if observed): >25.5 ft. below grade (based on boring B4)
Diameter of Hole: 4 in.
Depth to Hole Bottom: 5 ft. below grade

| **Depth** (inches) | **Soil Profile** (Color, texture, other) |
|---|---|
| 0-8 | Reddish brown clayey gravel |
| 8-60 | Reddish brown silty clay with gravel |
| | |

## PERCOLATION READINGS

Time 12 inches of water to seep away: >30 min.
Time 12 inches of water to seep away: >30 min.

____ For percolation tests in sandy soils, record time intervals and water drops every 10 minutes for at least 1 hour.

__✓__ For percolation tests in non-sandy soils, presoak the test hole for at least 4 hours. Record time intervals and water drops at least every 10 minutes for 1 hour; or if the time for the first 6 inches to seep away is greater than 30 minutes, record time intervals and water drops at least every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

| Time interval | Drop in inches | Time interval | Drop in inches |
|---|---|---|---|
| 30 min. | 1/2 | 30 min. | 7/16 |
| 30 min. | 3/8 | 30 min. | 3/8 |
| 30 min. | 7/16 | | |
| 30 min. | 7/16 | | |
| 30 min. | 1/2 | | |
| 30 min.* | 7/16 | | |

Percolation Rate (time/final water level drop): 80.0 min/in

* Added water to test hole.

As the engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results were acceptable.

Engineer's Signature/Stamp

# APPENDIX B

# LABORATORY TESTING

# DESCRIPTION OF LABORATORY TESTING

## CLASSIFICATION

Field classification was verified in the laboratory in accordance with the Unified Soil Classification System. Laboratory classification was determined by both visual examination and Atterberg Limit tests performed in general accordance with ASTM D 4318. Results of Atterberg Limit tests are plotted on Plate A3.2. The final classifications are shown at the appropriate locations on the Boring Logs, Plates A4.1 through A4.4.

## MOISTURE-DENSITY

Representative samples were tested for field moisture content and dry unit weight. The dry unit weight was determined in pounds per cubic foot while the moisture content was determined as a percentage of dry weight. Samples were obtained using a 3-inch O.D. split tube sampler. Test results are shown at the appropriate depths on the Boring Logs, Plates A4.1 through A4.4.

## SWELL TEST

Swell tests were performed on representative and air-dried samples by placing a 90 psf surcharge load on one-inch high specimens. The air-dried sample was allowed to dry overnight prior to testing. The samples were inundated with water, and total expansion recorded after a period of at least 24 hours. Test results were recorded as a percentage of original height and are summarized in the following table:

| Sample | Sample Type | Recorded Expansion | Moisture Content Prior to Test |
|---|---|---|---|
| B1 @ 3’ | Representative | 0.1% | 26.7% |
| B1 @ 3’ | Air-dried | 2.2% | 19.9% |

## CONSOLIDATION

Selected representative samples were tested for their consolidation characteristics. Test samples were 2.42 inches in diameter and 1 inch high. Porous stones were

placed in contact with the top and bottom of test samples to permit addition and release of pore fluid. Loads were then applied in several increments in a geometric progression, and the resulting deformations recorded at selected time intervals. Test results are plotted on the Consolidation Test Reports, Plates B2.1 and B2.2.

## SHEAR TEST

Shear tests were performed in the Direct Shear Machine which is of the strain control type. Each sample was sheared under varying confining loads in order to determine the Coulomb shear strength parameters, cohesion and angle of internal friction. Test results are presented on Plates B3.1 and B3.2.

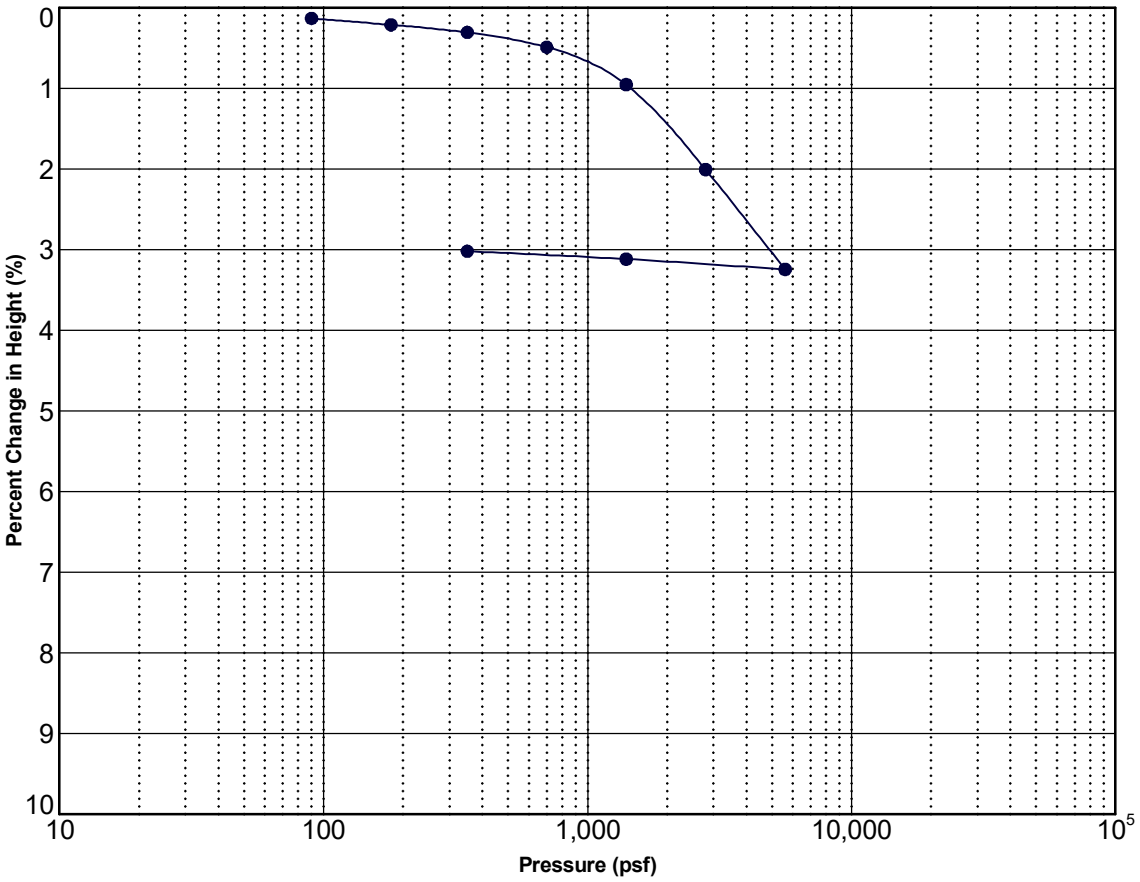
## MODIFIED PROCTOR TEST

A Modified Proctor test was performed in general accordance with ASTM D 1557 on a bulk sample obtained from near boring B2 at depths of between 1 and 4 feet. The test is used to determine the optimum moisture content at which the soil compacts to 100 percent dry density. Results are shown on Plate B4.1.

## CALIFORNIA BEARING RATIO TEST

A CBR test was performed on a bulk sample obtained from near boring B1 at depths of between 1 and 4 feet, in general accordance with ASTM D 1883. The test is used to evaluate the relative quality of subgrade soils to be used in the design of flexible pavements. Results are shown on Plate B5.1.

# Consolidation Test Results




Sample Description

Boring No.: B1 Depth (ft): 9

Soil Description: Reddish brown silty clay with gravel

| | Moisture Content (%) | Dry Density (pcf) |
|---|---|---|
| Initial | 39.5 | 78.5 |
| Final | 35.4 | 81.0 |

Recapitalization of Station Facilities at Station Maui United States Coast Guard

HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

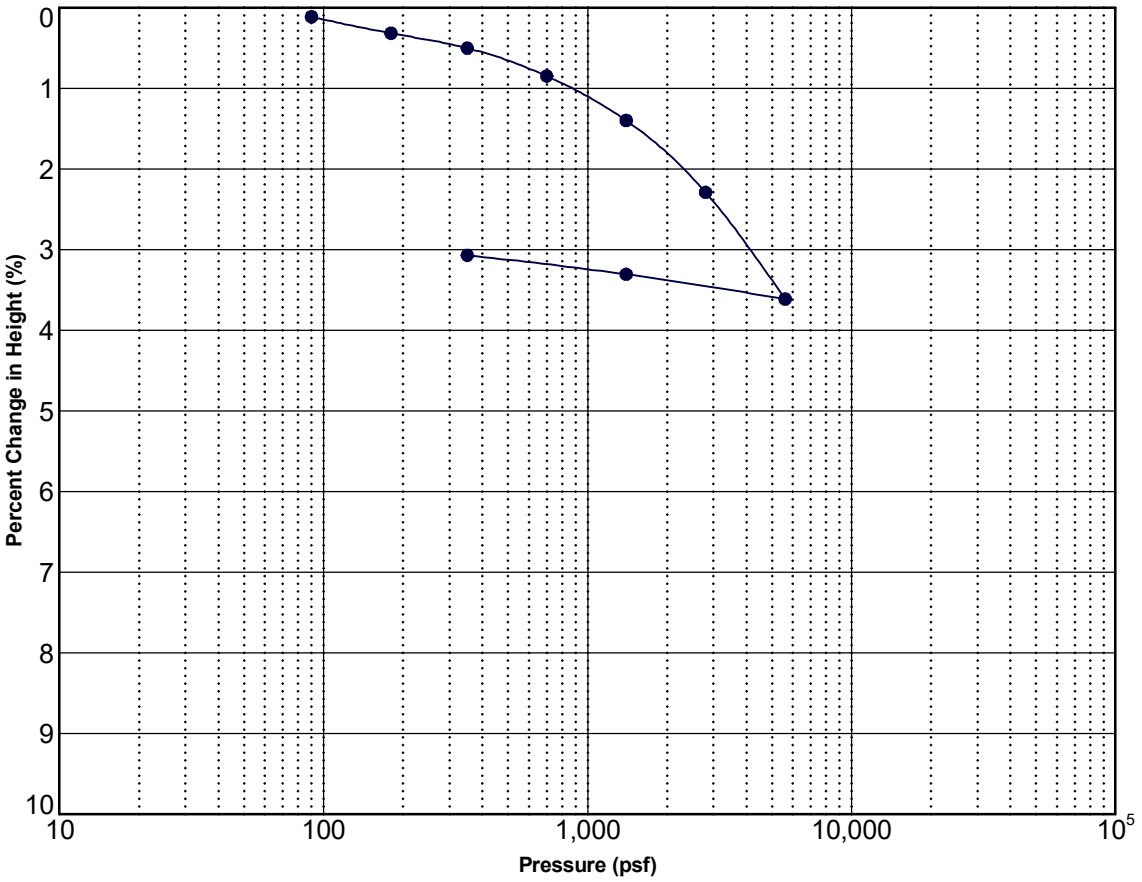
W.O. 23-6851

**CONSOLIDATION TEST**

*ASTM D2435 / D2435M - 11*

Plate B2.1

# Consolidation Test Results




Sample Description

Boring No.: B3 Depth (ft): 8

Soil Description: Reddish brown silty clay with gravel

| | Moisture Content (%) | Dry Density (pcf) |
|---|---|---|
| Initial | 29.2 | 91.8 |
| Final | 27.4 | 94.7 |

Recapitalization of Station Facilities at Station Maui United States Coast Guard

HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

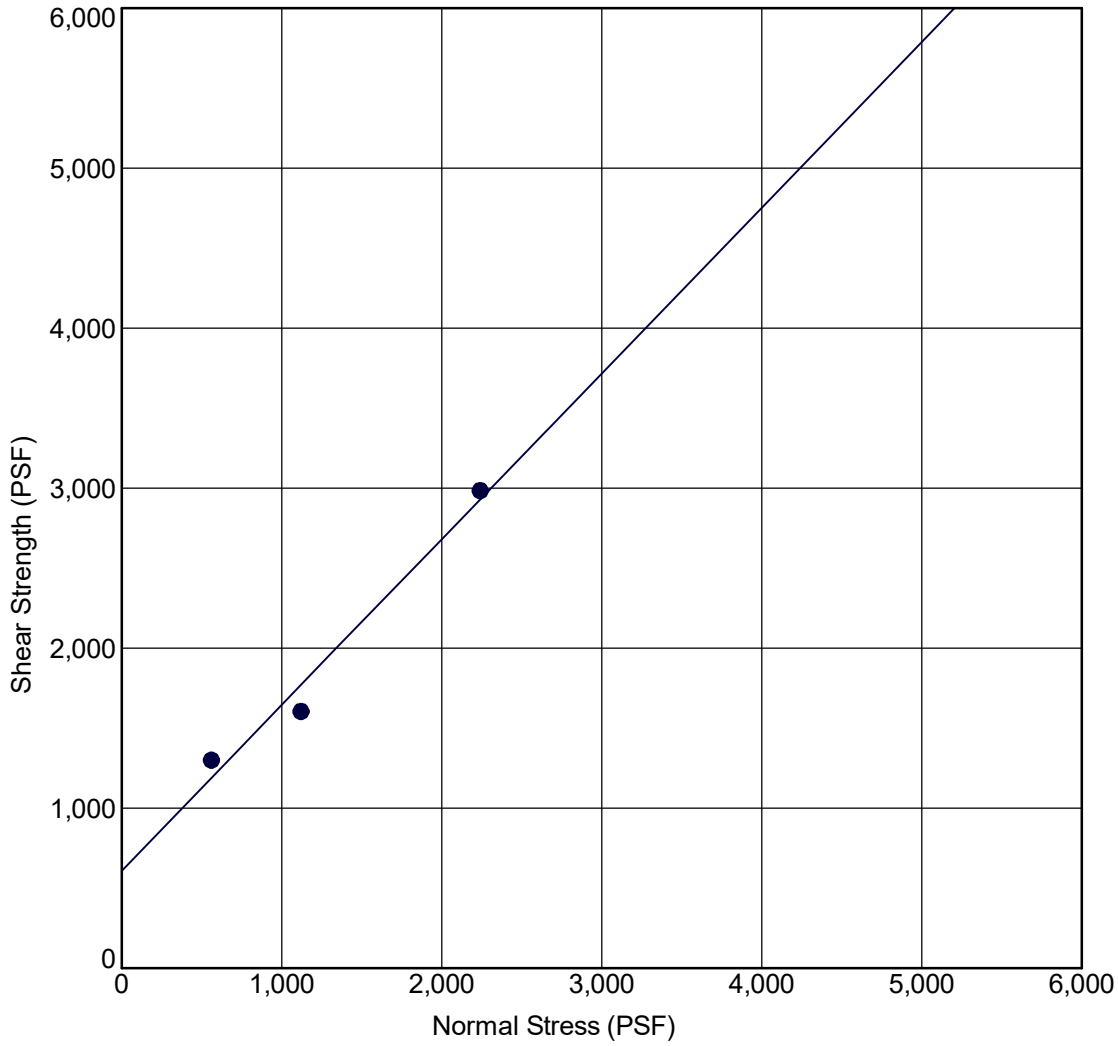
W.O. 23-6851

**CONSOLIDATION TEST**

*ASTM D2435 / D2435M - 11*

Plate B2.2

# Direct Shear Test Results




Soil Data

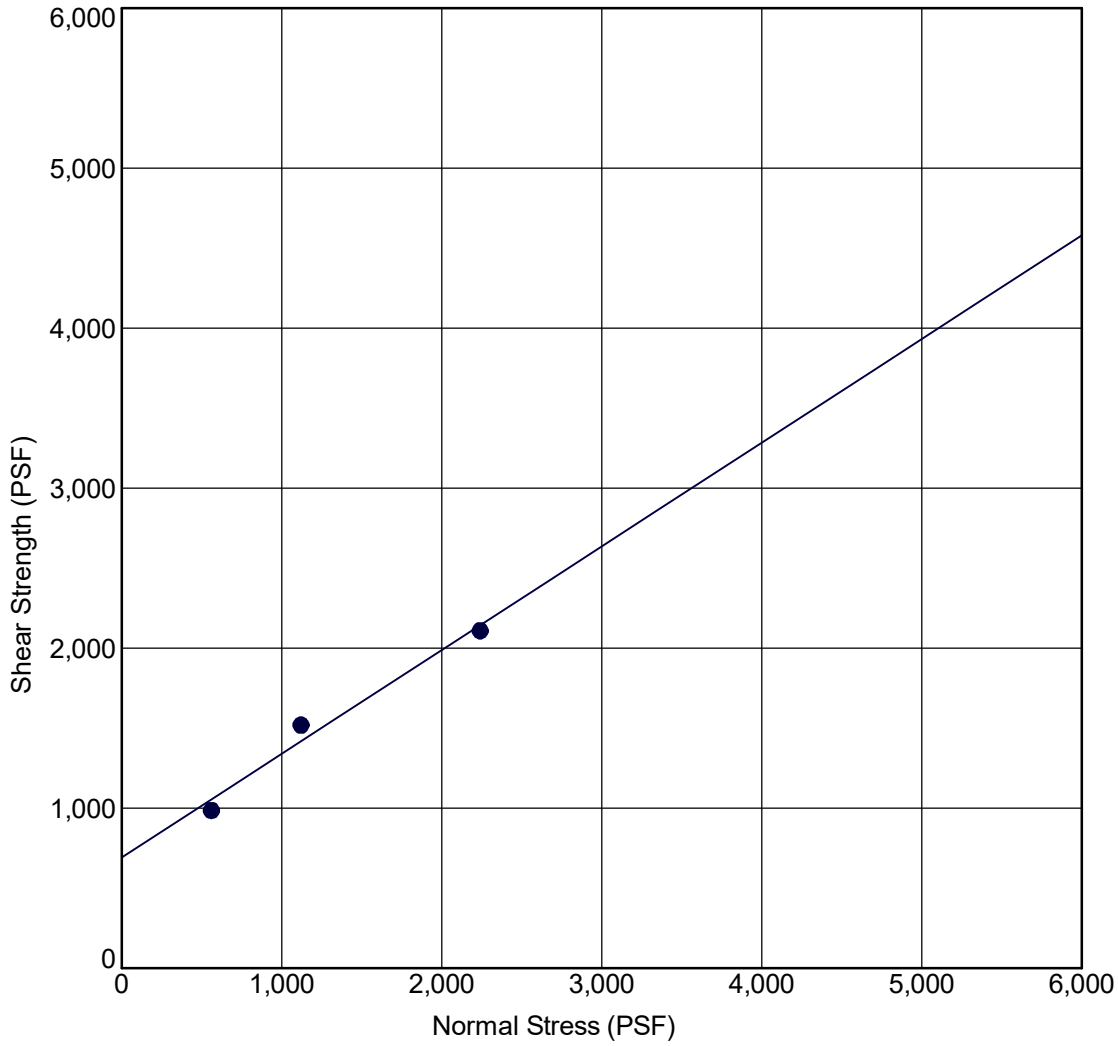
Boring No.: B1 Depth (ft): 5
Soil Description: Reddish brown silty clay with gravel

Test Results

Strength Intercept (c): 609.8 PSF (Peak Strength)
Friction Angle (phi): 46.0 DEG (Peak Strength)

| | | | |
|---|---|---|---|
| | Recapitalization of Station Facilities at Station Maui United States Coast Guard | | |
| | HIRATA & ASSOCIATES, INC.<br>Geotechnical Engineering | **DIRECT SHEAR TEST** | Plate<br>B3.1 |
| | W.O. 23-6851 | *ASTM D3080* | |

# Direct Shear Test Results



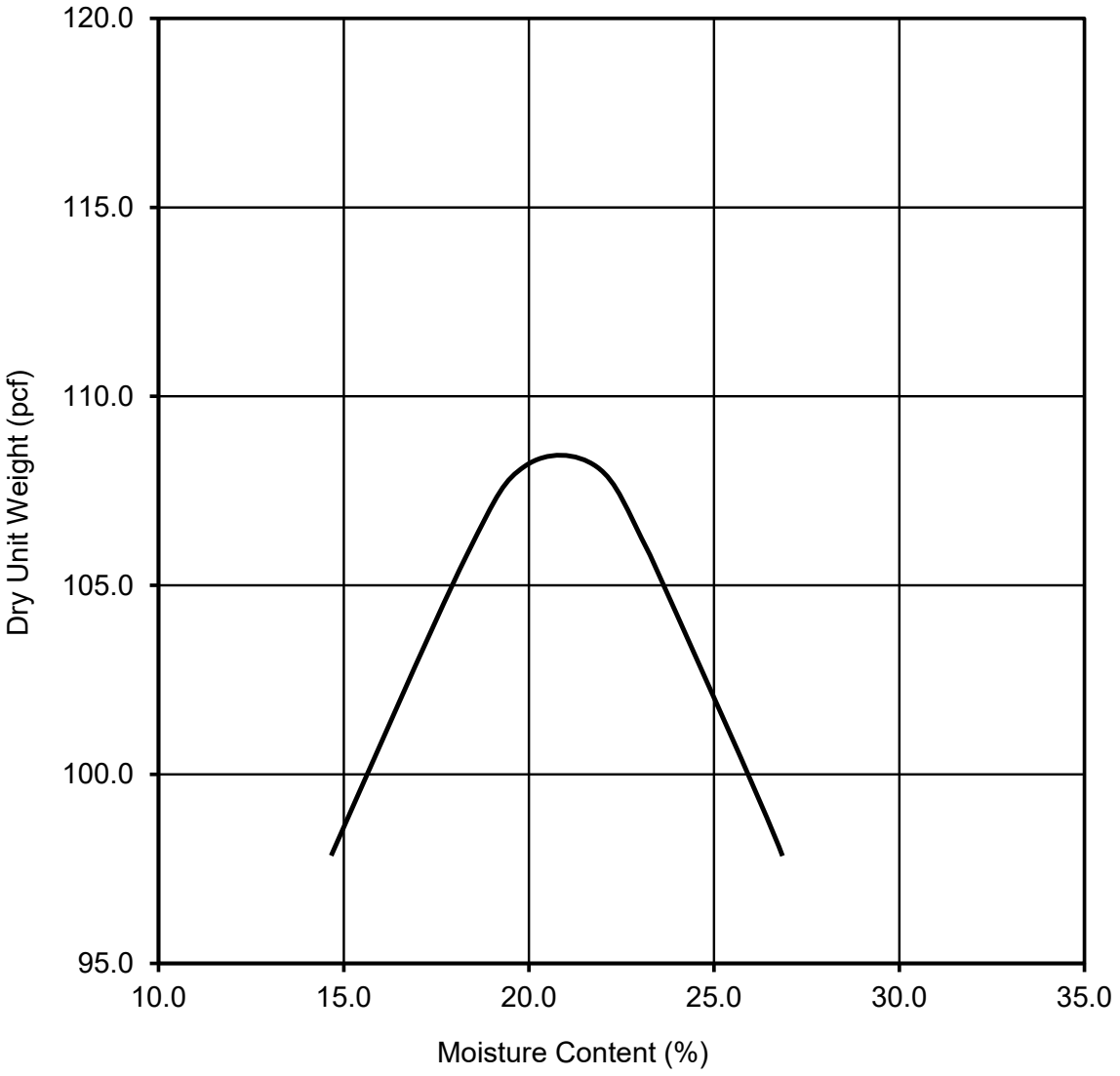

Soil Data

Boring No.: B4 Depth (ft): 5
Soil Description: Reddish brown silty clay

Test Results

Strength Intercept (c): 690.7 PSF (Peak Strength)
Friction Angle (phi): 33.0 DEG (Peak Strength)

| | | | |
|---|---|---|---|
| | Recapitalization of Station Facilities at Station Maui United States Coast Guard | | |
| | HIRATA & ASSOCIATES, INC.<br>Geotechnical Engineering | **DIRECT SHEAR TEST** | Plate<br>B3.2 |
| | W.O. 23-6851 | *ASTM D3080* | |



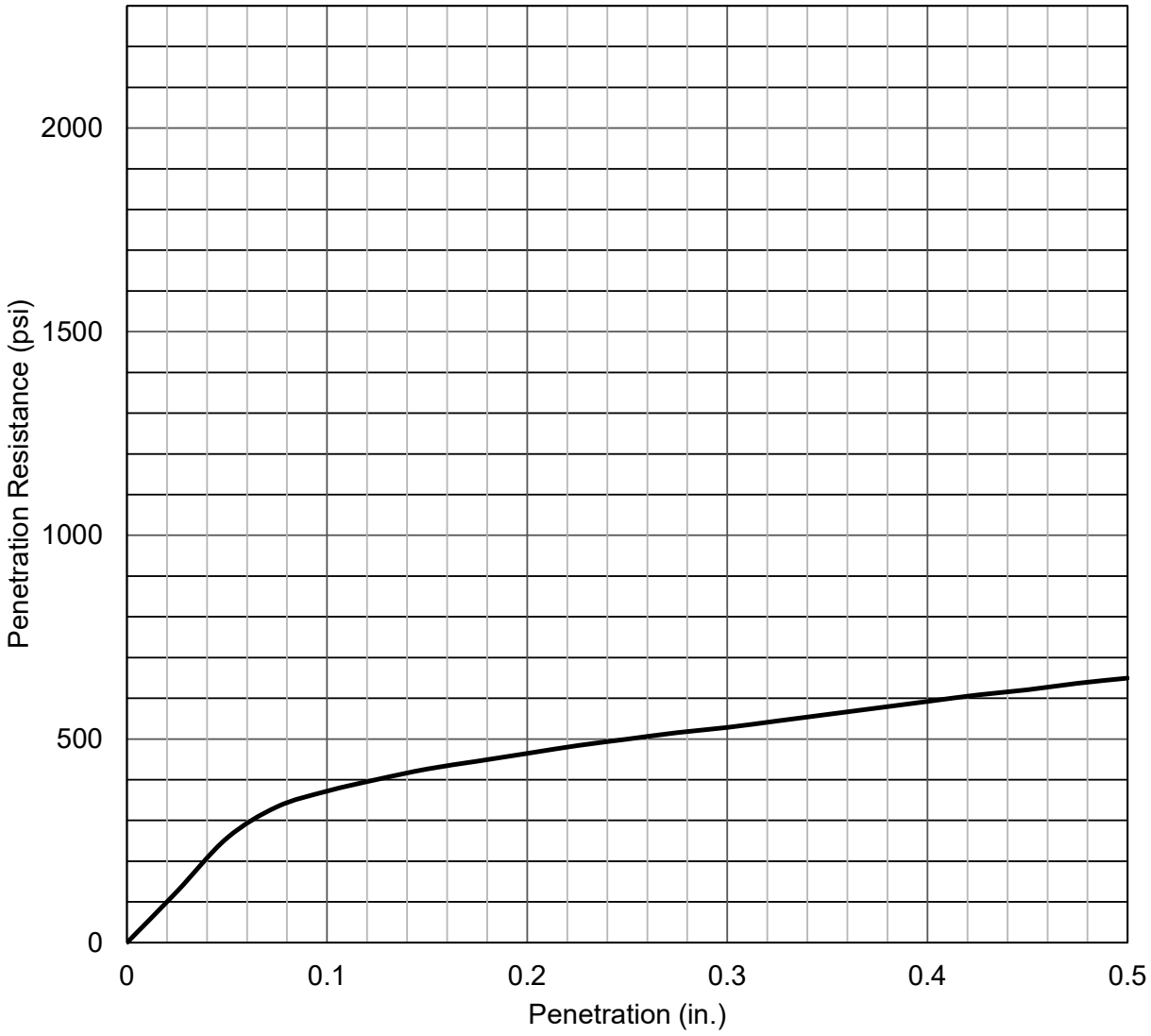

Soil Data

Location: Near boring B2 from between 1 to 4 feet
Description: Reddish brown silty clay with gravel

Test Results

Maximum Dry Density: 108.5 pcf
Optimum Moisture Content: 21.0%

| | | | |
|---|---|---|---|
| | Recapitalization of Station Facilities at Station Maui United States Coast Guard | | |
| | Hirata & Associates, Inc.<br>Geotechnical Engineering | **MODIFIED PROCTOR TEST** | Plate<br>B4.1 |
| | W.O. 23-6851 | | |




Soil Data

Location: Near boring B2 from between 1 and 4 feet
Description: Reddish brown silty clay with gravel
Sample Dry Density: 105.4 pcf
Sample Moisture Content: 21.3%

Test Results

CBR Value: 37.2%
Expansion: 0.7%

| | | | |
|---|---|---|---|
| | Recapitalization of Station Facilities at Station Maui United States Coast Guard | | |
| | Hirata & Associates, Inc.<br>Geotechnical Engineering<br>W.O. 23-6851 | **CBR STRESS PENETRATION CURVE**<br>*ASTM D1883* | Plate<br>B5.1 |

# Appendix B
# Archaeological Literature Review and Field Inspection Report

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# A Literature Review and Field Inspection Study to Inform an Environmental Assessment for Hawai‘i Revised Statutes (HRS) §343 and National Environmental Protection Act Environmental Review for the U.S. Coast Guard Station Expansion Project, Mā‘alaea Harbor, Waikapū Ahupua‘a, Wailuku Moku, Maui [TMK]: [2] 3-8:014:028)

(Left Photo: DOBOR 2023; Right Photo: Nohopapa Hawai‘i 2023)

**Prepared by**

NOHO PAPA HAWAI‘I

**Prepared for**

SSFM International

This report was prepared by Nohopapa Hawaiʻi, LLC, for SSFM International, Inc.

**AUTHORS**
Rachel Hoerman, Ph.D., Momi Wheeler, B.S., and Kelley Uyeoka, M.A.

**NOHOPAPA HAWAIʻI CONTACT**
nohopapa.hawaii@gmail.com

**FOR MORE INFORMATION VISIT:**
www.nohopapa.com

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# STUDY SUMMARY

| | |
|---|---|
| **Reference** | Literature Review and Field Inspection Study to Inform an Environmental Assessment for Hawai'i Revised Statutes (HRS) §343 and the National Environmental Policy Act environmental compliance review for the U.S. Coast Guard Station (Station Maui) expansion at Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni (TMK: [2] 3-8-014:028) (Hoerman, Wheeler, and Uyeoka 2023) |
| **Date** | August 2023 |
| **Land Jurisdiction** | The Williams Opportunity Trust is listed as the Fee Owner of the land parcel, and the The State of Hawaiʻi's Division of Boating and Ocean Recreation (DOBOR), a State agency, is listed as the Leasee of the 0.67 acre project area (County of Maui 2023). |
| **Project Proponent** | U.S. Coast Guard |
| **Project Area** | The project area is comprised of TMK: (2) 3-8-014:028, located at the DOBOR Southern Split, Māʻalaea Harbor, within the ahupuaʻa of Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni. |
| **Project Area Acreage** | 0.67 acres (29,185 square feet) |
| **Project Description** | The proposed project includes the expansion of the U.S. Coast Guard Station via construction, and long-term operation of a new three-story facility, parking lot, and security fence on DOBOR-leased land owned by the Williams Opportunity Trust. The new three-story facility, parking lot, and security fence would be installed in the remaining 7,982 square feet in the portion of a DOBOR site located in near proximity from the existing station. Integral command, ordinance, and land operation facilities would be housed in the new facility able to meet 30-foot inside clear zone requirements per the USCG Physical Security and Force Protection. The first story would consist of Boat Maintenance Facilities and storage of gear necessary for rapid mission response. The second story would consist of administrative spaces and training space for day-to-day operations. The third story would consist of berthing space, a kitchen, and recreational space. The third story would be reduced in size and the building would be sited on the southern end of the site to preserve views to the extent possible. Parking spaces would be provided on the northern portion of the property and a security fence would be installed around the entire property.<br><br>The extent of vertical and horizontal ground disturbance associated with the construction of the new building, fence, and possibly parking lot are currently unknown; however, ground disturbance is anticipated as part of the proposed new building, security fence, and parking lot. |
| **Document Purpose** | The LRFI study will be used to inform project planning and an Environmental Assessment triggered by Hawai'i Revised Statutes (HRS) §343 and the National Environmental Policy Act (NEPA) environmental compliance review.<br><br>In the future with some modifications, this study could be used to initiate State Historic Preservation Division (SHPD) historic preservation compliance review under HRS §6E-8 and its implementing legislation HAR §275, HRS §6E-42 and its implementing legislation HAR §284, and for |

| | |
|---|---|
| | National Historic Preservation Act (NHPA) Section 106 historic preservation compliance. |
| **Regulatory Context** | The proposed project is a federal undertaking by the U.S. Coast Guard on land leased by the State of Hawai'i's Division of Boating and Ocean Recreation (DOBOR) from the Williams Opportunity Trust, an action that triggers an Environmental Assessment and Cultural Impact Assessment under Hawai'i Revised Statutes (HRS) §343 and an Environmental Assessment under the National Environmental Policy Act (NEPA) environmental compliance review. |
| **Built Environment** | The project area is located on the DOBOR southern split along the developed settlement and coast of Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni. It is bounded to the north by Hauoli Street and then an open field, to the west by Māʻalaea Road and then the Maui Ocean Center, to the south by the paved Māʻalaea Harbor access and the kai (ocean), and to the east by the Maalaea Mermaid condominium complex. The project area is situated roughly one quarter of a mile east of Hawaiʻi Route 30 (Honoapiʻiliani Highway). The undeveloped and unpaved project area is currently being used as two parking lots – the majority and northern portion of the project area is a public, paid parking lot of compacted red dirt while a minority southern portion of the parking lot is private parking for Coast Guard Station Maui, and covered with base course. A single basalt boulder was observed along the eastern edge of the public, paid parking lot. A line of eight basalt boulders is situated along the southeastern border of the public, paid parking lot, east of a kiawe tree. |
| **Ethnohistorical Research Methods** | Background research using culturally-informed methods and approaches detailed in the "Ethnohistorical Research Methods" subsection of this study was used to build a place-based, contextual understanding and synthesis of:<br>○ Natural/cultural resources (environmental zones, soils, geology, plants, wai) associated with the project area,<br>○ Native Hawaiian oral traditions and accounts including kaʻao, moʻolelo, inoa ʻāina, mele, oli, ʻōlelo noʻeau, nūpepa (histories, narratives, place names, songs, chants, proverbs, newspapers) associated with the project area,<br>○ Cultural resources, practices, and beliefs found within the broad geographical area that hosts the project area, including its relationships to people and places throughout the pae ʻāina,<br>○ Post-European contact historical accounts (early visitor accounts, Plantation Era records, historical maps, English language newspapers) associated with the project area,<br>○ Kingdom of Hawaiʻi land use and resource management practices within the project area and vicinity (Māhele information-Boundary Commission Testimonies, Land Commission Awards, Native & Foreign Testimonies and Registers, Government Land Grants, Crown lands),<br>○ Archaeological information pertaining to cultural and historic sites within the project area and vicinity in order to understand existing and the potential for additional wahi kūpuna/historic properties<br>○ Wahi kūpuna stewardship best practices and historic preservation compliance recommendations |
| **Field Work** | Fieldwork was conducted on ka pō mahina (moon phase) of Lono, June 16 15, 2023, by Nohopapa Hawaiʻi, LLC field crew, Momi Wheeler, B.S., under the supervision of Principal Investigator Rachel Hoerman, Ph.D., State Historic Preservation Department (SHPD) permit #23-28. A pedestrian field inspection of 100% of the project area was performed and required four |

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| | hours to complete. The goal of the field inspection was to record current conditions and generate information that could be used to assess the potential, to the extent possible, for the presence of wahi kūpuna (*Hawaiian ancestral places and spaces)*/historic properties. |
| **Literature Review and Field Inspection Results Summaries** | A pedestrian field inspection of 100% of the project area was performed and required four hours to complete. The entire project area was 100% visually inspected and documented in order to record current conditions and generate information that could be used to assess the potential, to the extent possible, for the presence of iwi kūpuna, wahi kūpuna/historic properties. Minimal field inspection limitations were the current use of the project area as a parking lot that was full or near-capacity for the duration of the field inspection.<br><br>Background research and the survey of previous archaeological studies performed for this study show the project area in Māʻalaea is situated within a greater, contiguous cultural landscape and integrated system of resource management established by Native Hawaiian with Māʻalaea long serving as a settled, agricultural landscape and canoe landing referenced in Hawaiian oral traditions. Waikapu and Kamaalaea, place names and locations associated with the project area, appear on the earliest Hawaiian cartographic representations of kahiko (*old, ancient, traditional*) land divisions like moku and ahupuaʻa, underscoring the importance of the place in Hawaiian geographies. One of the few LCAs and coastal house lots awarded in Waikapū's southern coastal plains was likely located partially or wholly in the project area -– Hika's LCA 2959. Primary source records associate 10 loʻi with the coastal land parcel and house lot. Hika's LCA may have overlapped the central southern portion of the current project area; it may also have been located more partially or totally within the current project area – historical records are unclear (see Kīpuka Database 2023a–d). Primary source records depict an "Alanui Aupuni" - *Kingdom roadway* of the sovereign Hawaiian nation- to the west that may have also overlapped the western periphery of the current project area, been included more fully within it, or located in proximity to it – historical records are again unclear (Hika 1850 in Kīpuka Database 2023a; see Figure 10). The other, Kaili's awarded LCA 11156, also a house lot, is located west of the project area.<br><br>Beginning in the twentieth century, Māʻalaea was transformed into a historical settlement and harbor. The local manifestation of global, extractive sugar industries and economies began in Central Maui and on the lands just north of the project area beginning in the 1820s. Extensive alteration of the vegetation, topography, and hydrography of the project area and vicinity continued with the establishment of extractive sugar plantation economies and infrastructure, and persisted with development concentrated along the coast and adjoining hinterlands over the course of the last century.<br><br>No previously-identified wahi kūpuna/historic properties were located in the project area through background research. Four wahi kūpuna/historic properties were identified through background research directly west of the project area - SIHP #-3553 Human skeletal remains SIHP #-3554 Burial SIHP #50-50-09-4480 Burial SIHP #-1604 Ma'alaea Fishing Jinja [sic]. Additionally, SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and |

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| | petroglyphs," (Moore and Kennedy 1995:44); SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) are located further afield and west of the project area. Regarding a predictive model, background research further indicates that while portions of the project area and vicinity have been heavily modified by agricultural activities and development, a high concentration and likelihood for encountering iwi kūpuna, subsurface cultural deposits, especially those related to the house lot and loʻi it contained, wahi kūpuna and historic properties persists.<br><br>Historical documents evince that few LCAs were awarded in Waikapū's southern coastal plains. Awarded LCAs clustered around Māʻalaea Bay, and included two coastal house lots – Hika's LCA 2959 approximately situated in the project area and bounded to the west by an alanui aupuni, and Kaili's LCA 11156, west of the project area. At least three iwi kūpuna were revealed during construction activities at the Maui Ocean Center (SIHP #-3553, Human skeletal remains; SIHP #-3554, Burial; SIHP #50-50-09-4480; see McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007), and the historical SIHP #-1604 Maʻalaea Fishing Jinja [sic] is also located in the project area vicinity. An extensive traditional Hawaiian through historical complex of iwi kūpuna and wahi kūpuna/historic properties (SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44); SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) is located further west of the project area. These lines of evidence show the project area occupies a previous house site with loʻ ī as well as an important location in the Hawaiian cultural and later historical landscapes at Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui. |
| **Recommendations** | The project area is slated for redevelopment, therefore effects to any newly-identified wahi kūpuna/historic properties located in the project area are possible. This literature review and field inspection of the proposed project area discloses evidence for and discusses:<br>○ the absence of archaeological studies associated directly withing the project area,<br>○ the presence of Hika's LCA 2959 which contained a hale (house) and 10 loʻi at unknown locations likely within and proximal to the project area footprint,<br>○ the "Alanui Aupuni" (*Kingdom roadway* of the sovereign Hawaiian nation) to the west of the project area that may have also overlapped the western periphery of the current project area, been included more fully within it, or was located in proximity to it,<br>○ the project area's proximity to the three iwi kūpuna revealed at Maui Ocean Center (McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007), and further afield an extensive traditional Hawaiian through historical complex of iwi kūpuna and wahi kūpuna/historic properties.<br><br>Based on the above listed facts, we conclude that not enough information is available to understand a) the potential in the project area for the presence of subsurface iwi kūpuna and wahi kūpuna/historic properties, and b) |

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| | whether the proposed project is likely to pose “effects” or “no effects” to iwi kūpuna and wahi kūpuna/archaeological historic properties.<br><br>Therefore, our historic preservation next steps recommendations consist of a community-based archaeological inventory survey comprised of an ethnographically-informed, SHPD-reviewed and approved Archaeological Inventory Survey Plan (AISP) containing research questions and lines of inquiry meaningful to the Māʻalaea Hawaiian and local community, implementation of the AISP with archaeological and cultural monitors present, and SHPD-reviewed and approved Archaeological Inventory Survey Report (AISR) before the project can commence. The AISP, AISP implementation, and AISR should realize professional best practices and must additionally meet the standards set forth in HAR §276, “Rules Governing Standards for Archaeological Inventory Surveys and Reports,” ((HAR) Chapter 13-276 2002). |

# PROJECT SCOPE & METHODS

## He Leo Mahalo

Mahalo to all the individuals involved in this project. We are grateful to SSFM International, Inc., for the opportunity to complete this Literature Review and Field Inspection (LRFI) study. Mahalo to Stacy Naipo from the State Historic Preservation Department (SHPD) for helping us retrieve reports for the project area.

## Introduction

At the request of SSFM International, Inc., Nohopapa Hawai'i completed an LRFI study to inform an Environmental Assessment (EA) for Hawai'i Revised Statutes (HRS) §343 and the National Environmental Policy Act (NEPA) environmental compliance review for the U.S. Coast Guard Station (Station Maui) expansion at Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni (TMK: [2] 3-8-014:028). The Williams Opportunity Trust is listed as the Fee Owner of the land parcel, and the The State of Hawai'i's Division of Boating and Ocean Recreation (DOBOR), a State agency, is listed as the Leasee of the 0.67 acre project area (County of Maui 2023) (Figure 2, Figure 3, and Figure 3; Figure 4; County of Maui 2023).

## Project Description

The proposed project includes the expansion of the U.S. Coast Guard Station via construction, and long-term operation of a new three-story facility, parking lot, and security fence on DOBOR-leased land owned by the Williams Opportunity Trust. The new three-story facility, parking lot, and security fence would be installed in the remaining 7,982 square feet in the portion of a DOBOR site located in near proximity from the existing station. Integral command, ordinance, and land operation facilities would be housed in the new facility able to meet 30-foot inside clear zone requirements per the USCG Physical Security and Force Protection. The first story would consist of Boat Maintenance Facilities and storage of gear necessary for rapid mission response. The second story would consist of administrative spaces and training space for day-to-day operations. The third story would consist of berthing space, a kitchen, and recreational space. The third story would be reduced in size and the building would be sited on the southern end of the site to preserve views to the extent possible. Parking spaces would be provided on the northern portion of the property and a security fence would be installed around the entire property.

The extent of vertical and horizontal ground disturbance associated with the construction of the new building, fence, and possibly parking lot are currently unknown; however, ground disturbance is anticipated as part of the proposed new building, security fence, and parking lot.

## Document Purpose

This LRFI study reports results from the background research literature review and field inspection, and uses them to: 1) Synthesize what is known about the project area, vicinity, and greater ahupuaʻa's environmental context, natural and cultural landscape and resources, historical trajectory, and previous compliance archaeological studies, 2) Summarize known and newly-noted wahi kūpuna (*Hawaiian ancestral places*)/historic properties in their cultural landscape contexts, 3) Provide a predictive model for the presence of possible additional wahi kūpuna/historic properties in the project area and vicinity, 4) Generate next steps wahi kūpuna stewardship and historic preservation compliance recommendations for the wahi kupuna/historic properties in order to inform wahi kūpuna stewardship, project planning, and satisfy historic preservation compliance requirements.

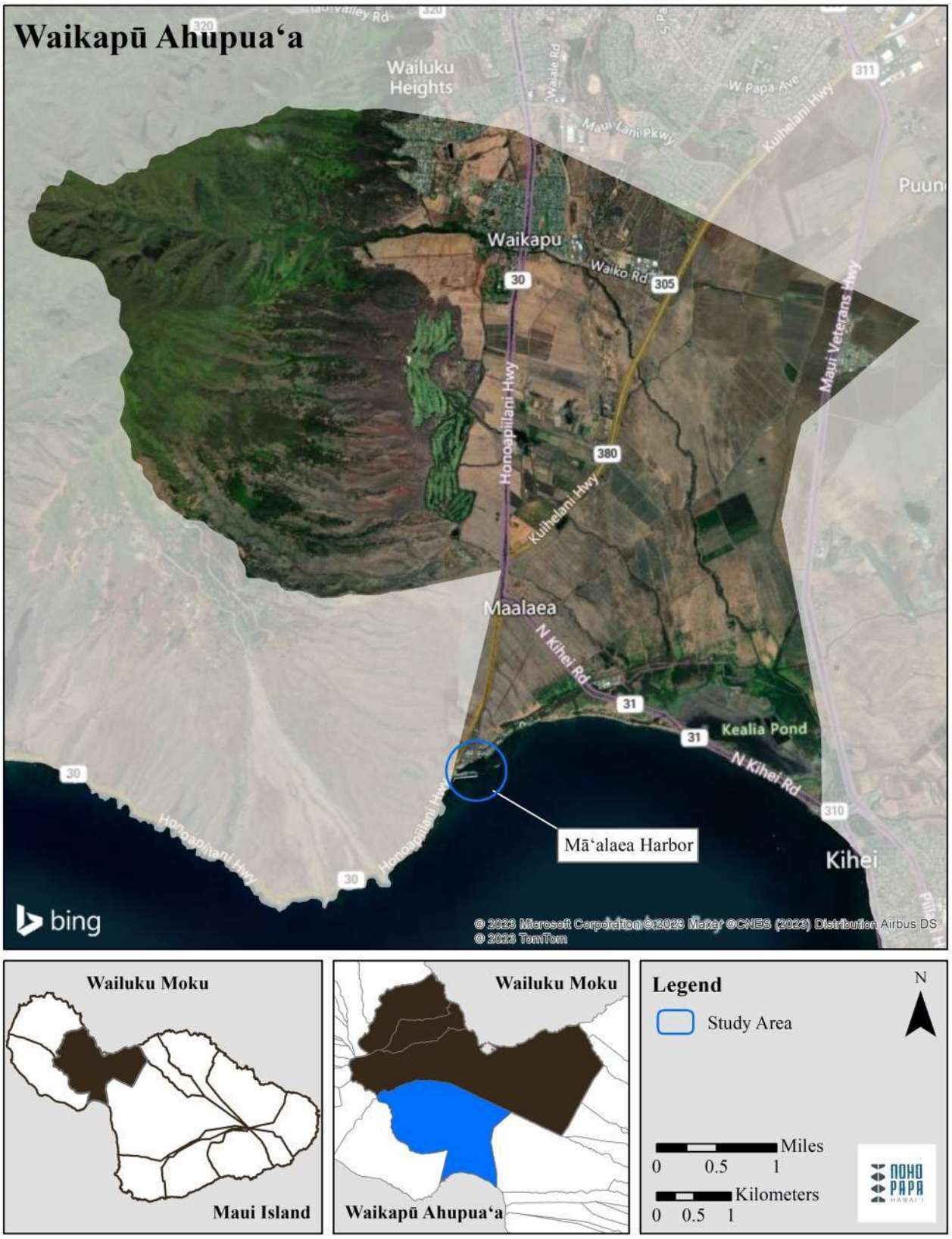



Figure 1. Aerial overview of the location of the project area in Mā'alaea,Waikapū Ahupua'a, Maui

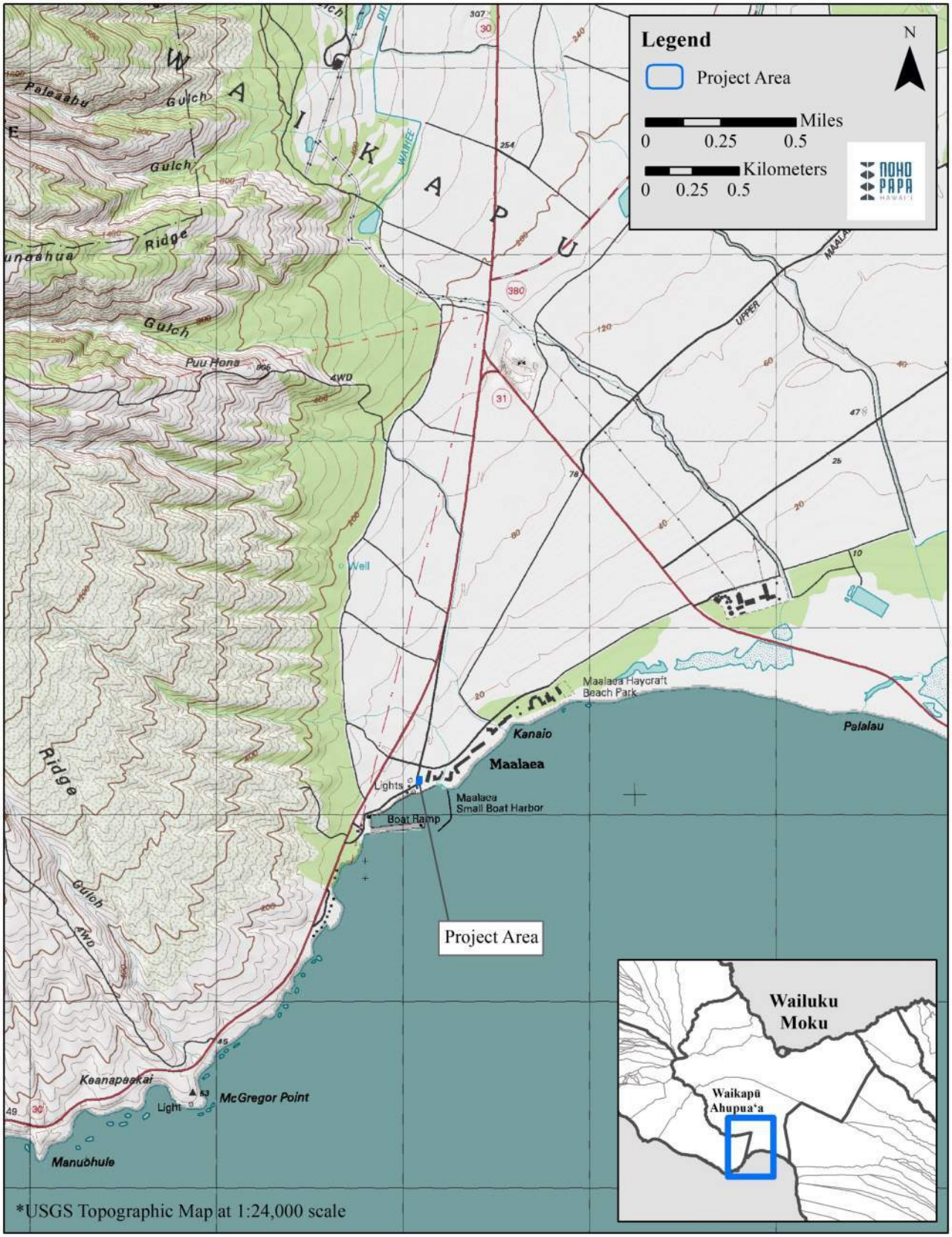



Figure 2. Portion of the USGS 7.5-minute topographic quadrangle showing the location of the project area in Mā'alaea, Waikapū Ahupua'a, Maui

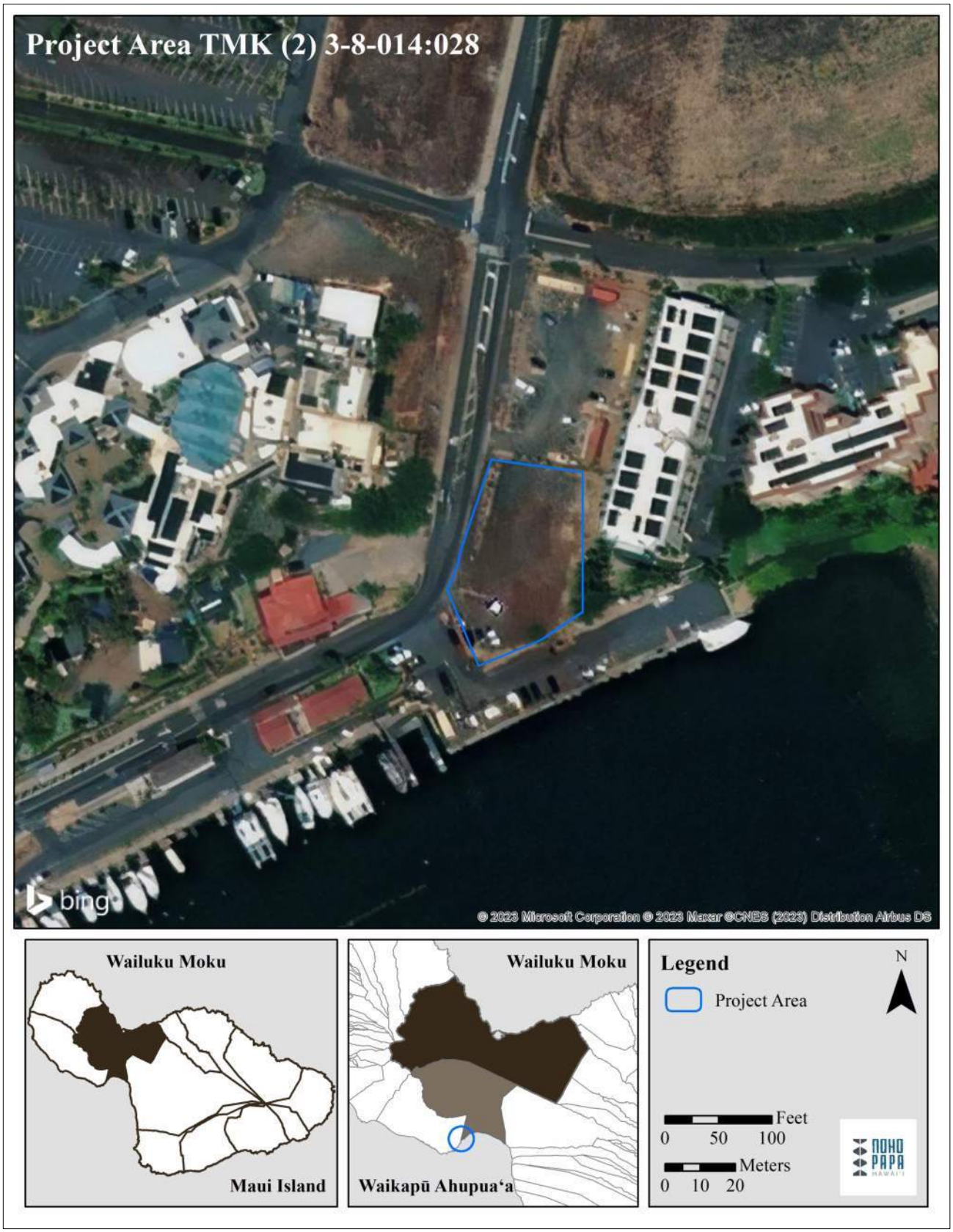



Figure 3. Aerial overview of the project area, delineated in blue, in Māʻalaea, Waikapū Ahupuaʻa, Maui (Google Earth 2013)


Figure 4. Aerial overview of the project area overlain with TMKs of the project area (TMK [2] 3-8-014:028), and surrounding vicinity (Hawai'i TMK 1971).

The LRFI study will be used to inform project planning and an Environmental Assessment triggered by Hawai'i Revised Statutes (HRS) §343 and the National Environmental Policy Act (NEPA) environmental compliance review.

In the future with some modifications, this study could be used to initiate State Historic Preservation Division (SHPD) historic preservation compliance review under HRS §6E-8 and its implementing legislation HAR §275, HRS §6E-42 and its implementing legislation HAR §284, and for National Historic Preservation Act (NHPA) Section 106 historic preservation compliance.

## Regulatory Context

The proposed project is a federal undertaking by the U.S. Coast Guard on land leased by the State of Hawai‘i’s Division of Boating and Ocean Recreation (DOBOR) from the Williams Opportunity Trust, an action that triggers an Environmental Assessment and Cultural Impact Assessment under Hawai'i Revised Statutes (HRS) §343 and an Environmental Assessment under the National Environmental Policy Act (NEPA) environmental compliance review.

## Ethnohistorical Research Methods

Background research performed for this study emphasized original efforts and the identification, gathering, and utilization of Hawaiian and other historical resources in order to provide a place-based, culturally-grounded contextualization of land use, settlement patterns, and wahi kūpuna/historic properties in the project area in Waikapū Ahupua‘a through time.

Resources targeted during background research included: Hawaiian oral traditions and other ‘Ōlelo Hawai‘i ethnohistorical resources (including 19th and 20th century Hawaiian scholarship), historical accounts, Māhele and other land documents and maps, Hawaiian and English language newspapers, ethnographic and historical studies, historical photos and records, and previous academic and compliance archaeological studies. Online repositories consulted included: the Hawai‘i State Archives Digital Collection, the Bishop Museum Library and Archives, the Hawaiian Missions Houses Library and Archives, the University of Hawai‘i at Mānoa (UHM) Hamilton Library, UHM’s Online Maps, Aerial, Photograph and GIS (MAGIS) library, Papakilo Database, Ulukau, and AVA Konohiki. Reports, historical maps and photographs from the Nohopapa internal database as well as books and other publications from the authors’ personal libraries were also utilized.

Nohopapa Hawai‘i’s methodological approach for evaluating and using primary ‘ike kūpuna (ancestral knowledge) and primary source Hawaiian materials is derived from Kikiloi (2010:80), who writes that researchers must preference:“…testimonies in the ethno-historic record that were (a) recorded first in Hawaiian Language, and (b) written by native Hawaiian people or recorded first hand from their testimony.”

In addition to these required attributes, Nohopapa Hawai‘i researchers possess the skills Kikiloi (2010:80) asserts are necessary for accurate, careful, and respectful utilization of ‘ike kūpuna (ancestral knowledge) and primary source Hawaiian materials:

> “(a) an emic (insider) understanding of cultural context, meaning, and metaphor;
> (b) a level of fluency in the native language or ‘ōlelo Hawai‘i (Hawaiian Language)
> (c) a familiarity with ‘āina (environment) as a critical point of reference to orient and position oneself to have legitimacy in interpretation.”

For primary source Māhele land record translations provided by Kaʻie Naboa-Cordy, *The Dictionary of Hawaiian Legal Land Terms* was used to verify or clarify official names, terminology, and documents, alongside consultation with Ross Cordy and ʻUmi Perkins. Translation methods included review of the entire document, followed by literal translation, and review/correction to verify accuracy of the English translation, and that it relayed and communicated same information/message as the primary source.

Background research using the methods and approaches described above was used to inform contextual synthesis of:

- Natural/cultural resources (environmental zones, soils, geology, plants, wai) associated with the project area,
- Native Hawaiian oral traditions and accounts including kaʻao, moʻolelo, inoa ʻāina, mele, oli, ʻōlelo noʻeau, nūpepa, (histories, narratives, place names, songs, chants, proverbs, newspapers) associated with the project area,
- Cultural resources, practices, and beliefs found within the broad geographical area that hosts the project area, including its relationships to people and places throughout the pae ʻāina,
- Post-European contact historical accounts (early visitor accounts, Plantation Era records, historical maps, English language newspapers) associated with the project area,
- Kingdom of Hawaiʻi land use and resource management practices within the project area and vicinity (Māhele information –Boundary Commission Testimonies, Land Commission Awards, Native & Foreign Testimonies and Registers, Government Land Grants, Crown lands),
- Archaeological information pertaining to cultural and historic sites within the project area and vicinity in order to understand existing as well as the potential for additional wahi kūpuna/historic properties
- Wahi kūpuna stewardship best practices and historic preservation compliance recommendations

Additionally, a remote public records search of the SHPD archives, University of Hawaiʻi at Mānoa Hamilton Library and Bishop Museum Archives for previous academic and compliance archaeological studies associated with the project area and vicinity in Waikapū Ahupuaʻa was conducted in May and June 2023. The Maui Historical Society's (MHS) website indicated their holdings were closed to research, and June 2023 email inquiries to the MHS from Nohopapa Hawaiʻi regarding research access or enlisting the MHS's research services received no response.

## Field Inspection Methods

The purpose of the field inspection is to document through written records and data current conditions in the project area plus the results of a pedestrian field inspection for the presence of known or newly-noted wahi kūpuna/historic properties, as well as the potential of the project area to contain additional new wahi kūpuna/historic properties.

A pedestrian field inspection by a single Nohopapa Hawaiʻi field technician was deemed appropriate for the 0.67 acre, developed project area. Scaled photographic documentation of the project area focused on the documentation of the project area in its landscape context, current conditions and degree of development/human modification of the project area, and evidence for the presence and/or absence of known or newly-noted wahi kūpuna/historic properties, as well as the potential of the project area to contain additional new wahi kūpuna/historic properties.

Fieldwork was conducted on ka pō mahina (moon phase) of Lono, June 16 15, 2023, by Nohopapa Hawaiʻi, LLC field crew, Momi Wheeler, B.S., under the supervision of Principal Investigator Rachel Hoerman, Ph.D., State Historic Preservation Department (SHPD) permit #23-28. A pedestrian field inspection of 100% of the project area was performed and required four hours to complete. Its purpose was to record current conditions and generate information that could be

used to assess the potential, to the extent possible, for the presence of iwi kūpuna, wahi kūpuna (*Hawaiian ancestral places and spaces)*/historic properties.

# ENVIRONMENTAL SETTING

This section describes the natural landscape of the project area, including its topography (general elevations, distance inland, and general terrain patterns), vegetation, geology and soils, climate (including rainfall and winds), and hydrology.

The project area is located in Waikapū Ahupuaʻa, Wailuku Moku, coastal Maui, at an elevation of 1 to 3 m (3 to 9 ft) above mean sea level (Google Earth 2023) project area is approximately 30 m (90 ft) inland and is situated on a graded and heavily developed coastline and harbor flanked by mauka agricultural lands. The general area has an average high temperature of 23.76° C (74.77° F), and receives approximately 368.6 mm (14.5 inches) of rain per year (Giambelluca et al. 2013; Geography Department UHM 2023).

The ahupuaʻa of Waikapū, location of the project area, and Wailuku to the north are the largest land divisions within Wailuku. Waikapū Ahupuaʻa is bounded to the west by Ukumehame Ahupuaʻa in Lāhainā Moku and Pūlehunui Ahupuaʻa in the moku of Kula. It encompasses the waters of Māʻalaea Harbor, and ascends to the West Maui Mountains and the Central Maui Plains to the east (Handy, Handy, and Pukui 1972: 510, 511; Google Earth 2023). Hawaiian oral tradition describes Waikapū, along with the Maui places of Wailuku, Waiehu, Waiheʻe as Na wai ʻehā (*The four wai*), which Pukui (1989: 251, #2300) describes as "[a] poetic term for these places on Maui:, each of which has a flowing water (*wai*)."

Some hanau ka ua (*rain names)* and hanau ka makani (*wind names*) associated with Waikapū, Maui, were revealed during background research for this report. The selection discussed below is a surface overview and starting point for further research, not a comprehensive inventory. More Waikapū hanau ka ua and hanau ka makani undoubtedly exist, await discovery or revelation, or will develop names in the future. The makani (*winds*) and ua (*rains*) featured here were integrated into dynamic, storied, intertwined Hawaiian ocean, land, and skyscapes. They are emblems and vehicles of ʻike kūpuna, Hawaiian cultural beliefs, practices, and relationship to ʻāina and place.

Nineteenth-century Hawaiian government official and historian Ione Papa ʻĪʻī ([Frazier, trans.]1995:107) writes of the gusting Mumuku wind encountered by sailing vessels in Māʻalaea. ʻĪʻī also describes the bursts of gusting winds he encountered "extending from Olowalu to the points of Papawai and Kamaalaea," as a young boy and passenger in a royal entourage of ships sailing past Maui (ʻĪʻī (Frazier, trans.]1995:109). Akana and Gonzalez (2015:84) associate the Kiliʻoʻopu rain with Waikapū. Moses Kuaea Nakuina's telling of *The Wind Gourd of Laʻamaomao: The Hawaiian Story of Pākaʻa and Kūapākaʻa Personal Attendants of Keawenuiaʻumi Ruling Chief of Hawaii and Descendants of Laʻamaomao,* published by Nakuina in 1902 and translated by Esther T. Mookini and Sarah Nākoa, records Kololio as a wind of Waikapū (Nakuina 1902:55). The ʻōlelo noʻeau (*poetical saying, proverb*) Ka makani kokololio o Waikapū (*The swift, gusty wind of Waikapū*) (Pukui 1983:159, #1465) describes the character of a similarly named wind of Waikapū.

According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the primary soil in the project area and vicinity is Ewa Silty Clay, 3 to 7 percent slope (EsB) (Figure 5). Foote et al. (1972: 29) describe Ewa Series soils as consisting of "well-drained soils in basins and on alluvial fans," as well as alluvial terraces that "developed in alluvium derived from basic igneous rock". Foote et al. (1972: 29,30) further describe EsB as "the surface layer is dark reddish-brown silty clay loam about 18 inches thick. The subsoil, about 42 inches thick, is dark reddish-brown and dark-red silty clay loam that has subangular blocky structure. The substratum is coral limestone stand, or gravelly alluvium." Foote et al. (1972: 29, 30) write that EsB has a profile similar to Ewa silty claim loam.

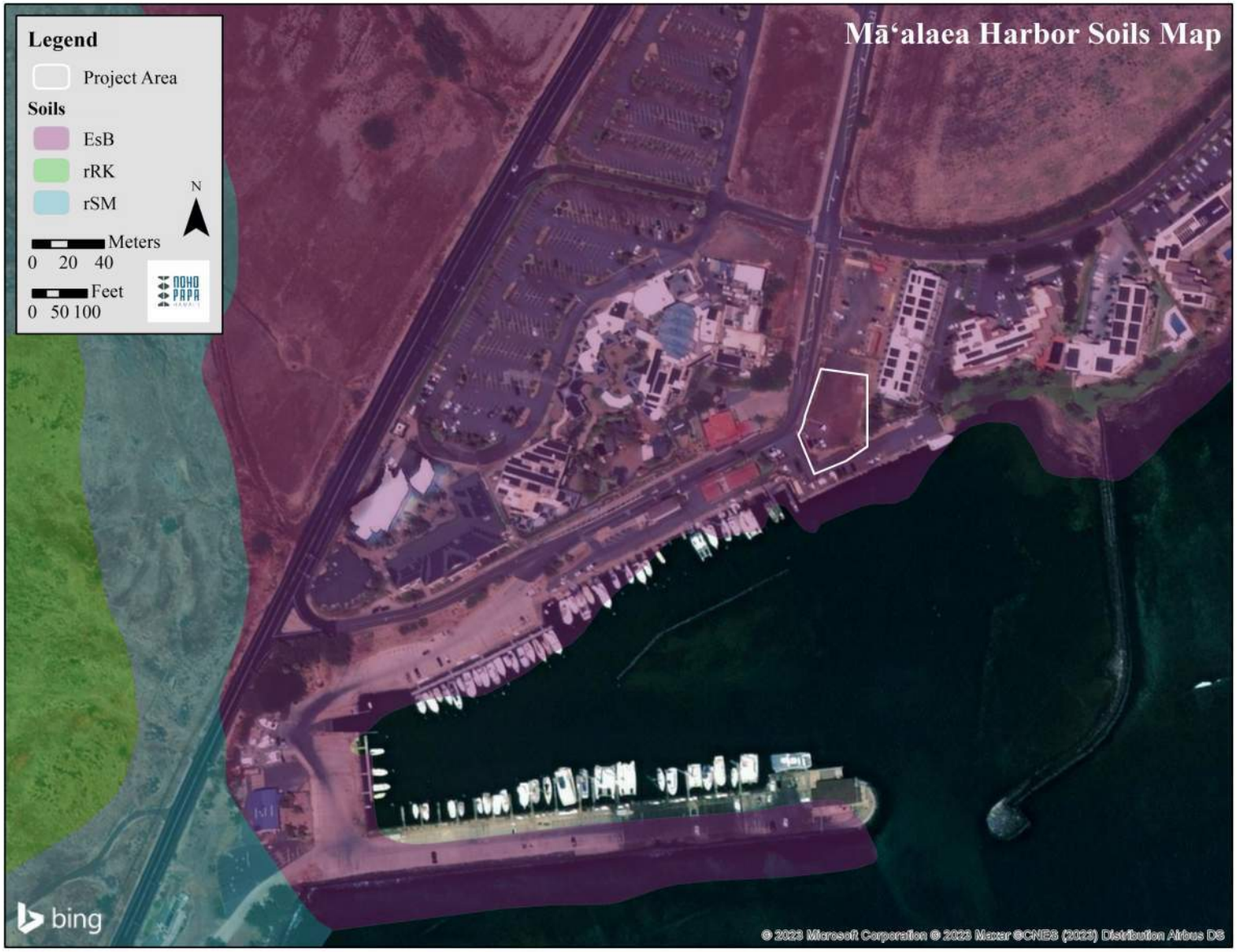



Figure 5. Overlay of Soil Survey of the State of Hawai‘i (Sato et al. 1973), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001).

soils, with moderate permeability, slow runoff, and slight erosion hazard and note the majority of EsB soils were used for sugarcane and a minority for pasturelands. Notably, the place name Māʻalaea may reference the reddish-brown soil predominant in the project area.

Clark describes the defining features of Māʻalaea Bay, which borders the project area to the south:

> The curving three-mile reach of shoreline that follows the head of Māʻalaea Bay between Kīhei and Māʻalaea Boat Harbor is a barrier beach of white sand with an average width of seventy-five feet. Outcrops of beach rock are found along the beach, which is backed by low sand dunes. The inshore bottom is generally sandy and slopes quickly to overhead depths along most pf the beach… [Clark 1989:50]

Clark (1989:50) further notes that "Māʻalaea Bay has a very rich and varied molluscan population, possibly containing the greatest number of species found in any Hawaiian locality." The bay has a fringing reef, with the surf break known as Māʻalaea Rights located near the jetty (Pukui, Elbert, and Mookini 1974:137).

Established in 1953, Keālia Pond National Wildlife Refuge is located one mile east of the current project area, across Māʻalaea Bay. Clark (1989:51) states that Keālia Pond is "an important breeding and nesting refuge for indigenous water-fowl," especially āeʻo (Hawaiian stilts; *Himantopus mexicanus knudseni*), ʻalae keʻokeʻo (Hawaiian coots; *Fulica americana alai*), and ʻaukuʻu (black-crowned night herons; *Nycticoraz nycticorax* (USFWS 2023a and b; Audubon Society 2023).

Indigenous and invasive plant species are associated with Waikapū Ahupuaʻa and the project area and vicinity (Table 1). Background research performed for this report identified indigenous plants linked to the project area vicinity in 19th century Hawaiian oral traditions as well as more recent surveys and studies (e.g. Foote et al. 1972; Krauss 1993). In *Fragments of Hawaiian History* Papa ʻĪʻī ([Frazier, trans.]1995:107) writes of ʻilima bordering a trail in the ridges west of the project area:

> When Kekuhaupio heard of the defeat, he prepared for battle. He began at Kamaalaea, on the ridge of Puuhele, for there were tall *ʻilima* bushes along a very narrow trail and he felt that it would be a good spot from which to fight. Hence the name given to him by the women, who spoke jokingly: "Hewahewa koa o ka (The deranged warrior of the *ʻilima* thickets)."

Foote et al. (1972:30) and associate the invasive fingergrass (*Digitaria eriantha;* Plant Pono 2023), koa haole (foreign koa; leucaena; CTAHR 2003a), and klu (*Acasia farnesiana;* CTAHR 2003b) with the Ewa series soil found in the project area.

Table 1. Table of Indigenous Plant Species Associated With the Project Area

| Plant Species | Native status | Use | Existing in project area | Existing in surrounding area | Previously existing in project area | Previously existing in surrounding area | Citation |
|---|---|---|---|---|---|---|---|
| **Ground Cover/Ferns/Herbs** | | | | | | | |
| ʻUhaloa (*Heteropogon contortus*) | Indigenous | Dye, house construction, medicinal, other uses | | | | X | Foote et al. 1972:30; Krauss 1993:304 |
| **Shrubs** | | | | | | | |
| ʻIlima (*Sida fallx*) | Indigenous | House construction and furnishings, food, lei, medicinal | | | | X | ʻĪʻī (Frazier, trans.)1995:10 |
| **Overstory** | | | | | | | |
| Kiawe (*Metrosideros polymorpha*) | Endemic | Construction, crafts, wood | X | X | | X | Foote et al. 1972:30 |

## Built Environment

The project area is located on the DOBOR southern split along the developed settlement and coast of Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni. It is bounded to the north by Hauoli Street and then an open field, to the west by Māʻalaea Road and then the Maui Ocean Center, to the south by the paved Māʻalaea Harbor access and the kai (ocean), and to the east by the Maalaea Mermaid condominium complex. The project area is situated roughly one quarter of a mile east of Hawaiʻi Route 30 (Honoapiʻiliani Highway) (Google Earth 2023). The undeveloped and unpaved project area is currently being used as two parking lots – the majority and northern portion of the project area is a public, paid parking lot of compacted red dirt while a minority southern portion of the parking lot is private parking for Coast Guard Station Maui, and covered with base course. A single basalt boulder was observed along the eastern edge of the public, paid parking lot. A line of eight basalt boulders is situated along the southeastern border of the public, paid parking lot, east of a kiawe tree.

# CULTURAL LANDSCAPE

An intertwined and contiguous array of significant cultural features and resources constitute the Hawaiian cultural landscape of the project area and vicinity in Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni. Hawaiian oral traditions used to relay and edit 'ike kupuna (ancestral knowledge) and ways of knowing across centuries and generations – from the past through today – are utilized to contextualize the project area in its Hawaiian cultural landscape. These include historical information passed from one generation to the next and transcribed beginning in the nineteenth century through contemporary times. Hawaiian oral traditions relay understandings of things including but not limited to Hawaiian spirituality, culture and cultural practice, history, unique cultural relationships to place and 'āina, systems of traditional land tenure, sustainability and use, the trajectories of communities, and lives of individuals throughout the pae 'āina.

## Wahi Kūpuna and Wahi Pana

Wahi kūpuna are special ancestral spaces and places where Native Hawaiians maintain relationships to the past and foster their identity and well-being in the present (The Kali'uokapa'akai Collective 2021:4). As cultural anchors to place, ancestral knowledge and practices, wahi kūpuna are strikingly similar to Traditional Cultural Properties defined by the National Park Service as places associated with the cultural practices or beliefs of a living community that are both rooted in a community's history and important in maintaining its continued cultural identity (Parker and King 1998:1).

Wahi pana and wahi kūpuna comprise component parts and/or entire contiguous Hawaiian cultural land, sea, and skyscapes (Pukui, Elbert, and Mookini 1974: x- xii; Oliveira 2014: 78, 79; The Kali'uokapa'akai Collective 2021). Place names embody and perpetuate Hawaiian cultural history, knowledge, and practice. As explained by Oliveira (2014:78): "To Kānaka [Native Hawaiians] and other indigenous peoples who share a close connection to their land and use oral traditions to record their history, place names and landmarks serve as triggers for the memory, mapping the environment and ultimately the tradition and culture of a people." Wahi pana and wahi kūpuna are special places and spaces. As noted by Maly and Maly (2022:14,15): "Names would not have been given to – or remembered if they were – mere worthless pieces of topography". Traditional nomenclature indicates the variety of functions that named localities served, such as describing a particular feature of the landscape; indicating a site of cultural and ceremonial significance; recording particular events or practices that occurred in that given area; revealing the source of a natural resource or other materials necessary for a cultural practice; marking trails and trailside resting places; signifying triangulation points for cultural practices; giving notice of residences; showing the use of an area; and recording a notable event that occurred in the area (Maly 2022:14, 15).

Beginning in the nineteenth century, some wahi pana and wahi kūpuna were recorded in land records, maps, and other historical documents reviewed for this report. Wahi pana and wahi kupuna of Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni Maui revealed during background research are featured in Table 2 and Figure 6, below, which illustrate the contiguous, interrelated, layered nature and significance of Hawaiian cultural landscapes. **What is presented here is not a comprehensive inventory**; more wahi pana and wahi kūpuna undoubtedly exist, await discovery or revelation, or will develop names in the future (Nogelmeier 2010; Oliveira 2014; The Kali'uokapa'akai Collective 2021).

Place names of Māʻalaea and the greater Waikapū Ahupuaʻa relay cultural knowledge and relationship to place (Table 2). Pukui, Elbert, Mookini (1974:137) write that "Māʻalaea could be a possible a contraction of "Maka-ʻalaea," meaning "ocherous earth beginnings." Echoing this translation, Clark (1989:50) explains that "'Alaea (ocherous earth) is an edible, water-soluble red clay used for medicine, for dye, for certain purification ceremonies, and most commonly for coloring *paʻakai* (salt)." Pata (2022:298) translates Māʻalaea to literally mean "origin of the ocherous earth," and describes it as a "[r]egion, perhaps an ʻili, in the ahupuaʻa of Waikapū." Pukui, Elbert, and Mookini 1974:223 translate Waikapū to mean "water [of] the conch," noting "[A] conch in a cave here could be heard everywhere in the Hawaiian Islands until it was stolen by a supernatural dog, Puapua-lenalena, yellow tail feathers." Pukui, Elbert, and Mookini (1974:102) literally translate Keālia, the name of the pond 1 mile east of the project area, to mean "the salt encrustation."

Table 2. Wahi Kūpuna of Waikapū Ahupuaʻa, Wailuku Moku, Maui

| Inoa | Possible Translation | Description and Location |
|---|---|---|
| **ʻĀalalōloa** | Translated in Clark (1989:52) as "long path of rough lava." | According to Clark (1989:52), the name for "an extensive range of hills and rocky sea cliffs between Māʻalaea and Pāpalaua." |
| **Kai-o-Anehe** | -- | The sea from Māʻalaea to Keoneoio, between Kahoolawe and Molokini (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kai-o-Haui** | -- | The name of the sea extending from Lahaina to Māʻalaea (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kai-o-Kauiki** | -- | "Fishing ground between East and West Maui. Sail out until both Kauiki and Puu Koaʻe are like small humps (okuku liilii) on the surface of the sea. The length of line required to touch bottom is about 1-1/2 or 2 kaau," (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kaleʻia** | Literally translated as "the abundance," (Pukui, Elbert, and Mookini 1974:76). | Another name for the shoreline at Māʻalaea per Clark (1989:50). |
| **Kanaio** | Literally translated as "the bastard sandalwood tree," (Pukui, Elbert, and Mookini 1974:83). | Described as the Māʻalaea coastal area in Pukui, Elbert, Mookini (1974:76).<br>Another name for the shoreline at Māʻalaea according to Clark (1989:50). |
| **Kapoli** | Literally translated as "the bosom," (Pukui, Elbert, and Mookini 1974:89). | Pukui, Elbert, and Mookini 1974:89 list "Kapoli" as the name of a pūnāwai (*spring*) associated with Māʻalaea, Maui.<br><br>Canoe landing at Māʻalaea (Henriques 1916, HEN 2:214 in Sterling 1998:80). |
| **Māʻalaea (Kamaalaea)** | Described by Pukui, Elbert, and Mookini (1974:137) as a possible a contraction of "Makaʻalaea," meaning "ocherous earth beginnings." | Described by Pukui, Elbert, and Mookini (1974:137) as a "bay, village, and boat harbor, Maui isthmus." |
| **Palalau** | Literally translated as "yellow leaf," (Pukui, Elbert, and Mookini 1974:76). | Described as the Māʻalaea coastal area in Pukui, Elbert, Mookini (1974:176).<br>Another name for the shoreline at Māʻalaea per Clark (1989:50). |

| Inoa | Possible Translation | Description and Location |
|---|---|---|
| **Papawai** | Literally translated as “water stratum,” (Pukui, Elbert, and Mookini 1974:180). | Described by Pukui, Elbert, and Mookini (1974:180) as a “point and hill” in Māʻalaea. |
| **Puʻuhele** | Literally translated as “traveling hill,” (Pukui, Elbert, and Mookini 1974:196). | Described by Pukui, Elbert, and Mookini (1974:196) as a “cemetery and hill behind Māʻalaea.” Described by Fornander as the father of Molokini islet, and Puuokali as Molokini’s mother (Fornander 1918:514). |
| **Puʻuokali** | Literally translated as “hill of waiting,” (Pukui, Elbert, and Mookini 1974:203). | Described by Pukui, Elbert, and Mookini (1974:196) as “a quadrangle and hill” in Māʻalaea. Described by Fornander as the father of Molokini islet, and Puuokali as Molokini’s mother (Fornander 1918:514) |
| **Puʻu Lūʻau** | | Oral traditions persisting in the Maui community describe this puʻu as the place where lūʻau for the pēʻū dish favored by Pele and her family was grown (Amadeo n.d. in Pata 2022:298). Pellegrino (2002-2020) for the Maui Nui Ahupuaʻa Project locates Puʻu Lūʻau along the western boundary of Waikapū. |
| **Waikapū** | Literally translated as “[w]ater [of] the conch,” (Pukui, Elbert, and Mookini 1974:223). | Ahupuaʻa |

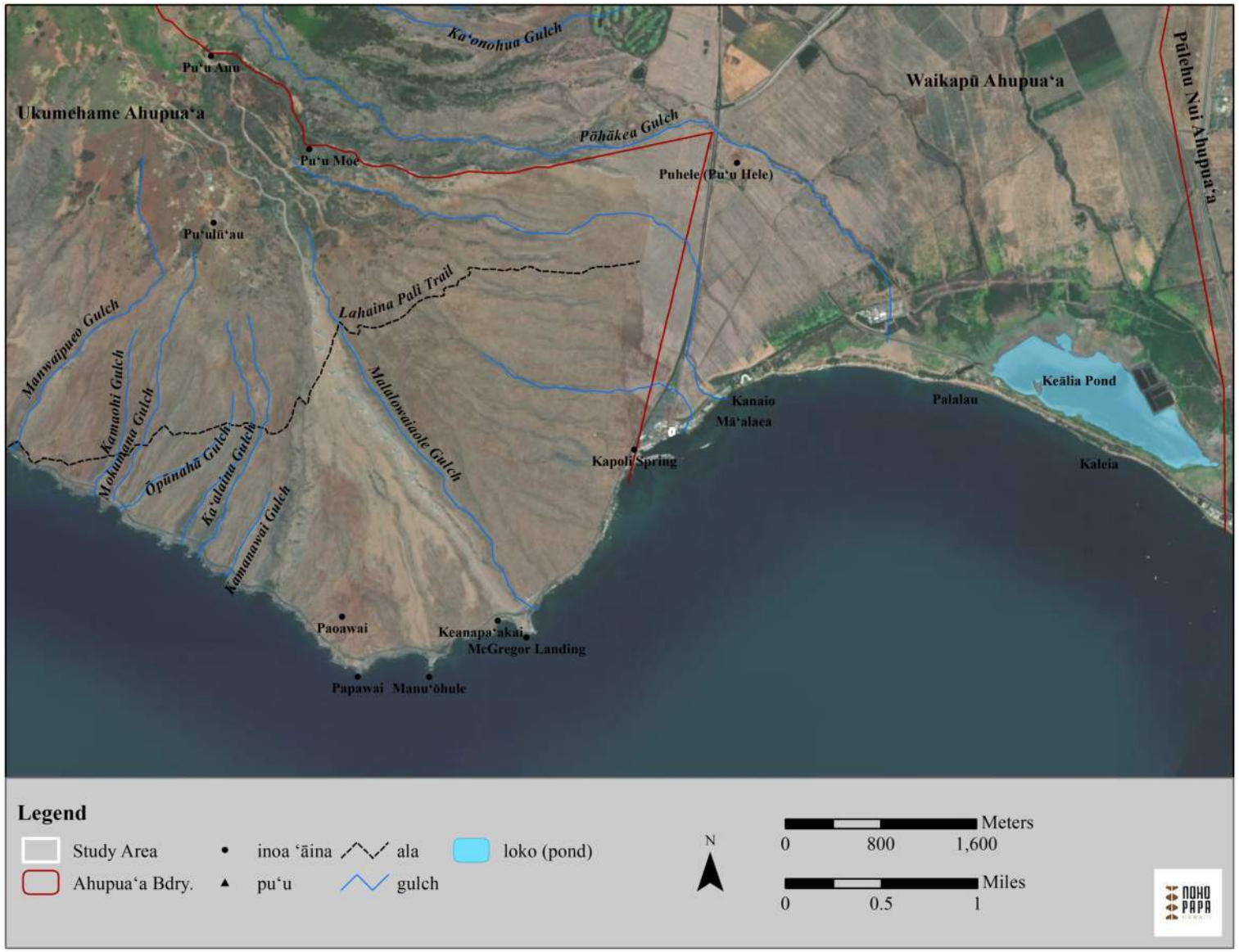



Figure 6. Wahi Kūpuna of the project area and vicinity in Waikapū and Ukumehame Ahupua'a, Wailuku Moku, Maui.

## Oli, Mele, and ʻŌlelo Noʻeau

Kikiloi (2010:78) defines Hawaiian oral traditions as "verbal testimonies or reported statements concerning the past," and ʻike kūpuna and divides them into two types. One group of Hawaiian oral traditions identified by Kikiloi (2010:79) include oli (*chants*), mele (*songs*), and ʻōlelo noʻeau (*proverbs*) which are short, reproduced through strict protocol, and often "part of sacred learning or tradition," Kikiloi (2010:78).

Nogelmeier (2001:vii, 1) defines mele as "Hawaiian poetic compositions to be performed as chants or dances," and "both an art and an ancient tradition…". The ancient, pan-Pacific roots, developmental trajectory, and depth and breadth of the Hawaiian oral tradition is synthesized by Nogelmeier:

> Before Europeans arrived in the Islands, poetry was part of the vast collective repository of oral tradition necessary for social continuity in such a complex oral culture. Poetic form was useful for remembering genealogies and for documenting historical events; combined into histories and legends, this kind of poetry has been recorded throughout the many Pacific cultures. Eventual interior changes in Hawaiian society certainly affected the uses of poetry, fostering its status in the protocols of royal court and religious ceremony and at the same time expanding the practice and appreciation of the art throughout the general population. Whether recited as prayer or invocation, intoned in chang without accompaniment, or presented through dancers as a hula, poetic compositions were called *mele*. Expressing the skills of the poet and the reciter, the art came to be widely embraced; poetic presentation, as pleasant pastime and formal purpose, became a social norm. [Nogelmeier: 2001:1]

Kanikau are defined as a "dirge, lamentation, chant of mourning, lament," (Pukui and Elbert 1986: 129). Puakea Nogelmeier, in an interview with Hina Kneubuhl, explains kanikau as "…a type of mele – a chant – that shows love and relationship to a person, usually someone who had passed on," further stating, "[i]t's a fond recollection, in a sense. The relationship is recalled, sometimes in order of time, sometimes in order of places where the two spent time together…" (Kealopiko 2022). G.W. Lawelulu published a kanikau in the May 29, 1880 edition of *Ko Hawaii Pae Aina* rich describes the character of Māʻalaea and features of their daughter's relationship with the place:

| | |
|---|---|
| Kuu kaikamahine I na Hono a Maui, | *My dear daughter in the bays of Maui* |
| I hanauia I ke kai hone o Maalaea, | *Born in the whispering sea of Maʻalaea,* |
| He kupa he kamaaina oe no ia wahi, | *You are a native, a local of that place,* |
| Mai na ale lauwili o Papawai, | *From the swirling waves of Papawai,* |
| Mai n alae ononi o Puuolai, | *From the point that moves about at Puʻuolaʻi* |
| Lai iho la kuu lei rose I ka pohu | *My previous rose lei is calm and serene.* |

[Laweluwelu 1880 in Clark and NeSmith (trans.) 2011:167]

An excerpt from a kanikau published by Mr. George Alika in the March 19, 1887 edition of *Ko Hawaii Pae Aina* describes the surf of Māʻalaea and an associated place name:

| | |
|---|---|
| Kuu keiki mai ka nalu hailua a Maalaea | *My dear child from the merging waves at Māʻalaea* |
| E kilohi ana I ka nani o Puuolai | *Gazing at the beauty of Puʻuōlaʻi.* |

[Alika 1887 in Clark and NeSmith (trans.) 2011:116]

ʻŌlelo noʻeau, or Hawaiian proverbs and poetical sayings, are valuable in perpetuating Hawaiian cultural knowledge, presenting layers of kaona (*meaning*), and illustrating creative expressions that incorporate observational knowledge with cultural values, history, knowledge, and humor. Today, they serve as a traditional source to learn about the communities, people, places, histories, and environments of Hawaiʻi.

No ʻōlelo noʻeau associated with Māʻalaea were revealed during background research for this report. An ʻōlelo noʻeau featuring Waikapū, Maui, is featured below:

Na wai ʻehā.
*The four wai.*
A poetic term for these places on Maui: Wailuku, Waiehu, Waiheʻe, Waikapū, each of which has a flowing water (*wai*).
[Pukui 1983:251, #2300]

## Moʻolelo And Kaʻao

Moʻolelo (*narratives*) and kaʻao (*histories*), which are more flexible in structure, version, and meaning, are the second type of Hawaiian oral traditions – verbal testimonies or reported statements concerning the past," and ʻike kūpuna (Kikiloi 2010:78).

"Kamaalaea" is referenced in ʻĪʻī's *Fragments of Hawaiian History*. In one reference, the famed warrior, advisor, and companion of Kamehameha Kekūhaupiʻo prepares for battle there:

> When Kekuhaupio heard of the defeat, he prepared for battle. He began at Kamaalaea, on the ridge of Puuhele, for there were tall *ʻilima* bushes along a very narrow trail and he felt that it would be a good spot from which to fight [the warriors of Maui]. [ʻĪʻī 1995:10]

A Hawaiian oral tradition recorded during the nineteenth century by Kānaka (*Hawaiian*) scholar Samuel Mānaiakalani Kamakau holds that following his death, the body of Chief Kekaulike was ferried through the landing at Kapoli in Māʻalaea. It reads:

> When Ke-kau-like heard that the ruling chief of Hawaii was at Kohala on his way to war against Maui, he was afraid and fled to Wailuku in his double war canoe named Ke-aka-milo.* He saild with his wives and children…his officers, war leaders, chiefs, and fighting men, including warriors, spearmen, and counselors. Some went by canoe and some overland, and the fleet landed at Kapaʻahu at the pit of ʻAi-hakoʻkoʻ [sic] in Kula. Here on the shore the chiefs prepared a litter for Ke-kau-like and bore him upland to Halekiʻi in Kukahua. There Ke-kau-like died, and the sound of lamentation for the dead arose. Then, fearing the arrival of Alapaʻi bent on war, the chiefs cut the flesh from the bones of Ke-kau-like in order to lighten the load in carrying the body to ʻIao [for burial]. Placing the remains on a canoe, they saild [sic] and landed at Kapoli in Maʻalaea and thence went on to Puʻuhele, to Kaluamanu, to Waikapu′ to Wahanemaile, to Kaumuʻilio, to ʻAoakamanu, to Puʻuʻelinapao, to Kaumulanahu, to Kapohakoʻi, to Kalua, to Kekio, to Kamaʻauwai, to Kahua, to Kaʻilipoe, to Kalihi, to Kaluaʻoiki, to Kihahale, stopped at Ahuwahine, laid him down at Loʻiloa, and put him away at Kapela. It was in the month of March, 1736 that Ke-kau-like died. [Kamakau 1961 (1992): 69, 70]

A Hawaiian oral tradition published in 1918 and credited to Lemuel K.N. Papa Jr. describes the storied cultural landscape of Māʻalaea. It reads:

> The parents of Molokini [the islet between Māʻalaea and Kahoʻolawe] were Puuhele the father and Puuokali the mother; they were lizards, those hills standing just beyond Kamaalaea. After they became husband and wife, Puuokali became pregnant with their first child, nad gave birth to a daughter, a lizard like themselves, to whom was given the name Puuoinaina. This daughter of theirs was placed on Kahoolawe; the name of Kahoolawe at that time, however, was Kohemalamalama ;[sic] it was a very sacred land at that time, no chiefs or common people went there. [Papa Jr., n.d. in Fornander 1918: 514]

Between 1920 and 1924, the Hawaiian pastor Stephen Langhern Desha published installations of "He Moolelo Kaao no Kekuhaupio, Ke Koa Kaulana o ke Au o Kamehameha ka Nui" (*A Tradition of Kekuhaupio, the Famous Warrior in the time of Kamehameha the Great*) in the Hawaiian language newspaper he edited entitled *Ka Hoku o Hawaii* (*Star of Hawaiʻi*). Desha's version of the moʻolelo describes Māʻalaea as a canoe landing and cove, rife with Maui spies, and Papawai, another place name of Māʻalaea, as a white sand puʻu filled with rival warriors and strategic location to stage a battle. A relevant excerpt from Desha reads:

> After they left kīhei, Kamehameha though of landing at Māʻalaea because he wished to climb secretly above Wailuku and to spy over the battle status of King Kahekili. He also took his follower Kekūhaupiʻo. However, while his double canoe was traveling at sea, and because there was some moonlight that night and yet some darkness, some Maui people quickly realized that this was a spying canoe moving in the darkness on the sea, and they followed along the shore. When Kamehameha's canoe came in to land at that place his sharp eyes saw that they were visible to everyone, therefore he quickly ordered his paddlers to move to another cove beyond Māʻalaea. Kamehameha's canoe arrived at Papawai Point, close to a little sandy cove. At that time he and Kekūhaupiʻo realized that the area was full of Kahekili's warriors who were visibly ready for them to leap ashore. [Desha and Frazier (trans.) 2000:38, 39]

Desha goes on to say the expert warrior Kekūhaupiʻo advised Kamehameha to make landing at Papawai, where rival warriors of Kahekili's waiting army were easily visible, an intentional and strategic move that allowed Kamehameha's forces to prevail in battle (Desha and Frazier [trans.] 2000:38, 39).

Desha also writes that the lands between Māʻalaea and Puʻuōlaʻi, a hill, were repeat battlefields for the armies of Kalanikūpule and Kamehemeha I, specifically chosen by Kekūhaupiʻo (Desha and Frazier [trans.] 2000:249). Desha also tells of the sound of a famed war trumpet echoing over Māʻalaea:

> …Kamehameha prepared his warriors for battle on the next day. When morning came, the two sides engaged in battle. Before moving to battle in that purple dawn (*kakahiaka poniponi*), the famous war trumpet (*pū kaua*) named Hinamakanui, made of a conch or triton shell, was blown. On the soundings of this famous *pū kaua* on the side of Kamehameha, its deep voice was heard by the people at Māʻalaea and also by those at Waiheʻe. This war trumpet, a relic from the ancient past, sounded three times, and the people who heard its sound on this purple dawning understood that this was a proclamation of war by the *aliʻi* Paeʻea Kamehemeha of Hawaiʻi Nui Kuauli. [Desha and Frazier (trans.) 2000:252]

Hawaiian ethnographer Mary Kawena Pukui collaborated with E.S. Craighill Handy and Elizabeth Green Handy on the 1972 *Native Planters in Old Hawaii: Their Life, Lore, and Environment*. According to their research, Lahaina to the west of the project area was a chiefly center (Handy, Handy, and Pukui 1972:272). Coastal southwest Maui was renowned for breadfruit, and its fertile fishing grounds (Handy, Handy, and Pukui 1972:153, 272). Coconut groves were also likely present (Handy, Handy, and Pukui 1972: 172,272).

Pukui, Elbert, and Mookini (1974:196) write that Puʻuokali - a hill mauka of Māʻalaea and the current project area - was "believed once a moʻo, the wife of nearby puʻu-hele; their child, puʻuo-inaina (hill of wrath) was placed on Ka-hoʻolawe and later was a lover of Pele's sweetheart, Lohiʻau."

Pata paraphrases a moʻolelo associating Pele with the creation of Māʻalaea and neighboring Keālia Pond, shared with them by a Maui kupuna:

> When Pele fled from the Lahaina side, after a fight with Nāmaka-okahaʻi, she created Haleakalā for her family and herself. The favorite food of Pele and her sisters is pēʻū [ceremonially cooked lūʻau leaves cooked with salt]. But on this side of the island, their followers had no salt with which to prepare it. So Pele created Māʻalaea – then called Kamāʻalaea – and then sook some salt [of her tears in one version, and some that she had kept since Kauaʻi in another], and created Keālia Pond. The lūʻau for their pēʻū was grown on Puʻu Lūʻau, above Māʻalaea.[Amadeo n.d. in Pata 2022:298]

# HISTORICAL LANDSCAPE

## Early Historical Period

Waikapu and Kamaalaea , place names and locations associated with the project area, appear on the earliest Hawaiian cartographic representations of kahiko (*old, ancient, traditional*) land divisions like moku and ahupua'a. "Kaik Kamaalaea," a label attached to a specific location east of the project area on Mā'alaea Bay, as well as Waikapu Moku are depicted in an 1837 map of the pae 'āina (archipelago) engraved by Kalama at Lahainaluna Seminary, Maui (Kalama 1837; Forbes 2012:150; Figure 7, Figure 8). "Kaik. Kamaalaea," labeling the kai (*ocean*), "Kamaalaea", labeling the coastal location near the project area, and "Waikapu" are all place names featured on Kalama's 1838 map engraving of the pae 'āina (Kalama 1838; Forbes 2012:150;Figure 9).

Historical maritime records of shipping vessels and commercial fleets associated with the Hawaiian monarchy record Mā'alaea as a boat harbor and stop for missionary families traveling a Honolulu- Mā'alaea-Hilo route in 1837 (Mills 2023:228).

Secondary to primary source Hawaiian oral traditions, knowledge streams, and ethnohistorical lines of evidence, are foreign perspectives and understandings of past and present Hawaiian cultural practices and traditions. A February 1, 1817 sailor's account of their visit to the Hawaiian Islands provides a description of Mā'alaea Bay from an outsider's perspective.

> We now made sail towards Mowee [sic], our ship, as usual, full of natives. Next morning we passed Morokenee (Molokini), and made sail up Mackerey (Maalaea) bay; here we lay until the 16th, and took on board a great quantity of hogs, salt, and vegetables. This bay is very deep and wide, and nearly divides the island, there being but a narrow neck of land and very low, keeping the two parts of the island together. There is good anchorage; and the only danger arises from the trade winds, which blow so strong at times as to drive ships out of the bay with two anchors down; it lies N.E. and S.W. and is well sheltered from every other wind. The neck of land is so low, and the land so high on each side, that the N.E. trade comes through like a hurricane. On this neck of land are their principal salt-pans, where they make most excellent salt. [Corney 1817 in Sterling 1998: 95].

Keālia, translated by Pukui, Elbert, and Mookini literally as "the salt encrustation," is notable alongside the presence of traditional salt pans mentioned by the sailor, perhaps representing evidence of salt resources/harvesting along Mā'alaea Bay in the project area vicinity.

On the basis of archaeological, ecological, and ethnographic evidence, E.S. Craighill Handy postulated in 1940 that the location of the current project area on the coastal flats of southwest Maui:

> must have supported many fishing settlements and isolated fishermen's houses, where sweet potatoes were grown in the sandy soil or red *lepo* near the shore. For fishing this coast is the most favorable on Maui, and, though a considerable amount of taro was grown, I think it is reasonable to suppose that the large fishing population which presumably inhabited this leeward coast ate more sweet potatoes than taro with their fish. [Handy 1940:149]

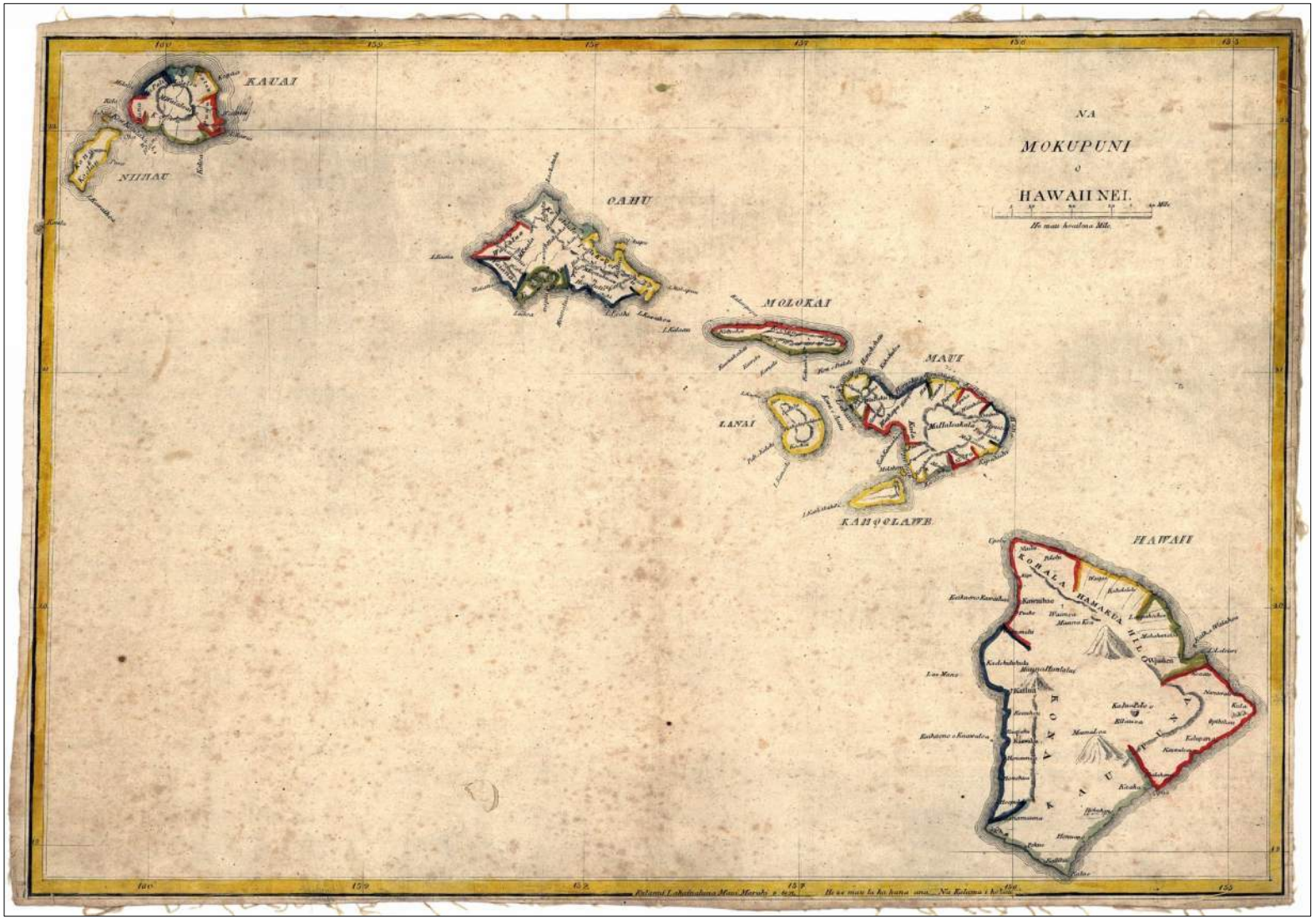



Figure 7. Kalama's 1837 map engraving of the pae ʻāina (*archipelago*) entitled "Ka Mokupuni o Hawaii Nei" (*The Islands of Hawaiʻi*) depicting "Kaik Kamaalaea," a label attached to a specific location east of the project area on Māʻalaea Bay, and the moku of Waikapu, Maui (Kalama 1837; Forbes 2012:150)

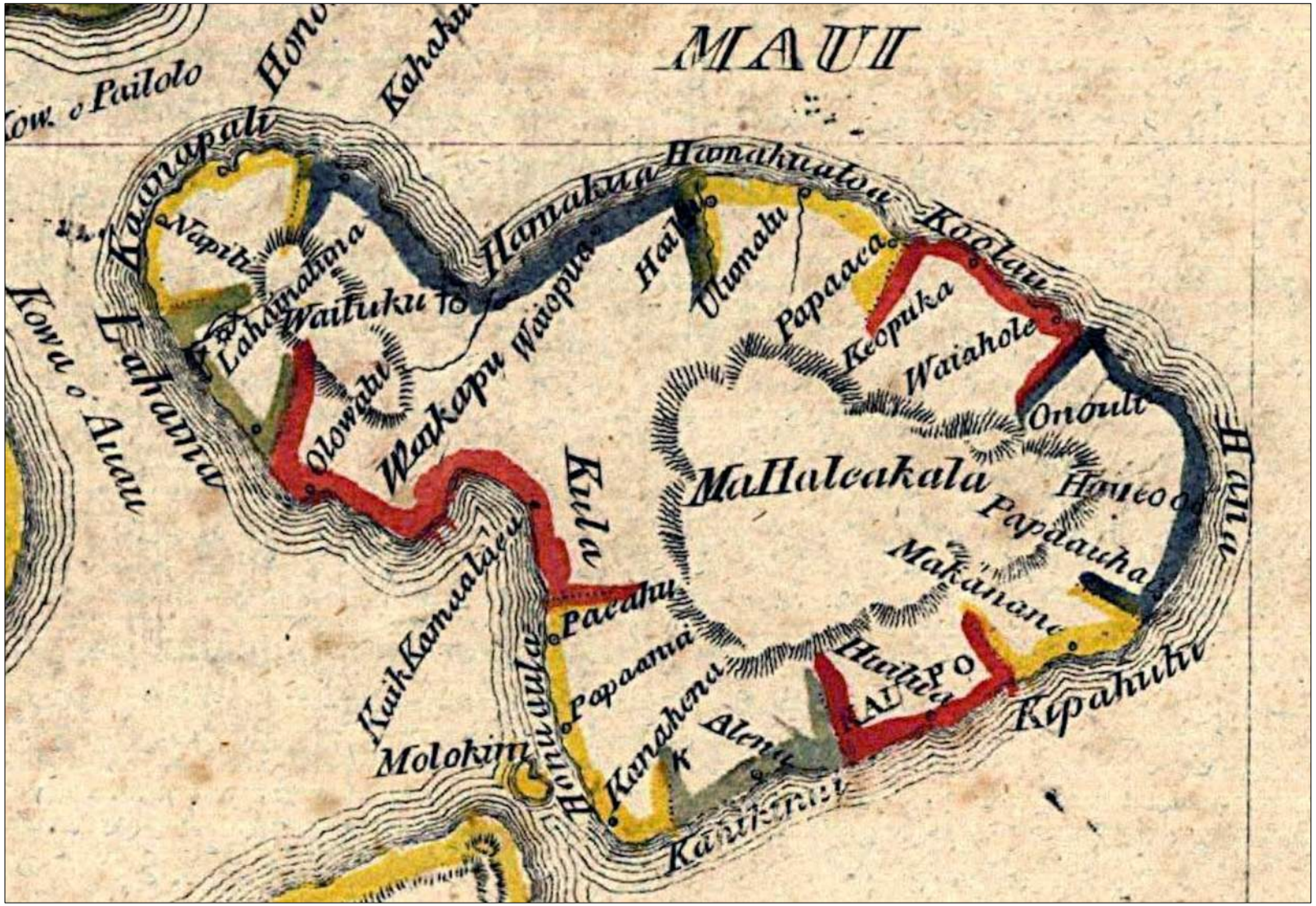


Figure 8. Close-up of the segment of Kalama's 1837 map engraving of the pae ʻāina entitled "Ka Mokupuni o Hawaii Nei" depicting depicting "Kaik Kamaalaea," a label attached to a specific location east of the project area on Māʻalaea Bay, and the moku of Waikapu, Maui (Kalama 1837; Forbes 2012:150)

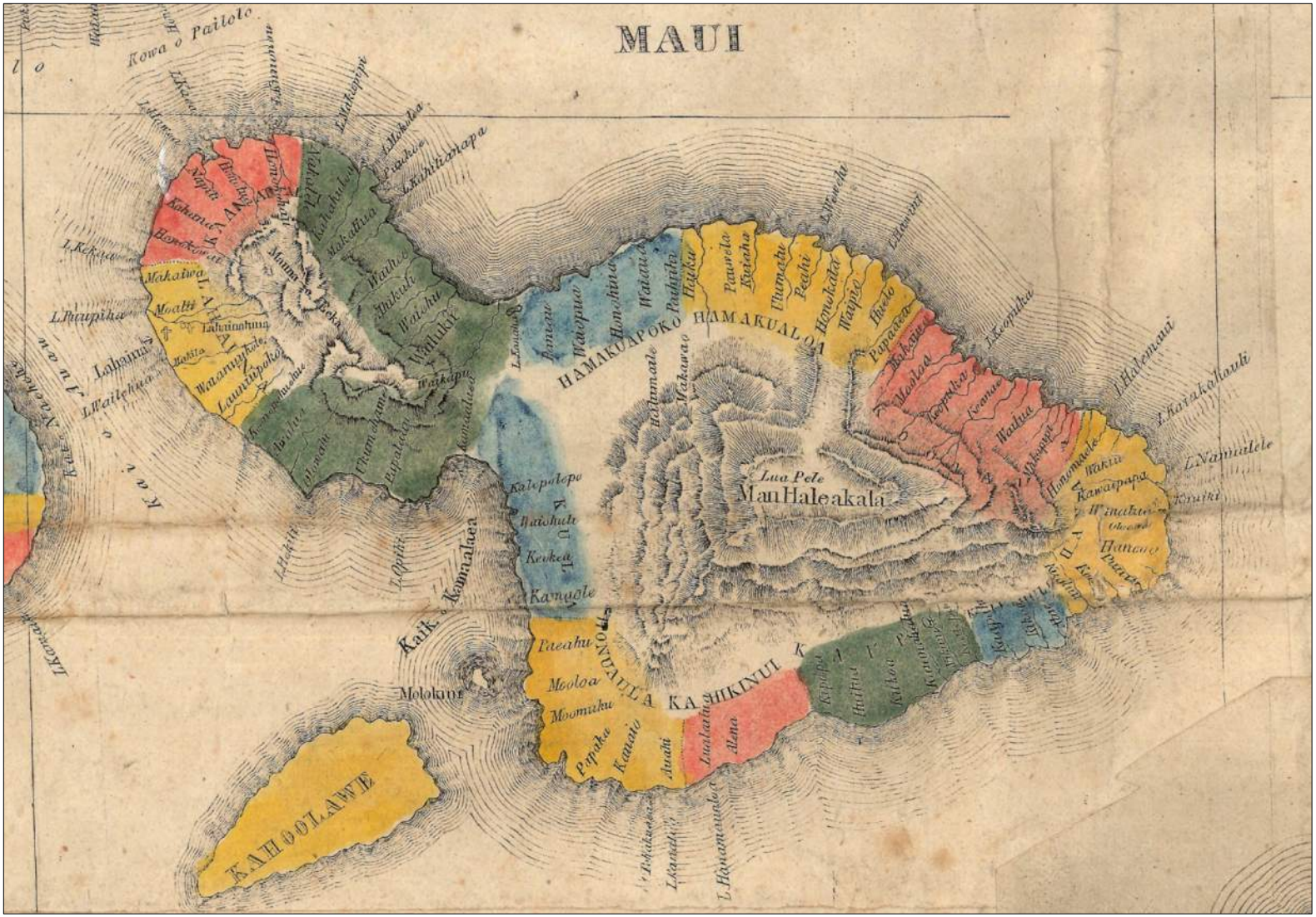



Figure 9. Close-up of a segment of Kalama's 1838 map engraving of the pae 'āina featuring "Kaik. Kamaalaea," labeling the kai (*ocean*), "Kamaalaea", labeling the coastal location near the project area, and the moku of "Waikapu", Maui (Kalama 1838; Forbes 2012:150)

## Māhele Historical Records

Land Claim and Land Claim Awards (LCAs) are invaluable historical records of Hawaiian land use, tenure, and ownership, especially during the era of the sovereign Hawaiian Kingdom. Māhele-era historical records available for the project area and environs evince that few LCAs were awarded in Waikapū's southern coastal plains. Awarded LCAs clustered around Māʻalaea Bay, and included two coastal house lots – Hika's LCA 2959 in the project area and Kaili's LCA 11156 west of the project area.

According to information available in the Kīpuka Database (both English language and as translated by Kaʻie Naboa-Cordy), LCA 2959 awarded to Hika and Land Grant 3152 issued to Henry Cornwell are associated with the project area. According to the Kīpuka Database, Hika's LCA was one of eight awarded along coastal Māʻalaea Bay - the only LCAs in Waikapū's southern coastal plains. The precise location of Hika's LCA is unclear; historical records indicate Hika's LCA may have overlapped the central southern portion of the current project area, though it may also have been located more partially or totally within the current project area (Hika 1850 in Kīpuka Database 2023b). Primary source records depict an "Alanui Aupuni" - *Kingdom roadway* of the sovereign Hawaiian nation - to the west that may have also overlapped the western periphery of the current project area, been included more fully within it, or located in proximity to it – historical records are again unclear (Hika 1850 in Kīpuka Database 2023b; Figure 10). Foreign testimony (Unknown author c.1850 in Kīpuka Database 2023b; Figure 12) associated with Hika's LCA describes their land in Māʻalaea as an ancestral house lot gained from "Kaui in 1846, and he from his father Keako in old times." In the Native Register for LCA 2959, Hika states they have just started living at Māʻalaea and describes 10 loʻ ī associated with the coastal land parcel and house lot (Hika 1848 in Kīpuka Database 2023a).

On November 18, 1875, Henry Cornwell was granted Royal Patent No. 3152 by King David Kalākaua and the Minister of the Interior William Luther Moehunua, who later resigned from his post within the government of the Hawaiian Kingdom to become the Governor of Maui (Kalākaua and Moehonua 1875; Figure 13 and Figure 14). In 1875, Cornwell purchased the entire ahupuaʻa of Waikapū for $15,050.00, paid to the Board of Education, in a contract that noted "Native rights reserved" and "saving and excepting grants hitherto made within the said Ahupuaa by the Government, or Sales made by the Board of Education," (Kalākaua and Moehonua 1875; Figure 15).

One additional LCA is found in the project area vicinity. Awarded in 1852, Kaili's LCA 11156 was located along the coastal Māʻalaea Bay roughly 200 m (600 feet) west of Hika's LCA 2959 and the current project area (see Figure 10). Kaili's LCA records describe a "[p]ahale ma Kamaalaea," within the LCA - another coastal house lot (Kaili 1852 in Kīpuka Database 2023d). Foreign testimony issued for Kaili's LCA 11156 issued by J. Kaauwai reads:

> J. Kaauwai sworn, says Kaili put in his claim for this House lot before M. Richards, in the year 1847 on Maui. Witness knew the House lot, it is situated in "Kamaalaea, Waikapu. [sic] It is enclosed and surrounded by Government land. Witness knows that the claimant has lived there ever since the year 1829. [J. Kaauwai 1852 in Kīpuka Database 2023e]

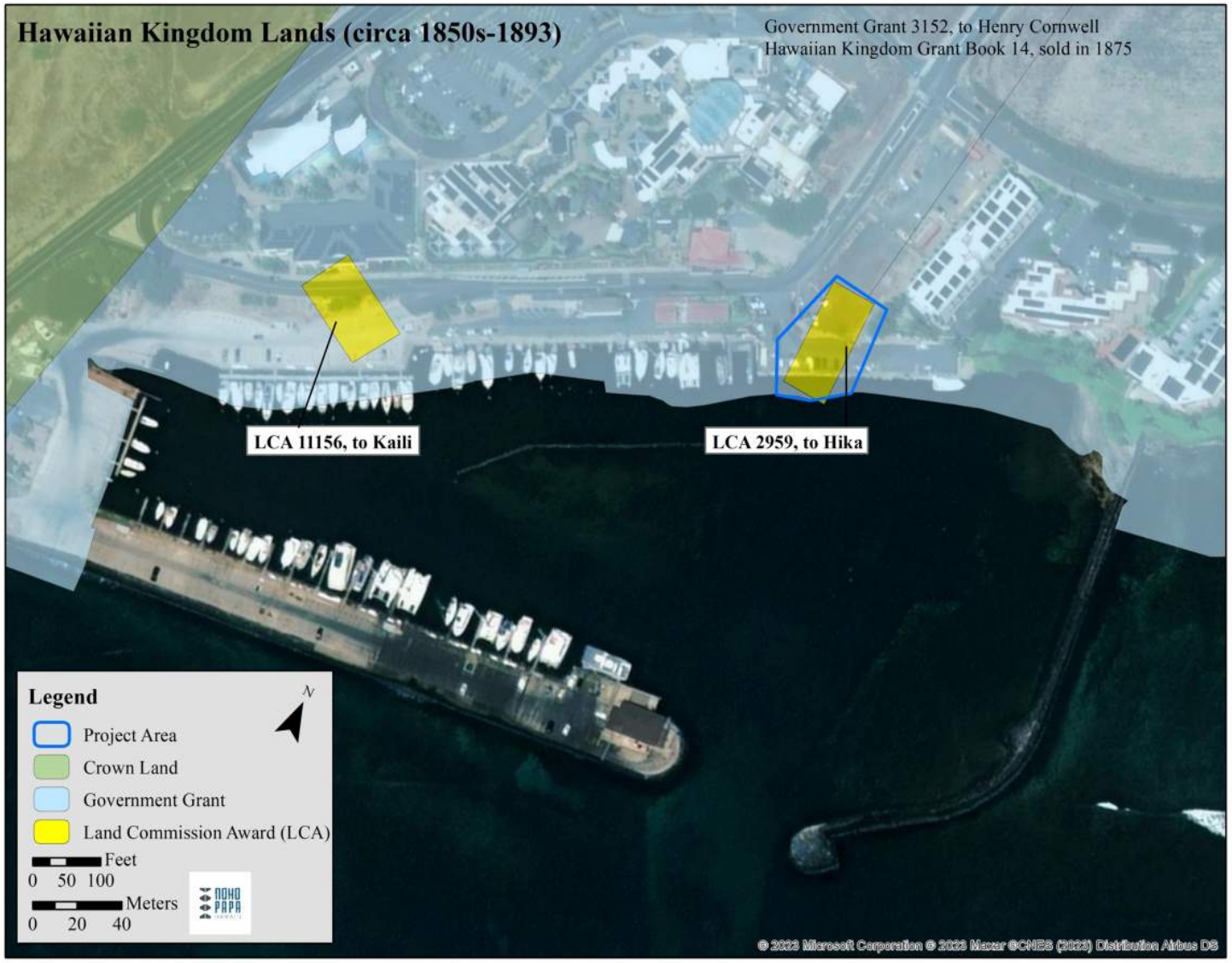



Figure 10. Aerial photo overlain with the approximate locations of Hika's LCA 2959, a house lot in Mā'alaea that hosted their "Pahale kai," in the current project area and Kaili's LCA 1156, west of the project area (Kipuka Database 2023b; Hika 1850 in Kīpuka Database 2023b; Kaili 1852 in Kīpuka Database 2023d).

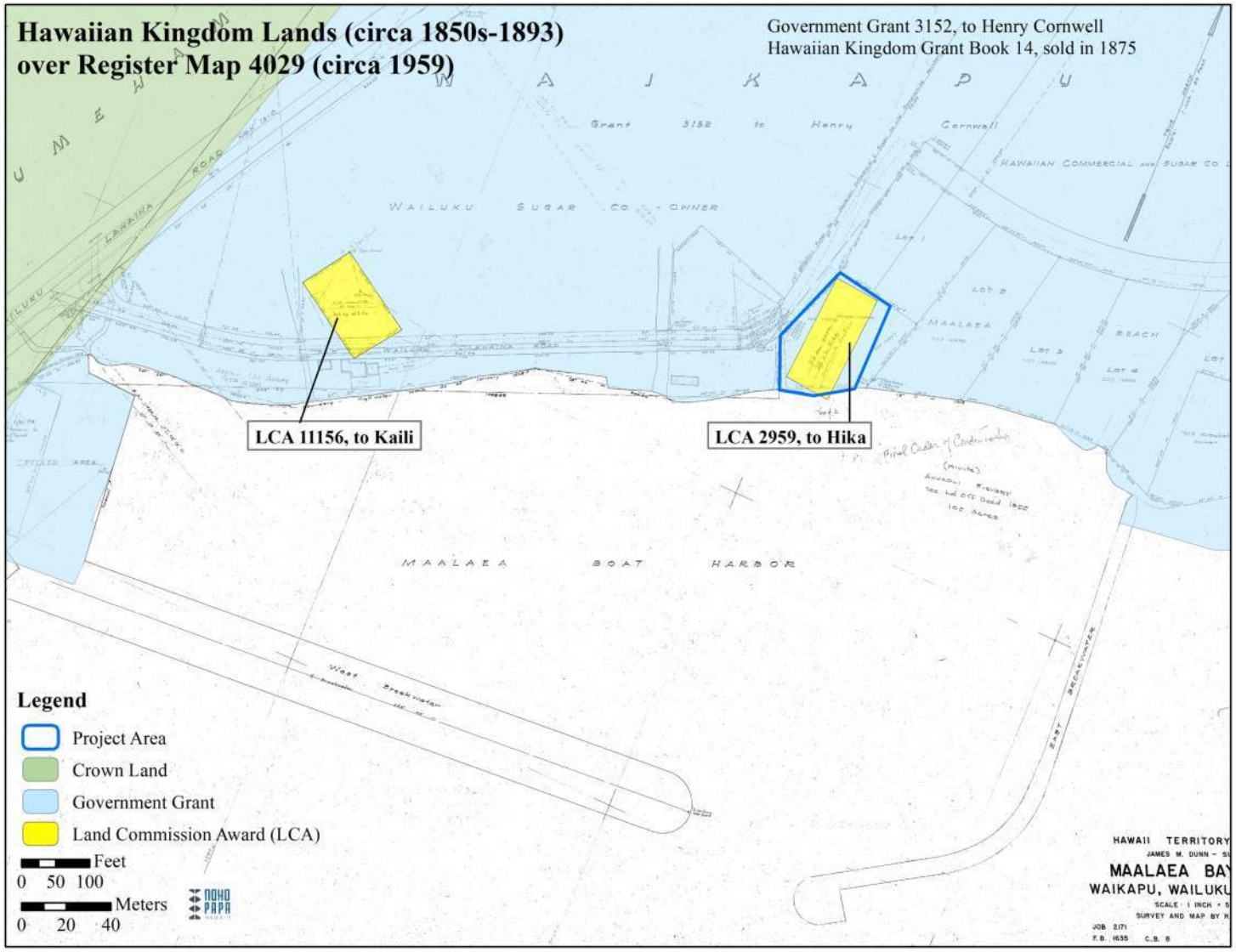



Figure 11. A 1959 Hawaii Territory map overlain with the approximate locations of Hika's LCA 2959, a house lot in Mā'alaea that hosted their "Pahale kai," in the current project area and Kaili's LCA 1156, west of the project area (Kipuka Database 2023b; Hika 1850 in Kīpuka Database 2023b; Kaili 1852 in Kīpuka Database 2023d).

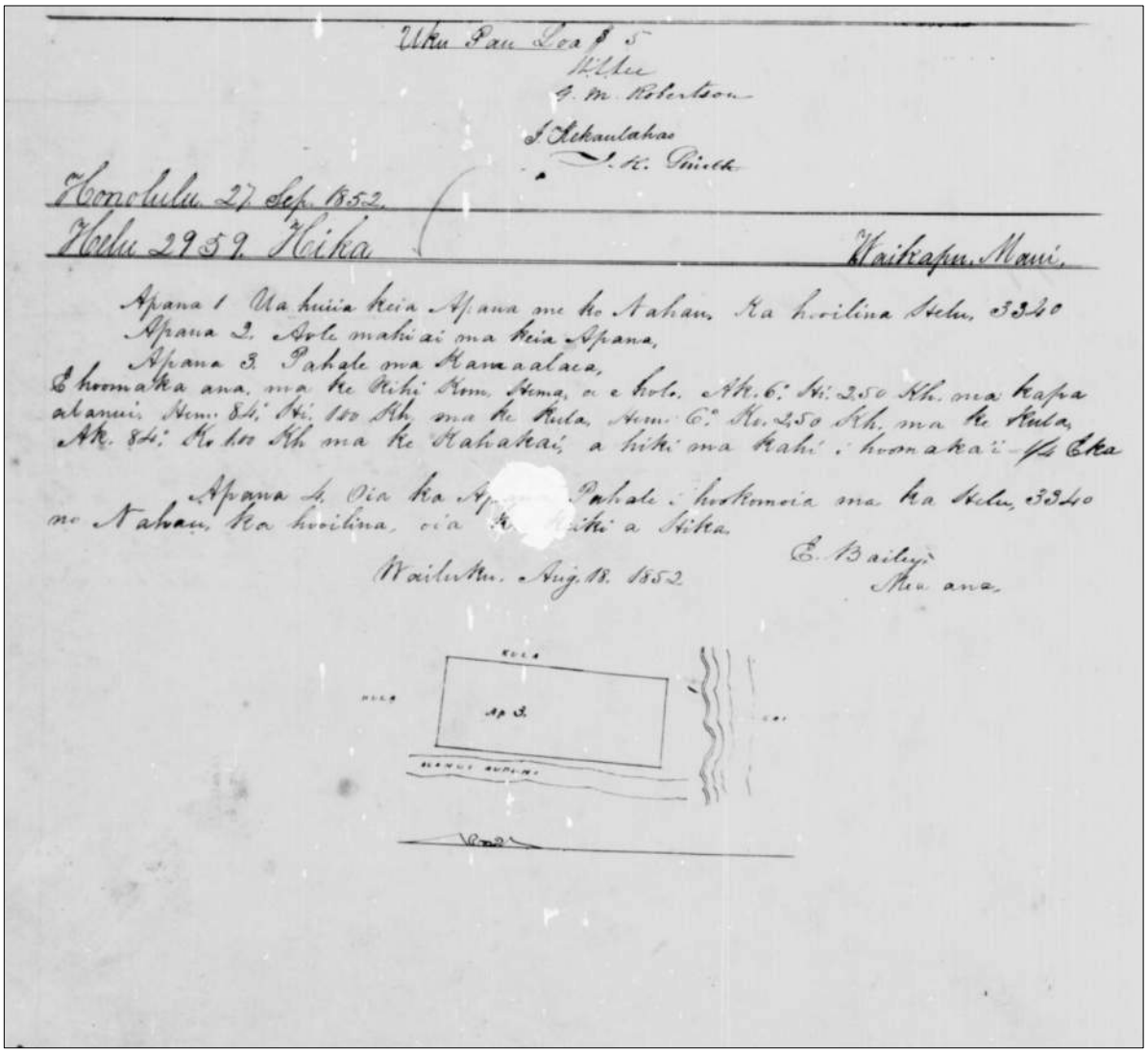
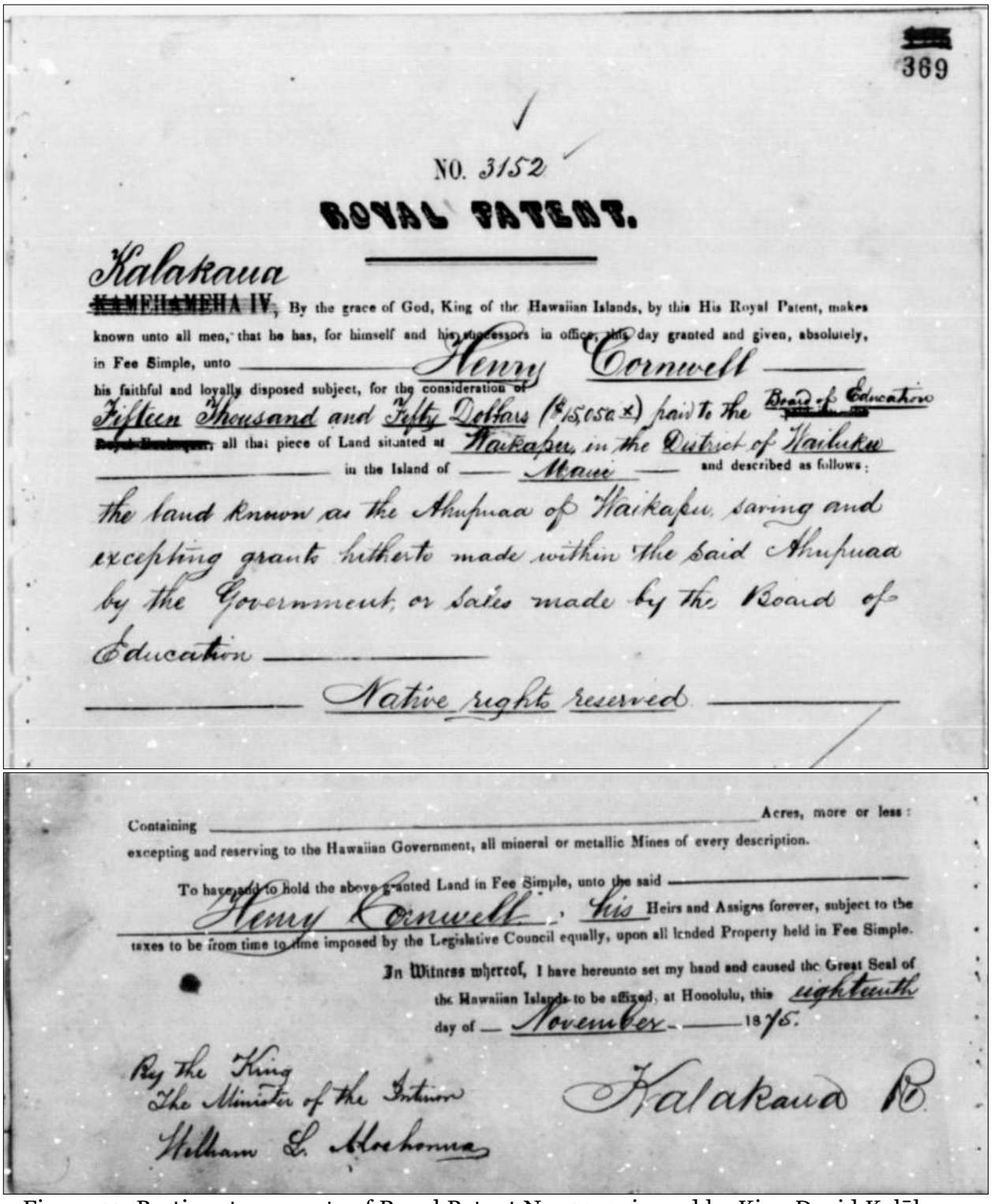


Figure 12. Hika's LCA 2959 record which notes a "Pahale ma Kamaalaea" or "*house lot at Kamaalaea"* within the bounds of his LCA, described as a "Pahale Kai" (*coastal houselot*) in their Land Claim (Hika 1850 in Kīpuka Database 2023b) and depicting an "Alanui Aupuni" – *Kingdom roadway* of the sovereign Hawaiian nation - west of their LCA, which may coincide with the western periphery of the current project area (Hika 1850 in Kipuka Database 2023b).



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NO. 3152

ROYAL PATENT.

Kalakaua
~~KAMEHAMEHA IV~~, By the grace of God, King of the Hawaiian Islands, by this His Royal Patent, makes known unto all men, that he has, for himself and his successors in office, this day granted and given, absolutely, in Fee Simple, unto Henry Cornwell his faithful and loyally disposed subject, for the consideration of Fifteen Thousand and Fifty Dollars ($15,050.00) paid to the Board of Education ~~Royal Exchequer~~, all that piece of Land situated at Waikapu, in the District of Wailuku in the Island of Maui and described as follows:

the land known as the Ahupuaa of Waikapu, saving and excepting grants hitherto made within the said Ahupuaa by the Government, or Sales made by the Board of Education

Native rights reserved

Containing _____ Acres, more or less:
excepting and reserving to the Hawaiian Government, all mineral or metallic Mines of every description.

To have and to hold the above granted Land in Fee Simple, unto the said Henry Cornwell, his Heirs and Assigns forever, subject to the taxes to be from time to time imposed by the Legislative Council equally, upon all landed Property held in Fee Simple.

In Witness whereof, I have hereunto set my hand and caused the Great Seal of the Hawaiian Islands to be affixed, at Honolulu, this eighteenth day of November 1875.

By the King
The Minister of the Interior
William L. Moehonua

Kalakaua R.

Figure 13. Pertinent segments of Royal Patent No. 3152, issued by King David Kalākaua and the Minister of the Interior William Luther Moehunua to Henry Cornwell on November 18, 1875. Cornwell purchased the entire ahupuaʻa of Waikapū (Kalākaua and Moehonua 1875).

Figure 14. A c. 1872 portrait featuring (seated left to right) William Luther Moehunua, William C. Lunalilo, Charles W. Stoddard, and David Kalākaua, and (standing left to right) possibly Dave McKinley, J.J. Kekaulahao, and Fred K. Beckley (Hawai'i State Archives c.1872)

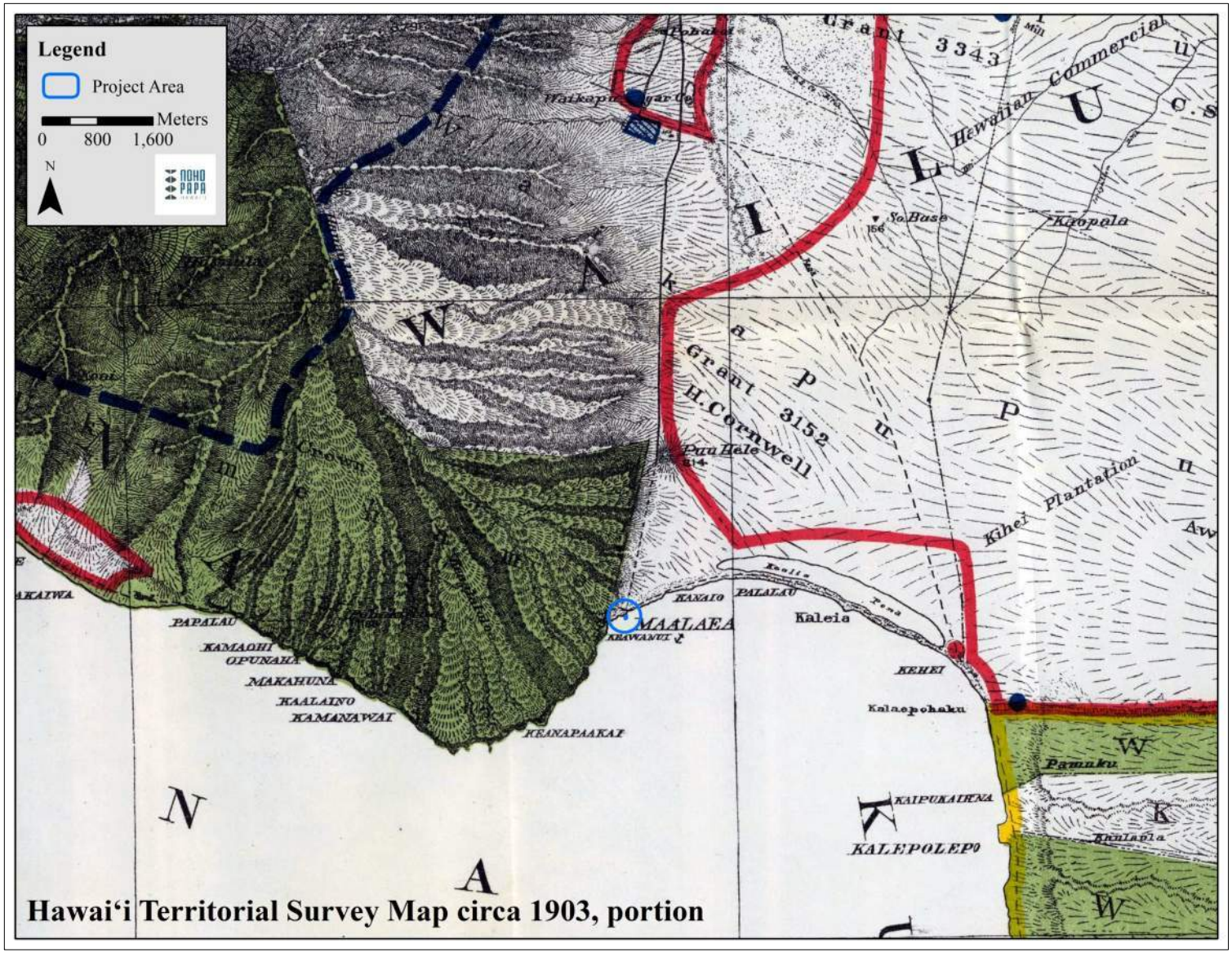


Figure 15. Portion of a 1903 Hawai'i Territorial Survey Map showing Mā'alaea and H. Cornwell's Land Grant 3152 for the entire ahupua'a of Waikapū (Kalākaua and Moehonua 1875)

## Mid- to Late-1800s

The local manifestation of global, extractive sugar industries and economies began in Central Maui and on the lands just north of the project area in the 1820s. The industry began a long term boom in the 1860s, enhanced by the ratification of the Reciprocity Treaty of 1875 that allowed free trade between the sovereign Hawaiian Kingdom and the United States (Dorrance and Morgan 2000:68; Maclennan 2014:23). Maclennan summarizes the evolution and economic/social impacts of the sugar industry in Hawai'i:

> The corporate form of organizing sugar production in Hawai'i grew out of the early experimentation with sugar cultivation promoted by the Hawaiian king and foreign planters. Corporations are a form of property organization that emerged throughout the world as a regular tool for organizing production in the late nineteenth century – but especially in North America and Europe. Hawai'i's sugar corporations – later known as the "Big Five" – followed a somewhat unique path, beginning with missionary settlers who pooled their money, property, and influence into vertically organized institutions that eventually controlled vast resources. Hawai'i's brand of capitalism was organic to the social and political arrangements of nineteenth-century life based on a native constitutional monarchy that operated in a global world of trade. The first missionary-created corporations emerged in the 1860s during the first sugar boom and within a quarter-century had brought enough wealth and power to their owners to enable them to challenge the political authority of the Hawaiian monarchy. Corporate property then propelled the missionary-descendants-turned-capitalists into positions of political power, serving the industrial drive toward sugar production for a global market. [Maclennan 2014:33]

An 1893 historical map of Sprecklesville Plantation, founded by California sugar baron Claus Spreckles on the plains of central Maui, shows the location of the project area in Mā'alaea. On the map, "the road to Maalaea" traces the same course as the Hawaiian "Alanui Aupuni" - *Kingdom roadway* of the sovereign Hawaiian nation - and bounds the project area to the west (Figure 16).

Historical records evince that Mā'alaea, location of the current project area, served as a boat landing in the 19th century. In their May 2, 1902 "Fishing Lore" article published in *Ka Nupepa Kuokoa* A.D. Kahulelio describes a swathe of sea "from the steamer landing of Maalaea to the cape of Kunounou at Honokapohau, district of Lahaina,"(Kahulelio 1902 [HEN trans.] in Sterling 1998:17).

## 1900s to Present

Historical and modern accounts, maps, and photographs provide an understanding of the cultural landscape, settlement, and land use of Mā'alaea and the project area during the 20th century through the present. Writing in 1918, Fornander (1918:514) explains Kamaalaea is "better known now as Maalaea, the western landing for central Maui." A travelogue published in the September 2, 1921 edition of Ka Nupepa Kuokoa by S.W. Kepano describes Mā'alaea and environs:

> ...It didn't take long ere we roared up the incline to Papalaau [in Ukumehame] to the pali of Aalaloloa. Swaying side to side and up and down we arrived at Maalaea. The nose was pointed towards Wailuku. The whistling of the gale from Waikapu Seemed to want to pinch us gently but we wouldn't heed it for our minds were set on arriving at the place of sheltering clouds...[Kepano 1921 in Sterling 1998:20]

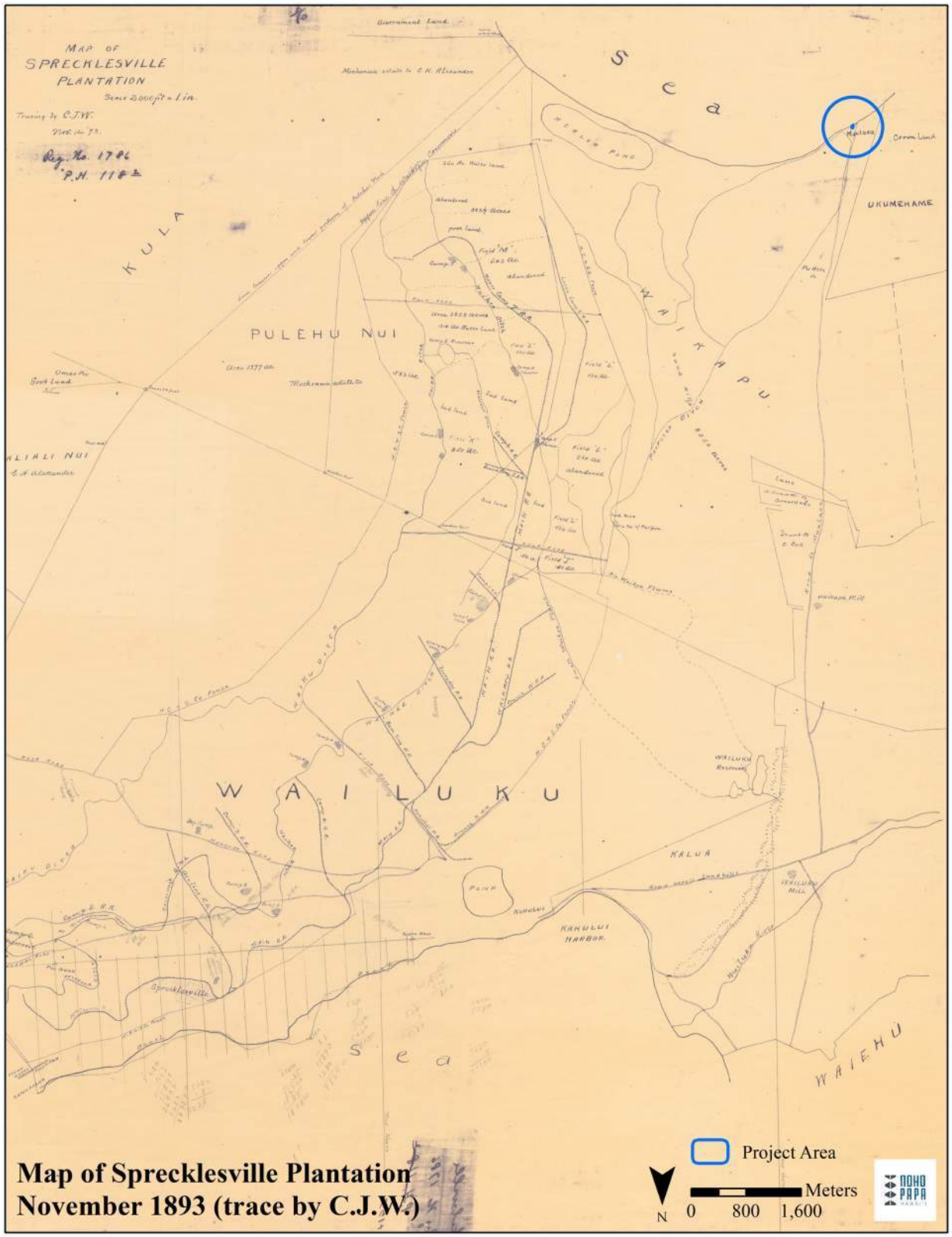


Figure 16. 1893 map of Specklesville Plantation on the plains of central Maui, northeast of the Māʻalaea project area, circled in blue (CJW 1893).

Kepano's article evinces the notable persistence of wahi kūpuna and wahi pana to Hawaiian geographies, understandings, and experiences of place in the early twentieth century (Kepano 1921 in Sterling 1998:20; Oliveira 2014).

A 1924 U.S. Geological Survey Map featuring several buildings in the current project area footprint, amidst the coastal cluster of buildings comprising the settlement at Māʻalaea. The same map features the project area vicinity prior to the installation of the landing (Geological Survey 1924; Figure 18). In his 1931 unpublished manuscript *Archaeology of Maui* produced for and on file at the Bishop Museum, the continental archaeologist Winslow Metcalf Walker repeatedly references "Maalaea village" as a point of orientation to describe the archaeological sites his work parces from the wahi kūpuna and cultural landscape. Local oral traditions reported on by Loomis (2015) for *The Hawai'i Herald* describe Māʻalaea's early twentieth century community as comprised of local families and Japanese fishermen who established the "Maalaea Ebisu Kotohira Jinsha" Shinto fishing shrine in 1914.[1]

Clark provides a history of the developmental trajectory of Māʻalaea Bay, beginning with the construction of the harbor. He writes:

> Constructed in 1952 as a recreational boat harbor by the State of Hawaiʻi, it includes a wide entrance channel, two breakwaters, a paved wharf, berthing facilities, a launching ramp, a Coast Guard Station, restrooms, and several parking areas. On July 15, 1975, Māʻalaea Harbor became one of the terminals for an interisland hydrofoil service called Seaflite…
>
> The company was beset with problems from the beginning, however, and eventually, because of the heavy financial costs of maintaining the vessels, closed down the operation. The last commercial run made by a Seaflite hydrofoil was on January 15, 1978. [Clark 1989:51]

Historical and modern maps illustrate the trajectory of development and settlement in the project area in Māʻalaea for the last 7 decades. Register Map 2976, dating to the mid-twentieth century, shows the coastline prior to the development of the harbor, including the village of Māʻalaea, of which the current project area was a part of (Figure 17). The Māʻalaea General Store (SIHP #-9109) is also in Māʻalaea Village (SIHP #-9199)[2]. Note, this is the only map found during background research for this study that depicts the location of Kapoli Spring, shown as walled - perhaps a traditional Hawaiian feature or historical addition intended to protect cattle.

A 1954 U.S. Geological Survey Map featuring several buildings in the current project area footprint in the growing settlement of Māʻalaea, and the installation of the breakwater (Geological Survey 1954; Figure 19). A 1958 Territory of Hawaii survey map denotes the location of Hika's LCA 2959 within the footprint of the current project area as well as the developmental footprint of the project area and vicinity that persists through today (Figure 20). A 1983 U.S. Geological Survey map records the project area as void of development, and condo complexes stretching along the coast in the project area vicinity (Geological Survey 1983; Figure 21). Available land records recording a lease in 1994 and fee title transfer in 2012 indicate DOBOR may have begun

[1] Possibly SIHP #-1604 - Kennedy (1986:1,3) describes the Maalaea Ebisu Kohohira Jinsha as SIHP #-1604, but the current SIHP list (SHPD 2023) does not contain SIHP #-1604.
[2] Maalaea Village (SIHP #-9199) is recorded in Nohopapa's internal database but does not appear in the DLNR-SHPD's March 2023 "Historic Registers" excel spreadsheet posted to their website (DLNR-SHPD 2023).

leasing the project area in 1994, and that current project area landowner Williams Opportunity Trust may have purchased the property in 2012 (County of Maui 2023). A 1996 U.S. Geological Survey map records the project area as void of development, and condo complexes stretching along the coast in their current configuration in the project area vicinity (Geological Survey 1983; Figure 22). The Maui Ocean Center, located directly west and across the street from the project area, opened in 1998 (Maui Ocean Center 2023).[3]

[3]Pertinent to the "Previous Archaeological Studies" section of this report as the location where at least three iwi kūpuna – SIHP #-3553, SIHP #-3554, SIHP #-4480 - were revealed during development-related activities. See discussion in next section, as well as McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007.

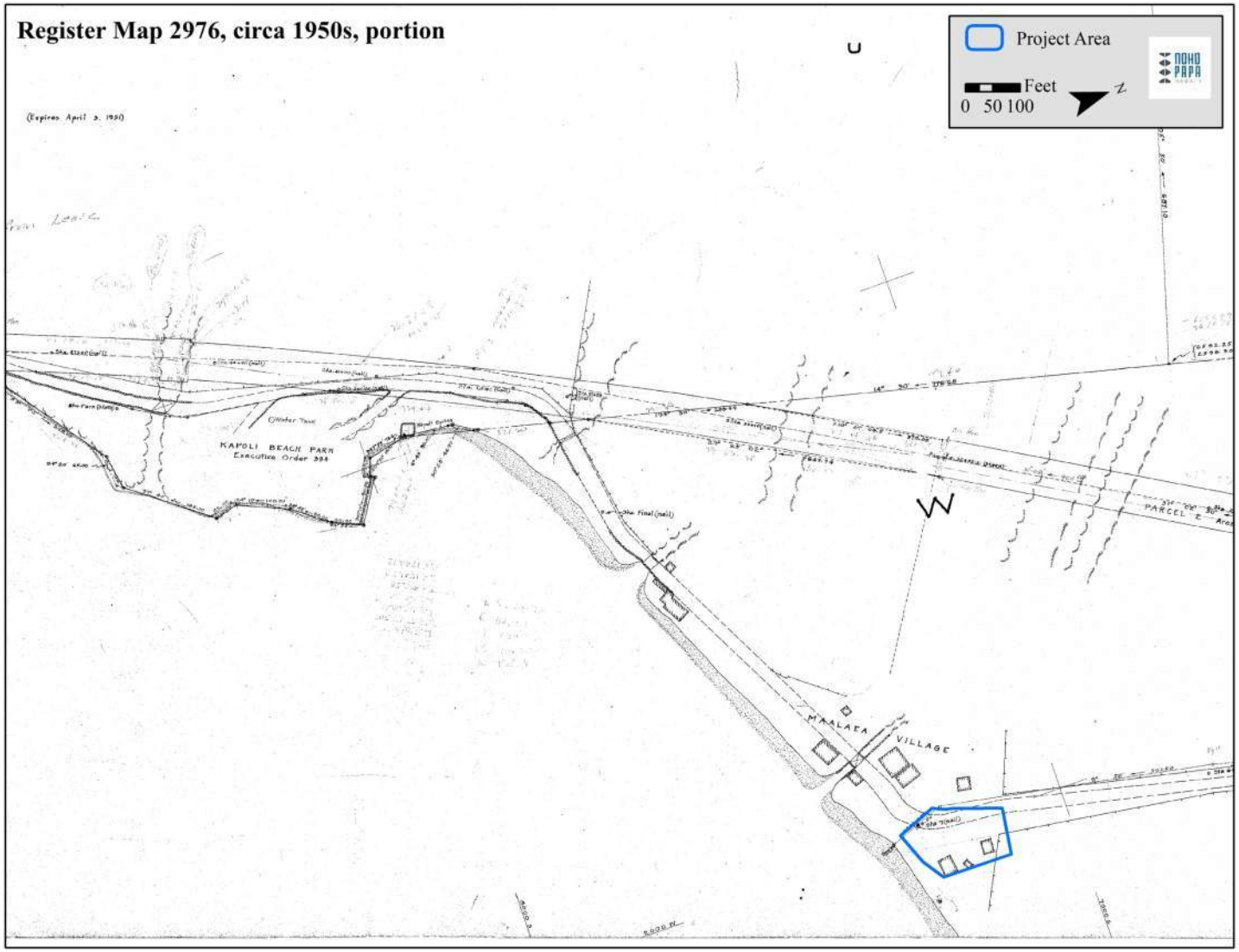


Figure 17. Register Map 2976, dating to the mid-twentieth century, shows the coastline prior to the development of the harbor, including the village of Mā‘alaea, of which the current project area was a part of.

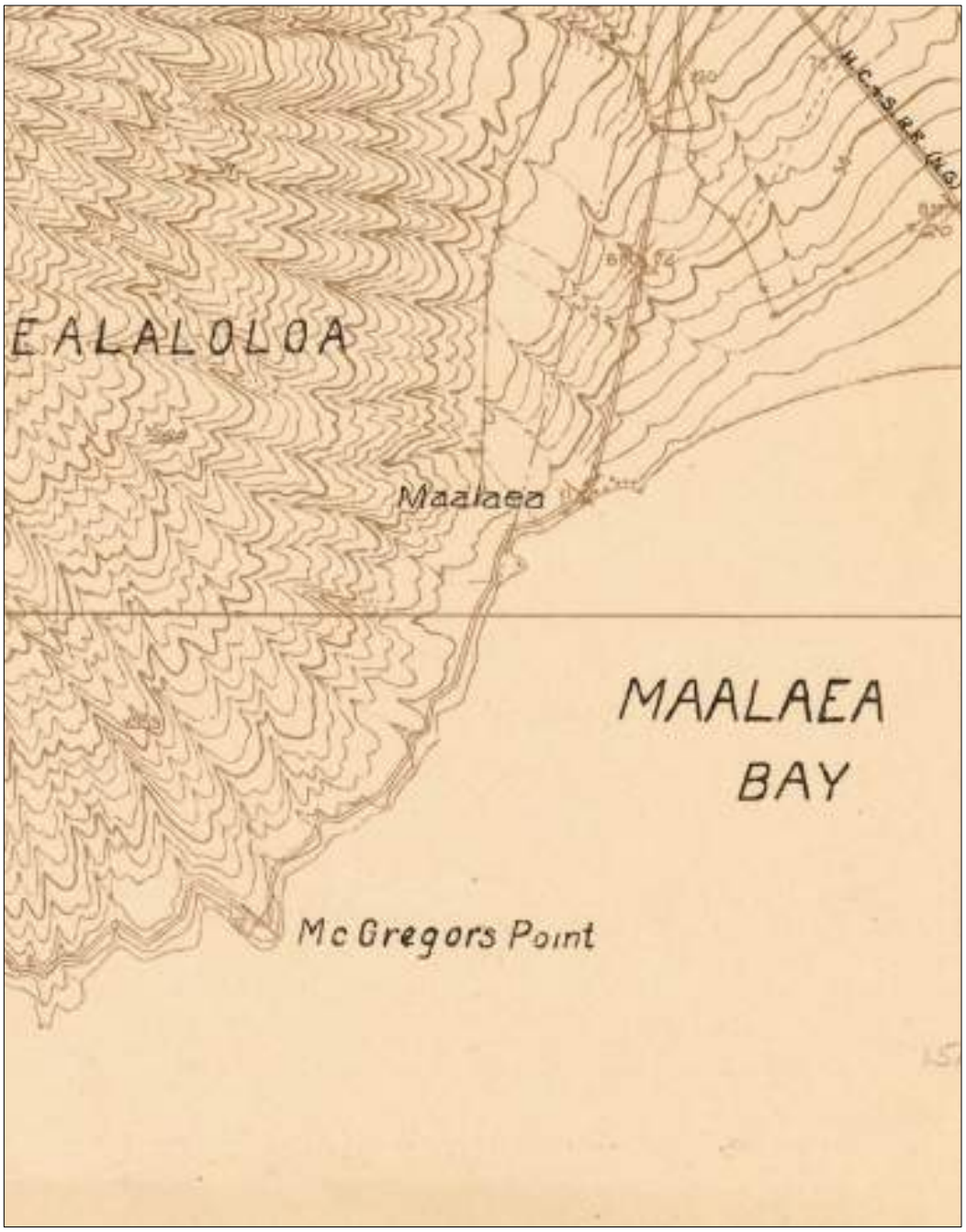


Figure 18. Close-up of a 1924 U.S. Geological Survey Map featuring several buildings in the current project area footprint, circled in blue, amidst the settlement at Māʻalaea as well as the project area vicinity prior to the installation of the breakwater (U.S. Geological Survey 1924).

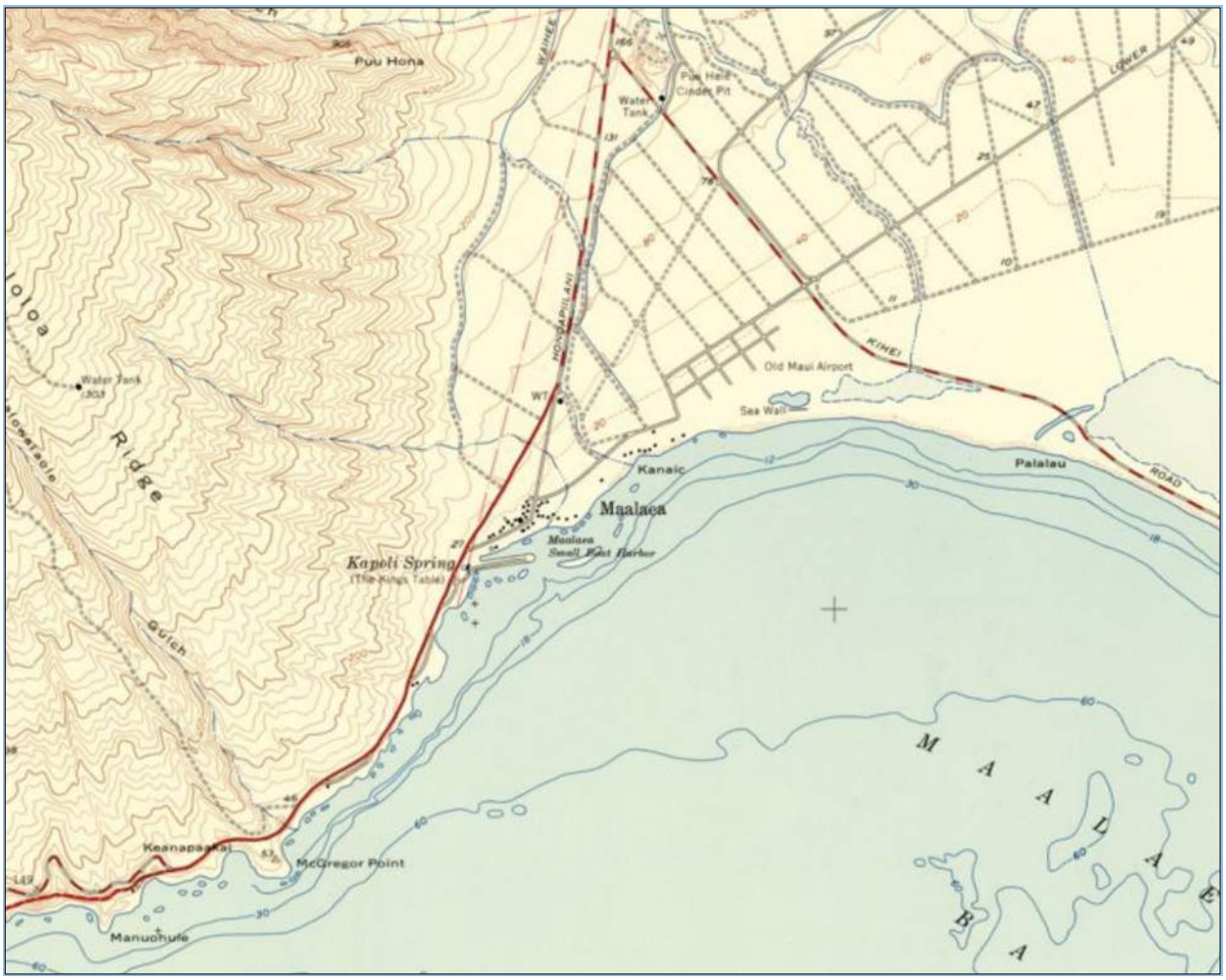


Figure 19. Close-up of a 1954 U.S. Geological Survey Map featuring several buildings in the current project area footprint, circled in blue, in the settlement at Māʻalaea, as well as the presence of the west breakwater (Geological Survey 1954).

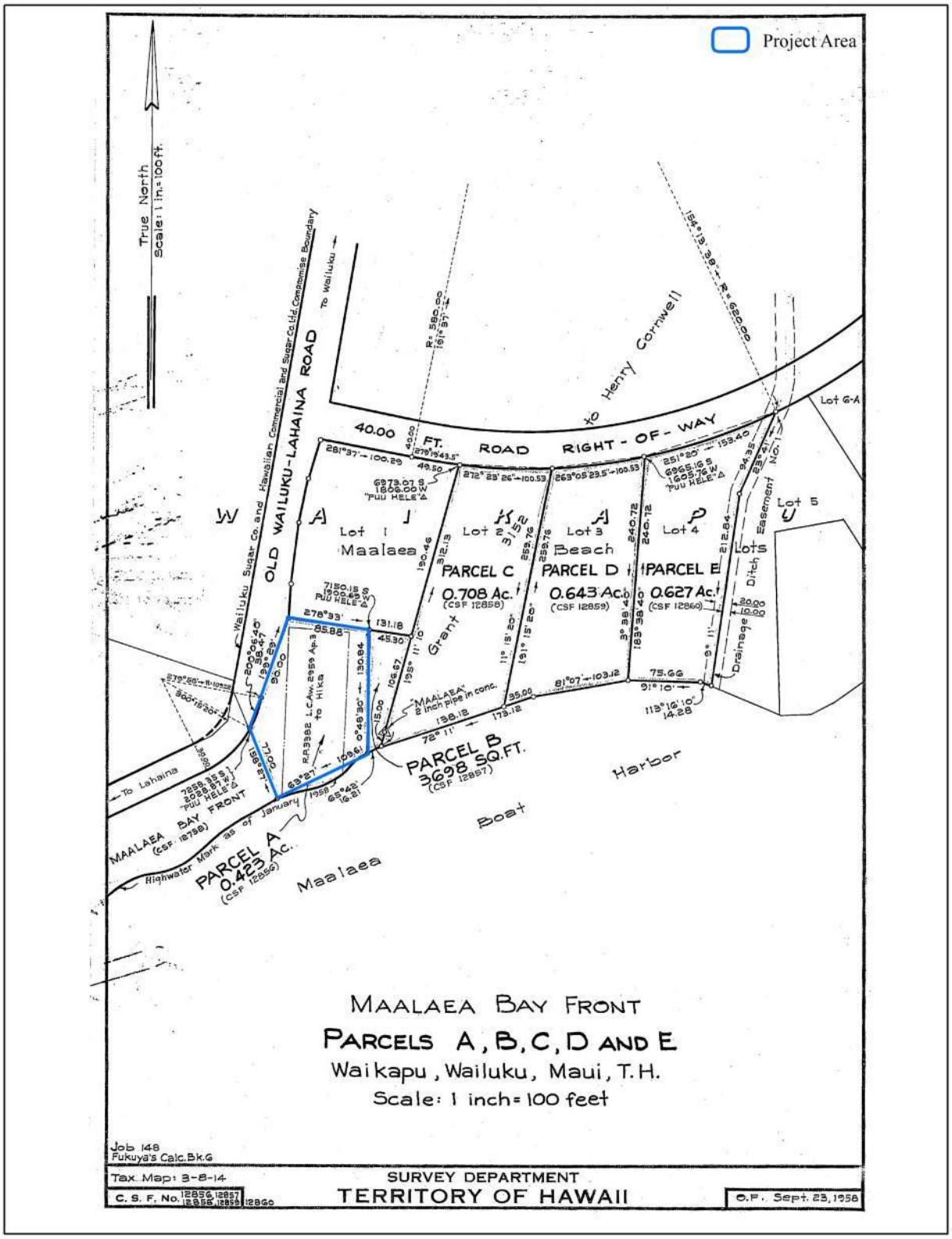


Figure 20. 1958 Territory of Hawaii survey map denoting the location of Hika's LCA 2959 within the footprint of the current project area, outlined in blue, as well as the developmental footprint of the project area and vicinity that persists through today (Territory of Hawaii 1958).

Figure 21. Close-up of a 1983 U.S. Geological Survey map showing the project area as void of development, and condo complexes constructed along the coast (U.S. Geological Survey 1983).

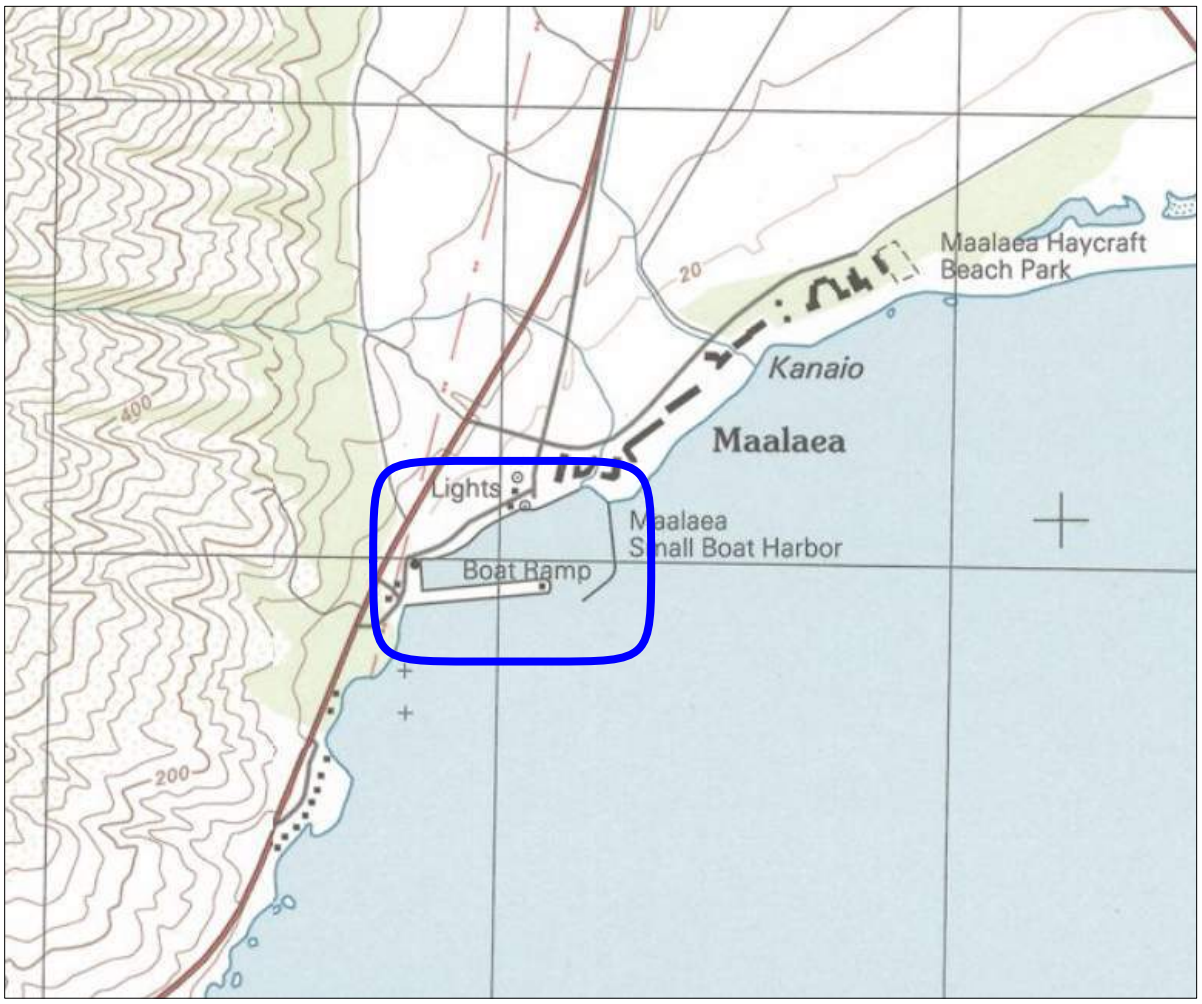


Figure 22. Close-up of a 1996 U.S. Geological Survey map showing the undeveloped project area alongside the developed Mā‘alaea coast, as well as a second breakwater installed in the harbor and project area vicinity (U.S. Geological Survey 1996).

# PREVIOUS ARCHAEOLOGICAL STUDIES

This section summarizes and synthesizes previous relevant academic and archaeological studies within the project area, the surrounding ½ mile vicinity, and beyond through an archaeological lens in order to develop an understanding of land use, settlement, change, and development through time. A predictive model of the potential for the presence of surface and subsurface iwi kūpuna, wahi kūpuna/historic properties within the current project area. Distribution and results of academic and compliance archaeological studies further mauka proximal to the project area are discussed below.

## Previous Archaeological Studies Within the Project Area

Results of Nohopapa Hawai'i's remote public records search indicate no previous academic or compliance archaeological studies have occurred in the 0.67 acre project area and therefore no previously-identified iwi kūpuna, wahi kūpuna, or historic properties officially recorded as associated with the project area (see Figure 23, Figure 24, and Figure 25).

## Previous Archaeological Studies Within the Project Area Vicinity

Background research indicates one academic archaeological study as well as six previous historic preservation compliance-related studies were completed for development and infrastructure projects and associated mitigation in the project area vicinity in Mā'alaea.

Winslow Metcalf Walker's island-wide archaeological survey of Maui completed for the Bernice Pauahi Bishop Museum in the early twentieth century records a selection of wahi kūpuna in and around Mā'alaea, in the vicinity of the current project area. Walker (1931:78) situates an ancient village and nearby ko'a (*fishing shrine)* "on the slopes above Maalaea Bay," and further describes the ko'a:

> It has the shape of a horseshoe 8 1/2 feet long. A semicircular wall 2 feet high and the same in thickness encloses a platform of rocks not more than one foot above the ground. The front of this platform is 6 feet wide and consists of a row of small stones set on edge. Chunks of coral were strewn over the platform and in one corner a quantity of fish bones and shells were found. This is the only koa site on West Maui which can be recognized with any certainty though doubtless there were many more which have now been destroyed. [Walker 1931:78]

The extent of traditional Hawaiian settlement around Mā'alaea is also described in an entry titled "House Sites". Walker writes:

> For about two miles west of Maalaea village to McGregor's point, house and shelter sites can be found in great numbers above the road. At least forty-five were noted. The shelters are low walled semi-circular or oval enclosures built against some large rock or group of rocks. Shells and pebbles are found around these sites. House platforms are little more than cleared spaces on which pebbles have been strewn. No carefully built terraces of stone pavements are to be seen. Several sites may possibly have been used koas or shrines. One was a large flat rock on which a circle of stones had been placed. [Walker 1931:78]

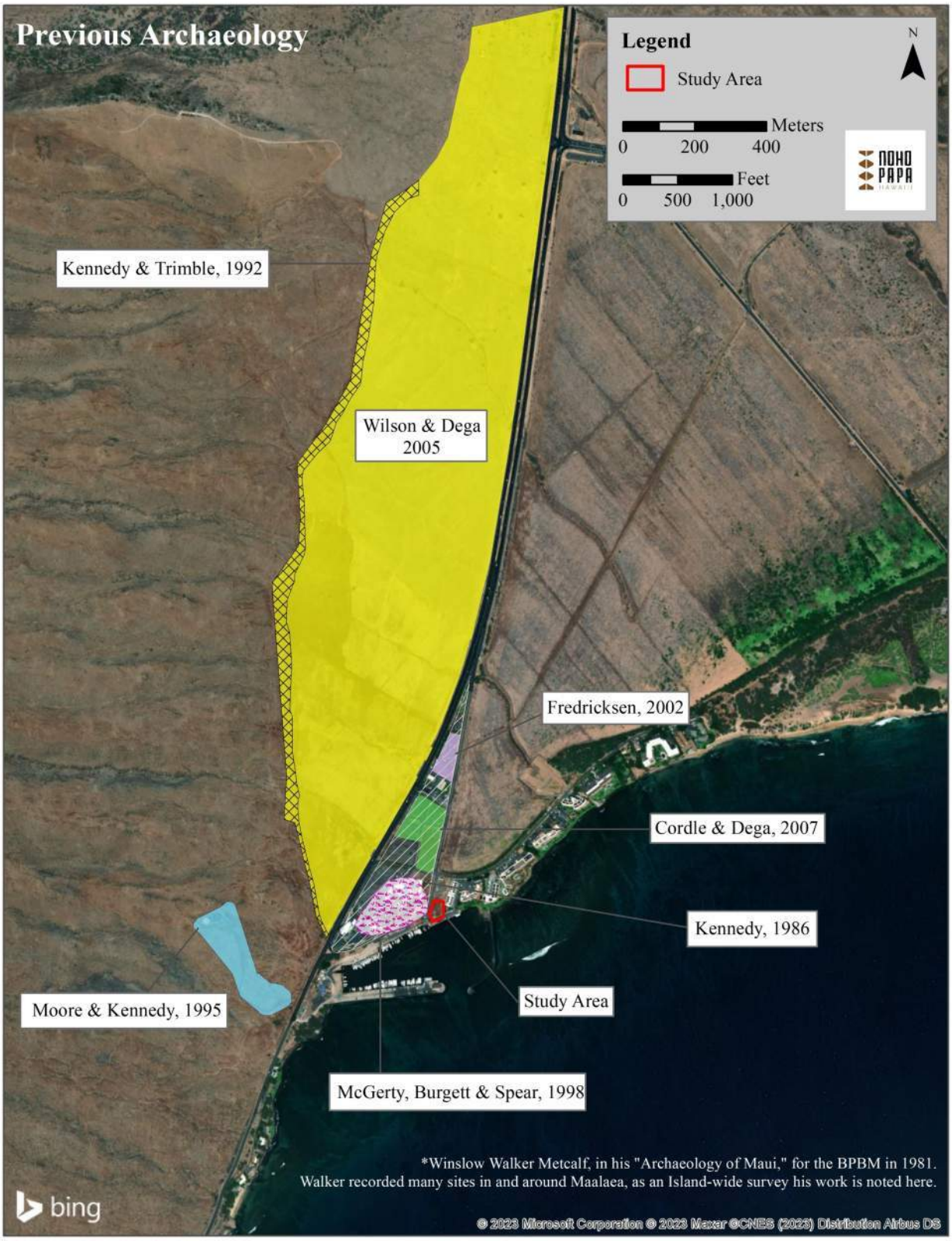


Figure 23. An aerial photograph overlain with the boundaries of previously archaeological studies, labeled by author(s) and year, conducted in the project area and vicinity

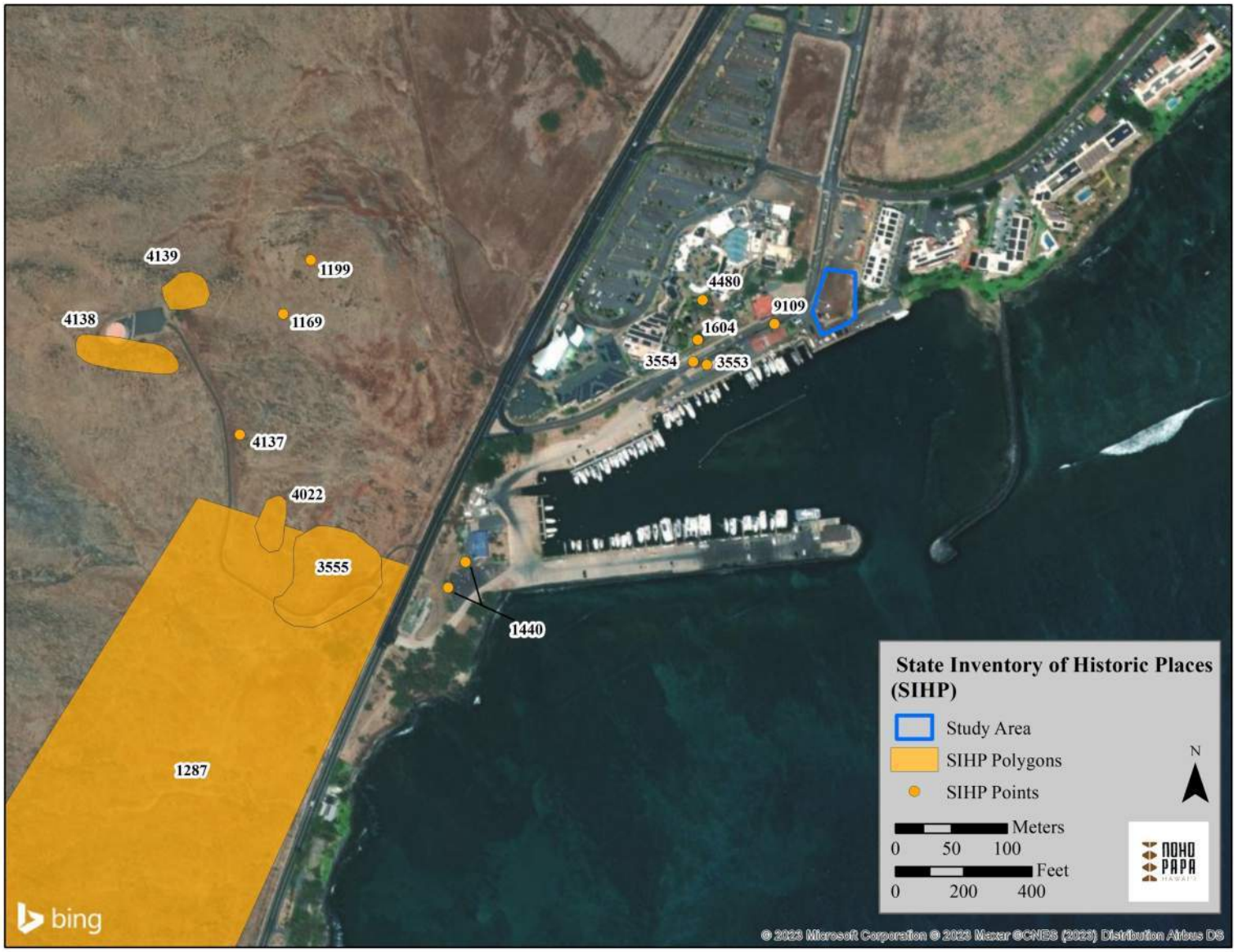


Figure 24. Aerial photograph overlain with the location of the current study's project area, demarcated with a blue boundary, featuring the locations of relevant officially recorded wahi kūpuna/historic properties

Table 3. Previously-identified iwi kūpuna, wahi kūpuna/historic properties in the project area and vicinity*
*defined as within ½ mile radius of the project area

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| Previously-identified iwi kūpuna, wahi kūpuna/historic properties in the project area | | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Previously-identified iwi kūpuna, wahi kūpuna/historic properties in the project area vicinity | | | | | | | |
| N/A | Heiau | Heiau | Traditional Hawaiian | Destroyed (?) | Kennedy 1986 | Archaeological Consultants of Hawaii | -Kennedy (1986:2) lists this as "Heiau site. (Presumably destroyed; no state site number.)" Cites "DLNR records" as the informational source. |
| SIHP#-1169 | "c. 60 petroglyphs on 11 boulders [following merger with SIHP#-1199]" (DLNR-SHPD 1994) | Agricultural | Traditional Hawaiian | ? | DLNR-SHPD 1994 | DLNR-SHPD | ○ Once a separate site adjacent to SIHP # -1199, then merged with it under SIHP #-1169. |
| SIHP#-1199 | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | -Once a separate site adjacent to SIHP # -1169, then merged with it under SIHP #-1169. See above entry for more details. |
| SIHP #-1286 | "Grinder Stones" (Kennedy 1986:2) | Habitation | Traditional Hawaiian | ? | Kennedy 1986 | Archaeological Consultants of Hawaii | ○ SIHP#1440 integrated into SIHP #1286 |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| SIHP #-1287 | "Ma'alaea Complex," described as "U-shape, C-shape, midden, terrace, enclosure, oval, enclosure, circular," (Kīp-uka Database 2023e) | Habitation | Traditional Hawaiian | Many destroyed since Walker's 1931 survey (Kīpuka Database 2023e) | Kīpuka Database 2023e | Office of Hawaiian Affairs | |
| SIHP #-1440 | "Piko Stone and Grinder Stone" (Kennedy 1986:2) | Habitation | Traditional Hawaiian | ? | Kennedy 1986 | Archaeological Consultants of Hawaii | -Integrated into SIHP #-1286 |
| SIHP #-1604 | "Religious Structure (two buildings)" (Kennedy 1986:3) | Maalaea Ebisu Kotohira Jinsha [sic]/Ma'alaea Fishing Jinja [sic] | Twentieth century | ? | Kennedy 1986; Fredericksen 2002: 1 | Archaeological Consultants of Hawaii | -Noted as location of a yearly ceremony "designed to insure successful fishing ventures," the community comes together to celebrate (Kennedy 1986:3) |
| SIHP #-3553 | Human skeletal remains | Burial | Traditional Hawaiian | ? | DLNR-SHPD 2007 | DLNR-SHPD | -Near SIHP #-3554, SIHP #-4480 |
| SIHP #-3554 | Burial | Burial | Traditional Hawaiian | ? | DLNR-SHPD 2007 | DLNR-SHPD | -Near SIHP #-3553, SIHP #-4480 |
| SIHP #50-50-09-3555 | Midden scatter, stone alignment including two boulders containing petroglyphs, and an associated | Temporary habitation | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | subsurface cultural deposit "consisting of midden and artifacts as well as subsurface features in the form of fire pits" (Moore and Kennedy 1995:15) | | | | | | Board" criterion E (Moore and Kennedy 1995:50). |
| SIHP #-4022 | Two segments of one discontinuous terrace | Agricultural terrace | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Interpreted as a single feature cut in twain by historical/modern activities (Moore and Kennedy 1995:1, 24); Adjacent to SIHP#-4137; Assessed as significant under National Register of Historic Places (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |
| SIHP #-4137 | Two terrace segments | Agricultural terrace | Traditional Hawaiian | ?; described as "deteriorated" (Moore and Kennedy 1995:27) | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Adjacent to SIHP#-4022; Assessed as significant under National Register of Historic Places |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |
| SIHP - #4138 | "[A]n alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44) | "Agricultural in nature," (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |
| SIHP #4139 | "[E]nclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39). | "Agricultural in nature" (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| SIHP #50-50-09-4480 | Burial | Burial | Historical | "An historic burial (Site 4480) was identified, disinterred, and place [sic] with the Maui SHPD Office pending re-burial," (McGerty, Burgett, and Spear 1998:16). | McGerty, Burgett, and Spear 1998 | Scientific Consultant Services | -In vicinity of SIHP-#3553 and 3554. |
| SIHP #50-50-09-5657 | 13 clearing mounds | Byproduct of land clearing for plantation agriculture | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5658 | Irrigation modifications | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5659 | Dirt road | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-09109 | "Maalaea General Store" (SHPD 2023; Solamillo 2011) | Historical building | Twentieth century | Extant | SHPD 2023 | SHPD | |

Also recorded are petroglyphs on free-standing boulders about ¼ mile mauka of Māʻalaea Bay between a heiau and roadway (Figure 25). Walker claims the densest concentrations of roc art on Maui occur at Māʻalaea and Nuʻu. Walker extensively describes the situation, distribution, and appearance of the Māʻalaea petroglyphs:

> At the south end of the west Maui mountains about a quarter of a mile up from Maalaea Bay and near the village of that name is a large group of petroglyph boulders. Most of these rocks are on the hill slopes east and north of the heiau which is there. But one group is on the cluster of rocks below the heiau and about fifty yards from the road. These figures are all on the lee side of the rock. Five are of the linear type and six of the triangular. Three dog-like figures also occur.
>
> Near the approach to the heiau itself is a group of rocks on which are a few petroglyphs. One is of the linear human type; the others are indistinguishable.
>
> Above the heiau on the slope extending to the northwest are more petroglyphs, occupying conveniently available rock surfaces without indications of crowding. Nine human figures of the triangular type were seen. A figure of a dog appeared with one of the human figures. A strange, unintelligible jumble of figures occurs on a large rock at the side of a well-worn path across the ridge. The letters K.O H appear below. The scrawl apparently represents two human figures, but the lines which are added to them only make them less intelligible. It should be mentioned that cowboys pass this spot frequently in their cattle drives and might easily make the figures during a short noon rest.
>
> The main group of Maalaea petroglyphs is situated on the boulders north and east of the heiau and also within its confines. Some of them have a decidedly recent look, attested also by the names and initials scrawled near them. The figures on boulders 1-32 face toward the heiau and many of them can be seen from its walls. The terms linear and triangular refer to human figures unless otherwise noted…
>
> … The human figures fall into two distinct types; the linear, with shoulders and hips at right angles to the body and arms and legs straight down; the triangular, with legs akimbo from the lower corner of the body triangle. Animal figures represent dogs, horses, cows, pigs, goats and one or two doubtful forms. A mongoose or rat is suggested. [Walker 1931:334]

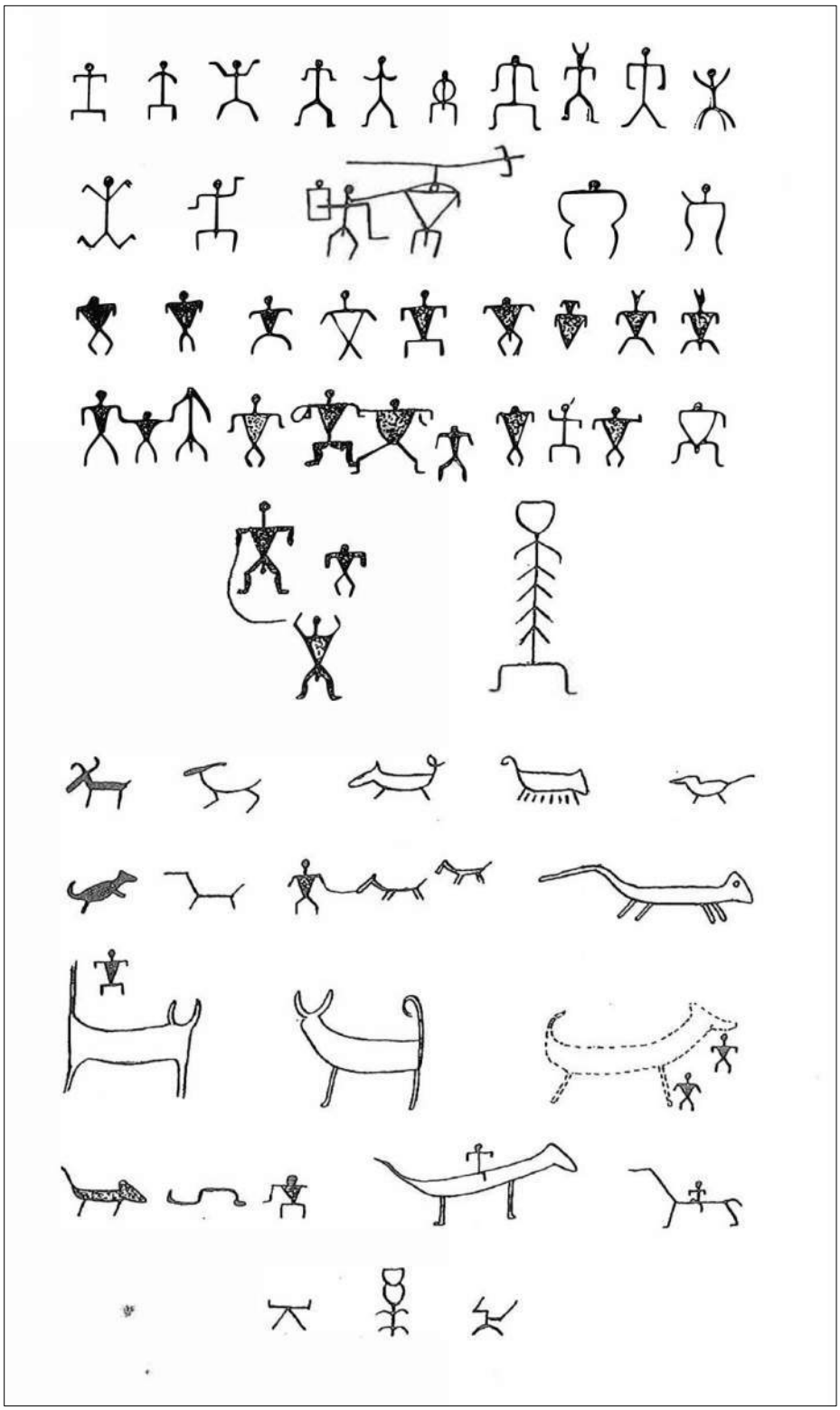

Figure 25. Walker's 1931 recording of petroglyph motifs placed on boulders in Mā'alaea and the project area vicinity (Walker 1931:334)

The compliance studies cluster west and northwest of the project area. Their synthesized contents and results, summarized below and in Table 3, evince that while portions of the project area vicinity have been heavily modified by agricultural activities and development, a high concentration and likelihood for encountering iwi kūpuna, subsurface cultural deposits, wahi kūpuna and historic properties persists. Specifically, burials and disarticulated human remains – SIHP#-1604, SIHP#-3553, SIHP#-3554, and SIHP#-4480 - were revealed directly west of the project area during ground disturbing activities related to the construction of the Maui Ocean Center (see McGerty, Burgett, and Spear 1998; DLNR-SHPD 2007). Additionally, background research locates two **architectural** historic properties within the project area vicinity. The first is the "Maalaea Ebisu Kohohira Jinsha," a traditional fishing shrine "erected by the villagers of Mā'alaea [sic] and local Japanese fishermen in 1914," (Loomis 2015; SHPD 2023). Kennedy (1986:1,3) describes the Maalaea Ebisu Kohohira Jinsha as SIHP #-1604, but the current SIHP list (SHPD 2023) does not contain SIHP #-1604. The second is SIHP#50-50-09-09109, the "Maalaea General Store," (SHPD 2023).

At least one compliance archaeological report was not available from the SHPD when background research was conducted for this study. Referenced in Cordle and Dega (2007:7), McGerty, L., A. Dunn, and R. L. Spear's 1998 *Data Recovery Excavations at Portions of Sites 50-09-4138 and -4139, Ukumehame Ahupua 'a, Wailuku District, Island of Maui, Hawaii (TMK: 3-6- 01:14)*. Background research yielded Cordle and Dega's 2007 *An Archaeological Monitoring Plan for a 4.069 Acre Lot, Ma'alaea Triangle, Ma'alaea, Waikapu Ahupua'a, Wailuku District, Island of Maui, Hawai'i [TMK: 3-6-08:06]* was not available. Relatedly, no record of the archaeological monitoring program's implementation or results reporting was available from the SHPD.

**Study Title:** Letter Report: Walk-Through Examination of the Proposed Maalaea Triangle, Maui
**Study Type:** Literature Review and Field Inspection
**Author(s):** Joseph Kennedy
**Year:** April 1986
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK: 3-6-01:01
**Project Area Acreage:** Unreported.
**Study Purpose:** Literature review and field inspection an area slated for unspecified development.
**Methods:** Background research and community consultation, pedestrian inventory survey
**Results:** No recorded sites within the 1986 study area. Literature review resulted in four wahi kūpuna/historic properties within the vicinity of the 1986 study area: SIHP#-1169, "eight petroglyphs" (Kennedy 1986:2); SIHP#-1286, "grinder stones" (Kennedy 1986:2); SIHP#-1440, "Piko stone and grinder stone" (Kennedy 1986:2); Heiau site (Kennedy 1986:2) (Table 3).
**Mitigation Commitments/Historic Preservation Next Steps:** Noted without specifying evidential source that "there is clear indication from the presented data to suspect the possibility of buried deposits. However, these data are not sufficient to merit recommending a follow-up, or phase II, archaeological operation," (Kennedy 1986:3). Archaeological monitoring recommended as a precaution.

**Study Title:** *Archaeological Inventory Survey Located at Maalaea, Ahupua'a of Ukumehame, Wailuku District, Island of Maui, TMK: 3-6-01:18 (POR).*
**Study Type:** Archaeological Survey and Testing
**Author(s):** Joseph Kennedy and Patrick Trimble
**Year:** 1992
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK 3-6-01:18 (POR).
**Project Area Acreage:** Unreported.

**Study Purpose:** "Archaeological field survey" of an area slated for unspecified development (Kennedy and Trimble 1992:11).
**Methods:** Combined background research and 100% systematic pedestrian inventory survey
**Results:** Significant land disturbance observed; no wahi kūpuna or historic properties identified.
**Mitigation Commitments/Historic Preservation Next Steps:** None, no additional archaeological studies or historic preservation next steps recommended.

**Study Title:** *An Archaeological Inventory Survey Report for the Proposed Maʻalaea Water Tank Located at TMK: 3-6-01:14, in Ukumehame Ahupuaʻa, Wailuku District, Island of Maui.*
**Study Type:** "Archaeological Inventory Survey with Limited Subsurface Testing" (Moore and Kennedy 1995:1)
**Author(s):** James Moore and Joseph Kennedy
**Year:** 1995
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK: 3-6-01:14
**Project Area Acreage:** Unreported
**Study Purpose:** Subsurface testing of an area slated for a water tank associated with the proposed Maui Ocean Center
**Methods:** Background research combined with 100% pedestrian surface survey and the installation of three test units and seven shovel test pits
**Results:** Three to five (both quantities are mentioned, see Moore and Kennedy 1995:1) significant wahi kūpuna/historic properties: SIHP #50-50-09-3555, a midden scatter, stone alignment including two boulders containing petroglyphs, and an associated subsurface cultural deposit "consisting of midden and artifacts as well as subsurface features in the form of fire pits" (Moore and Kennedy 1995:15); SIHP #-4022, two terrace segments; SIHP-4137, two terrace features adjacent to SIHP #-4022; SIHP #-4138, "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs. SIHP #-4139 was documented and described as partially within the 1995 study area and an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39).
**Mitigation Commitments/Historic Preservation Next Steps:** Data recovery investigations and "program of preservation," (Moore and Kennedy 1995:1)

**Study Title:** *Draft* Monitoring Report on Earth Moving and Construction Excavation, Maui Ocean Center Site, Maui, Hawai'i [TMK: 3-6-01:1 & 19].*
**Author(s):** Leann McGerty, Bee Burgett, and Robert Spear
**Year:** 1998
**Firm or Organization:** Scientific Consultant Services.
**Project Area Location:** TMK: 3-6-01: 1 and 19
**Project Area Acreage:** Unreported.
**Study Purpose:** Results reporting of implemented program of archaeological monitoring
**Methods:** Archaeological monitoring of construction activities over a nearly nine month period.
**Results:** One wahi kūpuna/historic property: SIHP #50-50-09-4480, a historical burial. No other wahi kūpuna/historic properties reported.
**Mitigation Commitments/Historic Preservation Next Steps:** None.
*The final version of the report was not available from the SHPD during Nohopapa Hawaiʻi's May and June 2023 remote public records search.

**Study Title:** *Archaeological Monitoring Report for the Proposed Maui Golf and Water Park Project, Waikapu Ahupua'a* [sic]*, Wailuku District, Ma'alaea* [sic] *Maui. TMK (2) 3-6-08:008 and 009.*

**Study Type:** Archaeological Monitoring Report
**Author(s):** Erik Fredricksen
**Year:** 2002
**Firm or Organization:** Xamanek Researches [sic]
**Project Area Location:** TMK (2) 3-6-08:008 and 009
**Project Area Acreage:** 1.14 acres
**Study Purpose:** Results reporting on the implementation of an archaeological monitoring program for the proposed Maui Golf and Water Park
**Methods:** Archaeological monitoring of construction activities for three weeks.
**Results:** No wahi kūpuna/historic properties observed. Soils and sedimentary deposits evince extensive disturbance attributed to modern development (Fredericksen 2002:4).
**Mitigation Commitments/Historic Preservation Next Steps:** None.
**Notes:**

- Noted limitations:
  - Report does not contain detailed excavation descriptions, photographs, or profiles
- Undisturbed natural sedimentary deposits of reddish brown (5 YR 4/4) silty clay observed over weathered bedrock.

**Study Title:** *An Archaeological Inventory Survey Report on 259.902 Acres in Ma'alaea* [sic], *Ukumehame and Waikapu Ahupua'a* [sic], *Wailuku District, Maui Island, Hawai'i* [sic] *[TMK: (2) 3-6-01:18].*
**Study Type:** Archaeological Inventory Survey Report
**Author(s):** Jon Wilson and Michael Dega
**Year:** 2005
**Firm or Organization:** Scientific Consultant Services
**Project Area Location:** [TMK: (2) 3-6-01:18]
**Project Area Acreage:** 259.903 acres
**Study Purpose:** Results reporting for an archaeological inventory survey and subsurface testing of an area slated for development including "over one thousand residential units, a community center, a park and open areas, buffer zones, and roadways," (Wilson and Dega 2005:1).
**Methods:** Pedestrian inventory survey, 20 backhoe excavated test trenches installed
**Results:** Three historic properties identified: SIHP #50-50-09-5657 (13 clearing mounds), SIHP #50-50-09-5658 (irrigation modifications), and SIHP # #50-50-09-5659 (dirt road).
**Mitigation Commitments/Historic Preservation Next Steps:** None, beyond "a period of observation during future earth-moving activity," wherein an archaeologist is "on site during the leveling of a representative sample (a minimum of four) of the thirteen clearing mound features that comprise State Site 50-50-09-5657," (Wilson and Dega 2005:ii).
**Notes:**

- Noted study limitations include:
  - Locational information not provided for test excavations
  - Photo documentation not provided for most test excavations
  - Scaled profiles not provided for most test excavations

## Background Research Summary and Predictive Model

Background research and the survey of previous archaeological studies performed for this study show the project area in Māʻalaea is situated within a greater, contiguous cultural landscape and integrated system of resource management established by Native Hawaiians, with Māʻalaea long serving as a settled, agricultural landscape and canoe landing referenced in Hawaiian oral traditions. Waikapu and Kamaalaea, place names and locations associated with the project area appear on the earliest Hawaiian cartographic representations of kahiko (*old, ancient, traditional*) land divisions like moku and ahupuaʻa, underscoring the importance of the place in Hawaiian geographies. One of the few LCAs and coastal house lots awarded in Waikapū's southern coastal plains was likely located partially or wholly in the project area -– Hika's LCA 2959. Primary source records associate 10 loʻi with the coastal land parcel and house lot. Hika's LCA may have overlapped the central southern portion of the current project area; it may also have been located more partially or totally within the current project area – historical records are unclear (see Kīpuka Database 2023a–d). Primary source records depict an "Alanui Aupuni" - *Kingdom roadway* of the sovereign Hawaiian nation- to the west that may have also overlapped the western periphery of the current project area, been included more fully within it, or located in proximity to it – historical records are again unclear (Hika 1850 in Kīpuka Database 2023a; see Figure 10). The other, Kaili's awarded LCA 11156, also a house lot, is located west of the project area.

Beginning in the twentieth century, Māʻalaea was transformed into a historical settlement and harbor. The local manifestation of global, extractive sugar industries and economies began in Central Maui and on the lands just north of the project area beginning in the 1820s. Extensive alteration of the vegetation, topography, and hydrography of the project area and vicinity continued with the establishment of extractive sugar plantation economies and infrastructure, and persisted with development concentrated along the coast and adjoining hinterlands over the course of the last century.

No previously-identified wahi kūpuna/historic properties were located in the project area through background research. Four wahi kūpuna/historic properties were identified through background research directly west of the project area - SIHP #-3553 Human skeletal remains SIHP #-3554 Burial SIHP #50-50-09-4480 Burial SIHP #-1604 Ma'alaea Fishing Jinja [sic]. Additionally, SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44); SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) are located further afield and west of the project area. Regarding a predictive model, background research further indicates that while portions of the project area and vicinity have been heavily modified by agricultural activities and development, the project area a high concentration and likelihood for encountering iwi kūpuna, subsurface cultural deposits, especially those related to the house lot and loʻi it contained, wahi kūpuna and historic properties persists.

# FIELD INSPECTION RESULTS

Fieldwork was conducted on ka pō mahina (moon phase) of Lono, June 16 15, 2023, by Nohopapa Hawai'i, LLC field technician, Momi Wheeler, B.S., under the supervision of Principal Investigator Rachel Hoerman, Ph.D., State Historic Preservation Department (SHPD) permit #23-28.

A pedestrian field inspection of 100% of the project area was performed and required four hours to complete. The entire project area was 100% visually inspected and documented in order to record current conditions and generate information that could be used to assess the potential, to the extent possible, for the presence of iwi kūpuna, wahi kūpuna/historic properties. Minimal field inspection limitations were the current use of the project area as a parking lot that was full or near-capacity for the duration of the field inspection.

The project area was observed to be comprised of two parking lot areas, the majority of which is a public, paid parking lot of compacted red dirt while a southern segment is topped with base course, separated from the red dirt parking lot using squared lengths of timber, some of which are painted red and read "No Public Parking", and serves as a private parking lot for Coast Guard Station Maui (Figure 26, Figure 27, Figure 28, Figure 29, Figure 30, Figure 31). Along the north-west edges of the public paid parking lot, approximately fourteen pōhaku nui (*large rocks;* boulders*)* with a few cobble-sized pōhaku were noted (Figure 33). Along the southeast edge of the public paid parking lot, east of the kiawe tree, 8 pōhaku nui were situated to delineate the edges of the public paid parking lot. Given the proximity of the project area to a concentration of iwi kūpuna, wahi kūpuna/historic properties (SIHP #s) that include ki'i pōhaku (*petroglyphs*), the pōhaku nui were visually inspected – no ki'i pōhaku were observed. Bulldozer and excavator scars were observed on a few pōhaku nui (Figure 34). Vegetation noted in the project area during the field inspection include Buffalo and California grasses and haole koa along its north, east, and west peripheries, and a single kiawe tree in the southern portion. No surface iwi kūpuna, wahi kūpuna/historic properties were located in the project area during Nohopapa's recent field inspection.

Figure 26. Overview photo of the project area photo taken from a small hill across the street from the north-west periphery of the project area, view to the southeast (Nohopapa Hawai‘i).

Figure 27. Overview of the southern segment of the project area, which is topped with base course, separated from the red dirt parking lot using squared lengths of timber, and serves as a private parking lot for Coast Guard Station Maui. Coastal Māʻalaea Harbor is pictured in the left middleground, view to southwest (Nohopapa Hawaiʻi).

Figure 28. Overview of the northeastern corner of the project area from view to the southwest (Nohopapa Hawai‘i).

Figure 29. Overview of the northeast corner of the project area, view to the southwest towards Māʻalaea Harbor. Note, the pōhaku nui in the foreground is outside of the current project area (Nohopapa Hawaiʻi).

Figure 30. Overview of the south corner of the project area, view to the northeast (Nohopapa Hawai‘i).

Figure 31. Overview of the west corner of the project area, view to the east with Māʻalaea Bay in the right middle ground (Nohopapa Hawaiʻi).


Figure 32. The entrance to the parking lot and overview of the project area interior, view to the southeast (Nohopapa Hawai‘i).

Figure 33. Overview of the west corner of project area, Maalaea Mermaid condominium complex in the right middle ground,view to the northeast. Note the pōhaku nui bounding the western periphery of the project area (Nohopapa Hawai‘i).

Figure 34. Close-up of excavator/bulldozer scars on pōhaku nui observed on the northwest periphery of the public parking lot section of the project area (Nohopapa Hawai‘i).

# SUMMARY AND RECOMMENDATIONS

This section synthesizes the LRFI study results, presents a predictive model for possible additional wahi kūpuna/archaeological historic properties potentially present in the project area and vicinity, and contains Nohopapa Hawai'i's next steps and recommendations for the wahi kūpuna/historic properties in order to inform wahi kūpuna stewardship, project planning, and satisfy historic preservation compliance requirements.

## Literature Review and Field Inspection Results

This section discusses and synthesizes the combined results of the literature review and field inspection conducted for the project area and its landscape context at Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni (TMK: [2] 3-8-014:028). Notably, historical documents evince that few LCAs were awarded in Waikapū's southern coastal plains. Awarded LCAs clustered around Mā'alaea Bay, and included two coastal house lots – Hika's LCA 2959 approximately situated in the project area and bounded to the west by an alanui aupuni, and Kaili's LCA 11156, west of the project area. At least three iwi kūpuna were revealed during construction activities at the Maui Ocean Center (SIHP #-3553, Human skeletal remains; SIHP #-3554, Burial; SIHP #50-50-09-4480; see McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007), and the historical SIHP #-1604 Ma'alaea Fishing Jinja [sic] is also located in the project area vicinity. An extensive traditional Hawaiian through historical complex of iwi kūpuna and wahi kūpuna/historic properties (SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44); SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) is located further west of the project area. These lines of evidence show the project area occupies a previous house site with lo' ī as well as an important location in the Hawaiian cultural and later historical landscapes at Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui.

## Preliminary Historic Preservation Next Step Recommendations

The project area is slated for redevelopment, therefore effects to any newly-identified wahi kūpuna/historic properties located in the project area are possible. This literature review and field inspection of the proposed project area discloses evidence for and discusses:

- the absence of archaeological studies associated directly withing the project area,
- the presence of Hika's LCA 2959 which contained a hale (house) and 10 loʻi at unknown locations likely within and proximal to the project area footprint,
- the "Alanui Aupuni" (*Kingdom roadway* of the sovereign Hawaiian nation) to the west of the project area that may have also overlapped the western periphery of the current project area, been included more fully within it, or was located in proximity to it,
- the project area's proximity to the three iwi kūpuna revealed at Maui Ocean Center (McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007), and further afield an extensive traditional Hawaiian through historical complex of iwi kūpuna and wahi kūpuna/historic properties.

Based on the above listed facts, we conclude that not enough information is available to understand a) the potential in the project area for the presence of subsurface iwi kūpuna and wahi kūpuna/historic properties, and b) whether the proposed project is likely to pose "effects" or "no effects" to iwi kūpuna and wahi kūpuna/archaeological historic properties.

Therefore, our historic preservation next steps recommendations consist of a community-based, archaeological inventory survey comprised of an ethnographically-informed, SHPD-reviewed and approved Archaeological Inventory Survey Plan (AISP) containing research questions and lines of inquiry meaningful to the Māʻalaea Hawaiian and local community, implementation of the AISP with archaeological and cultural monitors present, and SHPD-reviewed and approved Archaeological Inventory Survey Report (AISR) before the project can commence. The AISP, AISP implementation, and AISR should realize professional best practices and must additionally meet the standards set forth in HAR §276, "Rules Governing Standards for Archaeological Inventory Surveys and Reports," ((HAR) Chapter 13-276 2002).

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# Appendix C
# Cultural Impact Assessment Report

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# A Cultural Impact Assessment to Inform an Environmental Assessment for Hawai‘i Revised Statutes §343 and National Environmental Protection Act Environmental Review for the U.S. Coast Guard Station Expansion Project, Mā‘alaea Harbor

## Waikapū Ahupua‘a, Wailuku Moku, Maui Mokupuni, Tax Map Key (TMK):[2] 3-8:014:028

Prepared by:

NOHO PAPA HAWAI‘I

Prepared for:

**AUTHORS**
Rachel Hoerman, Ph.D., Momi Wheeler, B.S., and Kelley Uyeoka, M.A., with Māhele land records translations by Kaʻie Naboa-Cordy

**NOHOAPA HAWAIʻI CONTACT**
nohopapa.hawaii@gmail.com

**FOR MORE INFORMATION VISIT:**
WWW.NOHOPAPA.COM

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# ACRONYMS

**CIA** - Cultural Impact Assessment

**DOBOR** - Division of Boating and Ocean Recreation

**HRS** - Hawai‘i Revised Statutes

**NEPA** - National Environmental Policy Act

**Station Maui** - U.S. Coast Guard Station

**TCPs** - Traditional Cultural Properties

**TMK** – Tax Map Key

**USCG** – United States Coast Guard

# STUDY SUMMARY

| | |
|---|---|
| **Reference** | Cultural Impact Assessment (CIA) for Hawai‘i Revised Statutes (HRS) §343 and the National Environmental Policy Act (NEPA) compliance review for the U.S. Coast Guard Station (Station Maui) expansion at Mā‘alaea Harbor, Waikapū Ahupua‘a, Wailuku Moku, Maui Mokupuni (TMK: [2] 3-8-014:028) (Hoerman, Wheeler, and Uyeoka) |
| **Date** | October 2023 |
| **Land Jurisdiction** | The Williams Opportunity Trust is listed as the Fee Owner of the land parcel, and the The State of Hawai‘i’s Division of Boating and Ocean Recreation (DOBOR), a State agency, is listed as the Leasee of the 0.67 acre project area (County of Maui 2023). |
| **Project Proponent** | U.S. Coast Guard |
| **Project Area** | The project area is comprised of TMK: (2) 3-8-014:028, located at the DOBOR Southern Split, Mā‘alaea Harbor, within the ahupua‘a of Waikapū Ahupua‘a, Wailuku Moku, Maui Island. |
| **Project Area Acreage** | 0.67 acres (29,185 square feet) |

| | |
|---|---|
| **Project Description** | The proposed project includes the expansion of the U.S. Coast Guard Station via construction, and long-term operation of a new three-story facility, parking lot, and security fence on DOBOR-leased land owned by the Williams Opportunity Trust. The new three-story facility, parking lot, and security fence would be installed in the remaining 7,982 square feet in the portion of a DOBOR site located in near proximity from the existing station. Integral command, ordinance, and land operation facilities would be housed in the new facility able to meet 30-foot inside clear zone requirements per the USCG Physical Security and Force Protection. The first story would consist of Boat Maintenance Facilities and storage of gear necessary for rapid mission response. The second story would consist of administrative spaces and training space for day-to-day operations. The third story would consist of berthing space, a kitchen, and recreational space. The third story would be reduced in size and the building would be sited on the southern end of the site to preserve views to the extent possible. Parking spaces would be provided on the northern portion of the property and a security fence would be installed around the entire property.<br><br>The extent of vertical and horizontal ground disturbance associated with the construction of the new building, fence, and possibly parking lot are currently unknown; however, ground disturbance is anticipated as part of the proposed new building, security fence, and parking lot. |
| **Document Purpose** | This study was generated to inform an Environmental Assessment (EA) per the requirements of the Hawai‘i Environmental Policy Act (HEPA) and its implementing legislation Hawai‘i Revised Statutes §343 as well as NEPA compliance review.<br><br>The Hawai‘i State constitution, as well as state laws and courts, require government agencies to “promote and preserve cultural beliefs, practices, and resources of native [sic] Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project,” (State of Hawai‘i Environmental Council 1997). As noted by the State of Hawai‘i Environmental Council (1997), “[a] cultural impact assessment analyzes “the impact of a proposed action on cultural practices and features [collectively termed ‘cultural resources’] associated with the project area”.<br><br>At the request of SSFM International, Nohopapa Hawai‘i, LLC, completed this CIA to inform HRS §343 and NEPA environmental compliance review triggered by the proposed U.S. Coast Guard (Station Maui) expansion at Mā‘alaea Harbor. Through ethno-historical background research and consultation, this CIA provides an assessment of the proposed project’s potential impacts to cultural resources, defined as practices and features, which may include Traditional Cultural Properties (TCPs) of ongoing cultural significance that may be eligible for inclusion on the Hawai‘i Register of Historic Places, in accordance with HRS Chapter 6E Guidelines for significance criteria (AR §13-284) under Criterion E. |
| **Regulatory Context** | The proposed project is a federal undertaking by the U.S. Coast Guard on land leased by the State of Hawai‘i’s DOBOR from the Williams Opportunity Trust, an action that triggers an EA and CIA under HRS §343 and an EA under the NEPA compliance review. |

| | |
|---|---|
| **Methods** | This CIA consisted of four primary tasks: (1) Ethnohistorical background research; (2) Community ethnographic interviews, summaries, and recommendations; (3) Cultural impacts assessment; (4) Results reporting. The study spanned a 6-month period from May 2023 through October 2023. Project personnel included: Momi Wheeler, Kelley L. Uyeoka, M.A., and Rachel Hoerman, Ph.D. |
| **Community Ethnography** | Community ethnography for this study was conducted from May through October 2023. The community ethnography process consisted of identifying appropriate individuals with knowledge of and/or relationship to the project area, conducting ethnographic interviews in formats selected by consultees, summarizing the interviews, synthesizing ethnohistorical background research and ethnographic information, and preparing this report. Twenty individuals were contacted to participate in this study. Two individuals participated in interviews; one person provided feedback via email and seventeen declined to participate for various reasons. Table 4 features the names, backgrounds, and affiliations of individuals who provided consultation for this study. |
| **Recommendations** | See the "Cultural Impact Assessment" subsection of this report, page 81, for a contextualized and detailed discussion of recommendations gathered through community ethnography regarding the proposed project's potential impacts to cultural resources (practices, features, and beliefs) associated with the project area and/or vicinity. |
| **Considerations** | See the "Cultural Impact Assessment" subsection of this report, page 82, for Nohopapa Hawai'i's recommended considerations from a space of wahi kūpuna stewardship and regulatory compliance regarding the proposed project's potential impacts to cultural resources associated with the project area and/or vicinity. |

# INTRODUCTION AND METHODS

## He Leo Mahalo

Mahalo to all the individuals involved in this project. We are grateful to SSFM International, Inc., for the opportunity to complete this Literature Review and Field Inspection (LRFI) study. Mahalo to Stacy Naipo from the State Historic Preservation Department (SHPD) for helping us retrieve reports for the project area. Mahalo piha to consultees Kāwika Aspili and Dane Maxwell for manaʻo graciously shared during a time of heartbreaking tragedy for Maui, ʻohana, and loved ones throughout the pae ʻāina.

## Introduction

At the request of SSFM International, Nohopapa Hawaiʻi, LLC, completed this Cultural Impact Assessment (CIA) for the U.S. Coast Guard Station (Maui) expansion at Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni (TMK: [2] 3-8-014:028). The Williams Opportunity Trust is listed as the Fee Owner of the land parcel, and the The State of Hawaiʻi's Division of Boating and Ocean Recreation (DOBOR), a State agency, is listed as the Leasee of the 0.67 acre project area (County of Maui 2023) (Figure 1, Figure 2, Figure 3, Figure 4; County of Maui 2023).

## Project Description

The proposed project includes the expansion of the U.S. Coast Guard (USCG) Station via construction, and long-term operation of a new three-story facility, parking lot, and security fence on DOBOR-leased land owned by the Williams Opportunity Trust. The new three-story facility, parking lot, and security fence would be installed in the remaining 7,982 square feet in the portion of a DOBOR site located in near proximity from the existing station. Integral command, ordinance, and land operation facilities would be housed in the new facility able to meet 30-foot inside clear zone requirements per the USCG Physical Security and Force Protection. The first story would consist of Boat Maintenance Facilities and storage of gear necessary for rapid mission response. The second story would consist of administrative spaces and training space for day-to-day operations. The third story would consist of berthing space, a kitchen, and recreational space. The third story would be reduced in size and the building would be sited on the southern end of the site to preserve views to the extent possible. Parking spaces would be provided on the northern portion of the property and a security fence would be installed around the entire property.

The extent of vertical and horizontal ground disturbance associated with the construction of the new building, fence, and possibly parking lot are currently unknown; however, ground disturbance is anticipated as part of the proposed new building, security fence, and parking lot.

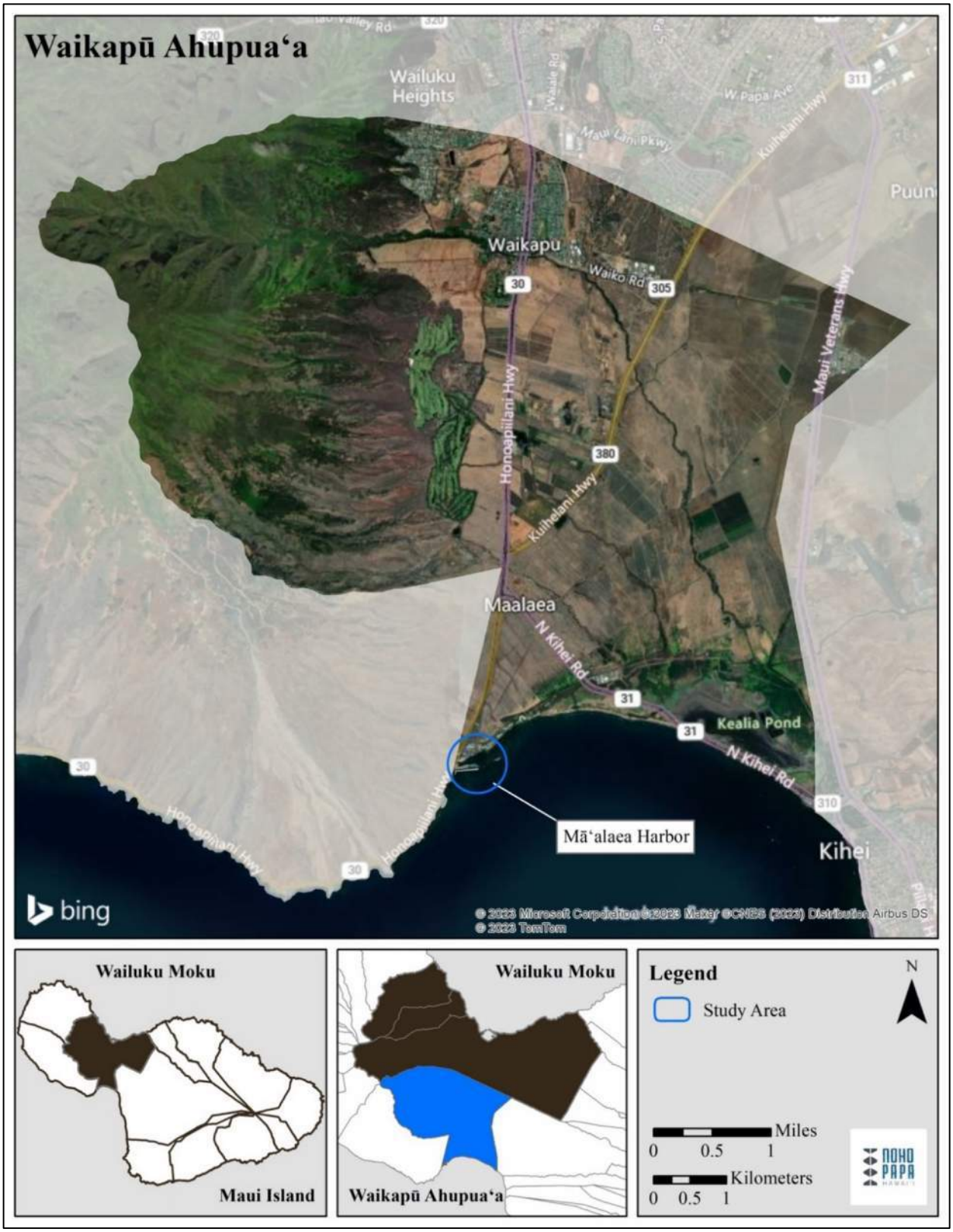



Figure 1. Aerial imagery depicting the location of the project area in Mā‘alaea,Waikapū Ahupua‘a, Maui.

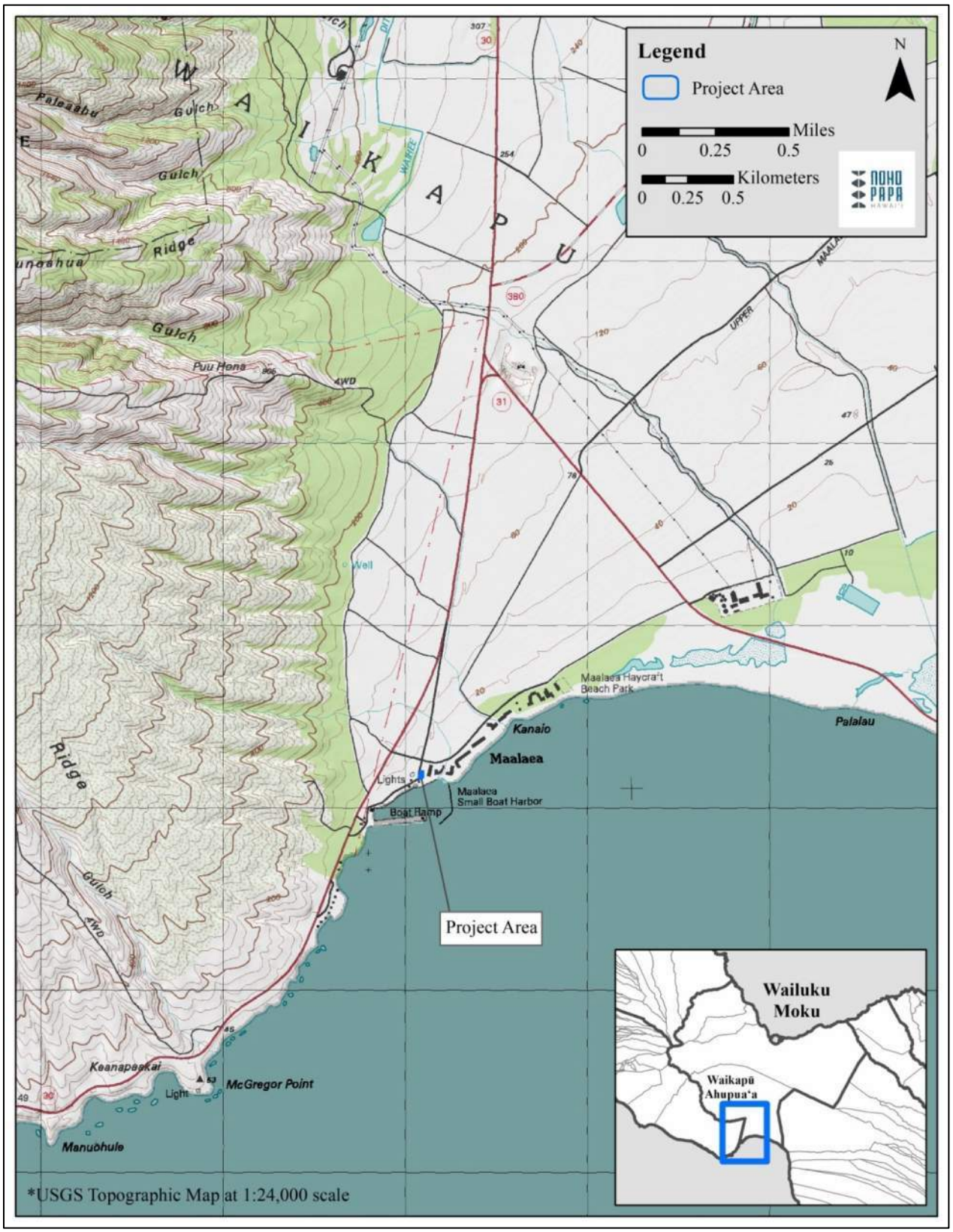



Figure 2. Portion of the USGS 7.5-minute topographic quadrangle showing the location of the project area in Māʻalaea, Waikapū Ahupuaʻa, Maui

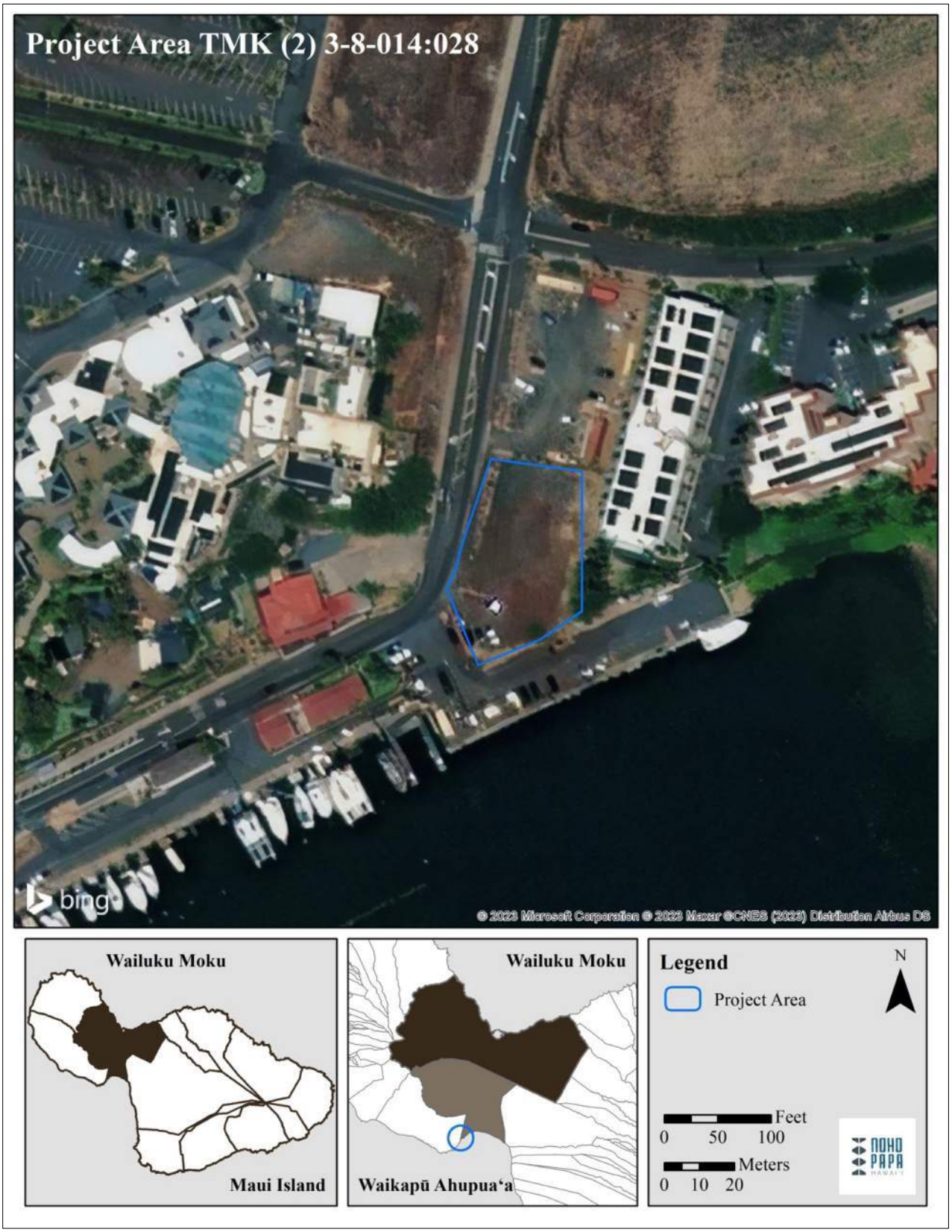



Figure 3. Aerial imagery depicting the project area, delineated in blue, in Māʻalaea, Waikapū Ahupuaʻa, Maui.


Figure 4. Aerial imagery depicting the project area overlain with TMKs of the project area (TMK [2] 3-8-014:028), and surrounding vicinity.

## Document Purpose

The purpose of the CIA is to inform Hawaii Revised Statutes (HRS) §343 and the National Environmental Policy Act (NEPA) environmental compliance review triggered by the proposed U.S. Coast Guard Station expansion at Māʻalaea Harbor. The State constitution, as well as state laws and courts, require government agencies to "promote and preserve cultural beliefs, practices, and resources of native [sic] Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project," (State of Hawaiʻi Environmental Council 1997). As noted by the State of Hawaiʻi Environmental Council (1997), "[a] cultural impact assessment analyzes "the impact of a proposed action on cultural practices and features [collectively termed 'cultural resources'] associated with the project area".

Through ethno-historical background research and consultation, this CIA provides an assessment of the proposed project's potential impacts to cultural resources, defined as practices and features, which may include Traditional Cultural Properties (TCPs) of ongoing cultural significance that may be eligible for inclusion on the Hawaiʻi Register of Historic Places, in accordance with Hawaiʻi Revised Statutes (HRS) Chapter 6E Guidelines for significance criteria (AR §13-284) under Criterion E.

## Regulatory Context

The proposed project is a federal undertaking by the U.S. Coast Guard on land leased by the State of Hawaiʻi's Division of Boating and Ocean Recreation (DOBOR) from the Williams Opportunity Trust, an action that triggers an Environmental Assessment and Cultural Impact Assessment under Hawaiʻi Revised Statutes (HRS) §343 and an Environmental Assessment under the National Environmental Policy Act (NEPA) environmental compliance review.

## Methods

This Cultural Impact Assessment consisted of four primary tasks: (1) ethnohistorical background research; (2) community ethnographic interviews, summaries, and recommendations; (3) cultural impacts assessment; (4) synthesis and recommendations. The study spanned a 10-month period from May through October 2023. Project personnel included: Momi Wheeler, B.S., Kelley L. Uyeoka, M.A., and Rachel Hoerman, Ph.D. While conducting this study, Nohopapa Hawaiʻi's research team incorporated a set of living values and beliefs to help guide our research, analysis, behavior, perspective, and overall frame of reference. The core values directing our hui included:

- ***Aloha ʻĀina***- to have a deep and cherished love for the land which created and sustains us
- ***Haʻahaʻa***- to be humble, modest, unassuming, unobtrusive, and maintain humility
- ***Hoʻomau***- to recognize, appreciate, and encourage the preservation, perpetuation, and continuity of our wahi kūpuna and kaiaulu
- ***ʻImi Naʻauao***- to seek knowledge or education; be ambitious to learn
- ***Kuleana***- to view our work as both a privilege and responsibility

These values represent the underlying foundation, spirit, and structure for this study. It was our hope that by providing a frame of reference and guiding values, the teams' efforts would be better

understood in the context of our being indigenous researchers genuinely believing in and practicing aloha ʻāina and aloha lāhui.

## Ethnohistorical Research Methods

Background research performed for this study emphasized original efforts and the identification, gathering, and utilization of Hawaiian and other historical resources in order to provide a place-based, culturally-grounded contextualization of land use, settlement patterns, and wahi kūpuna (ancestral places) in the project area in Waikapū Ahupuaʻa through time.

Resources targeted during background research included: Hawaiian oral traditions and other ethnohistorical resources (including 19th and 20th century Hawaiian scholarship), historical accounts, Māhele and other land documents and maps, Hawaiian and English language newspapers, ethnographic and historical studies, historical photos and records, and academic and compliance archaeological studies. Online repositories consulted included: the Hawaiʻi State Archives Digital Collection, the Bishop Museum Library and Archives, the Hawaiian Missions Houses Library and Archives, the University of Hawaiʻi at Mānoa (UHM) Hamilton Library, UHM's Online Maps, Aerial, Photograph and GIS (MAGIS) library, Papakilo Database, Ulukau, and AVA Konohiki. Reports, historical maps and photographs from the Nohopapa internal database as well as books and other publications from the authors' personal libraries were also utilized.

Nohopapa Hawaiʻi's methodological approach for evaluating and using primary source Hawaiian materials is derived from Kikiloi (2010:80), who writes that researchers must preference:"…testimonies in the ethno-historic record that were (a) recorded first in Hawaiian Language, and (b) written by native Hawaiian people or recorded first hand from their testimony."

Kikiloi (2010:80) asserts the following skills are necessary for accurate, careful, and respectful utilization of ʻike kūpuna (ancestral knowledge) and primary source Hawaiian materials:

> (a) an emic (insider) understanding of cultural context, meaning, and metaphor;
> (b) a level of fluency in the native language or ʻōlelo Hawaiʻi (Hawaiian Language)
> (c) a familiarity with ʻāina (environment) as a critical point of reference to orient and position oneself to have legitimacy in interpretation. [Kikiloi 2010:80]

For primary source Māhele land record translations provided by Kaʻie Naboa-Cordy, *The Dictionary of Hawaiian Legal Land Terms* was used to verify or clarify official names, terminology, and documents, alongside consultation with Ross Cordy and ʻUmi Perkins. Translation methods included review of the entire document, followed by literal translation, and review to verify accuracy of the English translation, and that it relayed and communicated same message as the primary source.

Background research using the methods and approaches described above was used to inform contextual synthesis of:

- Resources including environmental zones, soils, geology, plants, wai,.
- Native Hawaiian oral traditions and accounts including kaʻao (legendary histories), moʻolelo (narratives), inoa ʻāina (place names), mele (songs), oli (songs), ʻōlelo noʻeau (proverbs, poetical sayings), nūpepa (Hawaiian language newspapers),

- Cultural resources, practices, and beliefs found within the broad geographical area that hosts the project area, including its relationships to people and places throughout the pae ʻāina (Hawaiian archipelago),
- Post-European contact historical accounts, including early visitor accounts, plantation era records, historical maps, and newspapers,
- Kingdom of Hawaiʻi land use within the project area and vicinity including, Māhele records – , Land Commission Awards, Native & Foreign Testimonies and Registers; as well as Boundary Commission testimony and certificates, Government Grants,
- Archaeological information pertaining to cultural and historic sites within the project area and vicinity in order to understand existing as well as the potential for additional historic properties.
- Stewardship best practices and historic preservation compliance recommendations.

Additionally, a remote public records search of the SHPD archives, UHM Hamilton Library and Bishop Museum Archives for previous academic and compliance archaeological studies associated with the project area and vicinity in Waikapū Ahupuaʻa was conducted in May and June 2023. The Maui Historical Society's (MHS) website indicated their holdings were closed to research, and June 2023 email inquiries to the MHS from Nohopapa Hawaiʻi regarding research access or enlisting the MHS's research services received no response.

## Ethnographic Interview Methods

This study used ethnographic interviews with community members to record and acknowledge their relationships to the project area and vicinity in Māʻalaea, Waikapū Ahupuaʻa, Wailuku Moku, Maui Island. Ethnographic professional best practices were employed to ensure that the voices of community members were honored and respected as well as correctly and accurately conveyed. First, individuals were selected for consultation based on their knowledge of/relationship to the project area and vicinity in Māʻalaea. Prospective consultees were identified and engaged with via email and follow-up telephone calls/texts with an invitation to participate in consultation (see Appendix A). Ethnographic interviews were conducted via the medium preferred by consultees using a list of pre-developed questions (see Appendix B). Consultees' permission for use of their intellectual property was secured (see Appendix C). Ethnographic interviews were conducted, summarized, and transcribed using Temi software for use in this report. Interview summaries were sent to participants for review and approval. All interview materials are archived electronically in Nohopapa Hawaiʻi LLC's project records.

Throughout the study, and particularly before any meetings or interviews, it was carefully explained to all participants that their involvement in the study was voluntary. An informed consent process was initiated and completed, including providing ample project background information. The informed consent form included the participants' rights including notification that participants could choose to remain anonymous. Project background information included explaining the study focus and the purpose and importance of the study. After proper notification and discussion, the interview participants voluntarily provided verbal consent for Nohopapa Hawaiʻi to use their manaʻo for the project as well as signed the informed consent forms. All interviews were scheduled and arranged for the participant's convenience.

Community engagement for this study occurred from May through October 2023. Twenty potentially knowledgeable community members were invited to participate in CIA consultation. Two individuals participated in interviews and one individual opted to share their perspectives via email (see Appendix B for questions used). During ethnographic interviews for this study,

Nohopapa Hawai'i staff members noted that community members who participated in interviews acquired their knowledge about the project area and vicinity in Mā'alaea from:

1) 'Ohana knowledge or personal, historical knowledge and information passed on from one generation to the next.
2) Knowledge obtained from individuals outside their 'ohana such as teachers, cultural practitioners, and kūpuna (esteemed elders).
3) Knowledge obtained through written sources such as books, documents, newspapers, reports, and studies.
4) Knowledge gathered through personal experience, observations, and practices growing up in the area (such as knowledge acquired through cultural work and practices within or near the project area).

## Cultural Impact Assessment Methods

Mana'o generously shared by consultees during the ethnographic interviews described above was reviewed and summarized for information, perspectives, and opinions regarding:

- The cultural resources, and their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the broader site;
- The nature of the cultural practices and beliefs within the project area affected directly or indirectly by the proposed project;
- An explanation of confidential information, if any, that has been withheld from public disclosure in the assessment; and,
- A discussion concerning any conflicting information, if applicable, in regard to identified cultural resources, practices, and beliefs.

An assessment of cultural impacts, by the proposed project, to cultural resources within the project area was performed via synthesis and discussion of consultation mana'o gathered and summarized. The scope of the analysis was commensurate to the breadth and depth of information gathered during consultation. In this instance, the effort included consideration and discussion of:

- The potential effect of any proposed physical alteration on cultural resources;
- The potential of the proposed action to isolate cultural resources from their setting; and,
- The potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

Additionally, consultees were invited to share concerns and recommendations related to cultural impacts by the proposed project to cultural resources within the project area. This included feedback regarding:

- How the project might impact iwi kūpuna, wahi kūpuna and other cultural resources within or around the project area;
- Anticipated adverse impacts to cultural resources resulting from the proposed project;
- Solutions that would address any concerns shared;
- Preferred alternatives to the proposed project;

Any preferred or desired mitigation (defined as actions that avoid, minimize, rectify, or reduce the impacts of a project) measures relative to the impacts posed by the proposed project.

# NATURAL LANDSCAPE AND RESOURCES

## Environmental Setting

This section describes the natural landscape of the project area, including its topography (general elevations, distance inland, and general terrain patterns), vegetation, geology and soils, climate (including rainfall and winds), and hydrology.

The project area is located in Waikapū Ahupuaʻa, Wailuku Moku, coastal Maui, at an elevation of 1 to 3 m (3 to 9 ft) above mean sea level (Google Earth 2023) project area is approximately 30 m (90 ft) inland and is situated on a graded and heavily developed coastline and harbor flanked by mauka agricultural lands. The general area has an average high temperature of 23.76° C (74.77° F), and receives approximately 368.6 mm (14.5 inches) of rain per year (Giambelluca et al. 2013; Geography Department UHM 2023).

According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Foote et al. (1972), the primary soil in the project area and vicinity is Ewa Silty Clay, 3 to 7 percent slope (EsB) (Figure 5; Foote et al. (1972: 29) describe Ewa Series soils as consisting of "well-drained soils in basins and on alluvial fans," as well as alluvial terraces that "developed in alluvium derived from basic igneous rock". Foote et al. (1972: 29,30) further describe EsB as "the surface layer is dark reddish-brown silty clay loam about 18 inches thick. The subsoil, about 42 inches thick, is dark reddish-brown and dark-red silty clay loam that has subangular blocky structure. The substratum is coral limestone stand, or gravelly alluvium." Foote et al. (1972:29, 30) write that EsB has a profile similar to Ewa silty claim loam soils, with moderate permeability, slow runoff, and slight erosion hazard and note the majority of EsB soils were used for sugarcane and a minority for pasturelands. Notably, the place name Māʻalaea may reference the reddish-brown soil predominant in the project area.

## Biocultural Landscape

The ahupuaʻa of Waikapū, location of the project area, and Wailuku to the north are the largest land divisions within Wailuku. Waikapū Ahupuaʻa is bounded to the west by Ukumehame Ahupuaʻa in Lāhaina Moku and Pūlehunui Ahupuaʻa in the moku of Kula. It encompasses the waters of Māʻalaea Harbor, and ascends to the West Maui Mountains and the Central Maui Plains to the east (Handy, Handy, and Pukui 1972: 510, 511; Google Earth 2023). Hawaiian oral tradition describes Waikapū, along with the Maui places of Wailuku, Waiehu, Waiheʻe as Na wai ʻehā, which Pukui (1989: 251, #2300) describes as "[a] poetic term for these places on Maui:, each of which has a flowing water."

## Rains And Winds

Native Hawaiians have a vast vocabulary for weather and a nuanced understanding of the winds and rains of their home. Like place names (see discussion in Cultural Historical Overview section of this report), winds and rains acted as mnemonic devices facilitating the recollection of the places they occurred (Olivera 2014:89,90).

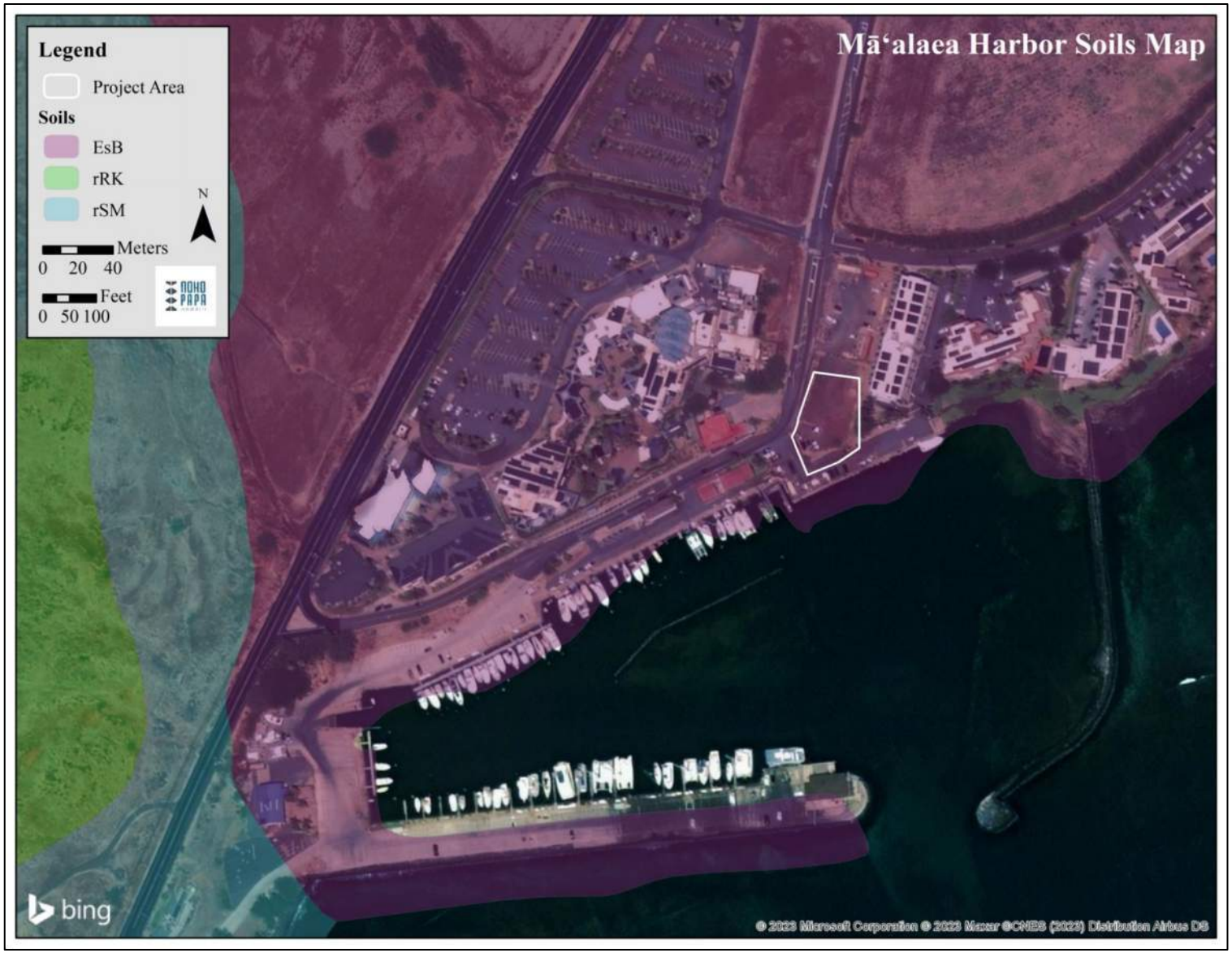



Figure 5. Overlay of Soil Survey of the State of Hawai‘i (Sato et al. 1973), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001).

Some rain and wind names associated with Waikapū, Maui, were found during background research for this report. The selection discussed below is a surface overview and starting point for further research, not a comprehensive inventory. More Waikapū rain and wind names undoubtedly exist, await discovery or revelation, or will develop names in the future. The makani (winds) and ua (rains) featured here were integrated into dynamic, storied, intertwined Hawaiian ocean, land, and skyscapes. They are emblems and vehicles of ʻike kūpuna, Hawaiian cultural beliefs, practices, and relationship to ʻāina and place.

Nineteenth-century Hawaiian government official and historian Ione Papa ʻĪʻī ([Frazier, trans.]1995:107) writes of the gusting Mumuku wind encountered by sailing vessels in Māʻalaea. ʻĪʻī also describes the bursts of gusting winds he encountered "extending from Olowalu to the points of Papawai and Kamaalaea," as a young boy and passenger in a royal entourage of ships sailing past Maui (ʻĪʻī (Frazier, trans.]1995:109).

Akana and Gonzalez (2015:84) associate the Kiliʻoʻopu rain with Waikapū. Moses Kuaea Nakuina's telling of *The Wind Gourd of Laʻamaomao: The Hawaiian Story of Pākaʻa and Kūapākaʻa Personal Attendants of Keawenuiaʻumi Ruling Chief of Hawaii and Descendants of Laʻamaomao,* published by Nakuina in 1902 and translated by Esther T. Mookini and Sarah Nākoa, records Kololio as a wind of Waikapū (Nakuina 1902:55). The ʻōlelo noʻeau Ka makani kokololio o Waikapū (The swift, gusty wind of Waikapū) (Pukui 1983:159, #1465) describes the character of a similarly named wind of Waikapū.

Clark describes the defining features of Māʻalaea Bay, which borders the project area to the south:

> The curving three-mile reach of shoreline that follows the head of Māʻalaea Bay between Kīhei and Māʻalaea Boat Harbor is a barrier beach of white sand with an average width of seventy-five feet. Outcrops of beach rock are found along the beach, which is backed by low sand dunes. The inshore bottom is generally sandy and slopes quickly to overhead depths along most pf the beach… [Clark 1989:50]

Clark (1989:50) further notes that "Māʻalaea Bay has a very rich and varied molluscan population, possibly containing the greatest number of species found in any Hawaiian locality." The bay has a fringing reef, with the surf break known as Māʻalaea Rights located near the jetty (Pukui, Elbert, and Mookini 1974:137).

Established in 1953, Keālia Pond National Wildlife Refuge is located one-mile east of the current project area, across Māʻalaea Bay. Clark (1989:51) writes that the pond is "an important breeding and nesting refuge for indigenous water-fowl," especially āeʻo (Hawaiian stilts; *Himantopus mexicanus knudseni*), ʻalae keʻokeʻo (Hawaiian coots; *Fulica americana alai*), and ʻaukuʻu (black-crowned night herons; *Nycticoraz nycticorax)* (USFWS 2023a, b; Audubon Society 2023).

## Vegetation

Indigenous and invasive plant species are associated with Waikapū Ahupuaʻa and the project area and vicinity (Table 1). Background research performed for this report identified indigenous plants linked to the project area vicinity in 19th century Hawaiian oral traditions as well as more recent surveys and studies (e.g. Foote et al. 1972; Krauss 1993). In *Fragments of Hawaiian History*, Papa ʻĪʻī ([Frazier, trans.]1995:107) writes of ʻilima bordering a trail in the ridges west of the project area:

> When Kekuhaupio heard of the defeat, he prepared for battle. He began at Kamaalaea, on the ridge of Puuhele, for there were tall *ʻilima* bushes along a very

> narrow trail and he felt that it would be a good spot from which to fight. Hence the name given to him by the women, who spoke jokingly: "Hewahewa koa o ka (The deranged warrior of the *'ilima* thickets)."

Foote et al. (1972:30) and associate the invasive fingergrass (*Digitaria eriantha;* Plant Pono 2023), koa haole (foreign koa; leucaena; CTAHR 2003a), and klu (*Acasia farnesiana;* CTAHR 2003b) with the Ewa series soil found in the project area.

Table 1. Table of Indigenous Plant Species Associated With the Project Area

| Plant Species | Native status | Use | Existing in project area | Existing in surrounding area | Previously existing in project area | Previously existing in surrounding area | Citation |
|---|---|---|---|---|---|---|---|
| **Ground Cover/Ferns/Herbs** | | | | | | | |
| ʻUhaloa (*Heteropogon contortus*) | Indigenous | Dye, house construction, medicinal, other uses | | | | X | Foote et al. 1972:30; Krauss 1993:304 |
| **Shrubs** | | | | | | | |
| ʻIlima (*Sida fallx*) | Indigenous | House construction and furnishings, food, lei, medicinal | | | | X | ʻĪʻī (Frazier, trans.)1995:10 |
| **Overstory** | | | | | | | |
| Kiawe (*Metrosideros polymorpha*) | Endemic | Construction, crafts, wood | X | X | | X | Foote et al. 1972:30 |

## Built Environment

The project area is located on the DOBOR southern split along the developed settlement and coast of Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni (Figure 6). It is bounded to the north by Hauoli Street and then an open field, to the west by Māʻalaea Road and then the Maui Ocean Center, to the south by the paved Māʻalaea Harbor access and the kai (ocean), and to the east by the Maalaea Mermaid condominium complex. The project area is situated roughly one quarter of a mile east of Hawaiʻi Route 30 (Honoapiʻiliani Highway) (Google Earth 2023). The undeveloped and unpaved project area is currently being used as two parking lots – the majority and northern portion of the project area is a public, paid parking lot of compacted red dirt while a minority southern portion of the parking lot is private parking for Coast Guard Station Maui, and covered with base course. A single basalt boulder was observed along the eastern edge of the public, paid parking lot. A line of eight basalt boulders is situated along the southeastern border of the public, paid parking lot, east of a kiawe tree.

Figure 6. Overview photo of the project area, view to the west. Three of five private land parcels are visible in the background, TMKs (3) 2-1-007:004, -005, and -046.

# CULTURAL HISTORICAL OVERVIEW

An intertwined and contiguous array of significant cultural features and resources constitute the Hawaiian cultural landscape of the project area and vicinity in Waikapū Ahupuaʻa, Wailuku Moku, Maui Island. Hawaiian oral traditions used to relay and edit ʻike kupuna (ancestral knowledge) and ways of knowing across centuries and generations – from the past through today – are utilized to contextualize the project area in its Hawaiian cultural landscape. These include historical information passed from one generation to the next and transcribed beginning in the nineteenth century through contemporary times. Hawaiian oral traditions relay understandings of things including but not limited to Hawaiian spirituality, culture and cultural practice, history, unique cultural relationships to place and ʻāina, systems of traditional land tenure, sustainability and use, the trajectories of communities, and lives of individuals throughout the pae ʻāina.

## Wahi Kūpuna

Wahi kūpuna are special ancestral spaces, resources, and places where Native Hawaiians maintain relationships to the past and foster their identity and well-being in the present (The Kaliʻuokapaʻakai Collective 2021:4). As cultural anchors to place, ancestral knowledge and practices, wahi kūpuna are strikingly similar to Traditional Cultural Properties defined by the National Park Service as places associated with the cultural practices or beliefs of a living community that are both rooted in a community's history and important in maintaining its continued cultural identity (Parker and King 1998:1).

Wahi kūpuna comprise component parts and/or entire contiguous Hawaiian cultural land, sea, and skyscapes (Pukui, Elbert, and Mookini 1974: x- xii; Oliveira 2014: 78, 79; The Kaliʻuokapaʻakai Collective 2021). Place names embody and perpetuate Hawaiian cultural history, knowledge, and practice. As explained by Oliveira (2014:78):

> To Kānaka [Native Hawaiians] and other indigenous peoples who share a close connection to their land and use oral traditions to record their history, place names and landmarks serve as triggers for the memory, mapping the environment and ultimately the tradition and culture of a people.

Wahi kūpuna are special places and spaces. As noted by Maly and Maly (2022:14,15): "Names would not have been given to – or remembered if they were – mere worthless pieces of topography".

Traditional nomenclature indicates the variety of functions that named localities served, such as describing a particular feature of the landscape; indicating a site of cultural and ceremonial significance; recording particular events or practices that occurred in the area; revealing the source of a natural resource or other materials necessary for a cultural practice; marking trails and resting places; signifying triangulation points for cultural practices; giving notice of residences; showing the use of an area; and recording a notable event (Maly 2022:14, 15).

Beginning in the nineteenth century, some wahi kūpuna were recorded in land records, maps, and other historical documents reviewed for this report. Wahi kūpuna of Waikapū Ahupuaʻa, Wailuku Moku, Maui Mokupuni Maui revealed during background research are featured in (Table 2, Figure 7) below, which illustrate the contiguous, interrelated, layered nature and significance of Hawaiian cultural landscapes. A selection is presented here, not a comprehensive inventory; more wahi kūpuna undoubtedly exist, await discovery or revelation, or will develop names in the future.

Table 2. Wahi Kūpuna of Waikapū Ahupuaʻa, Wailuku Moku, Maui

| Inoa | Possible Translation | Description and Location |
|---|---|---|
| **ʻĀalalōloa** | Translated in Clark (1989:52) as "long path of rough lava." | According to Clark (1989:52), the name for "an extensive range of hills and rocky sea cliffs between Māʻalaea and Pāpalaua." |
| **Kai-o-Anehe** | -- | The sea from Māʻalaea to Keoneoio, between Kahoolawe and Molokini (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kai-o-Haui** | -- | The name of the sea extending from Lahaina to Māʻalaea (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kai-o-Kauiki** | -- | "Fishing ground between East and West Maui. Sail out until both Kauiki and Puu Koaʻe are like small humps (okuku liilii) on the surface of the sea. The length of line required to touch bottom is about 1-1/2 or 2 kaau," (HEN n.d. 1:818 in Sterling 1998:5). |
| **Kaleʻia** | Literally translated as "the abundance," (Pukui, Elbert, and Mookini 1974:76). | Another name for the shoreline at Māʻalaea per Clark (1989:50). |
| **Kanaio** | Literally translated as "the bastard sandalwood tree," (Pukui, Elbert, and Mookini 1974:83). | Described as the Māʻalaea coastal area in Pukui, Elbert, Mookini (1974:76).<br>Another name for the shoreline at Māʻalaea according to Clark (1989:50). |
| **Kapoli** | Literally translated as "the bosom," (Pukui, Elbert, and Mookini 1974:89). | Pukui, Elbert, and Mookini 1974:89 list "Kapoli" as the name of a pūnāwai (*spring*) associated with Māʻalaea, Maui.<br><br>Canoe landing at Māʻalaea (Henriques 1916, HEN 2:214 in Sterling 1998:80). |
| **Māʻalaea (Kamaalaea)** | Described by Pukui, Elbert, and Mookini (1974:137) as a possible a contraction of "Makaʻalaea," meaning "ocherous earth beginnings." | Described by Pukui, Elbert, and Mookini (1974:137) as a "bay, village, and boat harbor, Maui isthmus." |
| **Palalau** | Literally translated as "yellow leaf," (Pukui, Elbert, and Mookini 1974:76). | Described as the Māʻalaea coastal area in Pukui, Elbert, Mookini (1974:176).<br>Another name for the shoreline at Māʻalaea per Clark |

| Inoa | Possible Translation | Description and Location |
|---|---|---|
| | | (1989:50). |
| **Papawai** | Literally translated as “water stratum,” (Pukui, Elbert, and Mookini 1974:180). | Described by Pukui, Elbert, and Mookini (1974:180) as a “point and hill” in Māʻalaea. |
| **Puʻuhele** | Literally translated as “traveling hill,” (Pukui, Elbert, and Mookini 1974:196). | Described by Pukui, Elbert, and Mookini (1974:196) as a “cemetery and hill behind Māʻalaea.” Described by Fornander as the father of Molokini islet, and Puuokali as Molokini’s mother (Fornander 1918:514). |
| **Puʻuokali** | Literally translated as “hill of waiting,” (Pukui, Elbert, and Mookini 1974:203). | Described by Pukui, Elbert, and Mookini (1974:196) as “a quadrangle and hill” in Māʻalaea. Described by Fornander as the father of Molokini islet, and Puuokali as Molokini’s mother (Fornander 1918:514) |
| **Puʻu Lūʻau** | | Oral traditions persisting in the Maui community describe this puʻu as the place where lūʻau for the pēʻū dish favored by Pele and her family was grown (Amadeo n.d. in Pata 2022:298). Pellegrino (2002-2020) for the Maui Nui Ahupuaʻa Project locates Puʻu Lūʻau along the western boundary of Waikapū. |
| **Waikapū** | Literally translated as “[w]ater [of] the conch,” (Pukui, Elbert, and Mookini 1974:223). | Ahupuaʻa |

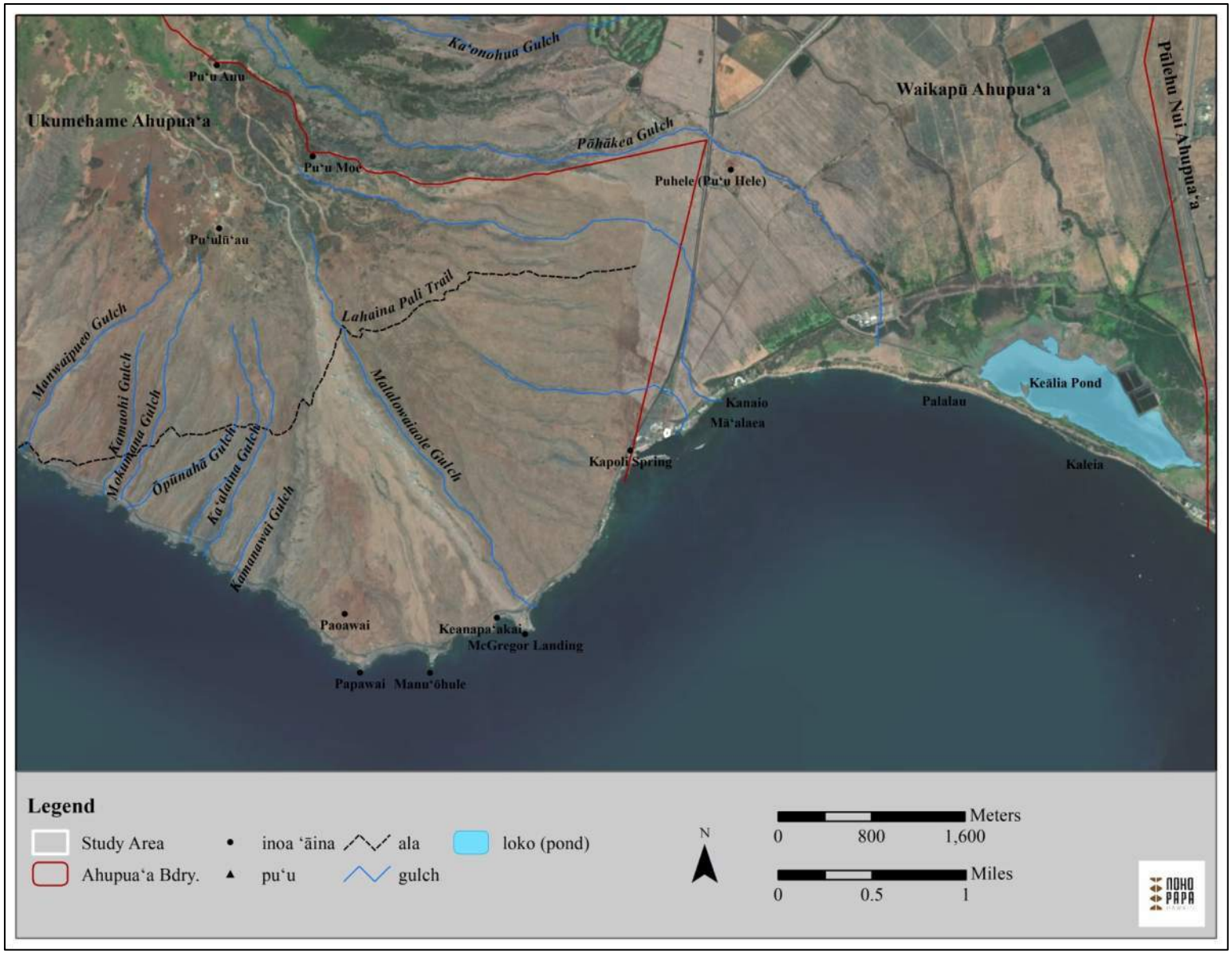



Figure 7. Wahi kūpuna of the project area and vicinity in Waikapū and Ukumehame Ahupua'a, Wailuku Moku, Maui.

Place names of Māʻalaea and the greater Waikapū Ahupuaʻa relay cultural knowledge and relationship to place. Pukui, Elbert, Mookini (1974:137) write that "Māʻalaea could be a possible contraction of "Maka-ʻalaea," meaning "ocherous earth beginnings." Echoing this translation, Clark (1989:50) explains that "ʻAlaea is an edible, water-soluble red clay used for medicine, for dye, for certain purification ceremonies, and most commonly for coloring *paʻakai* (salt)." Kumu hulu, cultural practitioner, and researcher Cody Kapueolaʻākeanui Pata (2022:298) translates Māʻalaea to literally mean "origin of the ocherous earth," and describes it as a "[r]egion, perhaps an ʻili, in the ahupuaʻa of Waikapū." Pukui, Elbert, and Mookini 1974:223 translate Waikapū to mean "water [of] the conch," noting "[A] conch in a cave here could be heard everywhere in the Hawaiian Islands until it was stolen by a supernatural dog, Puapua-lenalena, yellow tail feathers." Pukui, Elbert, and Mookini (1974:102) literally translate Keālia, the name of the pond 1 mile east of the project area, to mean "the salt encrustation."

## Hawaiian Oral Traditions

Hawaiian oral traditions is historical information that has been passed down by word of mouth from one generation to the next and recorded in more contemporary times. Hawaiian oral traditions provide a general sense of Native Hawaiian history, their connection to land, how they lived, and their traditional land tenure. These Hawaiian oral traditions come in the forms of oli (chants), mele (songs), ʻōlelo noʻeau (proverbs and poetical sayings), moʻolelo (stories), moʻokūauhau (genealogies), and nūpepa (*Hawaiian language newspapers*). These forms of oral traditions can be woven into each other. For instance, a moʻolelo may present a mele or oli about a moʻokūʻauhau. Essentially, these oral traditions are vehicles for intergenerational transmission of knowledge that ensures the survival of cultural beliefs, practices, and traditions.They are a direct link to experience Hawaiʻi through a timeless bridge of cultural insights that have guided Hawaiians for generations. The Hawaiian oral traditions gathered below relay information regarding resources of the land, akua (gods), kupua (shapeshifting demigods), ʻaumākua (familial guardians), aliʻi (*chiefs*), and ka poʻe kānaka (*the Hawaiian people*) whose stories weave a unique and treasured history of this ʻāina (*cultural landscape*).

## Oli, Mele, and ʻŌlelo Noʻeau

Kikiloi (2010:78) defines Hawaiian oral traditions as "verbal testimonies or reported statements concerning the past," and ʻike kūpuna and divides them into two types. One group of Hawaiian oral traditions identified by Kikiloi (2010:79) include oli, mele, and ʻōlelo noʻeau which are short, reproduced through strict protocol, and often "part of sacred learning or tradition," Kikiloi (2010:78).

Nogelmeier (2001:vii, 1) defines mele as "Hawaiian poetic compositions to be performed as chants or dances," and "both an art and an ancient tradition…". The ancient, pan-Pacific roots, developmental trajectory, and depth and breadth of the Hawaiian oral tradition is synthesized by Nogelmeier:

> Before Europeans arrived in the Islands, poetry was part of the vast collective repository of oral tradition necessary for social continuity in such a complex oral culture. Poetic form was useful for remembering genealogies and for documenting historical events; combined into histories and legends, this kind of poetry has been recorded throughout the many Pacific cultures. Eventual interior changes in Hawaiian society certainly affected the uses of poetry, fostering its status in the protocols of royal court and religious ceremony and at the same time expanding the practice and appreciation of the art throughout the general population. Whether recited as prayer or invocation, intoned in chant without accompaniment, or presented through dancers as a hula, poetic compositions were called *mele*. Expressing the skills of the poet and the reciter, the art came to be widely embraced; poetic presentation, as pleasant pastime and formal purpose, became a social norm. [Nogelmeier: 2001:1]

Kanikau are somewhat like Hawaiian poetic eulogies, they are defined as a "dirge, lamentation, chant of mourning, lament," (Pukui and Elbert 1986: 129). Puakea Nogelmeier, in an interview with Hina Kneubuhl, explains kanikau as "…a type of mele – a chant – that shows love and relationship to a person, usually someone who had passed on," further stating, "[i]t's a fond recollection, in a sense. The relationship is recalled, sometimes in order of time, sometimes in

order of places where the two spent time together…" (Kealopiko 2022). G.W. Lawelulu published a kanikau in the May 29, 1880 edition of *Ko Hawaii Pae Aina* rich describes the character of Māʻalaea and features of their daughter's relationship with the place:

| | |
|---|---|
| Kuu kaikamahine I na Hono a Maui, | *My dear daughter in the bays of Maui* |
| I hanauia I ke kai hone o Maalaea, | *Born in the whispering sea of Maʻalaea,* |
| He kupa he kamaaina oe no ia wahi, | *You are a native, a local of that place,* |
| Mai na ale lauwili o Papawai, | *From the swirling waves of Papawai,* |
| Mai n alae ononi o Puuolai, | *From the point that moves about at Puʻolaʻi* |
| Lai iho la kuu lei rose i ka pohu | *My previous rose lei is calm and serene.* |

[Laweluwelu 1880 in Clark and NeSmith (trans.) 2011:167]

An excerpt from a kanikau published by Mr. George Alika in the March 19, 1887 edition of *Ko Hawaii Pae Aina* describes the surf of Māʻalaea and an associated place name:

| | |
|---|---|
| Kuu keiki mai ka nalu hailua a Maalaea | *My dear child from the merging waves at Māʻalaea* |
| E kilohi ana i ka nani o Puuolai | *Gazing at the beauty of Puʻuōlaʻi.* |

[Alika 1887 in Clark and NeSmith (trans.) 2011:116]

ʻŌlelo noʻeau, or Hawaiian proverbs and poetical sayings, are valuable in perpetuating Hawaiian cultural knowledge, presenting layers of kaona (meaning), and illustrating creative expressions that incorporate observational knowledge with cultural values, history, knowledge, and humor. Today, they serve as a traditional source to learn about the communities, people, places, histories, and environments of Hawaiʻi.

No ʻōlelo noʻeau associated with Māʻalaea were revealed during background research for this report. An ʻōlelo noʻeau featuring Waikapū, Maui, is featured below:

Na wai ʻehā.
*The four wai.*
A poetic term for these places on Maui: Wailuku, Waiehu, Waiheʻe, Waikapū, each of which has a flowing water (*wai*).
[Pukui 1983:251, #2300]

## Moʻolelo and Kaʻao

Moʻolelo (narratives) and kaʻao (legendary histories), which are more flexible in structure, version, and meaning, are the second type of Hawaiian oral traditions – "verbal testimonies or reported statements concerning the past," and ʻike kūpuna (Kikiloi 2010:78).

"Kamaalaea" is referenced in ʻĪʻī's *Fragments of Hawaiian History*. In one reference, the famed warrior, advisor, and companion of Kamehameha Kekūhaupiʻo prepares for battle there:

> When Kekuhaupio heard of the defeat, he prepared for battle. He began at Kamaalaea, on the ridge of Puuhele, for there were tall *ʻilima* bushes along a very narrow trail and he felt that it would be a good spot from which to fight [the warriors of Maui]. [ʻĪʻī 1995:10]

A Hawaiian oral tradition recorded during the nineteenth century by Hawaiian scholar Samuel Mānaiakalani Kamakau holds that following his death, the body of Chief Kekaulike was ferried through the landing at Kapoli in Māʻalaea. It reads:

> When Ke-kau-like heard that the ruling chief of Hawaii was at Kohala on his way to war against Maui, he was afraid and fled to Wailuku in his double war canoe named Ke-aka-milo. He saild with his wives and children… his officers, war leaders, chiefs, and fighting men, including warriors, spearmen, and counselors. Some went by canoe and some overland, and the fleet landed at Kapaʻahu at the pit of ʻAi-hakoʻkoʻ [sic] in Kula. Here on the shore the chiefs prepared a litter for Ke-kau-like and bore him upland to Halekiʻi in Kukahua. There Ke-kau-like died, and the sound of lamentation for the dead arose. Then, fearing the arrival of Alapaʻi bent on war, the chiefs cut the flesh from the bones of Ke-kau-like in order to lighten the load in carrying the body to ʻIao [for burial]. Placing the remains on a canoe, they saild [sic] and landed at Kapoli in Maʻalaea and thence went on to Puʻuhele, to Kaluamanu, to Waikapu′ to Wahanemaile, to Kaumuʻilio, to ʻAoakamanu, to Puʻuʻelinapao, to Kaumulanahu, to Kapohakoʻi, to Kalua, to Kekio, to Kamaʻauwai, to Kahua, to Kaʻilipoe, to Kalihi, to Kaluaʻoiki, to Kihahale, stopped at Ahuwahine, laid him down at Loʻiloa, and put him away at Kapela. It was in the month of March, 1736 that Ke-kau-like died. [Kamakau 1961 (1992): 69, 70]

A Hawaiian oral tradition published in 1918 and credited to Lemuel K.N. Papa Jr. describes the storied cultural landscape of Māʻalaea. It reads:

> The parents of Molokini [the islet between Maui and Kahoʻolawe] were Puuhele the father and Puuokali the mother; they were lizards, those hills standing just beyond Kamaalaea. After they became husband and wife, Puuokali became pregnant with their first child, and gave birth to a daughter, a lizard like themselves, to whom was given the name Puuoinaina. This daughter of theirs was placed on Kahoolawe; the name of Kahoolawe at that time, however, was Kohemalamalama ;[sic] it was a very sacred land at that time, no chiefs or common people went there. [Papa Jr., n.d. in Fornander 1918: 514]

Between 1920 and 1924, the Hawaiian pastor Stephen Langhern Desha published installations of "He Moolelo Kaao no Kekuhaupio, Ke Koa Kaulana o ke Au o Kamehameha ka Nui" (A Tradition of Kekuhaupio, the Famous Warrior in the time of Kamehameha the Great) in the Hawaiian language newspaper he edited, entitled *Ka Hoku o Hawaii* (*Star of Hawaiʻi*). Desha's version of the moʻolelo describes Māʻalaea as a canoe landing and cove, rife with Maui spies, and Papawai, another place name of Māʻalaea, as a white sand puʻu filled with rival warriors and strategic location to stage a battle. A relevant excerpt from Desha reads:

> After they left kīhei, Kamehameha though of landing at Māʻalaea because he wished to climb secretly above Wailuku and to spy over the battle status of King Kahekili. He also took his follower Kekūhaupiʻo. However, while his double canoe was traveling at sea, and because there was some moonlight that night and yet some darkness, some Maui people quickly realized that this was a spying canoe moving in the darkness on the sea, and they followed along the shore. When Kamehameha's canoe came in to land at that place his sharp eyes saw that they were visible to everyone, therefore he quickly ordered his paddlers to move to another cove beyond Māʻalaea. Kamehameha's canoe arrived at Papawai Point, close to a little sandy cove. At that time he and Kekūhaupiʻo realized that the area

> was full of Kahekili's warriors who were visibly ready for them to leap ashore. [Desha and Frazier (trans.) 2000:38, 39]

Desha goes on to say the expert warrior Kekūhaupiʻo advised Kamehameha to make landing at Papawai, where rival warriors of Kahekili's waiting army were easily visible, an intentional and strategic move that allowed Kamehameha's forces to prevail in battle (Desha and Frazier [trans.] 2000:38, 39).

Desha also writes that the lands between Māʻalaea and Puʻuōlaʻi, a hill, were repeat battlefields for the armies of Kalanikūpule and Kamehemeha I, specifically chosen by Kekūhaupiʻo (Desha and Frazier [trans.] 2000:249). Desha also tells of the sound of a famed war trumpet echoing over Māʻalaea:

> …Kamehameha prepared his warriors for battle on the next day. When morning came, the two sides engaged in battle. Before moving to battle in that purple dawn (*kakahiaka poniponi*), the famous war trumpet (*pū kaua*) named Hinamakanui, made of a conch or triton shell, was blown. On the soundings of this famous *pū kaua* on the side of Kamehameha, its deep voice was heard by the people at Māʻalaea and also by those at Waiheʻe. This war trumpet, a relic from the ancient past, sounded three times, and the people who heard its sound on this purple dawning understood that this was a proclamation of war by the *aliʻi* Paeʻea Kamehemeha of Hawaiʻi Nui Kuauli. [Desha and Frazier (trans.) 2000:252]

Hawaiian ethnographer Mary Kawena Pukui collaborated with E.S. Craighill Handy and Elizabeth Green Handy on the 1972 *Native Planters in Old Hawaii: Their Life, Lore, and Environment*. According to their research, Lāhainā[1] to the west of the project area was a chiefly center (Handy, Handy, and Pukui 1972:272). Coastal southwest Maui was renowned for breadfruit, and its fertile fishing grounds (Handy, Handy, and Pukui 1972:153, 272). Coconut groves were also likely present (Handy, Handy, and Pukui 1972: 172,272).

Pukui, Elbert, and Mookini (1974:196) write that Puʻuokali - a hill mauka of Māʻalaea and the current project area - was "believed once a moʻo, the wife of nearby puʻu-hele; their child, puʻuo-inaina (hill of wrath) was placed on Ka-hoʻolawe and later was a lover of Pele's sweetheart, Lohiʻau."

Pata, in *ʻOhuʻohu nā Mauna o ʻEʻeka: Place Names of Maui Komohana*, paraphrases a moʻolelo associating Pele with the creation of Māʻalaea and neighboring Keālia Pond, shared with them by a Maui kupuna:

> When Pele fled from the Lahaina side, after a fight with Nāmaka-okahaʻi, she created Haleakalā for her family and herself. The favorite food of Pele and her sisters is pēʻū [ceremonially cooked lūʻau leaves cooked with salt]. But on this side of the island, their followers had no salt with which to prepare it. So Pele created Māʻalaea – then called Kamāʻalaea – and then sook some salt [of her tears in one version, and some that she had kept since Kauaʻi in another], and created Keālia Pond. The lūʻau for their pēʻū was grown on Puʻu Lūʻau, above Māʻalaea. [Amadeo n.d. in Pata 2022:298]

[1] Pukui et al. (1974:127) note Lāhainā is the "[o]ld pronunciation of Lahaina."

# HISTORICAL LANDSCAPE

## Early Historical Period

Waikapu and Kamaalaea, place names and locations associated with the project area, appear on the earliest Hawaiian cartographic representations of land divisions like moku and ahupuaʻa. "Kaik Kamaalaea," a label attached to a specific location east of the project area on Māʻalaea Bay, as well as Waikapu Moku are depicted in an 1837 map of the pae ʻāina engraved by Kalama at Lahainaluna Seminary, Maui (Kalama 1837; Forbes 2012:150; Figure 8 and Figure 9). "Kaik. Kamaalaea," labeling the kai (ocean), "Kamaalaea", labeling the coastal location near the project area, and "Waikapu" are all place names featured on Kalama's 1838 map engraving of the pae ʻāina (Kalama 1838; Forbes 2012:150; Figure 10). Further, the name "Kamaalaea" persisted into the 20th century. Writing in 1918, Fornander explains Kamaalaea is "better known now as Maalaea, the western landing for central Maui" (1918:514).

Historical maritime records of shipping vessels and commercial fleets associated with the Hawaiian monarchy record Māʻalaea as a boat harbor and stop for missionary families traveling a Honolulu- Māʻalaea-Hilo route in 1837 (Mills 2023:228).

Secondary to primary source Hawaiian oral traditions, knowledge streams, and ethnohistorical lines of evidence, are foreign perspectives and understandings of past and present Hawaiian cultural practices and traditions. A February 1, 1817 sailor's account of their visit to the Hawaiian Islands provides a description of Māʻalaea Bay from an outsider's perspective.

> We now made sail towards Mowee [sic], our ship, as usual, full of natives. Next morning we passed Morokenee (Molokini), and made sail up Mackerey (Maalaea) bay; here we lay until the 16th, and took on board a great quantity of hogs, salt, and vegetables. This bay is very deep and wide, and nearly divides the island, there being but a narrow neck of land and very low, keeping the two parts of the island together. There is good anchorage; and the only danger arises from the trade winds, which blow so strong at times as to drive ships out of the bay with two anchors down; it lies N.E. and S.W. and is well sheltered from every other wind. The neck of land is so low, and the land so high on each side, that the N.E. trade comes through like a hurricane. On this neck of land are their principal salt-pans, where they make most excellent salt. [Corney 1817 in Sterling 1998:95].

Keālia, translated by Pukui, Elbert, and Mookini literally as "the salt encrustation," is notable alongside the presence of traditional salt pans mentioned by the sailor, perhaps representing evidence of salt resources/harvesting along Māʻalaea Bay in the project area vicinity.

On the basis of archaeological, ecological, and ethnographic evidence, E.S. Craighill Handy postulated in 1940 that the location of the current project area on the coastal flats of southwest Maui:

> must have supported many fishing settlements and isolated fishermen's houses, where sweet potatoes were grown in the sandy soil or red *lepo* near the shore. For fishing this coast is the most favorable on Maui, and, though a considerable amount of taro was grown, I think it is reasonable to suppose that the large fishing population which presumably inhabited this leeward coast ate more sweet potatoes than taro with their fish. [Handy 1940:149]

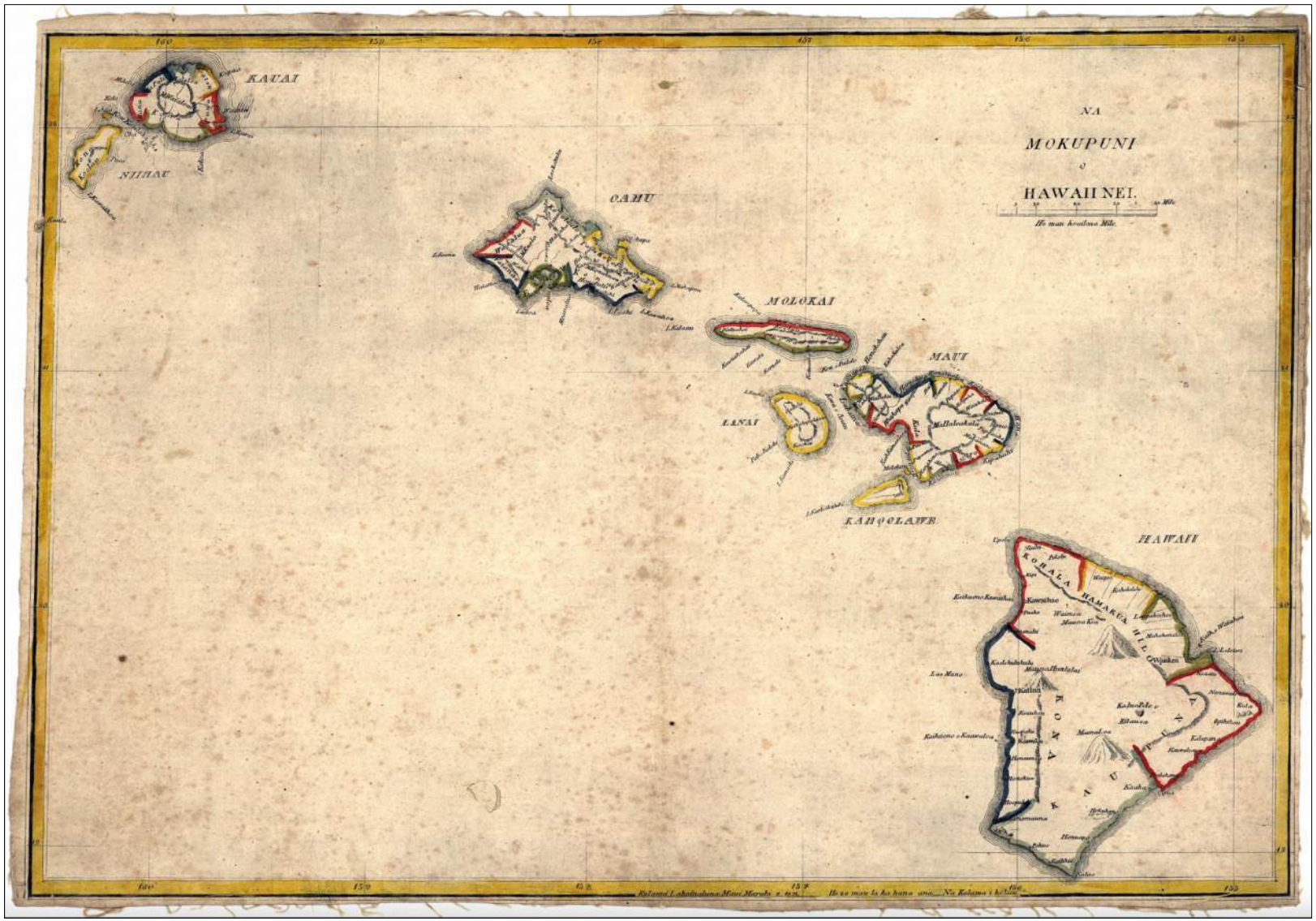



Figure 8. Kalama's 1837 map engraving of the pae ʻāina (*archipelago*) entitled "Ka Mokupuni o Hawaii Nei" (*The Islands of Hawaiʻi*) depicting "Kaik Kamaalaea," a label attached to a specific location east of the project area on Māʻalaea Bay, and the moku of Waikapu, Maui (Kalama 1837; Forbes 2012:150)

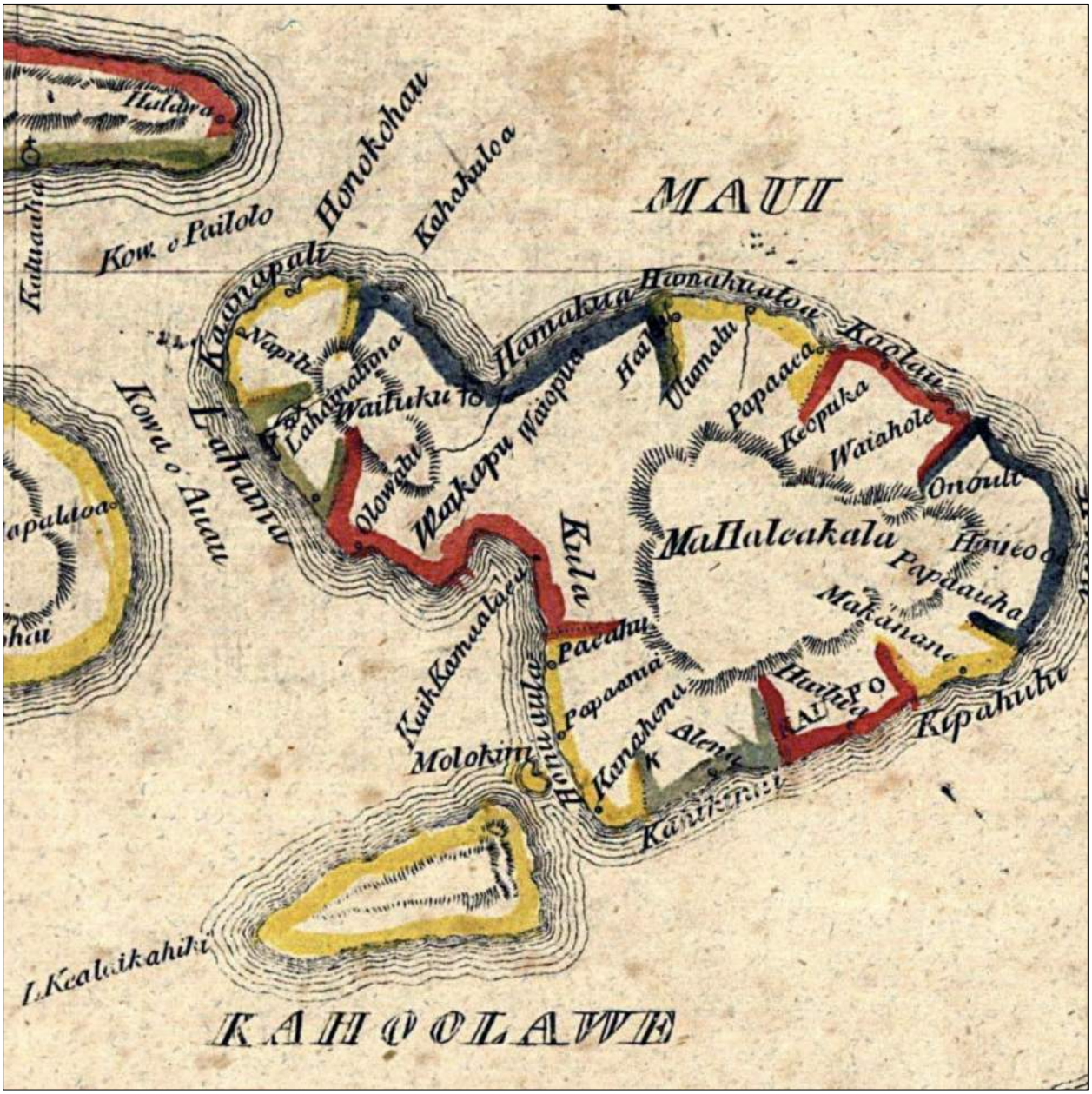



Figure 9. Close-up of the segment of Kalama's 1837 map engraving of the pae ʻāina entitled "Ka Mokupuni o Hawaii Nei" depicting depicting "Kaik Kamaalaea," a label attached to a specific location east of the project area on Māʻalaea Bay, and the moku of Waikapu, Maui (Kalama 1837; Forbes 2012:150)

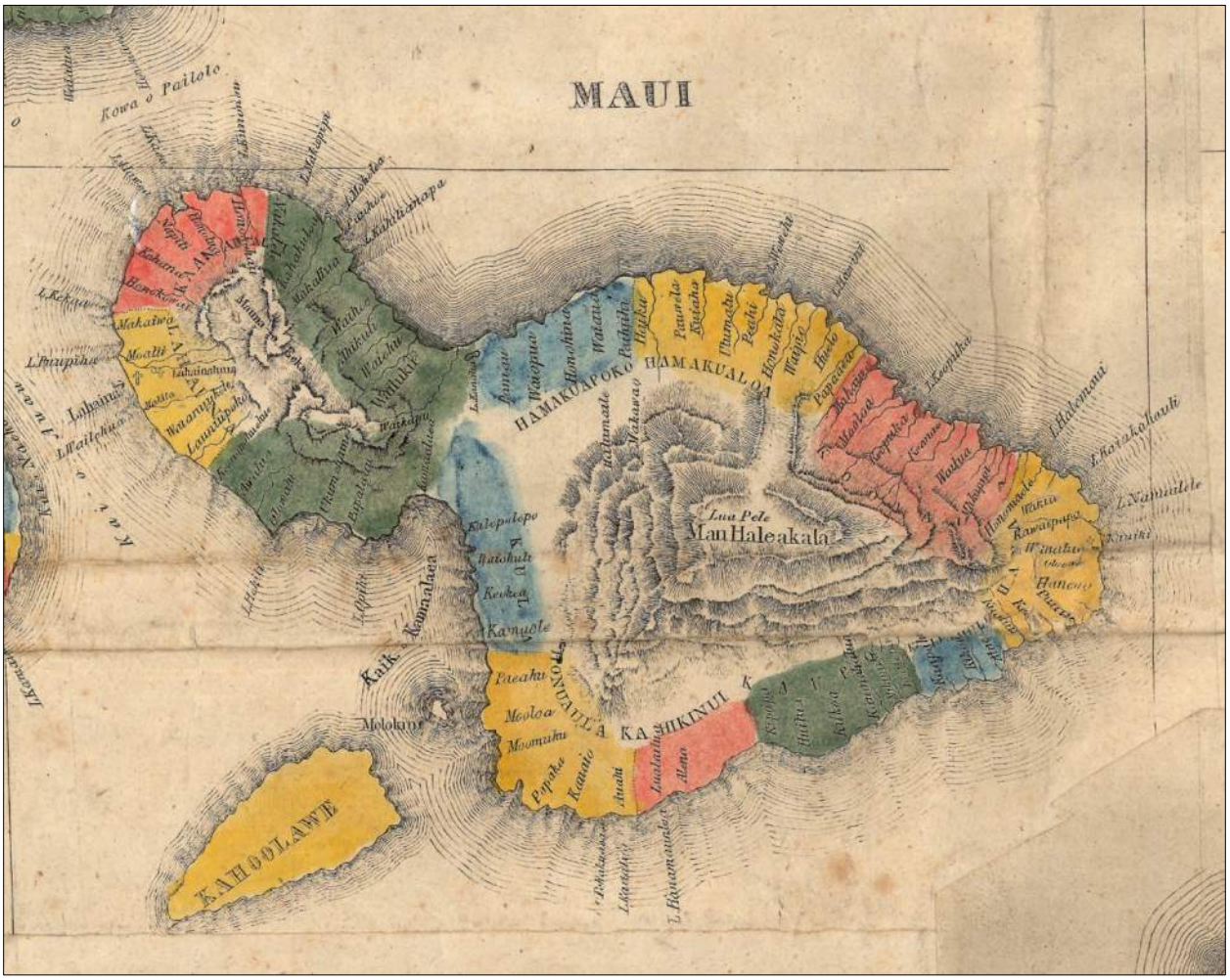



Figure 10. Close-up of a segment of Kalama's 1838 map engraving of the pae 'āina featuring "Kaik. Kamaalaea," labeling the kai (*ocean*), "Kamaalaea", labeling the coastal location near the project area, and the moku of "Waikapu", Maui (Kalama 1838; Forbes 2012:150)

## Māhele Era Historical Records

Land Commission Awards (LCAs) are invaluable historical records of Hawaiian land use, tenure, and ownership. Māhele-era historical records available for the project area and environs evince that few LCAs were awarded in Waikapū's southern coastal plains. Awarded LCAs clustered around Māʻalaea Bay, and included two coastal house lots –LCA 2959 awarded to Hika, which is notably within the project area, and LCA 11156 awarded to Kaili, which is just west of the project area (Figure 11 and Figure 12).

According to information available in the Buke Mahele, LCA 2959 awarded to Hika and Land Grant 3152 issued to Henry Cornwell are associated with the project area. Hika's LCA was one of eight awarded along coastal Māʻalaea Bay - the only LCAs in Waikapū's southern coastal plains. The precise location of Hika's LCA is unclear; historical records indicate Hika's LCA may have overlapped the central southern portion of the current project area, though it may also have been located more partially or totally within the current project area. Land Commission Award 2959 (Awards Book, 1852, vol.8:216,217) clearly depicts the "Alanui Aupuni" (Government Road) running north-south along its western border (Figure 13). This Government Road may have also overlapped the western periphery of the current project area, been included more fully within it, or located in proximity to it. Nahau gives both the formal Native (NT, vol.9: 677-678) and Foreign Testimony (FT, vol.7:490-1) to the Land Commission and Foreign Testimony in support of Hika's land claim, and describes Hika's Māʻalaea claim as his ancestral house lot gained from "Kaai in 1846, and he from his father Keako in old times." In the Native Register (NR, vol.6:21), Hika states he has moved from the ʻili ʻāina of Noheana and only just started living at Māʻalaea and describes 10 loʻ ī associated with the coastal land parcel and house lot.

During the reign of King David Kalākaua, on November 18, 1875, Henry Cornwell purchased a Government Grant and was granted Royal Patent No. 3152 by the Minister of the Interior William Luther Moehunua; who later resigned from his post to become the Governor of Maui (See Figure 14, Figure 15). In 1875, Cornwell purchased the entire ahupuaʻa of Waikapū, excepting kuleana, for $15,050.00, paid to the Board of Education, in a contract that noted "Native rights reserved" and "saving and excepting grants hitherto made within the said Ahupuaa by the Government, or Sales made by the Board of Education," (Government Grants Book, Kingdom of Hawaii 1875 (14):369, 370).

One additional LCA is found in the project area vicinity. Awarded in 1852 (Awards Book, vol.3:534-535) to Kaili as LCA 11156, was located along Māʻalaea Bay roughly 200 m (600 feet) west of Hika's LCA 2959 and the current project area (see Figure 11 and Figure 12). Kaili's LCA is for one ʻāpana (parcel), a "Pahale ma Kamaalaea" (houselot in Māʻalaea) (Awards Book, Land Commission 1852b[3]:534,535). Foreign testimony in support of Kaili's land claim was given by J. Kaauwai. It reads:

> J. Kaauwai sworn, says Kaili put in his claim for this House lot before M. Richards, in the year 1847, on Maui. Witness knows the House lot, it is situated in "Kamaalaea," Waikapu. It is enclosed and surrounded by Government land. Witness knows that the claimant has lived there ever since the year 1829. [Kaauwai 1847]

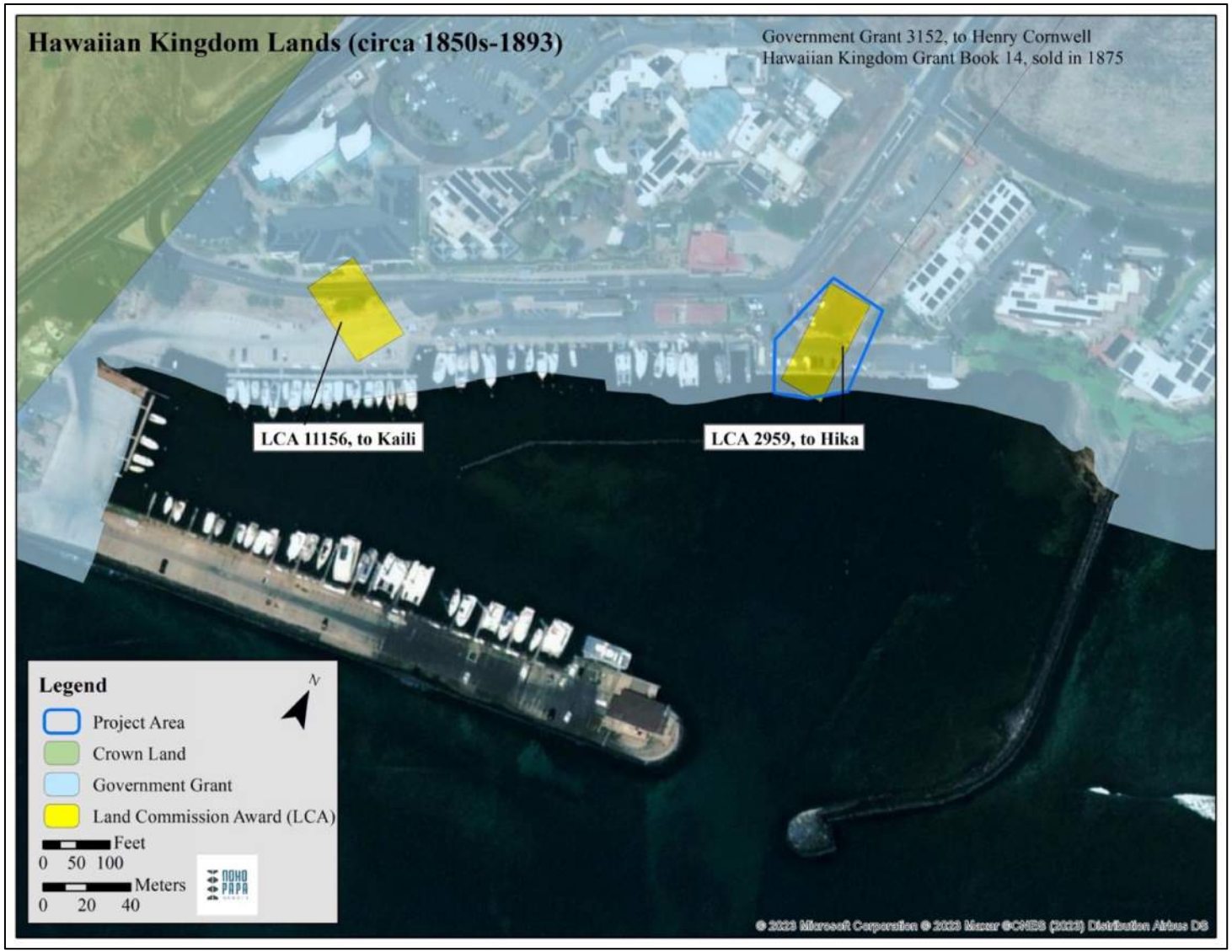



Figure 11. Aerial photo overlain with the approximate locations of Hika's houselot at LCA 2959, within the current project area; and Kaili's LCA 11156, west of the project area (Hawaii State Register Map 4092, *Maalaea Bay Front*, by the Hawaii Territorial Survey, 1958 [sic].

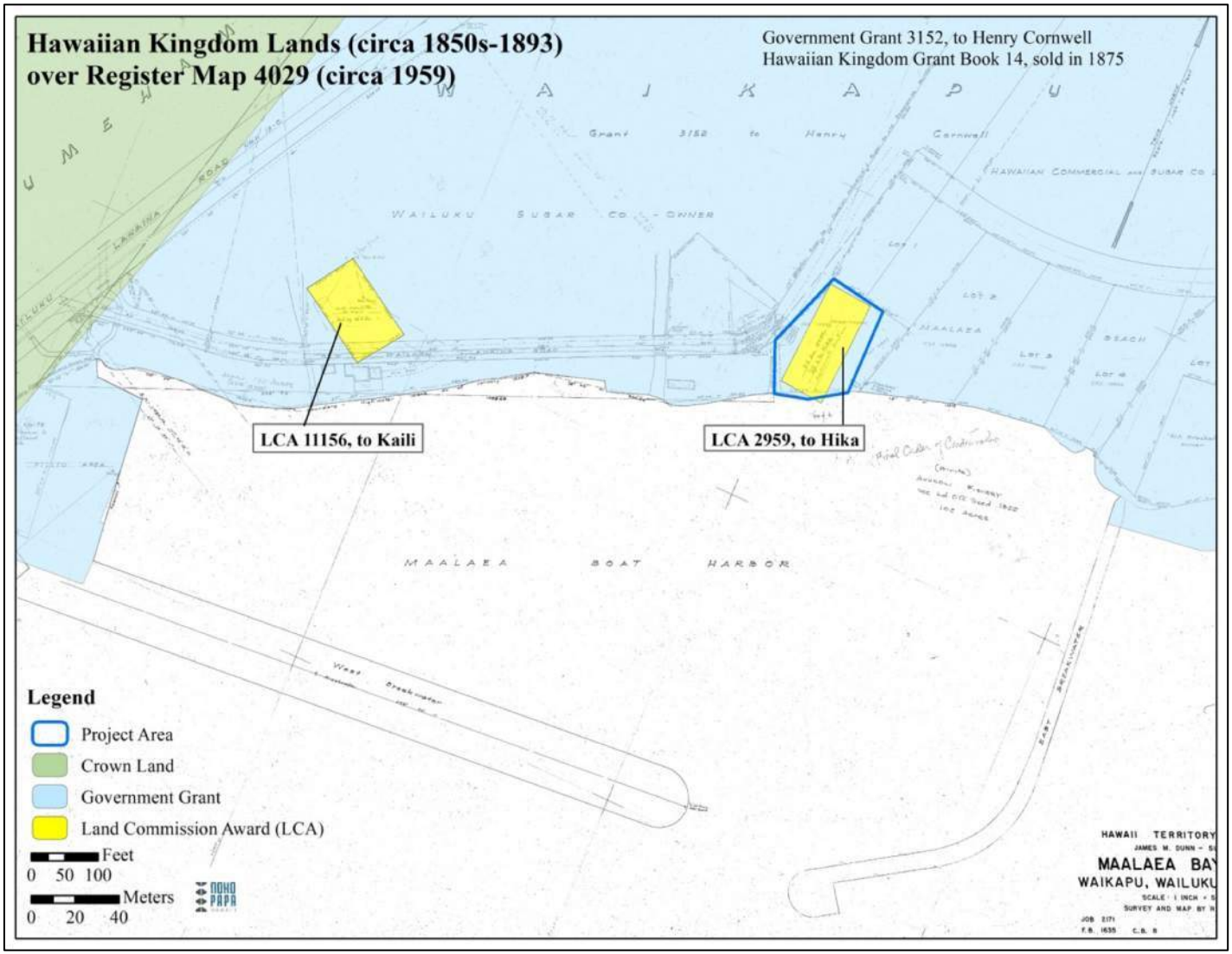



Figure 12. Hawaii State Register Map 4092, from the Hawaii Territorial Survey (1958 [sic]), depicting the locations of Hika's LCA 2959, a house lot in Mā'alaea, within the current project area; and Kaili's LCA 11156, west of the project area.

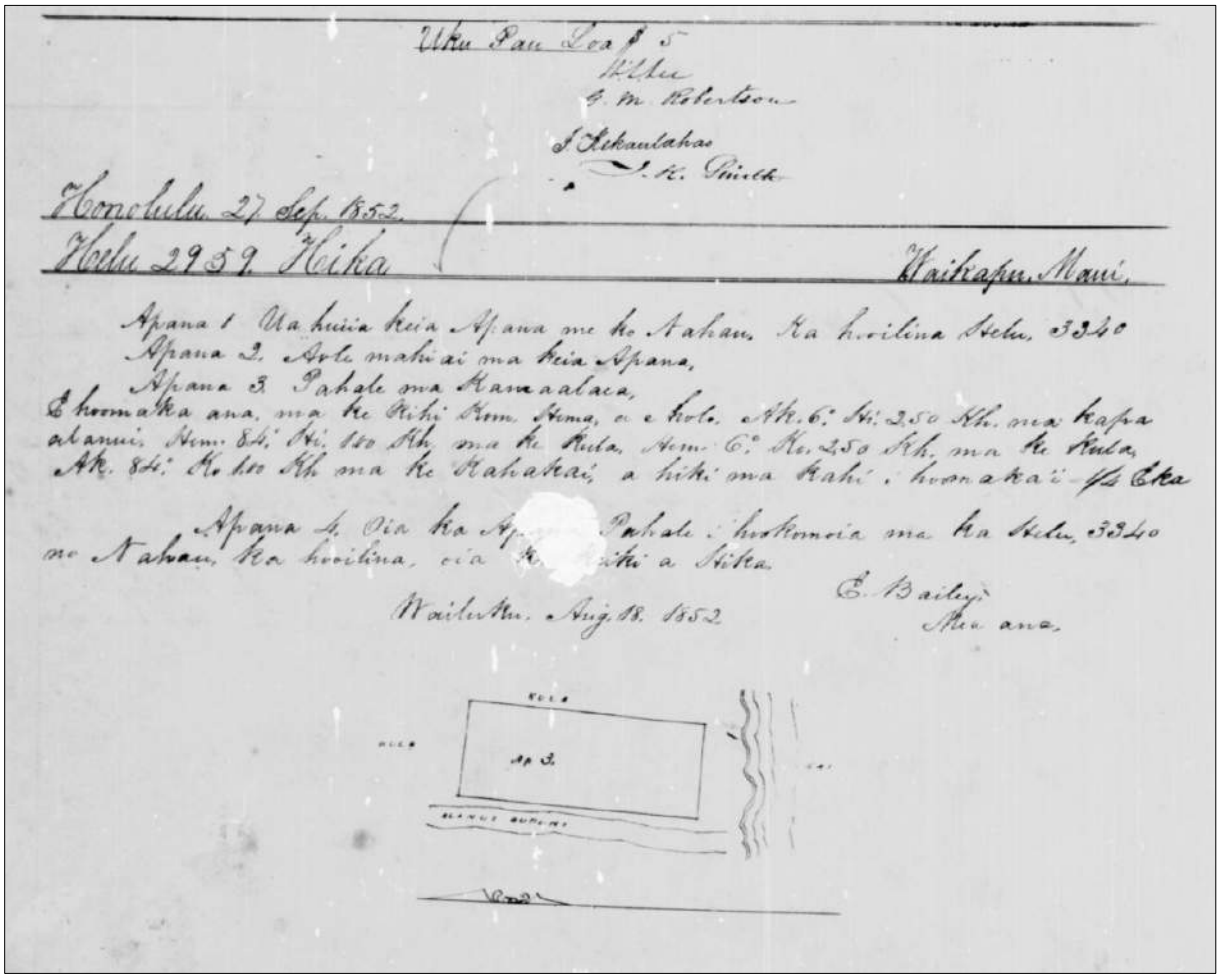
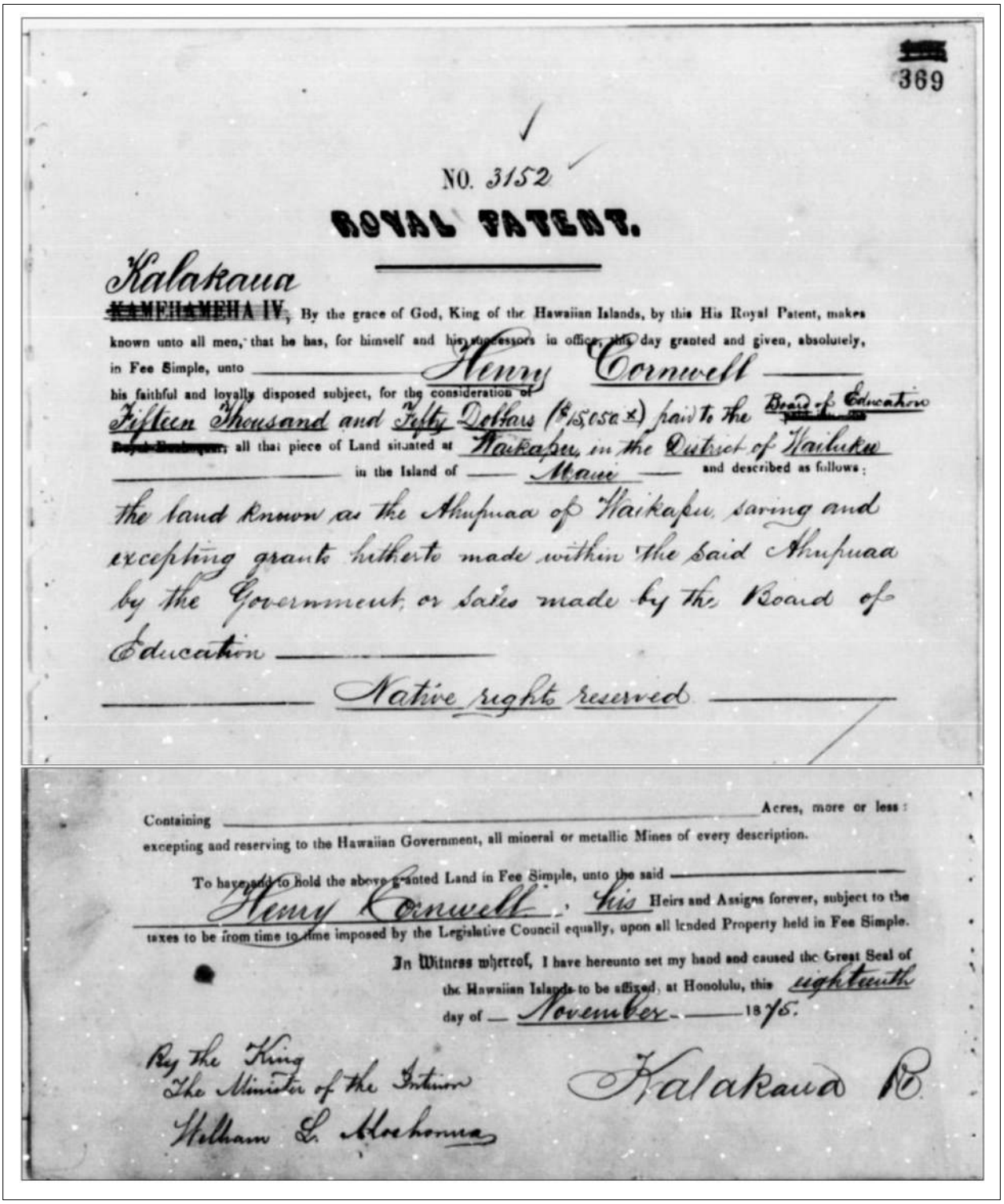


Figure 13. Land Commission Award 2959 to Hika (Awards Book, Land Commission 1852a[8]:216,217). Note the depiction of the "Alanui Aupuni, the Government Road, along the western border, which may coincide with the western periphery of the current project area.



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NO. 3152

ROYAL PATENT.

Kalakaua

~~KAMEHAMEHA IV~~, By the grace of God, King of the Hawaiian Islands, by this His Royal Patent, makes known unto all men, that he has, for himself and his successors in office, this day granted and given, absolutely, in Fee Simple, unto Henry Cornwell

his faithful and loyally disposed subject, for the consideration of Fifteen Thousand and Fifty Dollars ($15,050.00) paid to the Board of Education ~~Department of Interior~~, all that piece of Land situated at Waikapu, in the District of Wailuku in the Island of Maui and described as follows:

the land known as the Ahupuaa of Waikapu, saving and excepting grants hitherto made within the said Ahupuaa by the Government, or Sales made by the Board of Education

Native rights reserved

Containing _____ Acres, more or less: excepting and reserving to the Hawaiian Government, all mineral or metallic Mines of every description.

To have and to hold the above granted Land in Fee Simple, unto the said Henry Cornwell, His Heirs and Assigns forever, subject to the taxes to be from time to time imposed by the Legislative Council equally, upon all landed Property held in Fee Simple.

In Witness whereof, I have hereunto set my hand and caused the Great Seal of the Hawaiian Islands to be affixed, at Honolulu, this eighteenth day of November 1875.

By the King
The Minister of the Interior
Wm L Moehonua

Kalakaua R.

Figure 14. The first page of Government Grant 3152 sold to Henry Cornwell (Government Grants Book, Kingdom of Hawaii 1875 [14]:369, 370).

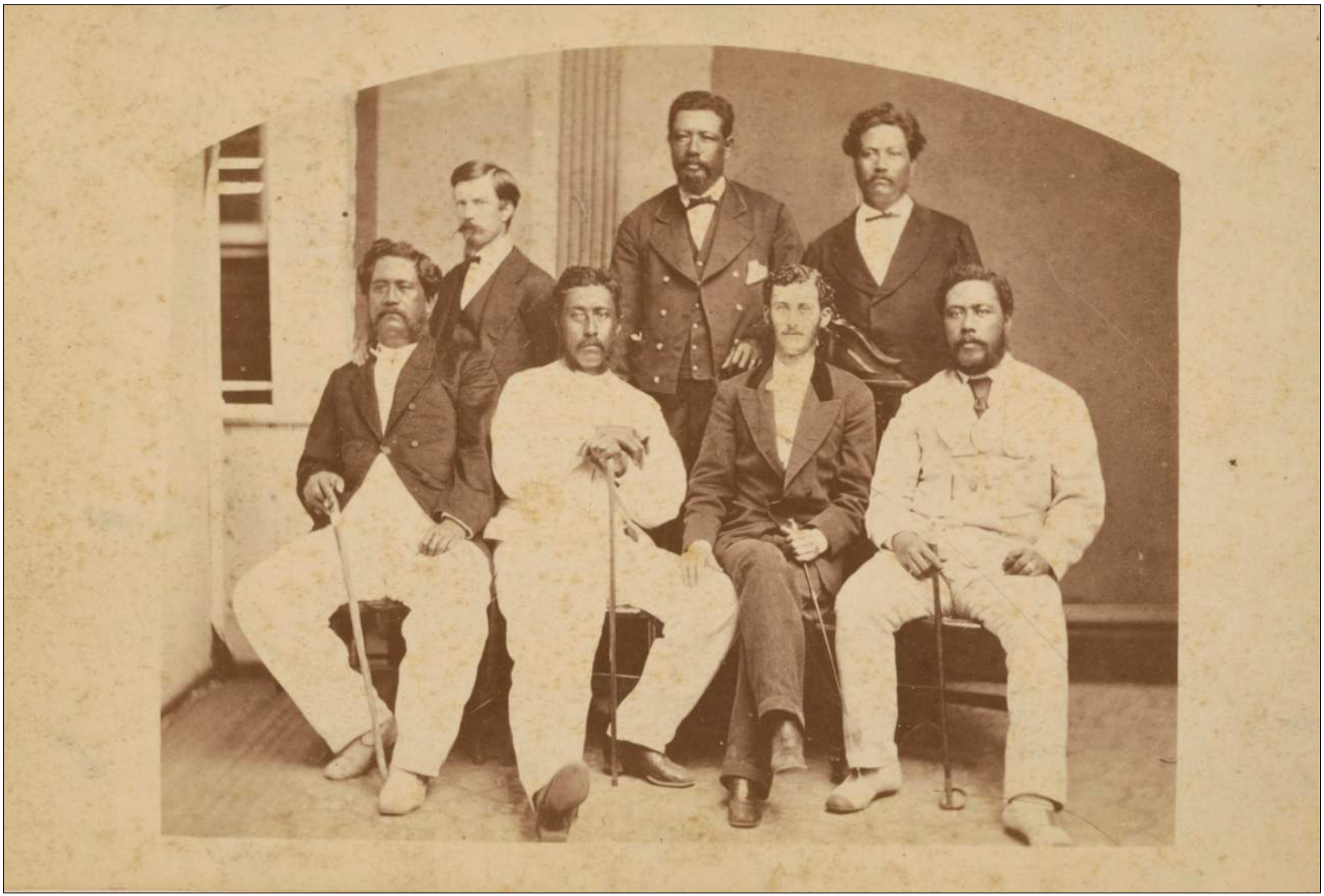

Figure 15. A circa 1872 portrait, featuring (seated left to right) William Luther Moehunua, William C. Lunalilo, Charles W. Stoddard, and David Kalākaua, and (standing left to right) possibly Dave McKinley, J.J. Kekaulahao, and Fred K. Beckley (Hawai'i State Archives c.1872)

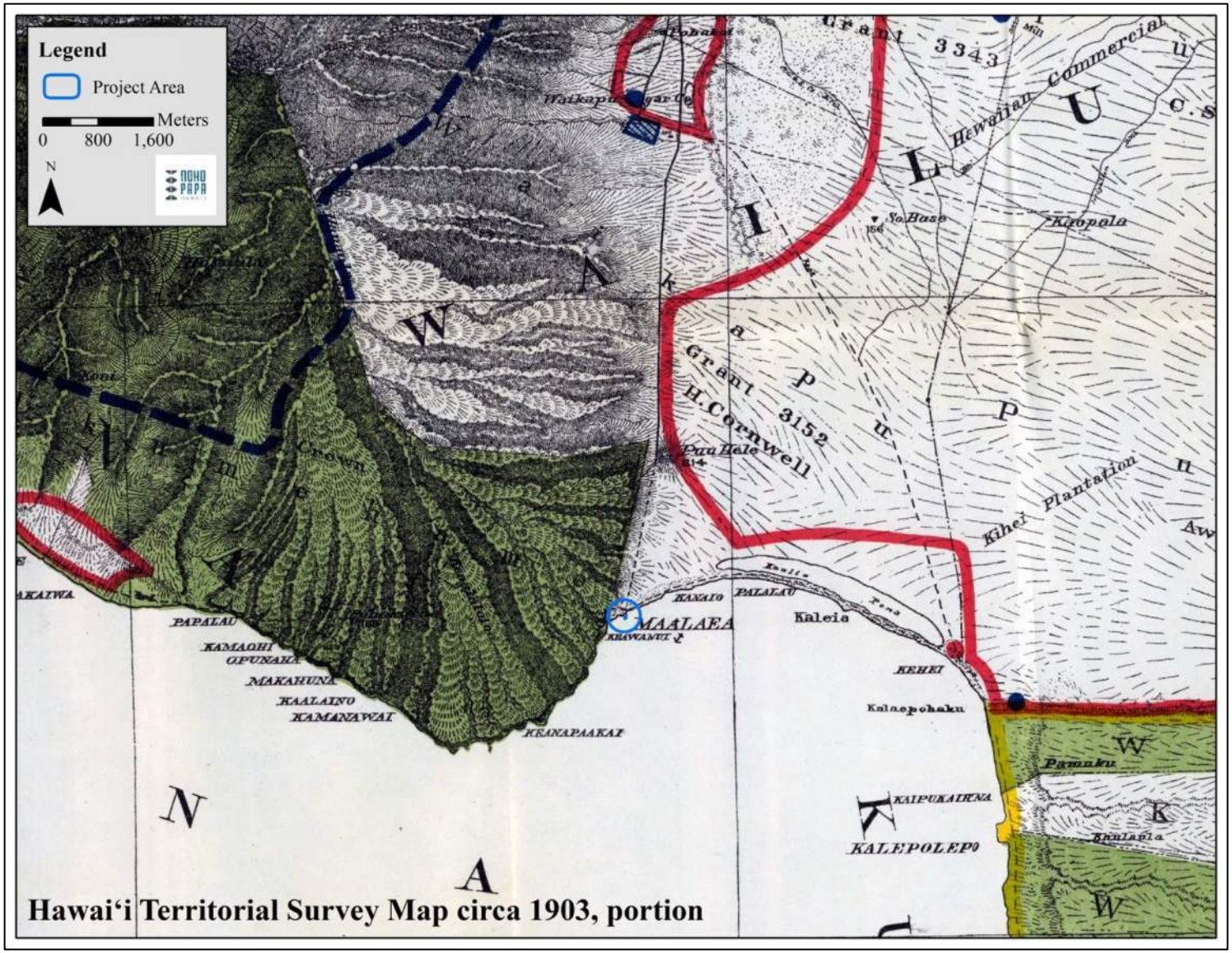


Figure 16. Portion of the *Maui Island Map*, circa 1903, from the Hawai'i Territorial Survey showing Mā'alaea (blue circle) and H. Cornwell's Land Grant 3152 for the entire ahupua'a of Waikapū, excepting kuleana.

## Mid- to Late 1800s

The local manifestation of global, extractive sugar industries and economies began in Central Maui and on the lands just north of the project area in the 1820s. The industry began a long-term boom in the 1860s, enhanced by the ratification of the Reciprocity Treaty of 1875 that allowed free trade between the sovereign Hawaiian Kingdom and the United States (Dorrance and Morgan 2000:68; Maclennan 2014:23). Maclennan summarizes the evolution of economic and social impacts of the sugar industry in Hawai'i:

> The corporate form of organizing sugar production in Hawai'i grew out of the early experimentation with sugar cultivation promoted by the Hawaiian king and foreign planters. Corporations are a form of property organization that emerged throughout the world as a regular tool for organizing production in the late nineteenth century – but especially in North America and Europe. Hawai'i's sugar corporations – later known as the "Big Five" – followed a somewhat unique path, beginning with missionary settlers who pooled their money, property, and influence into vertically organized institutions that eventually controlled vast resources. Hawai'i's brand of capitalism was organic to the social and political arrangements of nineteenth-century life based on a native constitutional monarchy that operated in a global world of trade. The first missionary-created corporations emerged in the 1860s during the first sugar boom and within a quarter-century had brought enough wealth and power to their owners to enable them to challenge the political authority of the Hawaiian monarchy. Corporate property then propelled the missionary-descendants-turned-capitalists into positions of political power, serving the industrial drive toward sugar production for a global market. [Maclennan 2014:33]

An 1893 historical map of Sprecklesville Plantation, founded by California sugar baron Claus Spreckles on the plains of central Maui, shows the location of the project area in Mā'alaea (Figure 17). On the map, "the road to Maalaea" traces the same course as the Hawaiian "Alanui Aupuni" - Government Road - and bounds the project area to the west).

Historical records evince that Mā'alaea, served as a boat landing in the 19th century. In his May 2, 1902 "Fishing Lore" article published in *Ka Nupepa Kuokoa* A.D. Daniel Kahā'ulelio describes a swathe of sea "from the steamer landing of Maalaea to the cape of Kunounou at Honokapohau, district of Lahaina,"(Kahā'ulelio 1902 [HEN trans.] in Sterling 1998:17).

## 1900s to Present Day

Historical and modern accounts, maps, and photographs provide an understanding of the cultural landscape, settlement, and land use of Mā'alaea and the project area during the 20th century through the present. A travelogue published in the September 2, 1921 edition of Ka Nupepa Kuokoa by S.W. Kepano describes the environs while approaching Mā'alaea by sea:

> ...It didn't take long ere we roared up the incline to Papalaau [in Ukumehame] to the pali of Aalaloloa. Swaying side to side and up and down we arrived at Maalaea. The nose was pointed towards Wailuku. The whistling of the gale from Waikapu Seemed to want to pinch us gently but we wouldn't heed it for our minds were set on arriving at the place of sheltering clouds... [Kepano 1921 in Sterling 1998:20]

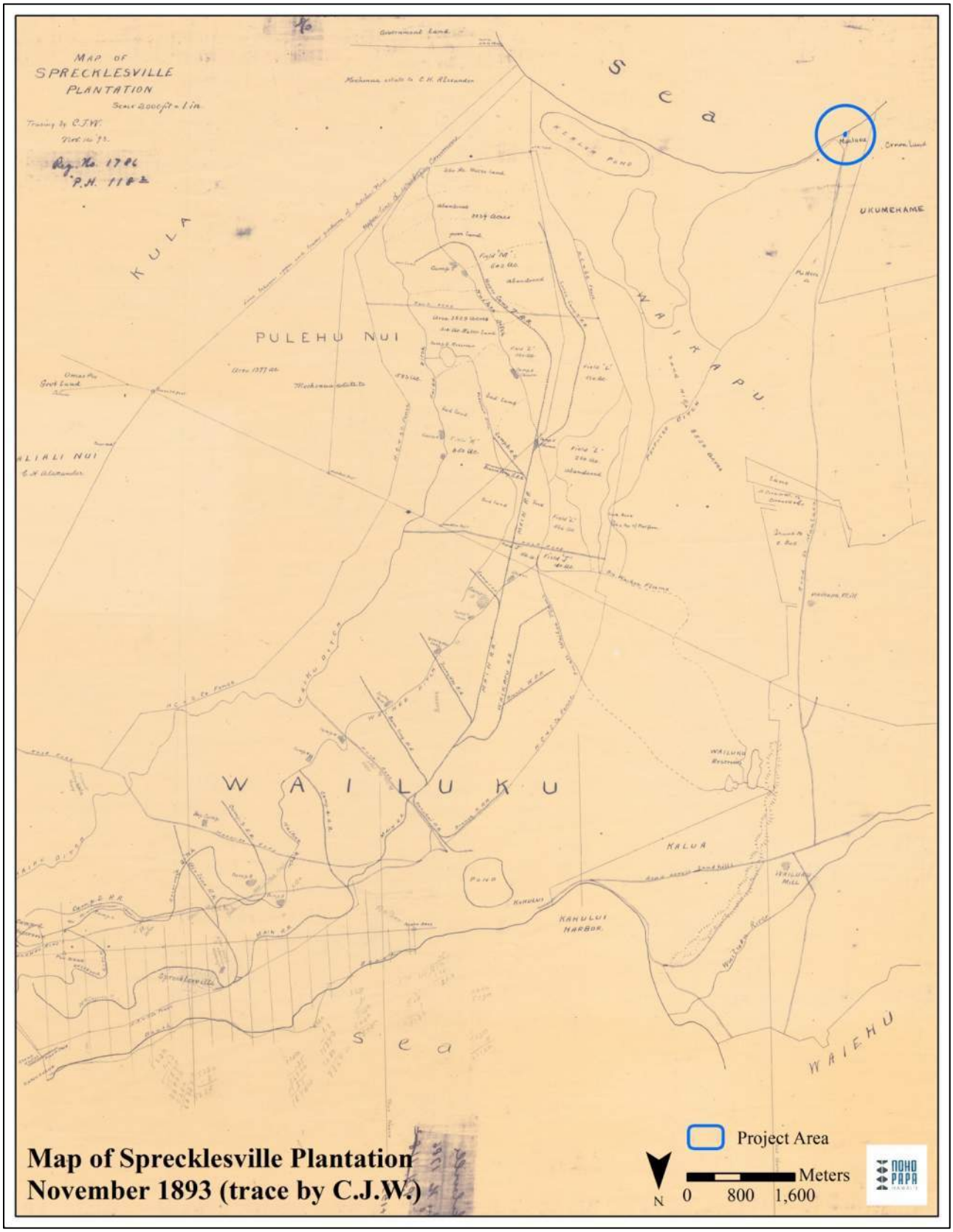


Figure 17. An 1893 map of Sprecklesville Plantation on the plains of central Maui, northeast of the Mā‘alaea project area, circled at top left in blue.

Kepano's article evinces the notable persistence of wahi kūpuna to Hawaiian geographies, understandings, and experiences of place in the early twentieth century (Kepano 1921 in Sterling 1998:20; Oliveira 2014).

A 1924 U.S. Geological Survey (USGS) Map depicts several buildings in the current project area footprint, amidst the coastal cluster of buildings comprising the settlement at Māʻalaea. The same map features the project area vicinity prior to the installation of the landing (USGS 1924; Figure 18). In his 1931 unpublished manuscript *Archaeology of Maui* produced for and on file at the Bishop Museum, the continental archaeologist Winslow Metcalf Walker repeatedly references "Maalaea village" as a point of orientation to describe the archaeological sites. Local oral traditions reported on by Loomis (2015) for *The Hawaiʻi Herald* describe Māʻalaea's early twentieth century community as comprised of local families and Japanese fishermen who established the "Maalaea Ebisu Kotohira Jinsha" Shinto fishing shrine in 1914.[2]

Clark provides a history of the developmental trajectory of Māʻalaea Bay, beginning with the construction of the harbor. He writes:

> Constructed in 1952 as a recreational boat harbor by the State of Hawaiʻi, it includes a wide entrance channel, two breakwaters, a paved wharf, berthing facilities, a launching ramp, a Coast Guard Station, restrooms, and several parking areas. On July 15, 1975, Māʻalaea Harbor became one of the terminals for an interisland hydrofoil service called Seaflite…
>
> The company was beset with problems from the beginning, however, and eventually, because of the heavy financial costs of maintaining the vessels, closed down the operation. The last commercial run made by a Seaflite hydrofoil was on January 15, 1978. [Clark 1989:51]

Historical and modern maps illustrate the trajectory of development and settlement in the project area at Māʻalaea for the last 7 decades. Hawaiʻi State Register Map (RM) 2976, dating to the mid-twentieth century, shows the coastline prior to the development of the harbor, including the village of Māʻalaea, of which the current project area was a part of (Figure 19). The Māʻalaea General Store (SIHP #-9109) is also in Māʻalaea Village (SIHP #-9199)[3]. Note, this is the only map found during background research for this study that depicts the location of Kapoli Spring, shown as walled - perhaps a traditional Hawaiian feature or historical addition intended to protect cattle. A 1954 USGS map depicts several buildings in the current project area footprint in the growing settlement of Māʻalaea, and the installation of the breakwater (USGS 1954; Figure 20). A 1958 Territory of Hawaiʻi Survey (HTS) map denotes the location of Hika's LCA 2959 within the footprint of the current project area as well as the developmental footprint of the project area and vicinity that persists through today (HTS 1958; Figure 21). A 1983 U.S. Geological Survey map records the project area as void of development, and condo complexes stretching along the coast in the project area vicinity (Geological Survey 1983; Figure 22). Available land records recording a lease in 1994 and fee title transfer in 2012 indicate DOBOR may have begun leasing the project area in 1994, and that current project area landowner Williams Opportunity Trust may have purchased the property in 2012 (County of Maui 2023). A 1996 U.S. Geological Survey map depicts the project area as void of development, and condo complexes stretching along the coast in their current configuration in the project area vicinity (USGS 1983; Figure 23).

[2] Possibly SIHP #-1604 - Kennedy (1986:1,3) describes the Maalaea Ebisu Kohohira Jinsha as SIHP #-1604, but the current SIHP list (SHPD 2023) does not contain SIHP #-1604.

[3] Maalaea Village (SIHP #-9199) is recorded in Nohopapa's internal database but does not appear in the DLNR-SHPD's March 2023 "Historic Registers" excel spreadsheet posted to their website (DLNR-SHPD 2023).

In 1998, the Maui Ocean Center opened, located directly west and across the street from the project area (Maui Ocean Center 2023).[4]

[4] Pertinent to the "Previous Archaeological Studies" section of this report as the location where at least three iwi kūpuna – SIHP #-3553, SIHP #-3554, SIHP #-4480 - were uncovered during development-related activities. See discussion in next section, as well as McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007.

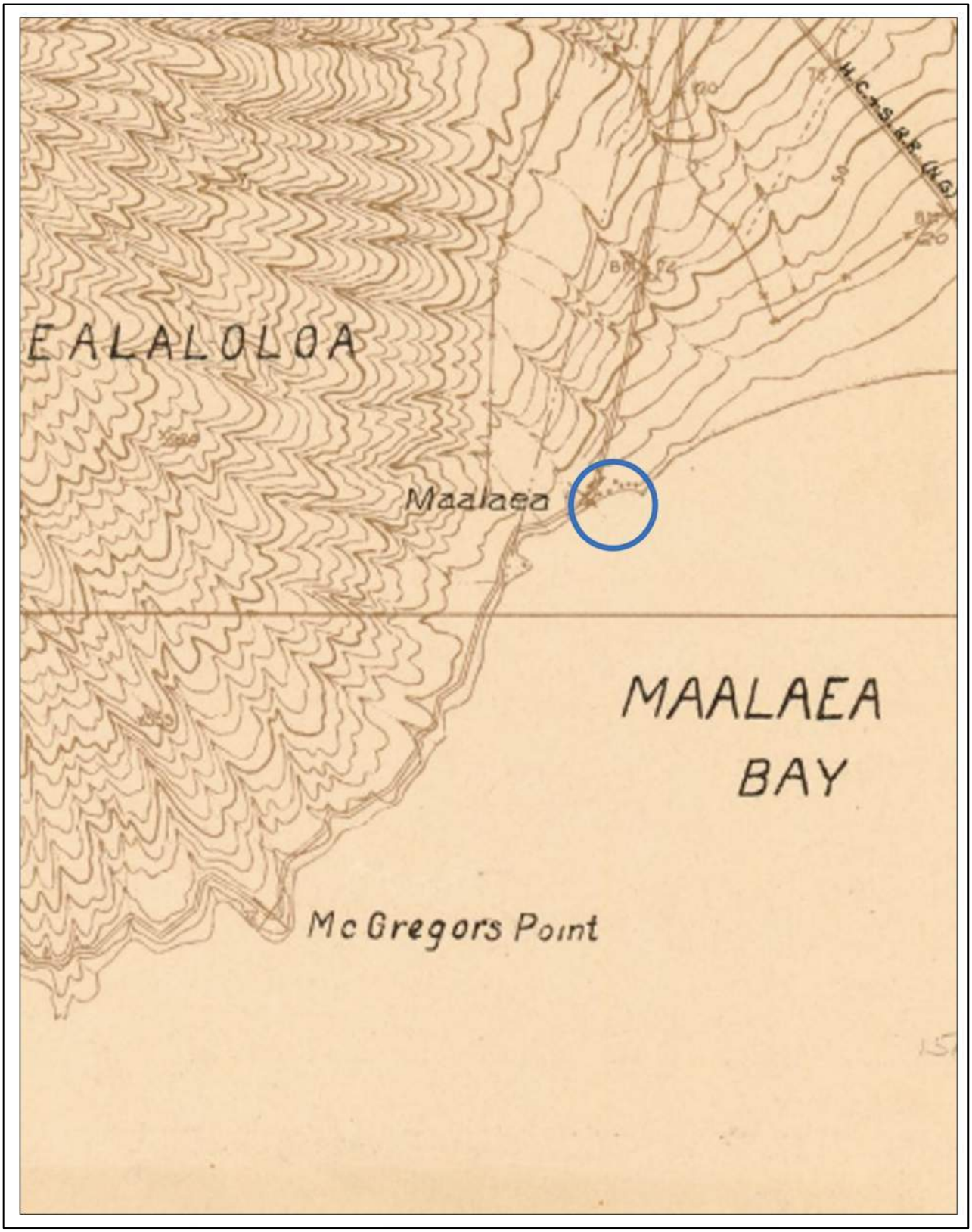


Figure 18. Close-up of a 1924 U.S. Geological Survey Map depicting several buildings in the current project area footprint, circled in blue.Centered at Mā‘alaea, this settlement is prior to the installation of the breakwater (U.S. Geological Survey 1924).


Figure 19. Register Map 2976, dating to the mid-twentieth century, depicts the coastline prior to the development of the harbor, including the village of Māʻalaea, of which the current project area was a part of.


Figure 20. Close-up of a 1954 U.S. Geological Survey Map depicting several buildings in the current project area footprint, circled in blue, in the settlement at Māʻalaea, as well as the presence of the west breakwater.

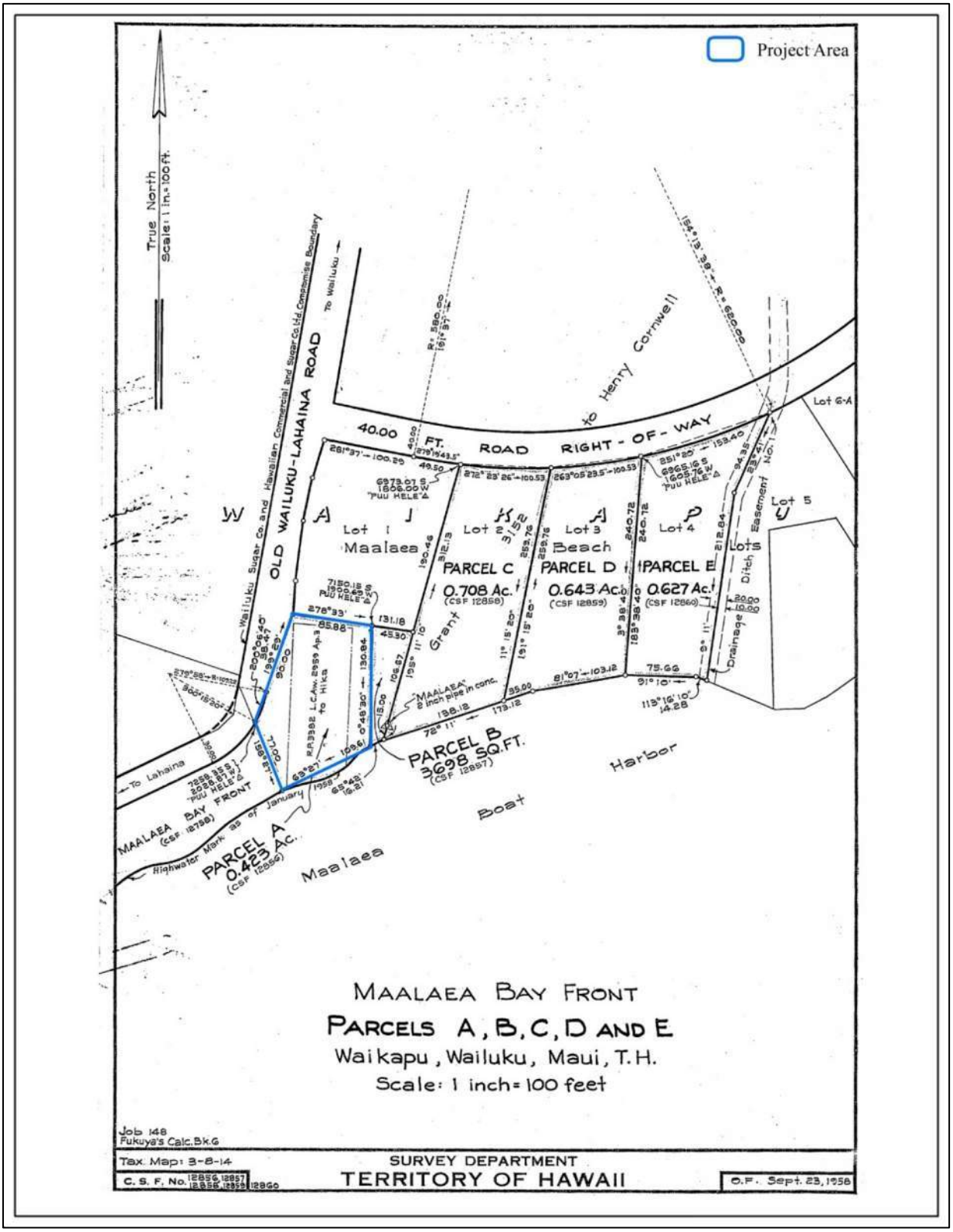


Figure 21. A 1958 Territory of Hawaii survey map depicting the location of LCA 2959, to Hika, within the footprint of the current project area, outlined in blue (Territory of Hawaii 1958).

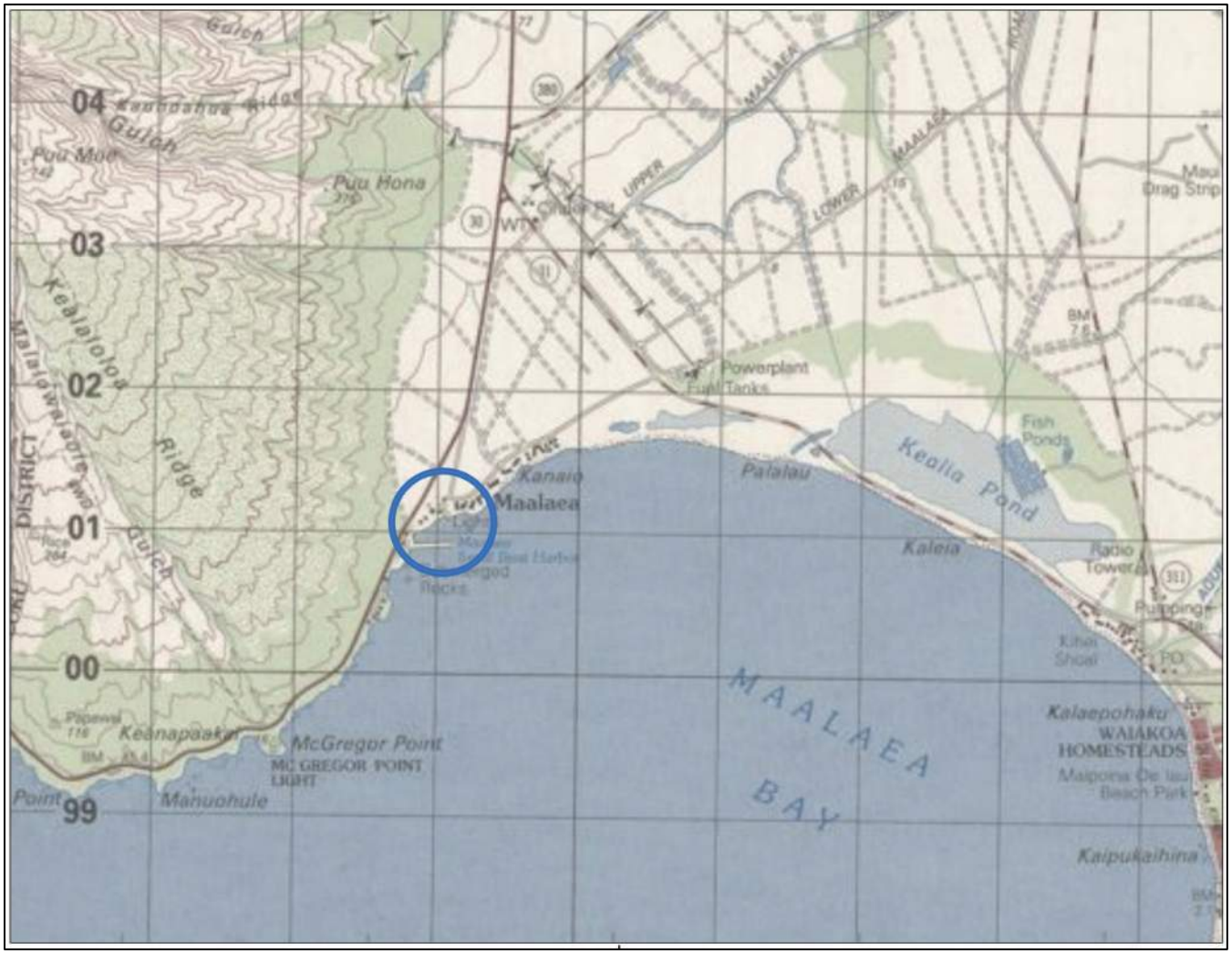


Figure 22. Close-up of a 1983 topographical U.S. Geological Survey map depicting the project area as void of development, and condo complexes constructed along the coast (U.S. Geological Survey 1983).

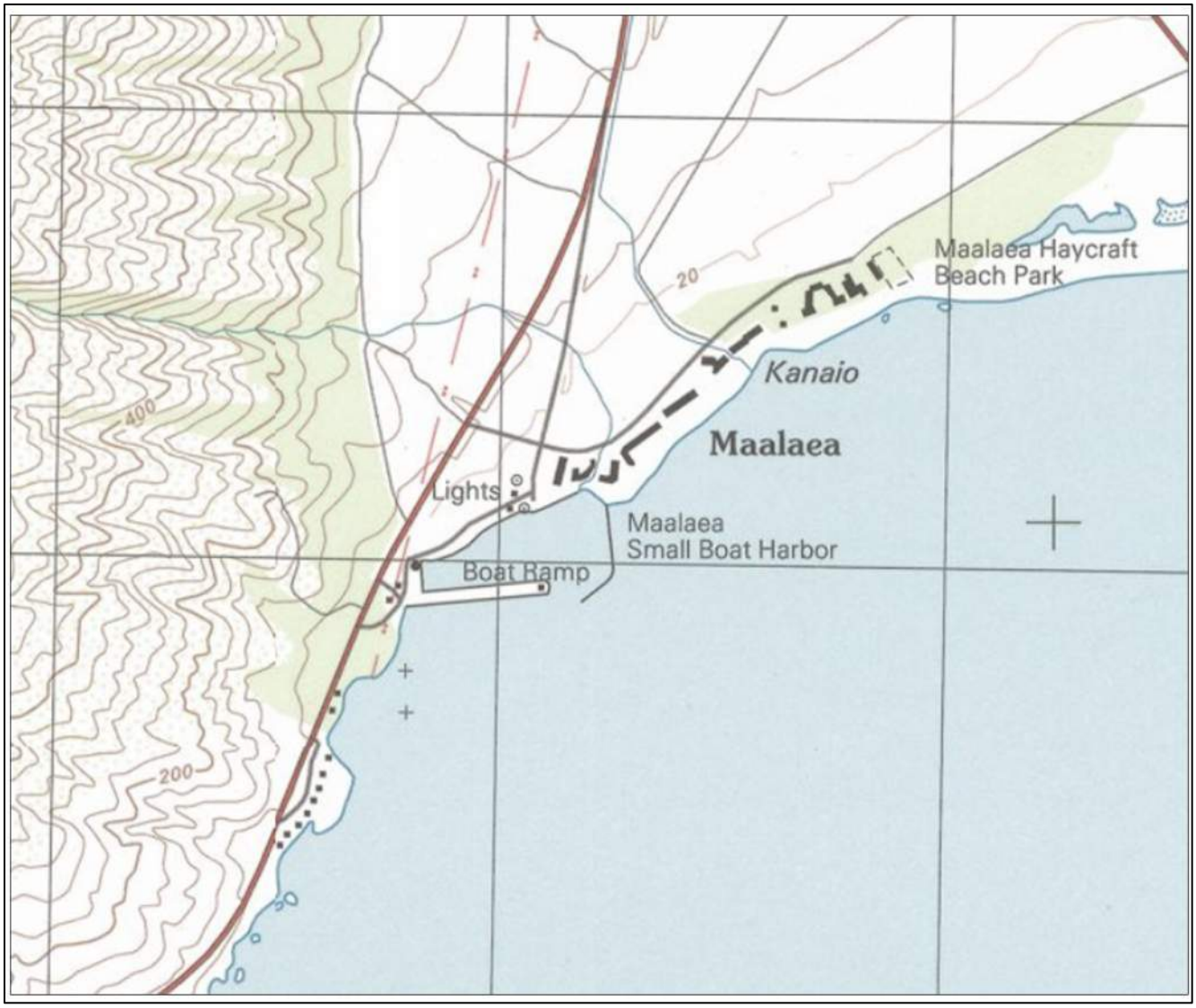


Figure 23. Close-up of a 1996 topographical U.S. Geological Survey map depicting the undeveloped project area alongside the developed Māʻalaea coast, as well as a second breakwater installed in the harbor and project area vicinity (U.S. Geological Survey 1996).

# PREVIOUS ARCHAEOLOGICAL STUDIES

## Previous Archaeological Studies within the Project Area

Results of Nohopapa Hawai'i's remote public records search indicate no previous academic or compliance archaeological studies have occurred in the 0.67 acre project area and therefore no previously-identified iwi kūpuna or historic properties officially recorded as associated with the project area (see Figure 24, Figure 25, and Table 3).

## Previous Archaeological Studies Within the Project Area Vicinity

Background research indicates one academic archaeological study as well as six previous historic preservation compliance-related studies were completed for development and infrastructure projects and associated mitigation in the immediate vicinity of the project area, at Mā'alaea.

Winslow Metcalf Walker's island-wide archaeological survey of Maui completed for the Bernice Pauahi Bishop Museum in the early twentieth century records a selection of historic properties in and around Mā'alaea, in the vicinity of the current project area. Walker (1931:78) situates an ancient village and nearby ko'a (fishing shrine) "on the slopes above Maalaea Bay," and further describes the ko'a:

> It has the shape of a horseshoe 8 1/2 feet long. A semicircular wall 2 feet high and the same in thickness encloses a platform of rocks not more than one foot above the ground. The front of this platform is 6 feet wide and consists of a row of small stones set on edge. Chunks of coral were strewn over the platform and in one corner a quantity of fish bones and shells were found. This is the only koa site on West Maui which can be recognized with any certainty though doubtless there were many more which have now been destroyed. [Walker 1931:78]

The extent of traditional Hawaiian settlement around Mā'alaea is also described in an entry titled "House Sites". Walker writes:

> For about two miles west of Maalaea village to McGregor's point, house and shelter sites can be found in great numbers above the road. At least forty-five were noted. The shelters are low walled semi-circular or oval enclosures built against some large rock or group of rocks. Shells and pebbles are found around these sites. House platforms are little more than cleared spaces on which pebbles have been strewn. No carefully built terraces of stone pavements are to be seen. Several sites may possibly have been used koas [sic.] or shrines. One was a large flat rock on which a circle of stones had been placed. [Walker 1931:78]

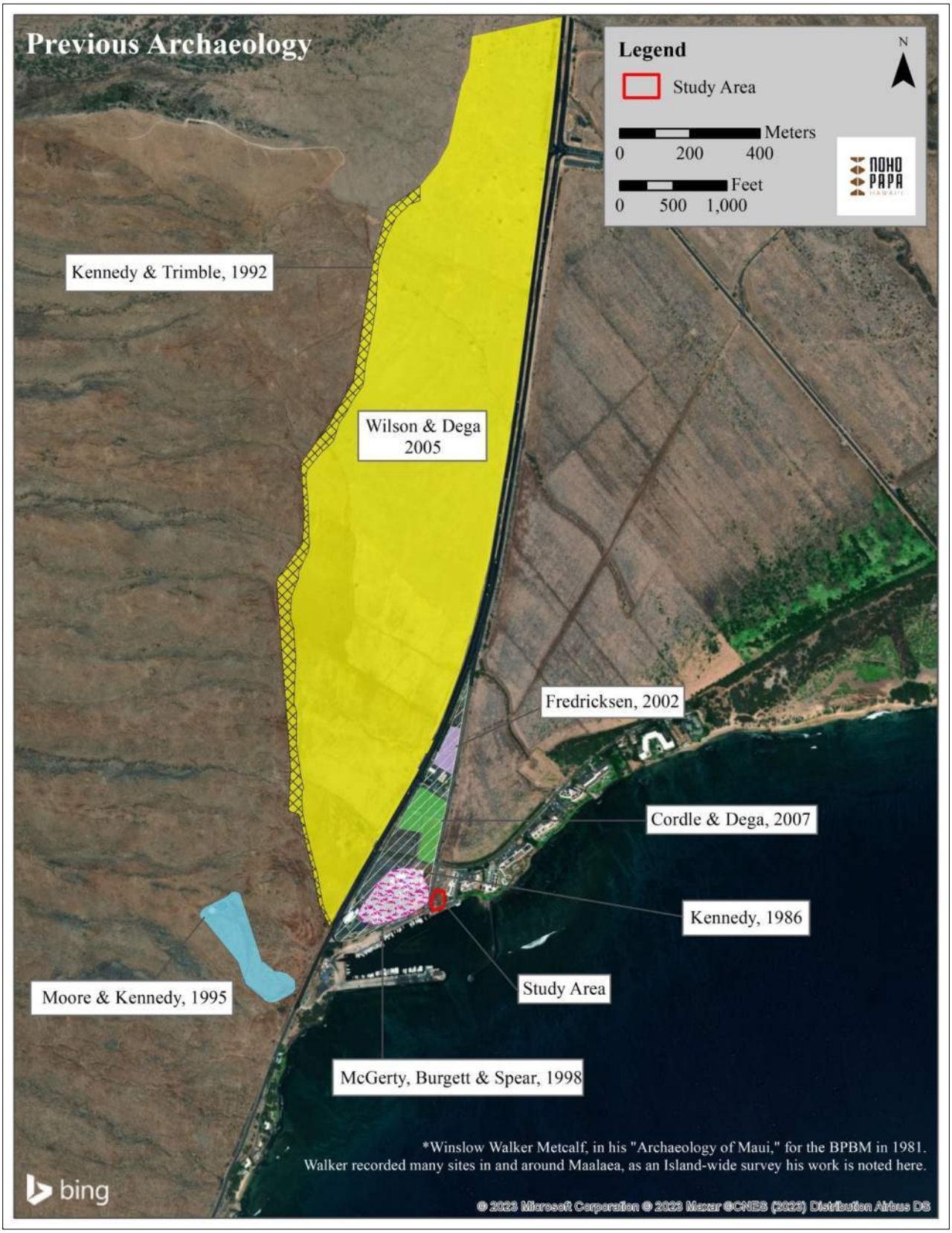


Figure 24. Aerial imagery overlain with the boundaries of archaeological studies conducted in the project area and vicinity, labeled by author(s) and year.

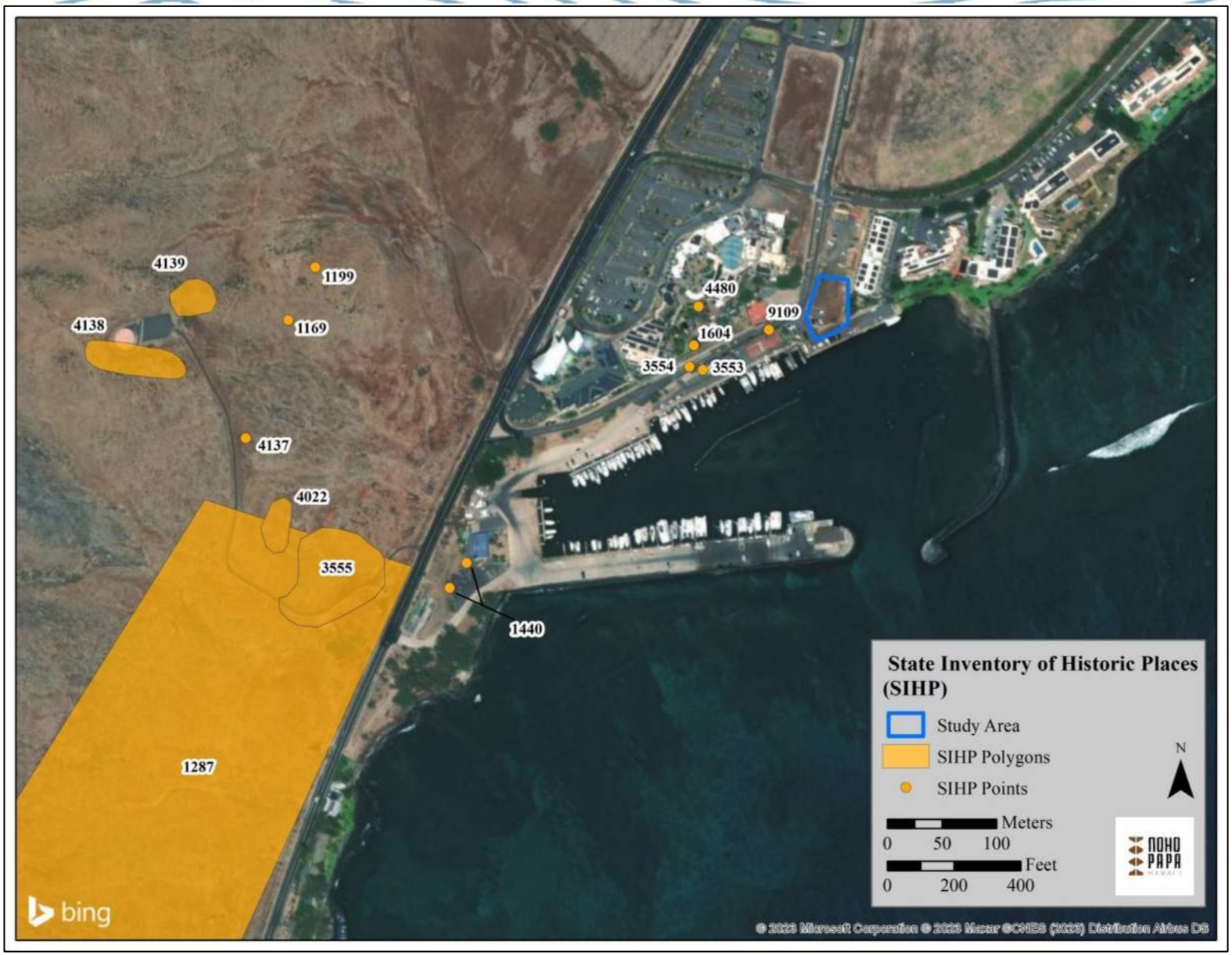


Figure 25. Aerial imagery depicting the location of the current study's project area, demarcated with a blue boundary, featuring the locations of SHPD recorded historic properties.

Table 3. Previously-identified iwi kūpuna and historic properties in the project area and vicinity*
*defined as within ½ mile radius of the project area

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| Previously-identified iwi kūpuna, wahi kūpuna/historic properties in the project area | | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Previously-identified iwi kūpuna, wahi kūpuna/historic properties in the project area vicinity | | | | | | | |
| N/A | Heiau | Heiau | Traditional Hawaiian | Destroyed (?) | Kennedy 1986 | Archaeological Consultants of Hawaii | -Kennedy (1986:2) lists this as "Heiau site. (Presumably destroyed; no state site number.)" Cites "DLNR records" as the informational source. |
| SIHP#-1169 | "c. 60 petroglyphs on 11 boulders [following merger with SIHP#-1199]" (DLNR-SHPD 1994) | Agricultural | Traditional Hawaiian | ? | DLNR-SHPD 1994 | DLNR-SHPD | -Once a separate site adjacent to SIHP # -1199, then merged with it under SIHP #-1169. |
| SIHP#-1199 | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | See above entry for more details. | -Once a separate site adjacent to SIHP # -1169, then merged with it under SIHP #-1169. See above entry for more details. |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| SIHP #-1286 | "Grinder Stones" (Kennedy 1986:2) | Habitation | Traditional Hawaiian | ? | Kennedy 1986 | Archaeological Consultants of Hawaii | ○ SIHP#1440 integrated into SIHP #1286 |
| SIHP #-1287 | "Ma'alaea Complex," described as "U-shape, C-shape, midden, terrace, enclosure, oval, enclosure, circular," (Kīp-uka Database 2023e) | Habitation | Traditional Hawaiian | Many destroyed since Walker's 1931 survey (Kīpuka Database 2023e) | Kīpuka Database 2023e | Office of Hawaiian Affairs | |
| SIHP #-1440 | "Piko Stone and Grinder Stone" (Kennedy 1986:2) | Habitation | Traditional Hawaiian | ? | Kennedy 1986 | Archaeological Consultants of Hawaii | -Integrated into SIHP #-1286 |
| SIHP #-1604 | "Religious Structure (two buildings)" (Kennedy 1986:3) | Maalaea Ebisu Kotohira Jinsha [sic]/Ma'alaea Fishing Jinja [sic] | Twentieth century | ? | Kennedy 1986; Fredericksen 2002: 1 | Archaeological Consultants of Hawaii | -Noted as location of a yearly ceremony "designed to insure successful fishing ventures," the community comes together to celebrate (Kennedy 1986:3) |
| SIHP #-3553 | Human skeletal remains | Burial | Traditional Hawaiian | ? | DLNR-SHPD 2007 | DLNR-SHPD | -Near SIHP #-3554, SIHP #-4480 |
| SIHP #-3554 | Burial | Burial | Traditional Hawaiian | ? | DLNR-SHPD 2007 | DLNR-SHPD | -Near SIHP #-3553, SIHP #-4480 |
| SIHP #50-50-09-3555 | Midden scatter, stone alignment including two | Temporary habitation | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | boulders containing petroglyphs, and an associated subsurface cultural deposit "consisting of midden and artifacts as well as subsurface features in the form of fire pits" (Moore and Kennedy 1995:15) | | | | | | Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50). |
| SIHP #-4022 | Two segments of one discontinuous terrace | Agricultural terrace | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Interpreted as a single feature cut in twain by historical/modern activities (Moore and Kennedy 1995:1, 24); Adjacent to SIHP#-4137; Assessed as significant under National Register of Historic Places (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| SIHP #-4137 | Two terrace segments | Agricultural terrace | Traditional Hawaiian | ?; described as "deteriorated" (Moore and Kennedy 1995:27) | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Adjacent to SIHP#-4022; Assessed as significant under National Register of Historic Places (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |
| SIHP -#4138 | "[A]n alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44) | "Agricultural in nature," (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |
| SIHP #4139 | "[E]nclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," | "Agricultural in nature" (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | (Moore and Kennedy 1995: 39). | | | | | | |
| SIHP #50-50-09-4480 | Burial | Burial | Historical | "An historic burial (Site 4480) was identified, disinterred, and place [sic] with the Maui SHPD Office pending re-burial," (McGerty, Burgett, and Spear 1998:16). | McGerty, Burgett, and Spear 1998 | Scientific Consultant Services | -In vicinity of SIHP-#3553 and 3554. |
| SIHP #50-50-09-5657 | 13 clearing mounds | Byproduct of land clearing for plantation agriculture | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5658 | Irrigation modifications | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5659 | Dirt road | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-09109 | "Maalaea General Store" (SHPD 2023; Solamillo 2011) | Historical building | Twentieth century | Extant | SHPD 2023 | SHPD | |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | subsurface cultural deposit "consisting of midden and artifacts as well as subsurface features in the form of fire pits" (Moore and Kennedy 1995:15) | | | | | | Board" criterion E (Moore and Kennedy 1995:50). |
| SIHP #-4022 | Two segments of one discontinuous terrace | Agricultural terrace | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Interpreted as a single feature cut in twain by historical/modern activities (Moore and Kennedy 1995:1, 24); Adjacent to SIHP#-4137; Assessed as significant under National Register of Historic Places (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |
| SIHP #-4137 | Two terrace segments | Agricultural terrace | Traditional Hawaiian | ?; described as "deteriorated" (Moore and Kennedy 1995:27) | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Adjacent to SIHP#-4022; Assessed as significant under National Register of Historic Places |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | (NRHP) criteria D but deemed "no longer significant" following documentation (Moore and Kennedy 1995:50) |
| SIHP - #4138 | "[A]n alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44) | "Agricultural in nature," (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |
| SIHP #4139 | "[E]nclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39). | "Agricultural in nature" (Moore and Kennedy 1995:44) | Traditional Hawaiian | ? | Moore and Kennedy 1995 | Archaeological Consultants of Hawaii | Assessed as significant under National Register of Historic Places (NRHP) criteria C and D and "Hawaii Register Review Board" criterion E (Moore and Kennedy 1995:50,53). |

| Designa-tion | Formal Interpretation | Functional Interpretation | Temporal Interpretation | Status | Reference | Firm/ Organization | Notes |
|---|---|---|---|---|---|---|---|
| SIHP #50-50-09-4480 | Burial | Burial | Historical | "An historic burial (Site 4480) was identified, disinterred, and place [sic] with the Maui SHPD Office pending re-burial," (McGerty, Burgett, and Spear 1998:16). | McGerty, Burgett, and Spear 1998 | Scientific Consultant Services | -In vicinity of SIHP-#3553 and 3554. |
| SIHP #50-50-09-5657 | 13 clearing mounds | Byproduct of land clearing for plantation agriculture | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5658 | Irrigation modifications | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-5659 | Dirt road | Plantation infrastructure | Plantation era | ? | Wilson and Dega 2005 | Scientific Consultant Services | - |
| SIHP #50-50-09-09109 | "Maalaea General Store" (SHPD 2023; Solamillo 2011) | Historical building | Twentieth century | Extant | SHPD 2023 | SHPD | |

Also recorded are petroglyphs on free-standing boulders about ¼ mile mauka (upland) of Māʻalaea Bay between a heiau and roadway (Figure 26). Walker claims the densest concentrations of rock art on Maui occur at Māʻalaea and Nuʻu[5]. Walker extensively describes the situation, distribution, and appearance of the Māʻalaea petroglyphs:

> At the south end of the west Maui mountains about a quarter of a mile up from Maalaea Bay and near the village of that name is a large group of petroglyph boulders. Most of these rocks are on the hill slopes east and north of the heiau which is there. But one group is on the cluster of rocks below the heiau and about fifty yards from the road. These figures are all on the lee side of the rock. Five are of the linear type and six of the triangular. Three dog-like figures also occur.
>
> Near the approach to the heiau itself is a group of rocks on which are a few petroglyphs. One is of the linear human type; the others are indistinguishable.
>
> Above the heiau on the slope extending to the northwest are more petroglyphs, occupying conveniently available rock surfaces without indications of crowding. Nine human figures of the triangular type were seen. A figure of a dog appeared with one of the human figures. A strange, unintelligible jumble of figures occurs on a large rock at the side of a well-worn path across the ridge. The letters K.O H appear below. The scrawl apparently represents two human figures, but the lines which are added to them only make them less intelligible. It should be mentioned that cowboys pass this spot frequently in their cattle drives and might easily make the figures during a short noon rest.
>
> The main group of Maalaea petroglyphs is situated on the boulders north and east of the heiau and also within its confines. Some of them have a decidedly recent look, attested also by the names and initials scrawled near them. The figures on boulders 1-32 face toward the heiau and many of them can be seen from its walls. The terms linear and triangular refer to human figures unless otherwise noted…
>
> … The human figures fall into two distinct types; the linear, with shoulders and hips at right angles to the body and arms and legs straight down; the triangular, with legs akimbo from the lower corner of the body triangle. Animal figures represent dogs, horses, cows, pigs, goats and one or two doubtful forms. A mongoose or rat is suggested. [Walker 1931:334]

[5] A pictograph and petroglyph complex located in Nuʻu Ahupuaʻa, Kaupō Moku.

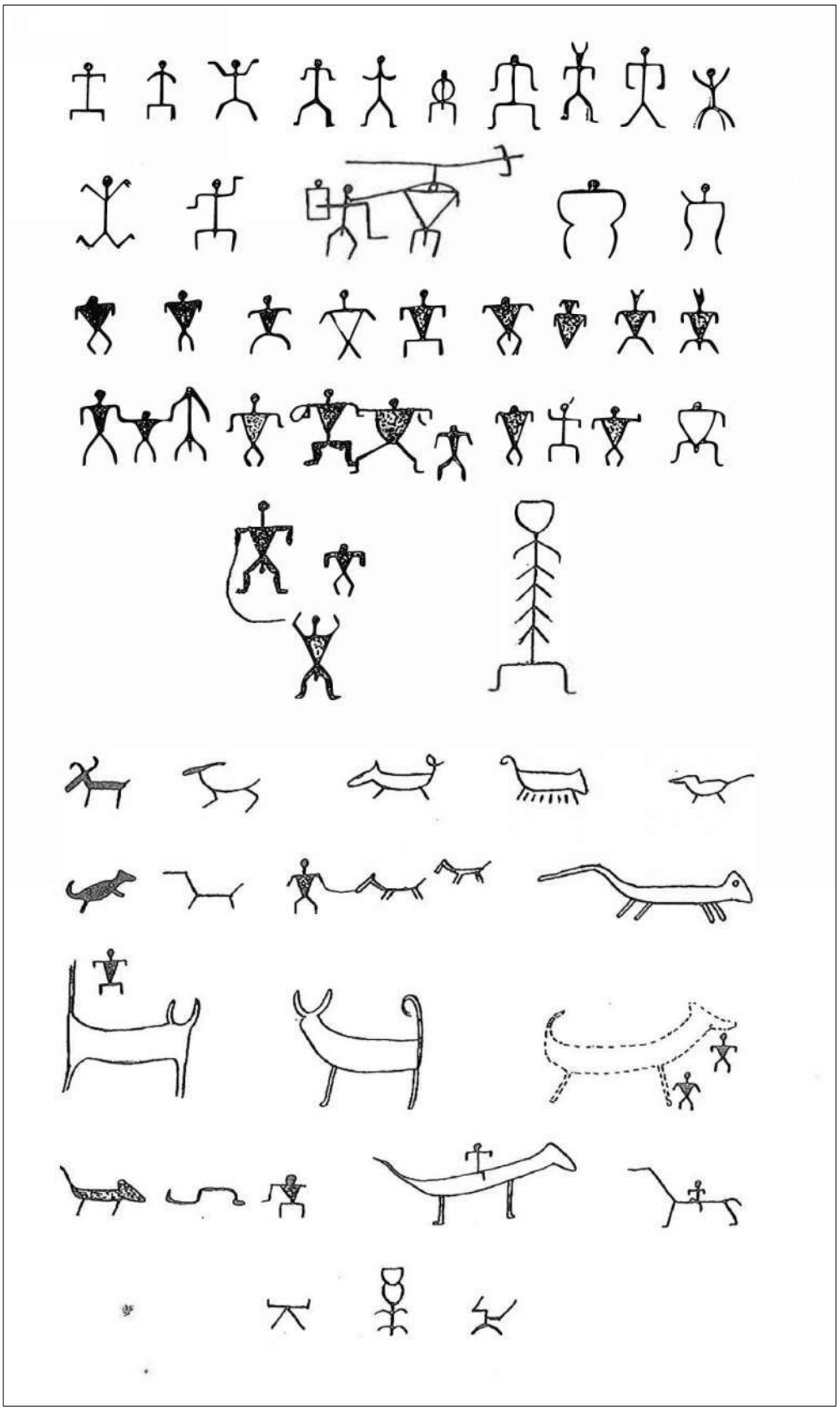

Figure 26. Walker's 1931 recording of petroglyph motifs placed on boulders in Mā'alaea and the project area vicinity (Walker 1931:334)

The compliance studies cluster west and northwest of the project area. Their synthesized contents and results, summarized below and in Table 3 evince that while portions of the project area vicinity have been heavily modified by agricultural activities and development, a high concentration and likelihood for encountering iwi kūpuna, subsurface cultural deposits, historic properties persists. Specifically, burials and disarticulated human remains – SIHP#-1604, SIHP#-3553, SIHP#-3554, and SIHP#-4480 - were exposed directly west of the project area during ground disturbing activities related to the construction of the Maui Ocean Center (see McGerty, Burgett, and Spear 1998; DLNR-SHPD 2007). Additionally, background research locates two architectural historic properties within the project area vicinity. The first is the "Maalaea Ebisu Kohohira Jinsha," a traditional fishing shrine "erected by the villagers of Mā'alaea [sic] and local Japanese fishermen in 1914," (Loomis 2015; SHPD 2023). Kennedy (1986:1,3) describes the Maalaea Ebisu Kohohira Jinsha as SIHP #-1604, but the current SIHP list (SHPD 2023) does not contain SIHP #-1604. The second is SIHP#50-50-09-09109, the "Maalaea General Store," (SHPD 2023).

At least two compliance archaeological reports were not available from the SHPD when background research was conducted for this study. Referenced in Cordle and Dega (2007:7), McGerty, L., A. Dunn, and R. L. Spear's 1998 *Data Recovery Excavations at Portions of Sites 50-09-4138 and -4139, Ukumehame Ahupua'a* [sic]*, Wailuku District, Island of Maui, Hawaii (TMK: 3-6- 01:14)* was not available. Relatedly, no record of the archaeological monitoring program's implementation or results reporting was available from the SHPD. Referenced in McGerty et al. 1998, Kennedy (1994) purportedly details the context of burials recovered and reinterred during data recovery at the Maui Ocean Center, and was also unavailable from the SHPD. Compliance archaeological reports available, reviewed, and synthesized for this report include:

**Study Title:** *Letter Report: Walk-Through Examination of the Proposed Maalaea Triangle, Maui*
**Study Type:** Literature Review and Field Inspection
**Author(s):** Joseph Kennedy
**Year:** April 1986
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK: 3-6-01:01
**Project Area Acreage:** Unreported.
**Study Purpose:** Literature review and field inspection an area slated for unspecified development.
**Methods:** Background research and community consultation, pedestrian inventory survey
**Results:** No recorded sites within the 1986 study area. Literature review resulted in four historic properties within the vicinity of the 1986 study area: SIHP#-1169, "eight petroglyphs" (Kennedy 1986:2); SIHP#-1286, "grinder stones" (Kennedy 1986:2); SIHP#-1440, "Piko stone and grinder stone" (Kennedy 1986:2); heiau site (Kennedy 1986:2)
**Mitigation Commitments/Historic Preservation Next Steps:** Noted without specifying evidential source that "there is clear indication from the presented data to suspect the possibility of buried deposits. However, these data are not sufficient to merit recommending a follow-up, or phase II, archaeological operation," (Kennedy 1986:3). Archaeological monitoring recommended as a precaution.

**Study Title:** *Archaeological Inventory Survey Located at Maalaea, Ahupua'a of Ukumehame, Wailuku District, Island of Maui, TMK: 3-6-01:18 (POR).*
**Study Type:** Archaeological Survey and Testing
**Author(s):** Joseph Kennedy and Patrick Trimble
**Year:** 1992

**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK 3-6-01:18 (POR).
**Project Area Acreage:** Unreported.
**Study Purpose:** "Archaeological field survey" of an area slated for unspecified development (Kennedy and Trimble 1992:11).
**Methods:** Combined background research and 100% systematic pedestrian inventory survey
**Results:** Significant land disturbance observed; no historic properties identified.
**Mitigation Commitments/Historic Preservation Next Steps:** None, no additional archaeological studies or historic preservation next steps recommended.

**Study Title:** *Inventory Survey & Subsurface Testing Results for Waikapu Mauka Partners Proposed Residential Project Located at Waikapu, Wailuku District, Island of Maui, TMK: 3-6-02:2 (Por.) & TMK: 3-6-04:2 (Por.). Addendum Including Results of Subsurface Testing of Suspected Burial Features. ACH, Inc., MS on file at DLNR-SHPD.*
**Study Type:** Inventory Survey and Subsurface Testing Results Report
**Author(s):** Joseph Kennedy
**Year:** 1994
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK: 3-6-02:2 (Por.) & TMK: 3-6-04:2 (Por.)
**Project Area Acreage:** Unknown*
**Study Purpose:** Unknown*
**Methods:** Unknown*
**Results:** Unknown*
**Mitigation Commitments/Historic Preservation Next Steps:** Unknown*
*This report was unavailable from the SHPD during Nohopapa Hawai'i's May and June 2023 remote public records search. Future assessment and organization of SHPD data may offer more clarity in the future.

**Study Title:** *An Archaeological Inventory Survey Report for the Proposed Ma'alaea Water Tank Located at TMK: 3-6-01:14, in Ukumehame Ahupua'a, Wailuku District, Island of Maui.*
**Study Type:** "Archaeological Inventory Survey with Limited Subsurface Testing" (Moore and Kennedy 1995:1)
**Author(s):** James Moore and Joseph Kennedy
**Year:** 1995
**Firm or Organization:** Archaeological Consultants of Hawaii
**Project Area Location:** TMK: 3-6-01:14
**Project Area Acreage:** Unreported
**Study Purpose:** Subsurface testing of an area slated for a water tank associated with the proposed Maui Ocean Center.
**Methods:** Background research combined with 100% pedestrian surface survey and the installation of three test units and seven shovel test pits.
**Results:** Three to five (both quantities are mentioned, see Moore and Kennedy 1995:1) significant historic properties: SIHP #50-50-09-3555, a midden scatter, stone alignment including two boulders containing petroglyphs, and an associated subsurface cultural deposit "consisting of midden and artifacts as well as subsurface features in the form of fire pits" (Moore and Kennedy 1995:15); SIHP #-4022, two terrace segments; SIHP-4137, two terrace features adjacent to SIHP #-4022; SIHP #-4138, "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs. SIHP #-4139 was documented and described as partially within the 1995 study area and an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39).

**Mitigation Commitments/Historic Preservation Next Steps:** Data recovery investigations and "program of preservation," (Moore and Kennedy 1995:1)

**Study Title:** *Data Recovery Excavations at Portions of Sites 50-09-4138 and -4139, Ukumehame Ahupua 'a, Wailuku District, Island of Maui, Hawaii (TMK: 3-6- 01: 14). SCS, Inc., Honolulu, HI.* On file at SHPD, Kapolei, HI.
**Study Type:** Data Recovery Results Report
**Author(s):** Leann McGerty and Robert Spear
**Year:** 1998
**Firm or Organization:** Scientific Consultant Services
**Project Area Location:** TMK: 3-6-01:14
**Project Area Acreage:** Unknown*
**Study Purpose:** Unknown*
**Methods:** Unknown*
**Results:** Unknown*
**Mitigation Commitments/Historic Preservation Next Steps:** Unknown*
*This report was unavailable from the SHPD during Nohopapa Hawai'i's May and June 2023 remote public records search. Future assessment and organization of SHPD data may offer more clarity in the future.

**Study Title:** *Draft* Monitoring Report on Earth Moving and Construction Excavation, Maui Ocean Center Site, Maui, Hawai'i [TMK: 3-6-01:1 & 19].*
**Author(s):** Leann McGerty, Bee Burgett, and Robert Spear
**Year:** 1998
**Firm or Organization:** Scientific Consultant Services
**Project Area Location:** TMK: 3-6-01: 1 and 19
**Project Area Acreage:** Unreported.
**Study Purpose:** Results reporting of implemented program of archaeological monitoring
**Methods:** Archaeological monitoring of construction activities over a nearly nine month period.
**Results:** One wahi kūpuna/historic property: SIHP #50-50-09-4480, a historical burial. No other historic properties reported.
**Mitigation Commitments/Historic Preservation Next Steps:** None.
*The final version of the report was not available from the SHPD during Nohopapa Hawai'i's May and June 2023 remote public records search.

**Study Title:** *Archaeological Monitoring Report for the Proposed Maui Golf and Water Park Project, Waikapu Ahupua'a* [sic]*, Wailuku District, Ma'alaea* [sic] *Maui. TMK (2) 3-6-08:008 and 009.*
**Study Type:** Archaeological Monitoring Report
**Author(s):** Erik Fredricksen
**Year:** 2002
**Firm or Organization:** Xamanek Researches [sic]
**Project Area Location:** TMK (2) 3-6-08:008 and 009
**Project Area Acreage:** 1.14 acres
**Study Purpose:** Results reporting on the implementation of an archaeological monitoring program for the proposed Maui Golf and Water Park.
**Methods:** Archaeological monitoring of construction activities for three weeks.
**Results:** No historic properties observed. Soils and sedimentary deposits evince extensive disturbance attributed to modern development (Fredericksen 2002:4).
**Mitigation Commitments/Historic Preservation Next Steps:** None.
**Notes:**

- Noted limitations:

    - Report does not contain detailed excavation descriptions, photographs, or profiles
- Undisturbed natural sedimentary deposits of reddish brown (5 YR 4/4) silty clay observed over weathered bedrock.

**Study Title:** *An Archaeological Inventory Survey Report on 259.902 Acres in Ma'alaea* [sic], *Ukumehame and Waikapu Ahupua'a* [sic], *Wailuku District, Maui Island, Hawai'i* [sic] *[TMK: (2) 3-6-01:18].*
**Study Type:** Archaeological Inventory Survey Report
**Author(s):** Jon Wilson and Michael Dega
**Year:** 2005
**Firm or Organization:** Scientific Consultant Services
**Project Area Location:** [TMK: (2) 3-6-01:18]
**Project Area Acreage:** 259.903 acres
**Study Purpose:** Results reporting for an archaeological inventory survey and subsurface testing of an area slated for development including "over one thousand residential units, a community center, a park and open areas, buffer zones, and roadways," (Wilson and Dega 2005:1).
**Methods:** Pedestrian inventory survey, 20 backhoe excavated test trenches installed
**Results:** Three historic properties identified: SIHP #50-50-09-5657 (13 clearing mounds), SIHP #50-50-09-5658 (irrigation modifications), and SIHP # #50-50-09-5659 (dirt road).
**Mitigation Commitments/Historic Preservation Next Steps:** None, beyond "a period of observation during future earth-moving activity," wherein an archaeologist is "on site during the leveling of a representative sample (a minimum of four) of the thirteen clearing mound features that comprise State Site 50-50-09-5657," (Wilson and Dega 2005:ii).
**Notes:**

- Noted study limitations include:
    - Locational information not provided for test excavations
    - Photo documentation not provided for most test excavations
    - Scaled profiles not provided for most test excavations

## Previous Archaeological Studies Research Summary

According to the information available, no previously-identified historic properties were located in the project area through background research. Four historic properties were identified through background research directly west of the project area - SIHP #-3553, human skeletal remains; SIHP #-3554 and SIHP #-4480, both burials; and SIHP #-1604, the Ma'alaea Fishing Jinja [sic]. Additionally, SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44); and SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) are located further afield and west of the project area. It should be noted that some reports required for a comprehensive previous archaeological studies review and discussion were unavailable from the SHPD; future assessment and organization of SHPD data may offer more clarity in the future.

# COMMUNITY ETHNOGRAPHY

## Mahalo

Nohopapa Hawai‘i would like to mahalo the individuals and organizations who shared their precious time, memories, and mana‘o (*thoughts, ideas, beliefs, opinions*) for this study. Without their willingness to share personal recollections and stories, this important project would not have been possible. The mana‘o that was shared will help to mālama Mā‘alaea Harbor in Waikapū for future generations to better understand, appreciate, and cherish the uniqueness of this place.

## Introduction

Community ethnography for this study was conducted from May through October 2023. The community ethnography process consisted of identifying appropriate individuals with knowledge of and/or relationship to the project area, conducting ethnographic interviews in formats selected by consultees, summarizing the interviews, synthesizing ethnohistorical background research and ethnographic information, and preparing this report. Twenty individuals were contacted to participate in this study. Two individuals participated in interviews; one person provided feedback via email and seventeen declined to participate for various reasons. Table 4 features the names, backgrounds, and affiliations of individuals who provided consultation for this study.

Table 4. Community Interview Participants (in alphabetical order)

| Participant | Background/Affiliation | Notes |
|---|---|---|
| Kāwika Aspili | » Kanaka ‘Ōiwi; His tūtū, Elizabeth Aspili, resides in Mā‘alaea and he has spent time with her in Mā‘alaea. | Completed an interview on September 5, 2023. Mana‘o is included below. |
| Dane Kiyoshi Uluwehiokalani Maxwell | » Kanaka ‘Ōiwi; Lineal descendant of Waikapū | Completed an interview on June 29, 2023. Mana‘o is included below. |
| Kalei Lu‘uwai | » Kanaka ‘Ōiwi; Boat Owner: Pualele that is docked at Ma‘alaea Harbor; ‘Ohana Lu‘uwai long-time fishing family of Maui | Provided input via email |

## Summary of Community Mana‘o

All consultation participants are Native Hawaiians. They include a lineal descendant of Waikapū, the grandson of a Mā‘alaea resident who has spent time in the village, and one member of a long-time fishing family of Maui and owner of the boat named Pualele docked in Mā‘alaea Harbor. Consultation participant Mr. Kāwika Aspili graduated with a Master’s degree in Hawaiian Studies from the University of Hawai‘i at Mānoa. He is also a musician and lomi practitioner. His tūtū (*grandmother*) resides in and he has spent time with her in Mā‘alaea; her name is Elizabeth Aspili (family name, Papahi). Kāwika’s ‘ohana have lived in Lāhaina for generations. Consultee Dane Kiyoshi Uluwehiokalani Maxwell shared that he was born and raised in Maui. He mentioned he grew up in the ahupua‘a of Maka‘ehu, stating it is:

> What's commonly known as Pukalani, upcountry Maui. In Pukalani is where I was raised by my grandparents, my mom, and my auntie. My tūtū wahine (Nina Boyd Maxwell) was a kumu hula for Pukalani Hula Hale. And my grandfather (Charles Kauluwehi Maxwell) was many things, but I guess he's more well-known for being an activist in the Hawaiian community. I was lucky to be a part of one of the first classes to go through Kula Kaiapuni o Maui ma Pāʻia. From within that same household, I am a long-life learner and practitioner of hula. But many things we learned in that hale how to mālama iwi kūpuna stem from Honokahua, and that practice itself is dictated in the rest of my life. Even today, I still have the privilege to assist in some of these things, like where I am today as a monitor up on Puʻu Kolekole on Haleakalā.

Mr. Maxwell went onto share about their ʻohana connections to Waikapū:

> Our ʻohana is said to have come from Waikapū, parts of Maʻalaea through Olowalu. So, our ʻohana has a lineal connection to this wahi." He also shared that he worked under his grandfather for CKM Cultural Resources, LLC, "Since 2004, we've been cultural monitoring and drafting Cultural Impact Assessments (CIAs) for different projects across Maui. I continue to run my grandfather's business, CKM Cultural Resources. So, I've been able to stay afloat while still trying to manage my papa's kuleana and somehow find more kuleana to ʻauamo. I currently work for the Maui Ocean Center, Ih is directly adjacent to and near this project. I'm also the Facility Technician for Kamehameha Schools, where I run their streaming, audiovisual, and cinema. The most important part is that I'm a husband and a father of three girls. And they know that they have much kuleana to ʻauamo at some point.

Consultee Mr. Kalei Luʻuwai's family is a long-time fishing ʻohana of Maui and they own the boat Pualele that is docked in Māʻalaea Harbor.

## Biocultural landscapes, Resources, Uses, Features, and Practices

Consultees identified an array of cultural resources, uses, features, and practices associated with the project area. Mr. Aspili began with recollecting the trajectory of development at the harbor: "Before the aquarium came in, there wasn't much at Maʻalaea Harbor. I remember the old store was famous for the hot dogs, like my tūtū says, the best one's on the island." He shared about the wind associated with Maʻalaea named Moaʻe, and said "Lepo, dirt, ʻalaea comes from Kahoʻolawe to Māʻalaea and the surrounding area. ʻAlaea is gathered medicinally and it's the Kāne variety. Limu is also gathered on the Kīhei side of Māʻalaea." He also referenced Daniel Kahāʻulelio's 2006 *Ka ʻOihana Lawaiʻa* (*Hawaiian Fishing Traditions)* book, stating: "In the nūpepa that was put into a book, unsure if there was a koʻa over there or some sort of triangulation point where there was good fishing out of Māʻalaea area." Mr. Maxwell mentioned known burials close to the proposed project area. He stated:

> During the construction phase of the Maui Ocean Center, there was some iwi kūpuna that was disinterred during the AIS phase. So, there's the potential and risk. I know this place has been disturbed quite a bit, but there is always that potential, especially if it's old backfill; you never know what you find in old backfill.

Regarding geographical features such as kiʻi pōhaku (*petroglyphs*), Mr. Maxwell commented: "There's quite a few, some that aren't necessarily from there like some of the petroglyphs that are at the harbor that was relocated from parts of Maʻalaea. By Buzz's Wharf, two pōhaku have some petroglyphs over there." Mr. Maxwell also talked about the well-documented spring, Waikoli,

stating: “They put a restroom on top of one of our natural springs called Waikoli, which is right near the harbor ramp over there. Its contamination kind of ruined the flow into the kai. And also, the ability for kohu to take root anymore because of the limited and contaminated introduction of freshwater to our kai.” Additional cultural resources affiliated with the project area such as but not limited to lawaiʻa, ʻupena hoʻolei, ʻohiʻohi limu, and surfing in Māʻalaea were identified by Mr. Maxwell. He shared:

> To the left of the proposed project area is a few well-known surf spots that I grew up in, but also commonplace for picking or ʻohiʻohi limu. Now it’s ogo. Before was manauea. One of the only Japanese fishing shrines in Hawaiʻi that were consecrated for that right at the foot of the, I want to say, northeast end of the Maui Ocean Center. The inside of the harbor has all kinds, but in the summertime, we have halalū that comes in quite often. Juvenile akule, ʻōpelu, but ulua also comes in quite often in that space. ʻŌmilu, ulua. So, you have a lot of mākoi, maybe not all traditional, but many fishing practices and gathering in that space. Some ʻupena hoʻolei, throw net within the space. The Maui Ocean Center is a new structure, but we have a contemporary built kūʻula on the top of the Ocean Center grounds.

Mr. Maxwell also mentioned hana paʻakai as a cultural resource and practice associated with the project area. He said: “In the Kanaio area, it’s northeast of this project. We’re trying to restore the practice of hoʻopaʻakai, hana paʻakai in that space because it’s Keālia, right, it’s the other Keālia. So, with Aunty Hōkū and Kauahea Inc., we’re restoring or bringing back the practice of hana paʻakai.” Mr. Luʻuwai stated they did not know of any oral traditions or cultural practices associated with the project area such as moʻolelo, kaʻao, inoa ʻāina, mele, oli, ʻōlelo noʻeau, or hula, and that their kupuna who may have carried that knowledge have passed.

## Concerns Regarding Impacts of the Proposed Project to Cultural Resources

Mr. Aspili’s expressed that his primary concern is Native Hawaiian ancestral remains, including how the iwi kūpuna will be treated considering the long history of grave desecration in Hawaiʻi. He was specifically concerned with past impacts, exposures, removals and relocations of iwi kūpuna at Māʻalaea. Mr. Aspili stated:

> The potential of unearthing iwi kūpuna in that [project] area, because it’s also shoreline, which is common to have burials in sandy areas and shoreline areas near the kahakai [beach]. My big concerns are what they’re going to dig up over there? How far they’re digging, to what extent they need to dig and stuff like that. How are they going to manage that in terms of what they… if they do dig and grub that area? What they’re going to unearth and whether or not that’s going to be within the LCAs or out of it. And even if it’s not within the LCAs, there was probably people that were residing there, because LCAs were only from a certain period of time…Are they preserving in place?

Another concern expressed by Mr. Aspili was that “[a] three-story building isn’t small.” He believes the development planned by the Coast Guard is maxing out the allowable height on the shore: “That’s going to be quite a big footprint that they’re adding to that area. And I’m just wondering how dire is the need to go that big? I get the need for more space. I’m just wondering what is prompting them to do that at this time, in terms of just the magnitude of the project?” An additional concern of Mr. Aspili’s was the land title, and whether or not it has been cleared.

Mr. Maxwell shared his concerns in order of priority. He stated:

> Sewage is probably the most important one that comes to mind. One of the biggest problems I think in Māʻalaea that I have seen is that all the condos that abut and are on the coastline have injection wells. All are based on injection wells. So, some wastewater management plans are being put forward. So, one of my questions would be, will this facility utilize the same injection method contributing to the impact on the kai surrounding reef, limu, and flora and fauna? Or would is it looking at some alternative solutions? Concerns about what's being introduced into the kai and soil would impact this wahi and the surrounding wahi like Kanaio.

Continued access for local fishermen and surfing were also identified by Mr. Maxwell as concerns. He stated: "Fishing access during the construction phase for our local fishermen. Fishing and surfing access because there's only a small parking lot that abuts this project on the makai side, and there isn't much access beyond that because the car parking is always populated by tourists with all the rest of the whaling tours and stuff like that."

Impacts from a potential expansion of the Coast Guard's presence to the carrying capacity of Maʻalaea Harbor was also a priority for Mr. Maxwell. He shared:

> The Coast Guard has one boat in the harbor. If they expand, are they planning also to expand their fleet? The impacts that fleet will have on the capacity of the harbor, the environment, and the ecosystem within that space. The Maʻalaea Harbor has really bad water flow as it is, and the way the County drained the valley above us runs right into the harbor, so silt is already a problem. So, I would hate to compound the problem further by having more traffic issues or unnatural traffic within the space.

Mr. Maxwell also mentioned several longer-term concerns. Among them were additional Coast Guard expansion, and whether or not the proposed development has taken into consideration and taken seriously the threat of sea-level rise. He stated: "The capacity, even that space, is already maximized. This is probably the last bit of open space within that entire place. But right now, it's just being utilized as a third parking lot. I would prefer nothing to be there. I would prefer that place be a green space and some kind of open space for the community. That's my concern that they sprawl out even further. I know it's a tiny facility, but that would be my concern." Regarding the rising sea level, Dane commented, "Is that a good location for the next 50 years? Will that just be a smart location to have developed that will survive the next 50 years? There's an Inundation Map that was put together by Maui County in 2019, I think, that would answer that question. I only know of it because of being on the Burial Council, and we have a really big coastline preservation area slated to be completely underwater by 2053."

Mr. Luʻuwai did not have any concerns with the Coast Guard building a facility at the harbor, so long as "they follow current construction best practices for any runoff that might occur."

## Preferred Alternatives or Solutions to the Proposed Project

Mr. Aspili would like to understand the needs driving this shorefront development. Specifically, he requests more clarity on statistics for Coast Guard interactions along the south Maui Coast, and specific threats ancitipated by the Coast Guard. He stated:

> I'm not seeing more rescues or anything needing to be done. What kind of threats do we have that are on the horizon or whatever is going on? What is the need to fortify that space? And maybe, some transparency in that sector might help.

Mr. Aspili commented: “My suggestions and solutions are, why can’t you just make space and make do with what you have instead of consuming more land?

Regarding preferred alternatives or solutions to the proposed project, Mr. Maxwell noted: “Any kānaka view being close to kai, just mālama and take ownership of your space and try to be the best stewards possible. Mostly, I’ve always seen them being respectful and very good within that space. They’ve been pretty good neighbors so far.”

Mr. Maxwell expressed his preference for no additional Coast Guard development, stating that Māʻalaea Harbor and the adjoining settlement are already developed to capacity. He mentioned the project area “is probably the last bit of open space within that entire place. But right now, it’s just being utilized as a third parking lot. I would prefer nothing to be there. I would prefer that place be a green space and some kind of open space for the community.”

## Recommendations Regarding Site Management or Protection and Development in the Area

Mr. Aspili recommended, “Personally I think they should just leave it as is and hopefully not dig in that area. Really recommendations are like just try to make do with what you have. Because I don’t think there’s an immediate need. I think being on an island with finite resources and land, I don’t think we should be continually trying to add more and more, but be more concerned about trying to manage what we have and make do with what the space is rather than always adding and continually making more. You should just renovate or make due with what you have.”

Regarding mālama iwi kūpuna, Dane shared, “This project is a small parcel, but if they do more than the minimum requirement during the AIS phase, I think it’s always nice to identify prior then post as monitoring. Would love to have it identified under the jurisdiction of the Burial Council. That’d be fantastic. I will always recommend monitoring, monitoring, monitoring, monitoring!”

Regarding mea kanu maoli, Dane commented, “Prioritize using mea kanu maoli like pōhuehue, naupaka, and stuff like that being planted for this project.”

Regarding recommendations for site management, protection, and development in the area Dane discussed the importance of consistent community consultation and including the Maui Burial Council, “Consultation is consistently good through the proposed planning and construction phases. Community engagement isn’t fun, but I think it’s very necessary. Waikapū is a very active community; you have some involved individuals within that ahupuaʻa itself. Community consultation is a great opportunity to comment on anything that might impact modern-day, pre-contact, and a great opportunity to have it recorded if you ever need to use it for something else. The Burial Council knows of the burials within proximity to this project. It would be good to have them consulted throughout this project’s planning and construction phases, as they may have input. Since a three-story building is being proposed, an opportunity for consultation on the proposed plans would be good.”

As with Mr. Luʻuwai, Mr. Maxwell also expressed the need for the Coast Guard to be cognizant of ther runoff. He stated: “I think they maintain their facility. They’ll probably be maintaining their equipment and vehicles, whether marine or on land. Having experienced up here on Haleakalā, primary and secondary containment of fuel, oil, or anything that could be attributed to pollution. So, containment of any hazardous materials.” He also offered additional suggestions for how the Coast Guard can positively contribute to the short and long-term stewardship of Māʻalaea: “If they have any additional funding to support cleanup efforts or for the harbor themselves, or if they want to take ownership on community cleanup days within the harbor, that’d be a solution. You know, the low-hanging fruit, the simple things right in front of you. Partnering with Maui Seabird Recovery. Just trying to be good neighbors and stewards of the wahi.”

# CULTURAL IMPACT ASSESSMENT

## Introduction

This section reviews and summarizes background research and consultation for information, perspectives, and opinions regarding:

- The cultural resources (defined as practices, beliefs, and features), and their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the broader site;
- The nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area affected directly or indirectly by the proposed project;
- An explanation of confidential information, if any, that has been withheld from public disclosure in the assessment; and,
- A discussion concerning any conflicting information, if applicable, in regard to identified cultural resources, practices, and beliefs.

It then provides an assessment of impacts posed by the proposed project to cultural resources within the project area. The scope of the analysis was commensurate to the breadth and depth of information gathered during consultation. In this instance, the effort included consideration and discussion of:

- The potential effect of any proposed physical alteration on cultural resources (defined as practices, beliefs, and features);
- The potential of the proposed action to isolate cultural resources from their setting; and,
- The potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

## Background Research and Consultation Synthesis

This section should be prefaced with the notation that several archaeological reports were unavailable from the SHPD during Nohopapa Hawai'i's May and June 2023 remote public records search resulting in data gaps and an incomplete understanding of Iwi kupuna and potentially other cultural resources in the project area and vicinity. The discussion below includes information that was available for this study which may shift with any additional information that might become available from the SHPD repository.

Background research of available resources shows the project area in Mā'alaea is situated within a greater, contiguous cultural landscape and integrated system of resource management established by Native Hawaiians, with Mā'alaea long serving as a settled, agricultural landscape and canoe landing referenced in Hawaiian oral traditions. Waikapū and Kamaalaea, place names and locations associated with the project area appear on the earliest Hawaiian cartographic representations of traditional land divisions like moku and ahupua'a, underscoring the importance of the place in Hawaiian geographies. Notably, historical documents evince that few LCAs were awarded in Waikapū's southern coastal plains. Awarded LCAs clustered around Mā'alaea Bay, and included two coastal house lots – Hika's LCA 2959 approximately situated in the project area and bounded to the west by an alanui aupuni, and Kaili's LCA 11156, west of the project area. One of the few LCAs and coastal house lots awarded in Waikapū's southern coastal plains was likely located partially or wholly in the project area -– Hika's LCA 2959. Primary source records associate 10 lo'i with the coastal land parcel and house lot. Hika's LCA may have overlapped the central southern portion of the current project area; it may also have been located more partially or totally within the current project area – historical records are unclear. Primary source records depict an "Alanui Aupuni" - *Kingdom roadway* of the sovereign Hawaiian nation-

to the west that may have also overlapped the western periphery of the current project area, been included more fully within it, or located in proximity to it – historical records are again unclear (Awards Book, vol.6:21). The other, Kaili's awarded LCA 11156, also a house lot, is located west of the project area.

Beginning in the twentieth century, the settlement at Māʻalaea was transformed into a harbor town. The local manifestation of global economies began in Central Maui and on the lands just north of the project area beginning in the 1820s. Extensive alteration of the vegetation, topography, and hydrography of the project area and vicinity continued with the establishment of extractive sugar plantation economies and infrastructure, and persisted with development concentrated along the coast and adjoining hinterlands over the course of the last century.

No previously-identified historic properties were located in the project area through background research. Background research performed for this study and Hoerman et al. 2023 evinces that at least three iwi kūpuna were revealed during construction activities at the Maui Ocean Center (SIHP #-3553, Human skeletal remains; SIHP #-3554, Burial; SIHP #50-50-09-4480; see McGerty, Burgett, and Spear 1998 and DLNR-SHPD 2007), and the historical SIHP #-1604 Ma'alaea Fishing Jinja [sic] is also located in the project area vicinity. An extensive traditional Hawaiian through historical complex of iwi kūpuna and historic properties (SIHP #-4137, two terrace segments; SIHP -#4138 "an alignment of boulders with areas of rubble fill, remnant terracing, and petroglyphs," (Moore and Kennedy 1995:44); SIHP #4139, an "enclosure complex including an enclosing wall, remnant terracing, two mounds, a c-shape, and three boulders on which petroglyphs were identified," (Moore and Kennedy 1995: 39) is located further west of the project area. These lines of evidence show the project area occupies a previous house site with loʻī (irrigated wetland fields) as well as an important location in the Hawaiian cultural and later historical landscapes at Māʻalaea Harbor, Waikapū Ahupuaʻa, Wailuku Moku, Maui.

Ethnohistorical and historical research, previous archaeological studies, and consultation efforts conducted for this study, associate an array of cultural resources with the project area and greater vicinity. A listing of cultural resources, pertinent details, and their locations in the project area and greater vicinity includes:

- **Iwi kūpuna** (*Native Hawaiian burials*), at the Maui Ocean Center and potentially associated with the project area;
- The **Kokololio, Mumuku and Moaʻe winds**, throughout the project area and vicinity
- The **Kiliʻoʻopu and Kololio rains**, throughout the project area and vicinity;
- **ʻUhaloa** (*Heteropogon contortus*) and the **ʻIlima** (*Sida fallx*) shrub, throughout the project area and vicinity;
- **LCA 2959**, awarded to Hika, all or part of which is located in the project area;
- **Waikoli, a natural spring,** in the project area vicinity over which a restroom was constructed that likely contaminates it, while preventing its natural flow into the ocean, the development of Waikoli spring limited the ability of **limu kohu** (*Asparagopsis taxiformisto*) root;
- **The Kāne variety of ʻalaea soil**, which comes from Kahoʻolawe to Māʻalaea and the surrounding area; ʻAlaea is gathered medicinally and it's the Kāne variety; located throughout the project area and vicinity;
- **Limu** varieties such as, **ʻohiʻohi** and **manauea** (*Gracilaria coronopifolia*) or **ogo**, gathered on the Kīhei side of Māʻalaea as well as the development of Waikoli spring limited the ability of **kohu** to root**,**
- **Surfing spots** in Māʻalaea Harbor;
- **Japanese fishing shrine**, located at the northeast end of the Maui Ocean Center according to a consultee;

- Fish species such as **halalū** (*Trachurops crumenophthalmus*), **akule** (*Selar crumenophthalmus*) (juveniles specifically), **ʻōpelu** (*genus Decapterus*)**, ulua** (*Caranx ignobilis*), **ʻōmilu** (*Caranx ignobilis*)**, and mākoi**, in Māʻalaea Harbor;
- **ʻUpena hoʻolei** (defined by Mr. Maxwell as "throw net"), in Māʻalaea Harbor;
- The cultural resource and practice of **salt production and gathering** in the Kanaio area, northeast of the project area;
- **Many other fishing and gathering practices**
- **Kiʻi pōhaku,** both those located in their original locations in the project area vicinity and those translocated to near Buzz's Wharf

## Impact Assessment

Consultees identified an array of anticipated adverse impacts the proposed project poses to cultural resources and practices in both the project area and vicinity. Of primary concern were impacts to iwi kūpuna. Possible impacts from sewage, the usage of a coastal injection well, and construction generally to the carrying capacities of the environment and ecosystem – inclusive of cultural resources such as soils, the ocean, the reef, limu, flora and fauna - were also identified by consultees. Whether or not the title to the land has been cleared was another concern expressed.

Adverse impacts to iwi kūpuna were recognized as primary concerns by two consultees, and supported by background research and consultation which indicate there is an increased likelihood for subsurface historic properties and Native Hawaiian burials in the project area. At least three iwi kūpuna were previously revealed at the Maui Ocean Center in the same sedimentary deposit that underlies the project area (see McGerty, Burgett, and Spear 1998; DLNR-SHPD 2007; and Figure 5); the three previously-revealed iwi kūpuna and any others interred within the project area and vicinity. Part or all of LCA 2959, awarded to Hika, is located in the current project area. LCA 2959 is one of the few LCAs awarded in Waikapū's southern coastal plains, is recorded as a houselot, which increases the possibility for the presence of iwi kūpuna and historical burials. During consultation for this study, consultees emphasized enhanced likelihood for them in the project area and expressed concern over the past impacts, exposures, removals and relocations of iwi kūpuna at Māʻalaea. Relatedly, the extent of ground disturbance in the project area for the new construction, and its potential impacts to iwi kupuna were identified as a negative impact.

Adverse impacts from sewage associated with the proposed building were also identified as a concern, specifically the potential of installation of a coastal injection well in conjunction with the Coast Guard building. One consultee questioned: "Will this facility utilize the same injection method contributing to the impact on the kai [and] surrounding reef, limu, flora and fauna? Or is it looking at some alternative solutions?" The same consultee expressed concern over what the project will introduce into the ocean and soil and how it will impact the place and surrounding places like Kanaio, location of cultural resources and practices listed above. Run off and its regulated and carefully planned management posed similar concerns to two consultees.

Also foreseen were adverse impacts to the carrying capacity of Māʻalaea Harbor – as well as its environment and ecosystem - stemming from the potential expansion of the Coast Guard's presence. One consultee shared:

> The Coast Guard has one boat in the harbor. If they expand, are they planning also to expand their fleet? The impacts that fleet will have on the capacity of the harbor, the environment, and the ecosystem within that space. The Māʻalaea Harbor has really bad water flow as it is, and the way the County drained the valley above us runs right into the harbor, so silt is already a problem. I would hate to compound

the problem further by having more traffic issues or unnatural traffic within the space.

Potential long-term impacts of the proposed project identified by consultees were congestion of Māʻalaea (one consultee expressed the preference that the project area remain undeveloped and turned into a "green space and some kind of open space for the community,") and whether the proposed development will be inundated by encroaching seas due to global warming.

## Recommendations

This section summarizes recommendations shared by consultees regarding the impacts of the proposed project to cultural resources within the project area and vicinity. Leaving the project area undeveloped was identified as the most desirable course of action. Should development proceed, numerous recommendations were made: proactive and community-based care for iwi kūpuna, enacted through the Maui Island Burial Council; continued access to the project area vicinity for local fishermen and surfers; avoidance by the Coast Guard of adverse impacts to the environment and ecosystem over the short and long-term; Coast Guard contribution to stewardship efforts and clean ups in the project area and vicinity; partnership with community groups; and, the use of native plants for landscaping.

Consultees shared both preferred alternatives to the proposed project and solutions to the concerns shared in the section above should the project proceed. Two consultees expressed a strong desire for the project area to remain undeveloped. One consultee recommended the Coast Guard "make space and make do with what you have instead of consuming more land…". Similarly, another consultee expressed that Māʻalaea Harbor and the adjoining settlement are already developed to capacity. More information was requested regarding the need for the expansion of Coast Guard facilities. Specifically, one consultee stated:

> I'm not seeing more rescues or anything needing to be done. What kind of threats do we have that are on the horizon or whatever is going on? What is the need to fortify that space? And maybe, some transparency in that sector might help.

Continued access for local fishermen and surfing were identified as priorities during consultation. Run off was emphasized by two consultees as important to plan for and manage with careful adherence to all applicable laws and regulations, and to avoid impacts to the environments and ecosystems hosting the cultural resources discussed above. Regarding mālama iwi kūpuna, if the project moves forward, one consultee expressed the strong desire for the formal recognition through the Maui Island Burial Council of all iwi kūpuna affiliated with the project area as previously-identified and cultural monitoring for all phases of development. Regarding native plants, the consultee commented, "Prioritize using mea kanu maoli like pōhuehue, naupaka, and stuff like that being planted for this project."

Consultees also shared several recommendations for site management, protection, and development. The importance of consistent community consultation throughout the entire development process, including with the Maui Island Burial Council, was underscored and emphasized. As one consultee noted, consultation is:

> …very necessary. Waikapū is a very active community; you have some involved individuals within that ahupuaʻa itself. Community consultation is a great opportunity to comment on anything that might impact modern-day, pre-contact, and a great opportunity to have it recorded if you ever need to use it for something

else. The Burial Council knows of the burials with proximity to this project. It would be good to have them consulted throughout this project's planning and construction phases, as they may have input. Since a three-story building is being proposed, an opportunity for consultation on the proposed plans would be good.

The Coast Guard's containment of hazardous materials was also recommended. In order to contribute positively to the stewardship of Māʻalaea, it was noted the Coast Guard could support harbor clean-up efforts financially or otherwise, take ownership on community clean up days, partner with Maui Seabird Recovery, and make an effort to be good neighbors and stewards of the place.

## Considerations

Nohopapa Hawaiʻi advises several considerations regarding the proposed project's potential impacts to cultural resources (practices, features, and beliefs) associated with the project area and/or vicinity. First, the recent tragic events in Lāhaina limited consultee engagement and approved contributions to this particular CIA study. Consultation early and often throughout the evolutionary trajectory of this project needs to occur in order to ensure community awareness and invite community engagement. Second, should the footprint or other characteristics of the proposed project change significantly as it unfolds, additional and expanded consultation is recommended to ensure community members have the opportunity to provide input on updated potential impacts of the proposed project to cultural resources per the requirements of the Hawaii Environmental Policy Act and its implementing legislation Hawaii Revised Statutes (HRS) §343 and 1997 Environmental Council Guidelines for Assessing Cultural Impacts.

Considering the proximity of iwi kūpuna as well as historic properties to the project area and the large amount and scale of ground disturbance and alteration of the project area that is proposed, we concur with the request for cultural monitoring made by consultees as culturally appropriate as well as professional best practices.

It should be noted that some reports required for a comprehensive previous archaeological studies review, understanding, and discussion were unavailable from the SHPD; future assessment and organization of SHPD data may offer more clarity around this topic in the future and should be pursued as the project proceeds in case additional information becomes available.

Professional standards and ethics combined with the aforementioned data gaps underscore the need for careful background research and quality professional standard work on all future historic preservation compliance and archaeological studies related to this project.

We encourage the consideration of consultee's recommendations, especially those concerning impacts to resources critical for the continuation of Native Hawaiian traditional cultural practices, including but not limited to impacts to limu, corals, fish species.

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# APPENDIX A: COMMUNITY PARTICIPATION LETTER

NOHOPAPA HAWAI'I

July 2023

*Welina mai me ke aloha,*

On behalf of SSFM International, Inc., Nohopapa Hawai'i, LLC, is conducting a Cultural Impact Assessment (CIA) as part of an Environmental Assessment (EA) for compliance with Hawai'i Revised Statues §343 and the National Environmental Policy Act (NEPA), and to inform project planning for the U.S. Coast Guard Station (Station Maui) expansion at Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni (TMK [2] 3-8-014:028; Figure 1 and Figure 2). Undated historical photographs of the 'āina and project area are also attached (Figure 3 and Figure 4).

The proposed project includes the expansion of the U.S. Coast Guard Station via the construction and long-term operation of a new three-story facility, parking lot, and security fence (TMK [02] 3-8-014:028). The extent of ground disturbance associated with the construction of the new building, fence, and parking lot are currently unknown; however, ground disturbance is anticipated as part of the proposed project.

This CIA aims to gather and evaluate the proposed project's potential impacts on the Hawaiian cultural practices and resources associated with the project area in Waikapū Ahupua'a. We would like to engage with individuals, 'ohana, and/or organizations with relationships to this area. In particular, we would like to gather information relating to:

- **Cultural knowledge of mo'olelo, ka'ao, inoa 'āina, mele, oli, 'ōlelo no'eau, and hula related to the project area**
- **Knowledge of wahi pana, wahi kapu, and wahi kūpuna and cultural practices associated with these wahi**
- **Knowledge of the 'āina, natural landscapes and resources, and associated cultural uses**
- **Concerns regarding how this project might impact any Hawaiian wahi kūpuna (cultural resources) or practices within or around the project area**
- **Suggestions, impact mitigations, and recommendations regarding the management and stewardship of wahi kūpuna in and around the project area**
- **Referrals of kūpuna and kama'āina who are knowledgeable of the project area and might be willing to participate in this study**

Please let us know if you are interested and available to participate in consultation for this important project. You can participate via a virtual or in-person interview, group interview, online survey (LINK), or by filling out the attached questionnaire.

We look forward to collaborating with you to document your mana'o and recommendations to assess any cultural impacts that might stem from this proposed project at Mā'alaea Harbor in Waikapū Ahupua'a.

*Me ka ha'aha'a,*

Momi Wheeler
Phone number (808) 430-2557
Email momi@nohopapa.com
Nohopapa Hawai'i, LLC website https://www.nohopapa.com/

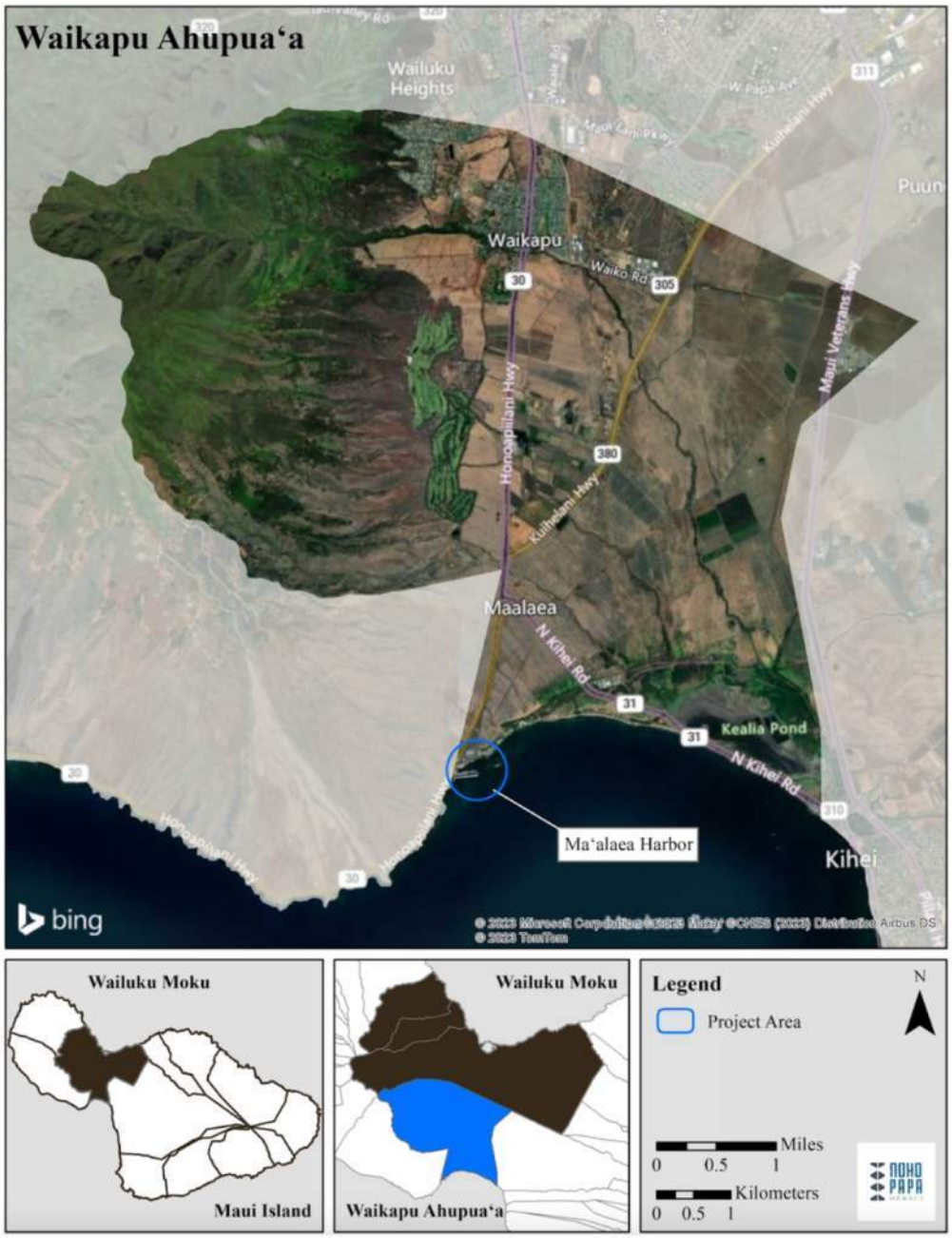


Figure 1. Large-scale aerial overview of the location of the project area in Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni (TMK [2] 3-8-014:028) (Google Earth)


Figure 2. Close-up aerial photograph of the project area in Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni (TMK [2] 3-8-014:028) (Google Earth)

Figure 3. Historical aerial photograph of Māʻalaea Bay and associated airport (Maui Historical Society, n.d., in National Oceanic and Atmospheric Administration 2023)

Figure 4. Historical aerial photograph of Māʻalaea Bay and the location of the current project area (Department of Boating and Ocean Recreation n.d.)

# APPENDIX B: INTERVIEW THEMES AND QUESTIONS

NOHOPAPA HAWAI'I

**Mā'alaea Harbor, Waikapū Ahupua'a CIA Questionnaire**

**Interviewer:** _____ **Date:** _____ **Location:** _____

**Note, answering the following questions is optional*

## Mo'okū'auhau

| | |
|---|---|
| Name: | |
| Where did you grow up?<br>Where do you live today? | |
| How are you pili to this place?<br>o Is Waikapū significant to you/your 'ohana? If so, how? | |
| Do you/your 'ohana mālama this place? If so, how? | |
| Is your 'ohana from the Waikapū area and/or surrounding ahupua'a?<br>o Do you/your 'ohana have any stories about the area? *(Share any connections to this wahi)*<br>o Did you or your 'ohana engage in activities or cultural practices associated with this place? If so, what kind?<br>o Do you know of any "old" ways that are no longer practiced or available? | |

## Biocultural Landscapes, Resources, Uses, and Practices

| | |
|---|---|
| Are there any cultural sites/areas you know, around, or connected to Waikapū?<br>o Any prominent geographical features, boundary markers, habitation, trails, burial sites, or religious sites?<br>o What's the cultural significance of these sites/areas?<br>o Aware of any historical maps or photos that depict changing land use and/or settlement patterns? | |
| What native and/or introduced plants and animals are associated with Waikapū?<br>o In the surrounding area(s)?<br>o Traditionally and historically? *Such as growing, cultivation, mo'olelo*<br>o Cultural significance and/or uses of these resources? | |

1

| | |
|---|---|
| Any ocean and freshwater resources, springs, and streams?<br>o Cultural significance and/or uses of these resources? | |
| Any seasonal changes to the natural landscape? | |

## Mo‘olelo, Inoa ‘Āina, Mele, Oli, ‘Ōlelo No‘eau

| | |
|---|---|
| Any mele, ‘ōlelo no‘eau, oli, or other traditions that reflect a sense of place and cultural identity for this place and its people? | |

## Cultural Practices

| | |
|---|---|
| Do you know of any cultural practices associated with Waikapū, and the surrounding area? | |
| How can these cultural practices be integrated into resource management and stewardship of this place today? | |
| Are there inappropriate practices/protocols/uses for Waikapū and/or at Mā‘alaea Harbor? | |

## Concerns and Recommendations

| | |
|---|---|
| Any concerns regarding how this project might impact any wahi kūpuna, cultural resources, or cultural practices within or around the project area? | |
| Can you think of any adverse impacts to cultural resources, practices, or features resulting from the proposed project? | |
| What solutions do you think would be helpful towards these concerns? | |
| Do you have any preferred alternatives to the proposed project? | |
| Do you wish to share any preferred or desired mitigation* measures relative to the impacts proposed by the proposed project? **Mitigation = actions that avoid, minimize, rectify, or reduce the impacts of a project* | |

| | |
|---|---|
| Do you have any short or long-term concerns regarding the project? Please explain. | |
| Do you have any recommendations regarding site management or protection and development in the area? | |
| Any other mana'o you'd like to share? *(i.e., recommendations, concerns, questions)* | |

## Contact Information & Referrals

| | |
|---|---|
| You'll have the opportunity to review your written transcript/interview summary and make any additions, deletions, or corrections as you wish. What is the best way to send you the interview to review & approve? *(Email or Mail)* | |
| Can you refer us to other individuals or organizations we should talk to? | |
| Are there any parts of this interview you do not want publicly disclosed? | |
| Please provide your mailing address so we can send you a makana as a Mahalo for sharing your valued mana'o and 'ike. | |

# APPENDIX C: INFORMED CONSENT FORM

NOHOPAPA HAWAI'I

## INFORMED CONSENT FORM

Aloha mai, Nohopapa Hawai'i appreciates your generosity and willingness to share your knowledge of the wahi pana of Waikapū and its surrounding areas. This mana'o will be included in the Cultural Impact Assessment (CIA) for the proposed expansion of the existing U.S. Coast Guard Station (Station Maui) at Mā'alaea Harbor, Waikapū Ahupua'a, Wailuku Moku, Maui Mokupuni.

Nohopapa Hawai'i understands our responsibility to respect the wishes and concerns of the interviewees participating in this study. Here are the procedures we promise to follow:

1. The interview will not be recorded without your knowledge and explicit permission.
2. You will have the opportunity to review the written transcript and summary of your interview. At that time, you may make any additions, deletions, or corrections you wish.
3. You will be given a copy of the interview transcript and/or summary for your records.
4. You will be given a copy of this release form for your records.
5. You will be given a copy of any photographs taken of you during the interview.

For your protection, we need your written confirmation that (check yes or no):

1. You consent to use the complete transcript and/or interview quotes for this study. Yes No
2. If a photograph is taken during the interview, you consent to the photograph being included in this study. Yes No

I, _____, agree to the procedures outlined above and,
(Please print your name here)
by my signature, give my consent and release of this interview and/or photograph to be used as specified.

_____
(Signature)

_____
(Date)

# APPENDIX D: THE ENVIRONMENTAL COUNCIL'S 1997 GUIDELINES FOR ASSESSING CULTURAL IMPACTS

INTRODUCTION

It is the policy of the State of Hawai'i under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

BACKGROUND

Prior to the arrival of westerners and the ideas of private land ownership, Hawaiians freely accessed and gathered resources of the land and seas to fulfill their community responsibilities. During the Māhele of 1848, large tracts of land were divided and control was given to private individuals. When King Kamehameha the III was forced to set up this new system of land ownership, he reserved the right of access to privately owned lands for Native Hawaiian ahupua'a tenants. However, with the later emergence of the western concept of land ownership, many Hawaiians were denied access to previously available traditional resources.

In 1978, the Hawaii constitution was amended to protect and preserve traditional and customary rights of Native Hawaiians. Then in 1995 the Hawaii Supreme Court confirmed that Native Hawaiians have rights to access undeveloped and under- developed private lands. Recently, state lawmakers clarified that government agencies and private developers must assess the impacts of their development on the traditional practices of Native Hawaiians as well as the cultural resources of all people of Hawaii. These Hawaii laws, and the National Historic Preservation Act, clearly mandate federal agencies in Hawaii, including the military, to evaluate the impacts of their actions on traditional practices and cultural resources.

If you own or control undeveloped or under-developed lands in Hawaii, here are some hints as to whether traditional practices are occurring or may have occurred on your lands. If there is a trail on your property, that may be an indication of traditional practices or customary usage. Other clues include streams, caves and native plants. Another important point to remember is that, although traditional practices may have been interrupted for many years, these customary practices cannot be denied in the future.

These traditional practices of Native Hawaiians were primarily for subsistence, medicinal, religious, and cultural purposes. Examples of traditional subsistence practices include fishing, picking ʻopihi and collecting limu or seaweed. The collection of herbs to cure the sick is an example of a traditional medicinal practice. The underlying purpose for conducting these traditional practices is to fulfill one's community responsibilities, such as feeding people or healing the sick.

As it is the responsibility of Native Hawaiians to conduct these traditional practices, government agencies and private developers also have a responsibility to follow the law and assess the impacts of their actions on traditional and cultural resources.

The State Environmental Council has prepared guidelines for assessing cultural resources and has compiled a directory of cultural consultants who can conduct such studies. The State Historic Preservation Division has drafted guidelines on how to conduct ethnographic inventory surveys. And the Office of Planning has recently completed a case study on traditional gathering rights on Kauaʻi.

The most important element of preparing Cultural Impact Assessments is consulting with community groups, especially with expert and responsible cultural practitioners within the ahupuaʻa of the project site. Conducting the appropriate documentary research should then follow the interviews with the experts. Documentary research should include analysis of Māhele and land records and review of transcripts of previous ethnographic interviews. Once all the information has been collected, and verified by the community experts, the assessment can then be used to protect and preserve these valuable traditional practices.

Native Hawaiians performed these traditional and customary practices out of a sense of responsibility: to feed their families, cure the sick, nurture the land, and honor their ancestors. As stewards of this sacred land, we too have a responsibility to preserve, protect and restore these cultural resources for future generations.

## CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupuaʻa is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupuaʻa and the geographical extent of the study area should take into account those cultural practices.

The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man-made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

1. Identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupuaʻa;
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. Identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. Assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Māhele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.
2. A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.
3. Ethnographic and oral history interview procedures, including the circumstances, under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.
4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.
5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.
6. A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.
7. A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.
8. An explanation of confidential information that has been withheld from public disclosure in the assessment.
9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.
10. An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.
11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

# APPENDIX E: ACT 50: A BILL FOR AN ACT RELATING TO EIS

**Act 50 [State of Hawai'i 2000].** H.B. NO. 2895 H.D.1 was passed by the 20th Legislature and approved by the Governor on April 26, 2000 as Act 50.

A Bill for an Act Relating to Environmental Impact Statements.

SECTION 1. The legislature finds that there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights.

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit" in Hawai'i. Articles IX and XII of the State constitution, other State laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai'i Revised Statutes, is amended by amending the definitions of "environmental impact statement" or "statement" and "significant effect", to read as follows:

"Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

The initial statement filed for public review shall be referred to as the draft statement and shall be distinguished from the final statement which is the document that has incorporated the public's comments and the responses to those comments. The final statement is the document that shall be evaluated for acceptability by the respective accepting authority.

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic [or] welfare, social welfare[.], or cultural practices of the community and State."

SECTION 3. Statutory material to be repealed is bracketed. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.

(Approved April 26, 2000.)


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# Appendix D
# Traffic Assessment Report

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# Recapitalize Station Facilities at Station Maui

# Traffic Assessment

## Wailuku, Maui

## June 2023

Prepared for

Department of Homeland Security – United States Coast Guard

Prepared by

SSFM International

with **Richard Matsunaga & Associates Inc**

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# I. Introduction

## A. Purpose of Study

The Department of Homeland Security (DHS) United States Coast Guard (USCG) is proposing a facility expansion of "Station Maui" to meet the future demands of the USCG. Station Maui (facility) is located in Wailuku, Island of Maui, Hawaii, within the Maalaea Harbor. It is currently staffed by 20 personnel and is proposing expansion to accommodate upwards of 36 personnel total. Station Maui is assigned to Sector Honolulu, USCG District 14, and is on land which has been leased from the Hawaii Department of Boating and Recreation (DOBOR). A *Planning Proposal – Station Maui Facility Expansion* (PP) (EDAW Inc, March 2008) analyzed various alternative site locations for the facility expansion at nearby facilities within Maalaea Harbor, originally recommending the site at the *DOBOR Northern Split* as the preferred site for facility expansion. Subsequently, a March 2009 memo from CG-8 deviated from the original direction and identified the site at the *DOBOR Southern Split* as the preferred site for the expansion of facilities.

A traffic assessment (TA) is being prepared in support of the Environmental Assessment (EA) required for the expansion of Station Maui which is planned to be completed by the 3rd Quarter of Fiscal Year (FY) 2031. The TA will analyze existing traffic operations in the surrounding area and will analyze projected future traffic operations, including any potential traffic impacts associated with the facility expansion. Due to the minimal increase in projected trips associated with the facility expansion and addition of 16 personnel, traffic counts were not deemed necessary for analysis.

# II. Project Description

## A. Location

Station Maui is located adjacent to Maalaea Harbor, Wailuku, Island of Maui, Hawaii (see Figure 1), approximately 16 miles southeast of Lahaina. The current facility is located on land leased from DOBOR. Similarly, the facility expansion at the *DOBOR Southern Split* is proposed on land currently owned by DOBOR. The *DOBOR Southern Split* is currently an unpaved parking lot, located northeast of the existing facility, separated only by a harbor parking lot with existing pier maintenance facilities (see Figure 2). DOBOR has requested an EA be prepared, resulting in a Finding of No Significant Impact (FONSI), prior to lease negotiations. Both the existing facility and proposed facility expansion site are zoned as *M-1 Light Industrial*, which permits uses associated with business districts, harbor facilities, machine/metal shops, radio transmitting stations, small boat buildings, and storage and warehouses.

Station Maui is located on the makai (meaning 'towards the ocean') side of Honoapiilani Highway. To the east of the site, there are numerous resorts and condominiums along Hauoli Street, while to the west of the site, there are numerous commercial retail shops and restaurants along Maalaea Road. Additionally, the Maui Ocean Center Aquarium is located directly mauka (meaning 'towards the mountains') of Station Maui, a large trip generator for both locals and tourists, with its own dedicated off-street parking facilities. The area outside of the immediate project vicinity is generally undeveloped.

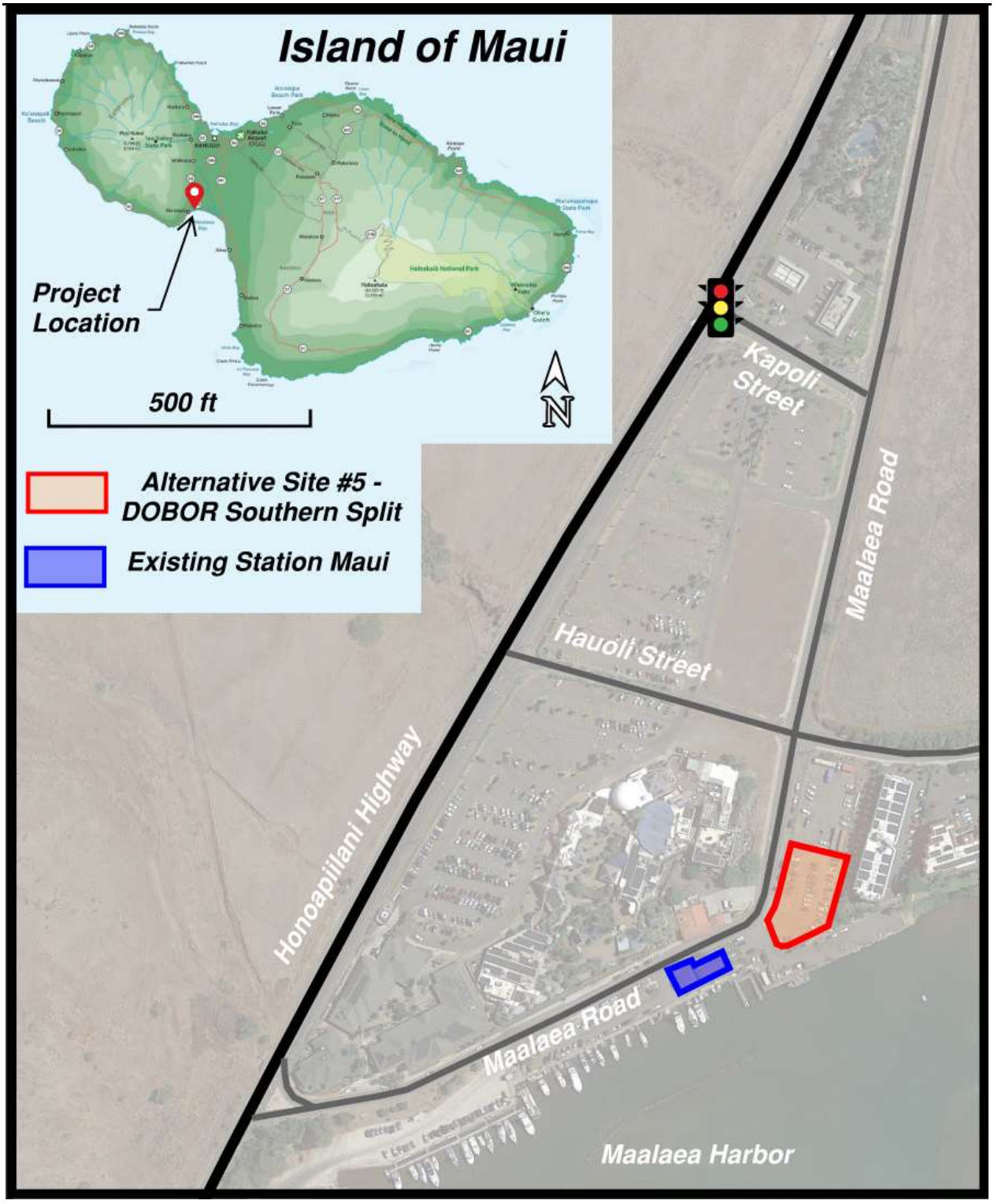


***Figure 1: Project Location Map***


Source: *Recapitalize Station Maui Facilities, Charrette Out-Brief Meeting (RMA Architects, April 2023)*

***Figure 2: Site Layout Map***

Per DOBOR, Maalaea Harbor houses 89 berths/mooring, used for both personal uses as well as charters, tours, and excursions. It is classified as a *small boat harbor* by DOBOR. The next closest harbor are the Kihei Ramp and Lahaina Harbor, both located in their respective towns. Station Maui is the only dedicated USCG facility on the Island of Maui. Its personnel are responsible for navigation within the "Maui Triangle", the 900 square-nautical mile section of water between Maui, Molokai, and Kahoolawe.

## B. Project Characteristics

The existing Station Maui facility was originally constructed as a small boat facility and is undersized to meet the current needs of the USCG. The facility currently consists of a permanent one-story building and separated garage, as well as one mobile/modular building, totaling approximately 1,789 square-feet (SF). Per the PP, the existing personnel staffing is approximately 20. Per the Coast Guard Shore Facilities Standards Manual (SFSM), Commandant Instructions (COMDTINST M11012.9), the existing facility has various functional deficiencies amounting to ~13,515 SF per currently programmed standards. It is anticipated that after the facility expansion, Maui Station will be sized for 36 personnel. Of those 36 personnel, the USCG projects that 30 will be *active* duty, living on Maui and commuting to work, while 6 will be *reservists* or *future active* duty. Of the 30 projected *active duty* members, 18 will be *duty standers*, working 48-hour shifts (2-days on, 2-days off). The 18 *duty standers* will be split into two shifts of 9 personnel each. The remaining 12 *active duty* members are expected commute to work daily. Currently,

the existing facilities can only accommodate up to two overnight personnel. With the facility expansion, it is projected that up to half of the personnel will be able to stay overnight. It is projected that the expansion will be completed by the 3rd Quarter of Fiscal Year (FY) 2031.

The facility expansion is proposing a new three-floor station (SF still to be determined), as well as site improvements and renovations to the existing permanent buildings and removal of the existing mobile/modular building. The first story of the new station would be used to prioritize boat maintenance facilities and accommodate boat trailering and gear upkeep, along with weapons and gear storage. The second floor would house administrative offices as well as a command & operations center for day-to-day operations. The third floor would include berthing units for overnight accommodations, a kitchen, and recreation areas. The existing facilities would be renovated with new administrative offices, meeting/interview rooms, and a waiting area, while the existing garage will be renovated to accommodate a joint fitness area, also to be used by the Marine Safety Team (MST).

# III. Existing Traffic Conditions

## A. Project Area Roadway System

The existing facility is located on the makai side of Honoapiilani Highway along Maalaea Road. Due to the lack of transit alternatives and surrounding multimodal facilities and the undeveloped nature of the surrounding area, it is anticipated that the majority of personnel will access the site via private vehicle. Those coming from Kahului, including Kahului Airport (OGG), or from the east, can access the existing facility via southbound/westbound Honoapiilani Highway, turning left at either Maalaea Road, or at Kapoli Street (see Figure 1). Those coming from West Maui can access the existing facility via northbound/eastbound Honoapiilani Highway, turning right onto Maalaea Road. Access to the facility expansion will be provided in a similar manner.

Honoapiilani Highway (also referred to as Maui Route 30) is owned and maintained by the Hawaii Department of Transportation (HDOT), and the Federal Highway Associated (FHWA) functional classification of the corridor is a *Principal Arterial* within a *small urban* area. The corridor stretches 41.6-miles in length from High Street in Wailuku to the north (approximately 6.5 miles away), to 0.35-miles east of the Papanahoa Stream Bridge (approximately 35.1 miles away). To the southwest of the surrounding project area, the corridor has two vehicle lanes, one in each direction, with varying width paved shoulders. Between Maalaea Road's southern intersection with Honoapiilani Highway and its northern intersection with Honoapiilani Highway (~0.60-miles), the corridor has three vehicle through lanes, two in the northbound (Kahului-bound) direction and one in the southbound (Lahaina-bound) direction. In the surrounding project area, between the northern segment of Maalaea Road and Honoapiilani Highway, the corridor has four travel lanes, two in each direction. These changes in lane configuration along Honoapiilani Highway are summarized in Figure 3. The paved shoulders along Honoapiilani Highway are designated as a bike route, but due to the nature of the highway, are most commonly used only by experienced bicyclists for recreation. Sidewalks are not provided along the corridor within the surrounding project area, nor is curb and gutter. The posted speed limit is 45 MPH. Guardrail is provided sporadically throughout the corridor, specifically along the makai side of the roadway, due to the winding curvature of the roadway.

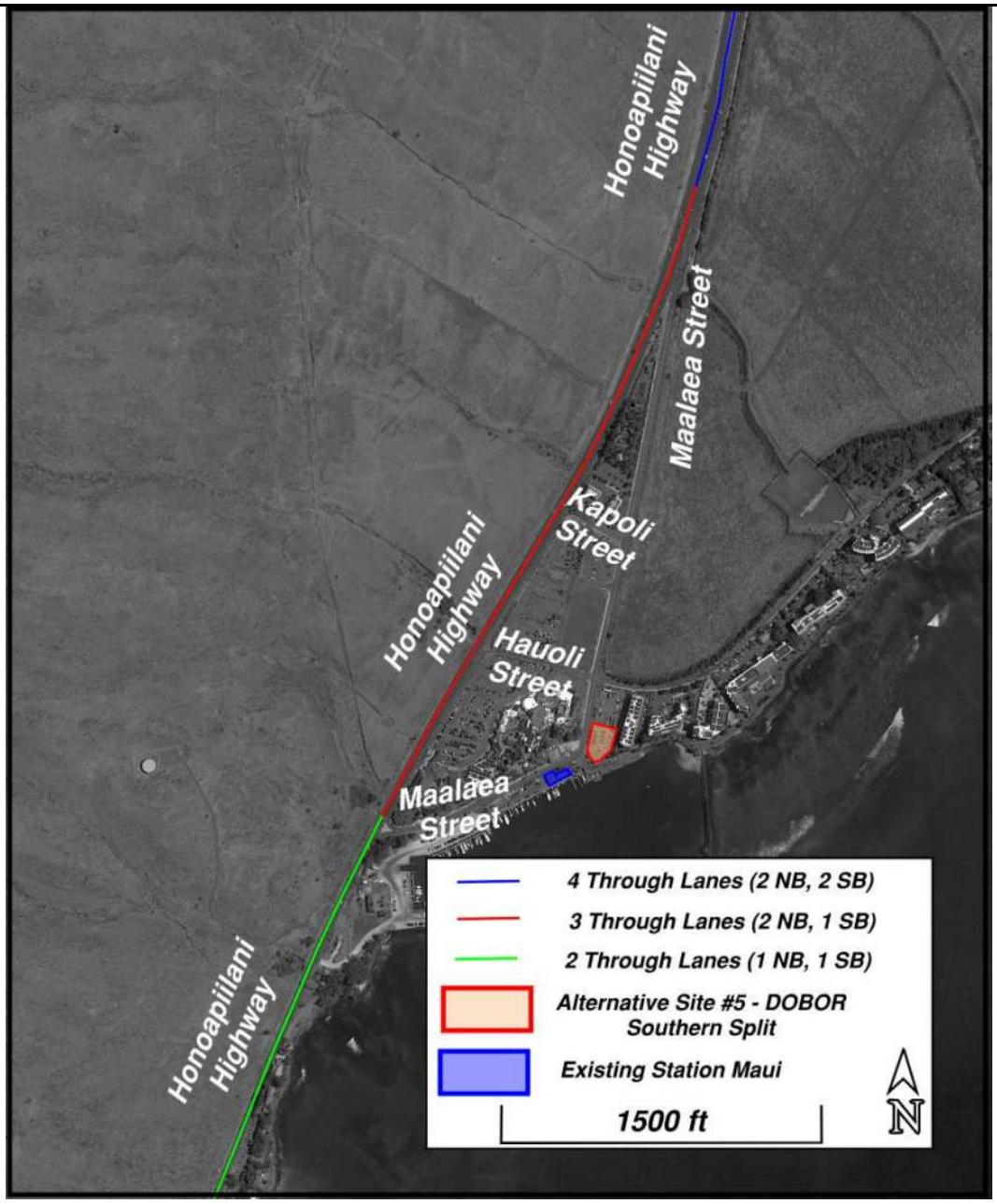


***Figure 3: Honoapiilani Highway Lane Configuration***

## 1. Transit Routes

The Maalaea Harbor Village (ID 1034) transit stop is located along the mauka side of Maalaea Road, 150-feet west of the existing Station Maui. Two COM-operated *Maui Bus* routes operate at this stop – *Route 15 – Kihei Villager,* and *Route 20 – Lahaina Islander*. Route 15 offers a connection between Maalaea and Kihei (Piilani Shopping Center), operating once per hour between 6:00am and 9:00pm. Route 20 offers a connection between Maalaea and Lahaina, with the route also passing through Wailuku and Kahului, terminating at the Queen Kaahumanu Transit Center, operating once per hour between 5:55am and 8:30 pm.

# B. Traffic Volumes and Conditions

HDOT collects the average daily traffic (ADT) at various times of the year at tube count locations throughout the island. HDOT tube counts were available along Honoapiilani Highway at mile post (MP) 12.14 (Station ID P740030012124), located approximately 5.7-miles west of Maalaea Harbor. Due to the undeveloped nature along the corridor between the project and count location, it is projected that traffic volumes collected at the station are still reflective of the traffic at the project location. ADT was available between 2016 – 2021, excluding 2017 and 2019. Table 1 shows average weekday ADTs at this HDOT Station.

***Table 1: HDOT ADT along Honoapiilani Highway***

| HDOT Permanent Station P74003001214 Honoapiiilani Hwy M.P. 12.14 | |
|---|---|
| Year | Bi-Directional ADT |
| 2016 | 27,922 |
| 2017 | - |
| 2018 | 28,752 |
| 2019 | - |
| 2020 | 18,140 |
| 2021 | 26,722 |
| Jul - Dec 2021 | 27,996 |

As seen in Table 1, ADT along this section of Honoapiilani Highway dropped in 2020, as was typical for roadways throughout the State due to the travel restrictions and other impacts of Covid-19. Analysis of data across the island and state showed that ADT began to rebound in 2021, returning to just under pre-Covid volumes when averaged over the course of the year. When averaging volumes only over the last six months of 2021, the ADT was nearly identical to pre-Covid volumes.

As this HDOT Station is a permanent station, hourly volumes were averaged over six weekdays between Monday May 1st, 2023, and Monday May 8th, 2023. A summary of the peak hour distributions can be seen in Table 2.

***Table 2: HDOT Peak-Hour Volumes along Honoapiilani Highway (May 2023)***

| HDOT Permanent Station P74003001214 Honoapiiilani Hwy M.P. 12.14 | | | |
|---|---|---|---|
| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
| AM | 1,028 | 893 | 1,921 |
| PM | 1,102 | 1,151 | 2,253 |

As seen in Table 2, AM peak hour volumes are higher in the direction heading towards Lahaina, while PM peak hour volumes are higher in the direction heading towards Kahului.

Heavy vehicle percentage (HV%) was averaged throughout weekdays at the station between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was 4.99%. This percentage represents the proportion of vehicles with a *FHWA Vehicle Classification* Class 4 (Buses) or higher.

The peak hour factor (PHF) compares vehicular volumes during the busiest 15-minutes within the peak hour to the overall peak hour volume. Values closer to 1.0 represent more consistent volumes throughout the hour, while values that deviate from 1.0 represent more variation throughout the peak hour. This percentage was average on weekdays at the station between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was found to be 0.94 in the AM peak hour, and 0.96 in the PM peak hour.

Due to the minimal projected trip generation from this project, additional roadway or intersection turning movement counts were not taken for this analysis.

# 1. Roadway Capacity Analysis

## a. Methodology

*HCS 2010 – TwoLane* software was used to analyze the existing roadway capacity and operations along the two-lane section of Honoapiilani Highway to the southwest of the project, as well as for the one lane of southbound traffic between the northern and southern intersections of Maalaea Road and Honoapiilani Highway. This software uses various data inputs to calculate performance measures such as level of service (LOS) and the volume to capacity ratio (v/c). LOS is a rating system used in traffic engineering to measure the effectiveness of roadway operating conditions. There are six LOS ranging from A to F. LOS A is defined as being the least interrupted flow conditions with little or no delays, whereas LOS F is defined as conditions where extreme delays exist. HDOT guidelines generally require LOS D or better. The v/c ratio expresses the directional roadway volumes compared to the directional roadway capacity, which is a dependent on various roadway factors.

The following data inputs were included:

- Terrain: Due to the winding curvature of the roadway, this was set to *rolling.*
- Shoulder Width: This value was averaged based on data from the HDOT *Straight Line Diagrams* (HDOT, 2020) within the surrounding project area as *6-feet*.
- Lane Width: This value was averaged based on data from the HDOT *Straight Line Diagrams* (HDOT, 2020) within the surrounding project area as *12-feet*.
- Segment Length: This value was set to 10-miles. Although Honoapiilani Highway is a 41.6-mile long corridor, the nature of the corridor varies. However, the section 5-miles to the west of the HDOT Station and 5-miles to the east of the HDOT Station is largely consistent.
- Highway Class: Per the *Highway Capacity Manual (HCM) Version 6.0* (Transportation Research Board, 2016), Honoapiilani Highway most aligns with the description of a *Class I Highway* – a two-lane highway that is a major intercity route, primary connector of major traffic generators, daily commuter routes, or major links in state or national highway networks. These facilities serve mostly long-distance trips or provide the connections between facilities that serve long-distance trips.
- Peak Hour Volumes: Peak hour directional volumes were averaged on weekdays at the HDOT Station between Monday, May 1st, 2023, and Monday, May 8th, 2023, as shown in Table 2.

- Peak Hour Factor: The PHF was calculated by averaging weekday peak hour volumes between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was *0.94 in the AM peak hour and 0.96 in the PM peak hour.*
- Trucks and Buses Percentage: HV% was calculated by averaging weekday volumes between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was *4.99%* throughout the day.
- Recreational Vehicles Percentage: This data was not readily available and was assumed to be 0% due to the lack of recreational vehicles (RVs) on Maui.
- Percent No Passing Zones: In the area surrounding Maui Station, passing is not permitted, and as such, this was set to *100%.*
- Access-Point Density: This was computed by dividing the total number of unsignalized intersections and driveway on both sides of Honoapiilani Highway by the length of the segment 1-mile in either direction from the unsignalized intersection of Honoapiilani Highway and Maalaea Road. This was determined to be *4 per-mile.*
- Field Measured Speed: As speed data was not readily available, this was approximated to be the posted speed limit, or *45 MPH* in each direction.

Similarly, *HCS 2010 – Multilane* software was used to analyze the existing roadway capacity and operations along Honoapiilani Highway in the four-lane section of roadway to the northeast of the project, as well as for the one lane of northbound traffic between the northern and southern intersections of Maalaea Road and Honoapiilani Highway. This software uses various data inputs to calculate performance measures such as LOS and the number of passengers cars per mile per lane (pc/mi/ln). The following data inputs were required:

- Field Measured Speed: As speed data was not readily available, this was approximated to be the posted speed limit, or *45 MPH* in each direction.
- Peak Hour Volumes: Peak hour directional volumes were averaged on weekdays at the HDOT Station between Monday, May 1st, 2023, and Monday, May 8th, 2023, as shown in Table 2.
- Peak Hour Factor: The PHF was calculated by averaging weekday peak hour volumes between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was *0.94 in the AM peak hour and 0.96 in the PM peak hour.*
- Number of Lanes: This was set to two lanes.
- Terrain: Due to the winding curvature of the roadway, this was set to *rolling.*
- Trucks and Buses Percentage: HV% was calculated by averaging weekday volumes between Monday, May 1st, 2023, and Monday, May 8th, 2023, and was *4.99%* throughout the day.
- Recreational Vehicles Percentage: This data was not readily available and was assumed to be 0% due to the lack of recreational vehicles (RVs) on Maui.
- Driver Population Factor: This factor is used to account for possible variation in traffic flow for differing driver populations, such as age. This was not used for this analysis, and thus was set at 1.0.

### b. Existing Operations

Currently, to the southwest of the project where Honoapiilani Highway is one lane in either direction, the corridor operates at LOS E in both directions throughout both the AM and PM peak hours. Fronting the project between the northern and southern intersections of Maalaea Road and Honoapiilani Highway, where the northbound direction widens to two through lanes, LOS improves to B in this direction in both

the AM and PM peak hours. To the north of the project, where there are two through lanes in either direction, the corridor operates at LOS B in both directions throughout both the AM and PM peak hours. These results are summarized in Table 3.

***Table 3: Existing Peak Hour LOS***

| Direction | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | LOS | v/c | pc/mi/ln | LOS | v/c | pc/mi/ln |
| *Southwest of Project (1 NB Lane, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.66 | - | E | 0.70 | - |
| Towards Kahului | E | 0.58 | - | E | 0.73 | - |
| *Fronting Project (2 NB Lanes, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.66 | - | E | 0.70 | - |
| Towards Kahului | B | - | 11.3 | B | - | 14.3 |
| *North of Project (2 NB Lanes, 2 SB Lanes)* | | | | | | |
| Towards Lahaina | B | - | 13.0 | B | - | 13.1 |
| Towards Kahului | B | - | 11.3 | B | - | 14.3 |

# IV. Projected Traffic Conditions

## A. Surrounding Area Development

### 1. ERP

Research was completed on May 9th, 2023 at the State of Hawaii *Environmental Review Program* (ERP) website, which as of July 2021 took the place of the former *Office of Environmental Quality Control* (OEQC) website. The ERP website provides Environmental Impact Statements (EIS) and Environmental Assessments (EA) available to the public. Projects from the ERP website in the surrounding area from 2018-2023 were reviewed. No projects were noted in the surrounding project area that were expected to significantly change travel patterns or volumes.

### 2. STIP

Research was completed on May 9th, 2023 at the Statewide Transportation Improvements Program (STIP) FY 2022-2025 website. The STIP is a four-year forecast that identifies state and county transportation projects to be funded with Federal Highway and Federal Transit funds. The following surrounding area projects were listed:

- *Guardrail and Shoulder Improvement Program – Honoapiilani Hwy (Rte 30), MP 7.25 to MP 11 and MP 31.40 to MP 41.80*
  - **Project Impact:** Safety improvements to be made along Honoapiilani Highway, west of Maui Station. This is not expected to have a significant impact on long-term traffic conditions.
- *Honoapiilani Highway Realignment, Vicinity of Ukumehame to Vicinity of Olowalu*
  - **Project Impact:** Two-lane alternative route mauka of existing Honoapiilani Highway outside of coastal hazard area and projected sea-level rise impact area. Realignment is not projected to impact long-term traffic volumes.

# B. Without Project Conditions

Without Project conditions were analyzed to determine the impact on surrounding area traffic growth to operations on Honoapiilani Highway. Analysis was based on projected 2031 volumes, based on the projected FY 2031 opening of the expansion.

## 1. Growth-Rate

As seen in Table 1, historical volumes along Honoapiilani Highway at HDOT Station ID P740030012124 have varied in recent years, and data is not readily available for all years. As a result, the surrounding area growth rate was taken from the *Federal-Aid Highway 2035 Transportation Plan for the District of Maui* (CH2MHill, 2014). Within the planning district of Kihei-Makena, of which the facility is located, it was projected that traffic volumes would increase by approximately 1.71% per year between 2007 known vehicular volumes and projected 2035 vehicular volumes. This growth rate will be applied to regional traffic volumes, including both directions along Honoapiilani Highway.

Based on the assumption that the Station Maui expansion would be completed by 3rd Quarter FY2031, eight-years of compounded growth at 1.71% was applied along Honoapiilani Highway, resulting in the projected peak-hour volumes shown in Table 4.

***Table 4: Projected Future (2031) Peak-Hour Volumes along Honoapiilani Highway Without Project***

| HDOT Permanent Station P74003001214<br>Honoapiilani Hwy M.P. 12.14 | | | |
|---|---|---|---|
| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
| AM | 1,177 | 1,023 | 2,200 |
| PM | 1,262 | 1,318 | 2,580 |

## 2. Future Operations Without Project

In *Future (2031) Without Project Conditions*, to the southwest of the project where Honoapiilani Highway is one lane in either direction, the corridor is projected to remain operating at LOS E in both directions throughout both the AM and PM peak hours. Fronting the project between the northern and southern intersections of Maalaea Road and Honoapiilani Highway, where the northbound direction widens to two through lanes, LOS is projected to remain at LOS B in this direction in both the AM and PM peak hours. To the north of the project, where there are two through lanes in either direction, the corridor is projected to operate at LOS B in both directions throughout both the AM and PM peak hours. These results are summarized in Table 5. LOS is not projected to change in any of the three segments between the *Existing Conditions* and *Future (2031) Without Project Conditions*, however, v/c ratios and pc/mi/ln will increase due to projected surrounding area traffic growth.

***Table 5: Projected Future (2031) LOS along Honoapiilani Highway Without Project***

| Direction | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | LOS | v/c | pc/mi/ln | LOS | v/c | pc/mi/ln |
| *Southwest of Project (1 NB Lane, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.76 | - | E | 0.80 | - |
| Towards Kahului | E | 0.66 | - | E | 0.83 | - |
| *Fronting Project (2 NB Lanes, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.76 | - | E | 0.80 | - |
| Towards Kahului | B | - | 13.0 | B | - | 16.4 |
| *North of Project (2 NB Lanes, 2 SB Lanes)* | | | | | | |
| Towards Lahaina | B | - | 15.0 | B | - | 15.0 |
| Towards Kahului | B | - | 13.0 | B | - | 16.4 |

# C. With Project Conditions

## 1. Site-Generated Traffic

As discussed previously, the proposed facility is anticipated to be expanded and sized for 36 personnel from the 20 current personnel. Of those 36 personnel, 30 are anticipated to be *active duty*, while the remaining 6 being *reservists*. Of the 30 *active duty* personnel, 18 are *duty standers*, which are further broken up into two shifts, which work 48-hour shifts (2-days on, 2-days off). The remaining 12 *active* duty commute to work daily during standard peak hours. The 6 reservists fold into normal station shifts based on duty, and could be Maui residents, or commute from a neighbor island as needed. It is assumed that 18 of the 20 existing personnel commute to and from the site during the peak hours, as the current facility can only accommodate up to 2 overnight personnel.

Conservatively, future project conditions will analyze the worse case scenario in which all 36 personnel must be present at Station Maui, resulting in 36 peak hour trips. Note that this would only occur if all 6 *reservists* were present, and on shift-change days when the *duty standers* rotate. Assuming that 18 of these trips are already present in the existing condition, it is projected that this project will generate up to 18 additional trips during both the AM and PM peak hours. These additional trips, when compared to the bi-directional peak hour projected volumes in the *Future (2031) Without Project Conditions*, equate to under 1% of roadway volumes. As it is unknown where each of the personnel is commuting to/from, it was estimated that half of these trips (9) would be coming from the Lahaina-direction, and half (9) would be coming from the Kahului-direction.

These additional site-generated traffic volumes were added to the projected *Future (2031) without Project* volumes from Table 4, resulting in the projected peak-hour volumes with the project, as shown in Table 6.

***Table 6: Projected Future (2031) Peak-Hour Volumes along Honoapiilani Highway With Project***

| HDOT Permanent Station P74003001214 Honoapiilani Hwy M.P. 12.14 | | | |
|---|---|---|---|
| Peak Hour | Towards Lahaina | Towards Kahului | Bi-Directional Peak Hour Volume |
| AM | 1,186 | 1,032 | 2,218 |
| PM | 1,271 | 1,327 | 2,598 |

## 2. Future Operations With Project

In *Future (2031) With Project Conditions*, operations are projected to nearly match *Future (2031) Without Project Conditions*. To the southwest of the project where Honoapiilani Highway is one lane in either direction, the corridor is projected to remain operating at LOS E in both directions throughout both the AM and PM peak hours. Fronting the project between the northern and southern intersections of Maalaea Road and Honoapiilani Highway, where the northbound direction widens to two through lanes, LOS is projected to remain at LOS B in this direction in both the AM and PM peak hours. To the north of the project, where there are two through lanes in either direction, the corridor is projected to operate at LOS B in both directions throughout both the AM and PM peak hours. These results are summarized in Table 7. LOS is not projected to change in any of the three segments between the *Future (2031) Without Project Conditions* and *Future (2031) With Project Conditions*.

***Table 7: Projected Future (2031) LOS along Honoapiilani Highway With Project***

| Direction | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | LOS | v/c | pc/mi/ln | LOS | v/c | pc/mi/ln |
| *Southwest of Project (1 NB Lane, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.76 | - | E | 0.80 | - |
| Towards Kahului | E | 0.67 | - | E | 0.84 | - |
| *Fronting Project (2 NB Lanes, 1 SB Lane)* | | | | | | |
| Towards Lahaina | E | 0.76 | - | E | 0.80 | - |
| Towards Kahului | B | - | 13.1 | B | - | 16.5 |
| *North of Project (2 NB Lanes, 2 SB Lanes)* | | | | | | |
| Towards Lahaina | B | - | 15.1 | B | - | 15.0 |
| Towards Kahului | B | - | 13.1 | B | - | 16.5 |

# V. Recommendations

It is anticipated that the Station Maui Facility expansion will have minimal traffic impacts with the proposed expansion resulting in an increase of less than 1% of existing trips along Honoapiilani Highway. To improve roadway LOS of future conditions, Honoapiilani Highway would have to be widened to two-lanes in all areas, which is likely not feasible due to the nature of the roadway and existing topographic constraints. Any widening would be triggered by regional traffic growth, and not due to impacts of the Station Maui facility expansion.

Separately, it is recommended to provide sufficient off-street parking off Maalaea Road to accommodate all projected personnel.

# VI. Conclusion

The USCG is proposing a facility expansion at Station Maui in Wailuku, Island of Maui, Hawaii to meet the future demands of the USCG. Station Maui is located adjacent to Maalaea Harbor, approximately 16 miles southeast of Lahaina. The expansion is adjacent to the existing facility, both of which are on land leased by DOBOR. Currently, approximately 20 personnel are assigned to Station Maui, although the existing facilities can only accommodate up to 2 personnel overnight.

The proposed expansion will be sized for 36 personnel. Of those, 30 are projected to be *active duty* members, living on-island, while 6 are projected to be *reservists* or *future active duty*, who may be commuting from outer-island. Of the 30 projected *active duty* members, 18 of them will be *duty standers*, working 48-hour shifts (2-days on, 2-days off), broken into two shifts of 9 personnel each. The remaining 12 *active duty* personnel will commute to work daily. With the facility expansion, it is projected that up to half of the personnel will be able to stay overnight. It is projected that the expansion will be completed by the 3rd Quarter of FY 2031. The facility expansion is proposing a new three-floor station, as well as site improvements and renovations to the existing permanent buildings and removal of the existing mobile/modular building.

Both the existing and proposed expansion sites are accessed via roadways off of Honoapiilani Highway. Traffic counts were not taken as part of this analysis. Using traffic volumes and conditions at an HDOT Station along Honoapiilani Highway within the general project vicinity, existing traffic operations were analyzed along Honoapiilani Highway. Currently, the corridor operates at LOS E within to the south of the project where there is only one travel lane in either direction, resulting in closely spaced vehicles that may operate under unstable flow. This improves to LOS B fronting the project between the northern and southern intersections of Maalaea Street and Honoapiilani Highway in the northbound direction as the roadway widens to two lanes. North of the northern intersection of Maalaea Street and Honoapiilani Highway, the corridor is two-lanes in either direction, and operates at LOS B in both directions.

Regional traffic growth was applied to the corridor based on the *Federal-Aid Highway 2035 Transportation Plan for the District of Maui.* By FY 2031, when the expansion is projected to be completed, it is projected that the adjacent corridor will still operate at LOS E to the south of the project where there is only one travel lane in either direction, and LOS B fronting the project and to the north where there are two-travel lanes in either direction, with increased v/c ratios as traffic growth continues to compound.

The expansion is projected to add up to 18 additional trips compared to the existing facility. It is assumed that half of these (9) would come from the Lahaina-direction, while half (9) would come from the Kahului-direction. The projected site-generated traffic is minimal compared to the projected regional traffic growth, with the projected site-generated traffic making up less than 1% of the projected peak-hour directional volumes. The corridor will operate nearly identically to how it is projected in *Without Project* conditions, and the traffic impact of the expansion is projected to be negligible.

It is recommended to provide sufficient off-street parking off Maalaea Road to accommodate all projected personnel.

# References

EDAW, Inc. *United States Coast Guard Planning Proposal Station Maui Facility Expansion,* March 2008.

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State of Hawaii, Department of Transportation. *Historical Traffic Station Maps*.

State of Hawaii, Department of Transportation. *Statewide Transportation Improvements Program*, FY 2012-2025 <http://Hawaii.gov/dot/highways/STIP>.

State of Hawaii, Department of Transportation. *Straight Line Diagrams 2020*.

# Appendices

# Existing Traffic Operations

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: AM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2023 (Existing)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1028 | vph | 893 | vph |
| Peak-hour factor, PHF | 0.94 | | 0.94 | |
| Peak 15-minute volume, v15 | 273 | | 238 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Rolling | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 2.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 2.0 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.930 | | 0.930 | |
| Flow rate, vp | 587 | pcphpl | 510 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 587 | pcphpl | 510 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 13.0 | pc/mi/ln | 11.3 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 546.8 | 475.0 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.38 | 3.31 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: PM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2023 (Existing)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1102 | vph | 1151 | vph |
| Peak-hour factor, PHF | 0.96 | | 0.96 | |
| Peak 15-minute volume, v15 | 287 | | 300 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Level | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 1.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 1.2 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.976 | | 0.930 | |
| Flow rate, vp | 588 | pcphpl | 644 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 588 | pcphpl | 644 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 13.1 | pc/mi/ln | 14.3 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 574.0 | 599.5 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.39 | 3.43 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2023 (Existing) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

Analysis direction volume, Vd 893 veh/h
Opposing direction volume, Vo 1028 veh/h

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 964 | pc/h | 1110 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 961 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 52.6 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 36.5 | mi/h |
| Percent Free Flow Speed, PFFS | 69.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 950 pc/h | 1094 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 77.2 % | |
| Adjustment for no-passing zones, fnp | 17.7 | |
| Percent time-spent-following, PTSFd | 85.4 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.58 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2375 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 8930 | veh-mi |
| Peak 15-min total travel time, TT15 | 65.1 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 36.5 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 85.4 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 950.0 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.47 |
| Bicycle LOS | C |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2023 (Existing) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1028 | veh/h |
| Opposing direction volume, Vo | 893 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1110 | pc/h | 964 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 961 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 52.6 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 36.5 | mi/h |
| Percent Free Flow Speed, PFFS | 69.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1094 pc/h | 950 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 79.8 % | |
| Adjustment for no-passing zones, fnp | 17.7 | |
| Percent time-spent-following, PTSFd | 89.3 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.66 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2734 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 10280 | veh-mi |
| Peak 15-min total travel time, TT15 | 75.0 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 36.5 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 89.3 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1093.6 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.55 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2023 (Existing) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1151 | veh/h |
| Opposing direction volume, Vo | 1102 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1217 | pc/h | 1165 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1127 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.9 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.4 | mi/h |
| Percent Free Flow Speed, PFFS | 65.7 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.0 | | 1.0 | |
| PCE for RVs, ER | 1.0 | | 1.0 | |
| Heavy-vehicle adjustment factor, fHV | 1.000 | | 1.000 | |
| Grade adjustment factor,(note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate,(note-2) vi | 1199 | pc/h | 1148 | pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 84.3 | % | | |
| Adjustment for no-passing zones, fnp | 13.8 | | | |
| Percent time-spent-following, PTSFd | 91.3 | % | | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.73 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2997 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 11510 | veh-mi |
| Peak 15-min total travel time, TT15 | 84.7 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.4 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 91.3 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1199.0 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.60 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2023 (Existing) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

Analysis direction volume, Vd 1102 veh/h
Opposing direction volume, Vo 1151 veh/h

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1165 | pc/h | 1217 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1127 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.9 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.4 | mi/h |
| Percent Free Flow Speed, PFFS | 65.7 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1148 pc/h | 1199 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 83.6 % | |
| Adjustment for no-passing zones, fnp | 13.8 | |
| Percent time-spent-following, PTSFd | 90.4 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.70 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2870 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 11020 | veh-mi |
| Peak 15-min total travel time, TT15 | 81.1 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.4 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 90.4 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1147.9 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.57 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

# Future Without Project Traffic Operations

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: AM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2031 (Future Without)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1177 | vph | 1023 | vph |
| Peak-hour factor, PHF | 0.94 | | 0.94 | |
| Peak 15-minute volume, v15 | 313 | | 272 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Rolling | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 2.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 2.0 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.930 | | 0.930 | |
| Flow rate, vp | 673 | pcphpl | 584 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 673 | pcphpl | 584 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 15.0 | pc/mi/ln | 13.0 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 626.1 | 544.1 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.44 | 3.37 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: PM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2031 (Future Without Project)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1262 | vph | 1318 | vph |
| Peak-hour factor, PHF | 0.96 | | 0.96 | |
| Peak 15-minute volume, v15 | 329 | | 343 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Level | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 1.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 1.2 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.976 | | 0.930 | |
| Flow rate, vp | 673 | pcphpl | 737 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 673 | pcphpl | 737 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 15.0 | pc/mi/ln | 16.4 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 657.3 | 686.5 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.46 | 3.48 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future Without Project) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1023 | veh/h |
| Opposing direction volume, Vo | 1177 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1105 | pc/h | 1271 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1095 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.6 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.2 | mi/h |
| Percent Free Flow Speed, PFFS | 65.6 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1088 pc/h | 1252 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 82.6 % | |
| Adjustment for no-passing zones, fnp | 13.7 | |
| Percent time-spent-following, PTSFd | 89.0 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.66 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2721 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 10230 | veh-mi |
| Peak 15-min total travel time, TT15 | 77.3 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.2 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 89.0 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1088.3 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.54 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future Without Project) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 40 | % |
| Up/down | - | % | Access point density | 4 | /mi |

Analysis direction volume, Vd 1177 veh/h
Opposing direction volume, Vo 1023 veh/h

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1271 | pc/h | 1105 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1095 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.6 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.2 | mi/h |
| Percent Free Flow Speed, PFFS | 65.6 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1252 pc/h | 1088 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 84.4 % | |
| Adjustment for no-passing zones, fnp | 11.7 | |
| Percent time-spent-following, PTSFd | 90.7 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.76 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3130 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 11770 | veh-mi |
| Peak 15-min total travel time, TT15 | 88.9 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.2 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 90.7 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1252.1 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.61 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future Without Project) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1318 | veh/h |
| Opposing direction volume, Vo | 1262 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1394 | pc/h | 1335 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1284 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 55.1 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 33.9 | mi/h |
| Percent Free Flow Speed, PFFS | 61.6 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.0 | | 1.0 | |
| PCE for RVs, ER | 1.0 | | 1.0 | |
| Heavy-vehicle adjustment factor, fHV | 1.000 | | 1.000 | |
| Grade adjustment factor,(note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate,(note-2) vi | 1373 | pc/h | 1315 | pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 88.2 | % | | |
| Adjustment for no-passing zones, fnp | 9.7 | | | |
| Percent time-spent-following, PTSFd | 93.2 | % | | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.83 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3432 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 13180 | veh-mi |
| Peak 15-min total travel time, TT15 | 101.1 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 33.9 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 93.2 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1372.9 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.66 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

HCS 2010: Two-Lane Highways Release 6.3

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future Without Project) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

Analysis direction volume, Vd 1262 veh/h
Opposing direction volume, Vo 1318 veh/h

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1335 | pc/h | 1394 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1284 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 55.1 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 33.9 | mi/h |
| Percent Free Flow Speed, PFFS | 61.6 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1315 pc/h | 1373 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 87.6 % | |
| Adjustment for no-passing zones, fnp | 9.7 | |
| Percent time-spent-following, PTSFd | 92.3 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.80 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3286 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 12620 | veh-mi |
| Peak 15-min total travel time, TT15 | 96.8 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 33.9 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 92.3 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1314.6 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.64 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

# Future With Project Traffic Operations

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: AM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2031 (Future With)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1186 | vph | 1032 | vph |
| Peak-hour factor, PHF | 0.94 | | 0.94 | |
| Peak 15-minute volume, v15 | 315 | | 274 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Rolling | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 2.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 2.0 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.930 | | 0.930 | |
| Flow rate, vp | 678 | pcphpl | 590 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 678 | pcphpl | 590 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 15.1 | pc/mi/ln | 13.1 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 630.9 | 548.9 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.44 | 3.37 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

## OPERATIONAL ANALYSIS

Analyst: HPB
Agency/Co: SSFM
Date: 5/23/2023
Analysis Period: PM Peak
Highway: Honoapiilani Hwy
From/To: MP 12.14
Jurisdiction: COM
Analysis Year: 2031 (Future With Project)
Project ID:

## FREE-FLOW SPEED

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Lane width | 12.0 | ft | 12.0 | ft |
| Lateral clearance: | | | | |
| Right edge | 6.0 | ft | 6.0 | ft |
| Left edge | 6.0 | ft | 6.0 | ft |
| Total lateral clearance | 12.0 | ft | 12.0 | ft |
| Access points per mile | 0 | | 0 | |
| Median type | | | | |
| Free-flow speed: | Measured | | Measured | |
| FFS or BFFS | 45.0 | mph | 45.0 | mph |
| Lane width adjustment, FLW | 0.0 | mph | 0.0 | mph |
| Lateral clearance adjustment, FLC | 0.0 | mph | 0.0 | mph |
| Median type adjustment, FM | 0.0 | mph | 0.0 | mph |
| Access points adjustment, FA | 0.0 | mph | 0.0 | mph |
| Free-flow speed | 45.0 | mph | 45.0 | mph |

## VOLUME

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Volume, V | 1327 | vph | 1271 | vph |
| Peak-hour factor, PHF | 0.96 | | 0.96 | |
| Peak 15-minute volume, v15 | 346 | | 331 | |
| Trucks and buses | 5 | % | 5 | % |
| Recreational vehicles | 0 | % | 0 | % |
| Terrain type | Rolling | | Rolling | |
| Grade | 0.00 | % | 0.00 | % |
| Segment length | 0.00 | mi | 0.00 | mi |
| Number of lanes | 2 | | 2 | |
| Driver population adjustment, fP | 1.00 | | 1.00 | |
| Trucks and buses PCE, ET | 2.5 | | 2.5 | |
| Recreational vehicles PCE, ER | 2.0 | | 2.0 | |
| Heavy vehicle adjustment, fHV | 0.930 | | 0.930 | |
| Flow rate, vp | 742 | pcphpl | 711 | pcphpl |

## RESULTS

| Direction | 1 | | 2 | |
|---|---|---|---|---|
| Flow rate, vp | 742 | pcphpl | 711 | pcphpl |
| Free-flow speed, FFS | 45.0 | mph | 45.0 | mph |
| Avg. passenger-car travel speed, S | 45.0 | mph | 45.0 | mph |
| Level of service, LOS | B | | B | |
| Density, D | 16.5 | pc/mi/ln | 15.8 | pc/mi/ln |

## Bicycle Level of Service

| | | |
|---|---|---|
| Posted speed limit, Sp | 55 | 55 |
| Percent of segment with occupied on-highway parking | 0 | 0 |
| Pavement rating, P | 3 | 3 |
| Flow rate in outside lane, vOL | 691.1 | 662.0 |
| Effective width of outside lane, We | 24.00 | 24.00 |
| Effective speed factor, St | 4.79 | 4.79 |
| Bicycle LOS Score, BLOS | 3.49 | 3.47 |
| Bicycle LOS | C | C |

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future With Project) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 40 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1032 | veh/h |
| Opposing direction volume, Vo | 1186 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1115 | pc/h | 1281 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1113 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.8 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.2 | mi/h |
| Percent Free Flow Speed, PFFS | 65.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1098 pc/h | 1262 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 82.8 % | |
| Adjustment for no-passing zones, fnp | 11.5 | |
| Percent time-spent-following, PTSFd | 88.2 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.67 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 2745 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 10320 | veh-mi |
| Peak 15-min total travel time, TT15 | 78.0 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.2 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 88.2 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1097.9 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.55 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | AM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future With Project) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.94 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 40 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1186 | veh/h |
| Opposing direction volume, Vo | 1032 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1281 | pc/h | 1115 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1113 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 53.8 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 35.2 | mi/h |
| Percent Free Flow Speed, PFFS | 65.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1262 pc/h | 1098 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 84.6 % | |
| Adjustment for no-passing zones, fnp | 11.5 | |
| Percent time-spent-following, PTSFd | 90.7 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.76 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3154 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 11860 | veh-mi |
| Peak 15-min total travel time, TT15 | 89.7 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 35.2 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 90.7 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1261.7 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.62 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future With Project) |
| Description | Towards Kahului (eastbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

| | | |
|---|---|---|
| Analysis direction volume, Vd | 1327 | veh/h |
| Opposing direction volume, Vo | 1271 | veh/h |

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1403 | pc/h | 1344 | pc/h |

| | | |
|---|---|---|
| Free-Flow Speed from Field Measurement: | | |
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1302 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 55.3 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 33.9 | mi/h |
| Percent Free Flow Speed, PFFS | 61.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1382 pc/h | 1324 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 88.4 % | |
| Adjustment for no-passing zones, fnp | 9.6 | |
| Percent time-spent-following, PTSFd | 93.3 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.84 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3456 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 13270 | veh-mi |
| Peak 15-min total travel time, TT15 | 101.8 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 33.9 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 93.3 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1382.3 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.66 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

HCS 2010: Two-Lane Highways Release 6.3

Phone: Fax:
E-Mail:

## Directional Two-Lane Highway Segment Analysis

| | |
|---|---|
| Analyst | HPB |
| Agency/Co. | SSFM |
| Date Performed | 5/22/2023 |
| Analysis Time Period | PM Peak Hour |
| Highway | Honoapiilani Hwy |
| From/To | MP 12.14 |
| Jurisdiction | COM |
| Analysis Year | 2031 (Future With Project) |
| Description | Towards Lahaina (westbound) |

## Input Data

| | | | | | |
|---|---|---|---|---|---|
| Highway class | Class 1 | | Peak hour factor, PHF | 0.96 | |
| Shoulder width | 6.0 | ft | % Trucks and buses | 5 | % |
| Lane width | 12.0 | ft | % Trucks crawling | 0.0 | % |
| Segment length | 10.0 | mi | Truck crawl speed | 0.0 | mi/hr |
| Terrain type | Rolling | | % Recreational vehicles | 0 | % |
| Grade: Length | - | mi | % No-passing zones | 100 | % |
| Up/down | - | % | Access point density | 4 | /mi |

Analysis direction volume, Vd 1271 veh/h
Opposing direction volume, Vo 1327 veh/h

## Average Travel Speed

| Direction | Analysis (d) | | Opposing (o) | |
|---|---|---|---|---|
| PCE for trucks, ET | 1.3 | | 1.3 | |
| PCE for RVs, ER | 1.1 | | 1.1 | |
| Heavy-vehicle adj. factor, (note-5) fHV | 0.985 | | 0.985 | |
| Grade adj. factor, (note-1) fg | 1.00 | | 1.00 | |
| Directional flow rate, (note-2) vi | 1344 | pc/h | 1403 | pc/h |

Free-Flow Speed from Field Measurement:

| | | |
|---|---|---|
| Field measured speed, (note-3) S FM | 45 | mi/h |
| Observed total demand, (note-3) V | 1302 | veh/h |
| Estimated Free-Flow Speed: | | |
| Base free-flow speed, (note-3) BFFS | - | mi/h |
| Adj. for lane and shoulder width, (note-3) fLS | - | mi/h |
| Adj. for access point density, (note-3) fA | - | mi/h |
| Free-flow speed, FFSd | 55.3 | mi/h |
| Adjustment for no-passing zones, fnp | 0.0* | mi/h |
| Average travel speed, ATSd | 33.9 | mi/h |
| Percent Free Flow Speed, PFFS | 61.4 | % |

## Percent Time-Spent-Following

| Direction | Analysis(d) | Opposing (o) |
|---|---|---|
| PCE for trucks, ET | 1.0 | 1.0 |
| PCE for RVs, ER | 1.0 | 1.0 |
| Heavy-vehicle adjustment factor, fHV | 1.000 | 1.000 |
| Grade adjustment factor,(note-1) fg | 1.00 | 1.00 |
| Directional flow rate,(note-2) vi | 1324 pc/h | 1382 pc/h |
| Base percent time-spent-following,(note-4) BPTSFd | 88.0 % | |
| Adjustment for no-passing zones, fnp | 9.6 | |
| Percent time-spent-following, PTSFd | 92.7 % | |

## Level of Service and Other Performance Measures

| | | |
|---|---|---|
| Level of service, LOS | E | |
| Volume to capacity ratio, v/c | 0.80 | |
| Peak 15-min vehicle-miles of travel, VMT15 | 3310 | veh-mi |
| Peak-hour vehicle-miles of travel, VMT60 | 12710 | veh-mi |
| Peak 15-min total travel time, TT15 | 97.5 | veh-h |
| Capacity from ATS, CdATS | 1675 | veh/h |
| Capacity from PTSF, CdPTSF | 1700 | veh/h |
| Directional Capacity | 1675 | veh/h |

## Passing Lane Analysis

| | | |
|---|---|---|
| Total length of analysis segment, Lt | 10.0 | mi |
| Length of two-lane highway upstream of the passing lane, Lu | - | mi |
| Length of passing lane including tapers, Lpl | - | mi |
| Average travel speed, ATSd (from above) | 33.9 | mi/h |
| Percent time-spent-following, PTSFd (from above) | 92.7 | |
| Level of service, LOSd (from above) | E | |

## Average Travel Speed with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld | - | mi |
| Adj. factor for the effect of passing lane on average speed, fpl | - | |
| Average travel speed including passing lane, ATSpl | - | |
| Percent free flow speed including passing lane, PFFSpl | 0.0 | % |

## Percent Time-Spent-Following with Passing Lane

| | | |
|---|---|---|
| Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde | - | mi |
| Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld | - | mi |
| Adj. factor for the effect of passing lane on percent time-spent-following, fpl | - | |
| Percent time-spent-following including passing lane, PTSFpl | - | % |

## Level of Service and Other Performance Measures with Passing Lane

| | | |
|---|---|---|
| Level of service including passing lane, LOSpl | E | |
| Peak 15-min total travel time, TT15 | - | veh-h |

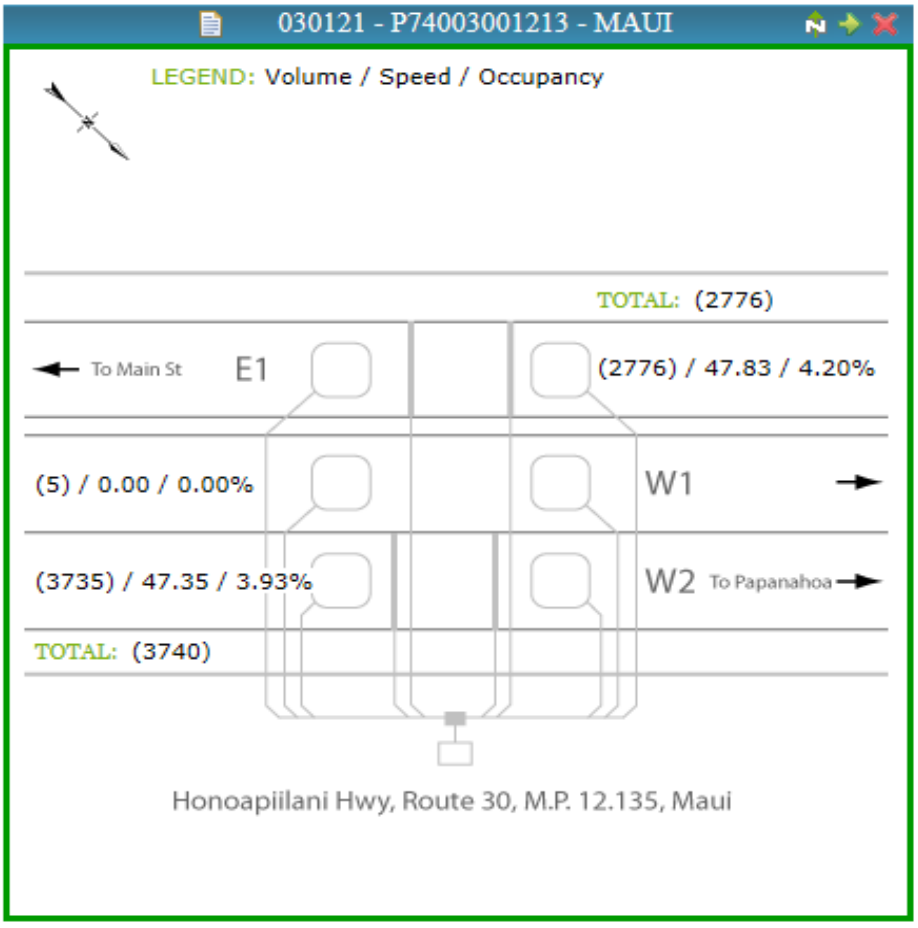
## Bicycle Level of Service

| | |
|---|---|
| Posted speed limit, Sp | 45 |
| Percent of segment with occupied on-highway parking | 0 |
| Pavement rating, P | 3 |
| Flow rate in outside lane, vOL | 1324.0 |
| Effective width of outside lane, We | 24.00 |
| Effective speed factor, St | 4.42 |
| Bicycle LOS Score, BLOS | 3.64 |
| Bicycle LOS | D |

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

* These items have been entered or edited to override calculated value

# Historical Traffic Volumes


030121 - P74003001213 - MAUI
LEGEND: Volume / Speed / Occupancy
TOTAL: (2776)
To Main St
E1
(2776) / 47.83 / 4.20%
(5) / 0.00 / 0.00%
W1
(3735) / 47.35 / 3.93%
W2
To Papanahoa
TOTAL: (3740)
Honoapiilani Hwy, Route 30, M.P. 12.135, Maui

STATION: 030121
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2016 - 2016
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 27882 | 27927 | 27777 | 27192 | 27422 | 26857 | 23750 | 27640 | 26972 | 1.00348 | 0.97924 |
| February | 26925 | 28320 | 28374 | 27453 | 29384 | 26452 | 23049 | 28091 | 27137 | 0.99740 | 0.96351 |
| March | 27790 | 27868 | 28313 | 28344 | 28273 | 26560 | 24083 | 28118 | 27319 | 0.99076 | 0.96261 |
| April | 27298 | 27744 | 27958 | 28117 | 28787 | 27069 | 23933 | 27981 | 27272 | 0.99245 | 0.96731 |
| May | 27411 | 27665 | 27527 | 27861 | 28931 | 26905 | 24464 | 27879 | 27252 | 0.99318 | 0.97085 |
| June | 27896 | 28421 | 27920 | 28693 | 29184 | 27230 | 24049 | 28423 | 27628 | 0.97968 | 0.95226 |
| July | 27855 | 28619 | 28457 | 29101 | 29401 | 27282 | 24561 | 28686 | 27896 | 0.97024 | 0.94352 |
| August | 27487 | 27821 | 28291 | 28405 | 29239 | 26872 | 23969 | 28248 | 27440 | 0.98636 | 0.95814 |
| September | 26357 | 26880 | 28200 | 27041 | 27390 | 26705 | 22944 | 27174 | 26502 | 1.02127 | 0.99605 |
| October | 26872 | 27273 | 27284 | 27928 | 28686 | 25994 | 22693 | 27608 | 26676 | 1.01464 | 0.98036 |
| November | 27587 | 26258 | 27328 | 27696 | 28547 | 25885 | 22604 | 27483 | 26558 | 1.01915 | 0.98483 |
| December | 26729 | 27766 | 28212 | 27724 | 28223 | 23605 | 20734 | 27731 | 26142 | 1.03536 | 0.97603 |
| AVERAGE | 27341 | 27713 | 27970 | 27963 | 28622 | 26451 | 23403 | AVERAGE 27922 | D1+D2 AADT 27066 | | |

K-FACTOR 8.55%
K-FACTOR PERIOD PM
D-FACTOR 50.02%

STATION: 030121
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2016 - 2016
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13980 | 14023 | 13954 | 13727 | 13856 | 13540 | 11802 | 13908 | 13554 | 1.00312 | 0.97764 |
| February | 13529 | 14230 | 14291 | 13803 | 14800 | 13314 | 11521 | 14131 | 13641 | 0.99674 | 0.96221 |
| March | 13935 | 13970 | 14245 | 14271 | 14267 | 13382 | 12072 | 14138 | 13735 | 0.98996 | 0.96174 |
| April | 13701 | 13916 | 14056 | 14144 | 14428 | 13690 | 11846 | 14049 | 13683 | 0.99370 | 0.96781 |
| May | 13777 | 13876 | 13855 | 14087 | 14579 | 13590 | 12133 | 14035 | 13700 | 0.99250 | 0.96879 |
| June | 14035 | 14277 | 14047 | 14432 | 14747 | 13671 | 11997 | 14307 | 13886 | 0.97915 | 0.95033 |
| July | 14062 | 14314 | 14282 | 14601 | 14761 | 13701 | 12365 | 14404 | 14012 | 0.97035 | 0.94397 |
| August | 13777 | 13927 | 14200 | 14251 | 14675 | 13460 | 11904 | 14166 | 13742 | 0.98944 | 0.95982 |
| September | 13233 | 13526 | 14273 | 13581 | 13779 | 13513 | 11374 | 13678 | 13325 | 1.02036 | 0.99405 |
| October | 13629 | 13720 | 13727 | 14068 | 14422 | 13086 | 11386 | 13913 | 13434 | 1.01212 | 0.97726 |
| November | 13867 | 12997 | 13693 | 13984 | 14375 | 12920 | 11280 | 13783 | 13302 | 1.02215 | 0.98648 |
| December | 13441 | 13965 | 14170 | 13981 | 14174 | 11927 | 10368 | 13946 | 13147 | 1.03425 | 0.97494 |
| AVERAGE | 13747 | 13895 | 14066 | 14077 | 14405 | 13316 | 11671 | AVERAGE 14038 | D1 AADT 13597 | | |

STATION: 030121
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2016 - 2016
LOC'N 20.7955 -156.583221

Maui
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13902 | 13904 | 13823 | 13465 | 13567 | 13317 | 11948 | 13732 | 13418 | 1.00384 | 0.98087 |
| February | 13396 | 14090 | 14083 | 13650 | 14584 | 13138 | 11528 | 13960 | 13495 | 0.99807 | 0.96482 |
| March | 13855 | 13898 | 14068 | 14073 | 14006 | 13178 | 12011 | 13980 | 13584 | 0.99156 | 0.96348 |
| April | 13597 | 13828 | 13903 | 13973 | 14359 | 13378 | 12087 | 13932 | 13589 | 0.99119 | 0.96682 |
| May | 13634 | 13789 | 13671 | 13774 | 14353 | 13315 | 12331 | 13844 | 13552 | 0.99387 | 0.97293 |
| June | 13861 | 14145 | 13873 | 14262 | 14438 | 13559 | 12052 | 14116 | 13741 | 0.98021 | 0.95422 |
| July | 13793 | 14305 | 14175 | 14500 | 14640 | 13581 | 12196 | 14283 | 13884 | 0.97012 | 0.94306 |
| August | 13710 | 13894 | 14091 | 14154 | 14564 | 13412 | 12065 | 14083 | 13699 | 0.98327 | 0.95646 |
| September | 13125 | 13354 | 13928 | 13460 | 13611 | 13192 | 11570 | 13495 | 13177 | 1.02219 | 0.99807 |
| October | 13243 | 13554 | 13557 | 13860 | 14264 | 12908 | 11307 | 13695 | 13242 | 1.01719 | 0.98350 |
| November | 13719 | 13261 | 13636 | 13713 | 14172 | 12965 | 11324 | 13700 | 13256 | 1.01613 | 0.98317 |
| December | 13288 | 13801 | 14042 | 13743 | 14049 | 11678 | 10366 | 13784 | 12995 | 1.03648 | 0.97714 |
| AVERAGE | 13593 | 13818 | 13904 | 13885 | 14217 | 13135 | 11732 | AVERAGE 13884 | D2 AADT 13469 | | |

**January, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 1/1/2016 | Fri | * | | 49.5 | 50.5 | 11130 | 11359 | 22489 | 3654 | 3731 | 7385 | 714 | 778 | 7476 | 7628 | 15104 | 915 | 808 |
| 1/2/2016 | Sat | | | 50.2 | 49.8 | 13589 | 13484 | 27073 | 4443 | 4937 | 9380 | 901 | 1038 | 9146 | 8547 | 17693 | 1148 | 1012 |
| 1/3/2016 | Sun | | | 49.6 | 50.4 | 11936 | 12126 | 24062 | 4068 | 4188 | 8256 | 828 | 939 | 7868 | 7938 | 15806 | 1015 | 885 |
| 1/4/2016 | Mon | | | 50.1 | 49.9 | 14410 | 14355 | 28765 | 5719 | 5092 | 10811 | 823 | 1033 | 8691 | 9263 | 17954 | 1198 | 1125 |
| 1/5/2016 | Tue | | | 50.3 | 49.7 | 14541 | 14373 | 28914 | 5866 | 5093 | 10959 | 823 | 1042 | 8675 | 9280 | 17955 | 1202 | 1159 |
| 1/6/2016 | Wed | | | 50.3 | 49.7 | 14195 | 14013 | 28208 | 5896 | 4891 | 10787 | 830 | 1030 | 8299 | 9122 | 17421 | 1153 | 1206 |
| 1/7/2016 | Thu | | | 50.5 | 49.5 | 14114 | 13833 | 27947 | 6182 | 4807 | 10989 | 888 | 986 | 7932 | 9026 | 16958 | 1035 | 1182 |
| 1/8/2016 | Fri | | 1 | 50.3 | 49.7 | 14736 | 14563 | 29299 | 6033 | 4990 | 11023 | 870 | 1012 | 8703 | 9573 | 18276 | 1067 | 1167 |
| 1/9/2016 | Sat | | | 50.4 | 49.6 | 13514 | 13277 | 26791 | 5115 | 4698 | 9813 | 807 | 1082 | 8399 | 8579 | 16978 | 1063 | 1166 |
| 1/10/2016 | Sun | | | 49.6 | 50.4 | 11959 | 12131 | 24090 | 4650 | 3720 | 8370 | 945 | 850 | 7309 | 8411 | 15720 | 881 | 1048 |
| 1/11/2016 | Mon | | | 50.1 | 49.9 | 13934 | 13852 | 27786 | 5768 | 5196 | 10964 | 779 | 1062 | 8166 | 8656 | 16822 | 1172 | 1129 |
| 1/12/2016 | Tue | | | 50.2 | 49.8 | 13997 | 13874 | 27871 | 5697 | 5201 | 10898 | 741 | 1014 | 8300 | 8673 | 16973 | 1067 | 1186 |
| 1/13/2016 | Wed | | 1 | 50.3 | 49.7 | 13716 | 13536 | 27252 | 5591 | 5038 | 10629 | 1092 | 641 | 8125 | 8498 | 16623 | 1091 | 1169 |
| 1/14/2016 | Thu | | | 50.8 | 49.2 | 13734 | 13319 | 27053 | 5547 | 4933 | 10480 | 767 | 947 | 8187 | 8386 | 16573 | 1135 | 1220 |
| 1/15/2016 | Fri | | | 50.9 | 49.1 | 14899 | 14395 | 29294 | 5554 | 5285 | 10839 | 737 | 1087 | 9345 | 9110 | 18455 | 1134 | 1189 |
| 1/16/2016 | Sat | | | 51.1 | 48.9 | 13879 | 13307 | 27186 | 4739 | 4989 | 9728 | 893 | 1031 | 9140 | 8318 | 17458 | 1117 | 975 |
| 1/17/2016 | Sun | | | 49.9 | 50.1 | 12192 | 12264 | 24456 | 4584 | 4310 | 8894 | 707 | 964 | 7608 | 7954 | 15562 | 1001 | 910 |
| 1/18/2016 | Mon | * | | 49.5 | 50.5 | 13328 | 13604 | 26932 | 5284 | 4870 | 10154 | 879 | 998 | 8044 | 8734 | 16778 | 1068 | 1168 |
| 1/19/2016 | Tue | | | 50.0 | 50.0 | 13975 | 13968 | 27943 | 5817 | 5249 | 11066 | 773 | 1074 | 8158 | 8719 | 16877 | 1144 | 1139 |
| 1/20/2016 | Wed | | | 50.0 | 50.0 | 13687 | 13694 | 27381 | 5625 | 5122 | 10747 | 796 | 987 | 8062 | 8572 | 16634 | 1168 | 1219 |
| 1/21/2016 | Thu | | | 50.2 | 49.8 | 13225 | 13110 | 26335 | 5869 | 5217 | 11086 | 903 | 1049 | 7356 | 7893 | 15249 | 1094 | 879 |
| 1/22/2016 | Fri | | | 50.1 | 49.9 | 12812 | 12738 | 25550 | 5052 | 4602 | 9654 | 752 | 940 | 7760 | 8136 | 15896 | 1124 | 1096 |
| 1/23/2016 | Sat | | | 50.2 | 49.8 | 13299 | 13193 | 26492 | 4334 | 4954 | 9288 | 809 | 1053 | 8965 | 8239 | 17204 | 1188 | 889 |
| 1/24/2016 | Sun | | | 49.7 | 50.3 | 11121 | 11270 | 22391 | 4061 | 3840 | 7901 | 761 | 831 | 7060 | 7430 | 14490 | 880 | 913 |
| 1/25/2016 | Mon | | | 50.2 | 49.8 | 13595 | 13499 | 27094 | 5599 | 5091 | 10690 | 782 | 1063 | 7996 | 8408 | 16404 | 1134 | 1113 |
| 1/26/2016 | Tue | | | 50.3 | 49.7 | 13578 | 13401 | 26979 | 5607 | 4917 | 10524 | 709 | 1019 | 7971 | 8484 | 16455 | 1096 | 1169 |
| 1/27/2016 | Wed | | | 50.4 | 49.6 | 13980 | 13762 | 27742 | 5762 | 5090 | 10852 | 755 | 1071 | 8218 | 8672 | 16890 | 1178 | 1148 |
| 1/28/2016 | Thu | | | 50.4 | 49.6 | 13835 | 13598 | 27433 | 5680 | 5157 | 10837 | 735 | 1071 | 8155 | 8441 | 16596 | 1105 | 1188 |
| 1/29/2016 | Fri | | 1 | 50.2 | 49.8 | 14390 | 14286 | 28676 | 5571 | 5023 | 10594 | 784 | 1009 | 8819 | 9263 | 18082 | 1183 | 1168 |
| 1/30/2016 | Sat | | | 50.2 | 49.8 | 13419 | 13323 | 26742 | 4566 | 4949 | 9515 | 812 | 1034 | 8853 | 8374 | 17227 | 1084 | 929 |
| 1/31/2016 | Sun | | 1 | 50.0 | 50.0 | 11434 | 11449 | 22883 | 4020 | 3911 | 7931 | 833 | 867 | 7414 | 7538 | 14952 | 875 | 978 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**February, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 2/1/2016 | Mon | | | 50.5 | 49.5 | 13517 | 13250 | 26767 | 5490 | 4861 | 10351 | 716 | 980 | 8027 | 8389 | 16416 | 1100 | 1157 |
| 2/2/2016 | Tue | | | 50.4 | 49.6 | 13842 | 13618 | 27460 | 5725 | 4994 | 10719 | 786 | 969 | 8117 | 8624 | 16741 | 1150 | 1220 |
| 2/3/2016 | Wed | | | 50.6 | 49.4 | 14000 | 13695 | 27695 | 5581 | 5119 | 10700 | 703 | 1094 | 8419 | 8576 | 16995 | 1143 | 1191 |
| 2/4/2016 | Thu | | | 50.3 | 49.7 | 13841 | 13701 | 27542 | 5539 | 4981 | 10520 | 738 | 1047 | 8302 | 8720 | 17022 | 1142 | 1246 |
| 2/5/2016 | Fri | | | 50.2 | 49.8 | 14491 | 14369 | 28860 | 5638 | 5021 | 10659 | 780 | 1012 | 8853 | 9348 | 18201 | 1168 | 1201 |
| 2/6/2016 | Sat | | | 50.4 | 49.6 | 12704 | 12482 | 25186 | 4102 | 4827 | 8929 | 773 | 1036 | 8602 | 7655 | 16257 | 1021 | 931 |
| 2/7/2016 | Sun | | | 50.3 | 49.7 | 9686 | 9558 | 19244 | 3549 | 3672 | 7221 | 780 | 904 | 6137 | 5886 | 12023 | 863 | 782 |
| 2/8/2016 | Mon | | | 50.3 | 49.7 | 13678 | 13506 | 27184 | 5505 | 4992 | 10497 | 865 | 1069 | 8173 | 8514 | 16687 | 1156 | 1173 |
| 2/9/2016 | Tue | | | 50.2 | 49.8 | 14067 | 13939 | 28006 | 5781 | 5103 | 10884 | 765 | 1036 | 8286 | 8836 | 17122 | 1182 | 1144 |
| 2/10/2016 | Wed | | | 50.4 | 49.6 | 14322 | 14076 | 28398 | 5810 | 5162 | 10972 | 758 | 1060 | 8512 | 8914 | 17426 | 1138 | 1125 |
| 2/11/2016 | Thu | | | 50.4 | 49.6 | 13946 | 13740 | 27686 | 5982 | 5238 | 11220 | 811 | 1016 | 7964 | 8502 | 16466 | 1123 | 1030 |
| 2/12/2016 | Fri | | | 50.6 | 49.4 | 15143 | 14801 | 29944 | 5893 | 5130 | 11023 | 878 | 1011 | 9250 | 9671 | 18921 | 1072 | 1107 |
| 2/13/2016 | Sat | | | 50.2 | 49.8 | 13744 | 13651 | 27395 | 4469 | 5166 | 9635 | 850 | 1025 | 9275 | 8485 | 17760 | 1048 | 1017 |
| 2/14/2016 | Sun | | | 50.4 | 49.6 | 12790 | 12599 | 25389 | 4321 | 4072 | 8393 | 985 | 910 | 8469 | 8527 | 16996 | 1064 | 957 |
| 2/15/2016 | Mon | * | | 49.9 | 50.1 | 13427 | 13486 | 26913 | 5141 | 4890 | 10031 | 987 | 1106 | 8286 | 8596 | 16882 | 1146 | 1034 |
| 2/16/2016 | Tue | | | 50.3 | 49.7 | 14653 | 14458 | 29111 | 5918 | 5352 | 11270 | 803 | 1117 | 8735 | 9106 | 17841 | 1077 | 1150 |
| 2/17/2016 | Wed | | | 50.3 | 49.7 | 14501 | 14348 | 28849 | 5851 | 5276 | 11127 | 794 | 1146 | 8650 | 9072 | 17722 | 1171 | 1139 |
| 2/18/2016 | Thu | | | 49.9 | 50.1 | 12593 | 12632 | 25225 | 5811 | 5174 | 10985 | 761 | 1041 | 6782 | 7458 | 14240 | 1088 | 1058 |
| 2/19/2016 | Fri | | | 50.3 | 49.7 | 14767 | 14581 | 29348 | 5955 | 5152 | 11107 | 829 | 966 | 8812 | 9429 | 18241 | 1103 | 1146 |
| 2/20/2016 | Sat | | | 50.3 | 49.7 | 13227 | 13071 | 26298 | 4466 | 4961 | 9427 | 798 | 1011 | 8761 | 8110 | 16871 | 1062 | 940 |
| 2/21/2016 | Sun | | | 50.2 | 49.8 | 11860 | 11755 | 23615 | 3972 | 4341 | 8313 | 832 | 1067 | 7888 | 7414 | 15302 | 1011 | 1050 |
| 2/22/2016 | Mon | | 1 | 50.5 | 49.5 | 14468 | 14200 | 28668 | 5982 | 5296 | 11278 | 780 | 1162 | 8486 | 8904 | 17390 | 1077 | 1144 |
| 2/23/2016 | Tue | | | 50.0 | 50.0 | 14359 | 14344 | 28703 | 5984 | 5208 | 11192 | 774 | 1031 | 8375 | 9136 | 17511 | 1123 | 1165 |
| 2/24/2016 | Wed | | | 50.2 | 49.8 | 14342 | 14213 | 28555 | 5826 | 5340 | 11166 | 744 | 1053 | 8516 | 8873 | 17389 | 1116 | 1178 |
| 2/25/2016 | Thu | | | 50.5 | 49.5 | 14832 | 14525 | 29357 | 5964 | 5533 | 11497 | 827 | 1074 | 8868 | 8992 | 17860 | 1199 | 1035 |
| 2/26/2016 | Fri | | 1 | 50.0 | 50.0 | 14675 | 14682 | 29357 | 5838 | 5288 | 11126 | 821 | 1059 | 8837 | 9394 | 18231 | 1158 | 1093 |
| 2/27/2016 | Sat | | | 50.4 | 49.6 | 13582 | 13346 | 26928 | 4705 | 4962 | 9667 | 896 | 1062 | 8877 | 8384 | 17261 | 1070 | 980 |
| 2/28/2016 | Sun | | | 49.1 | 50.9 | 11747 | 12200 | 23947 | 4172 | 4285 | 8457 | 809 | 1013 | 7575 | 7915 | 15490 | 897 | 1045 |
| 2/29/2016 | Mon | | | 49.9 | 50.1 | 13391 | 13433 | 26824 | 5618 | 5007 | 10625 | 694 | 1010 | 7773 | 8426 | 16199 | 997 | 1104 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**March, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 3/1/2016 | Tue | | | 50.2 | 49.8 | 13912 | 13793 | 27705 | 5804 | 5232 | 11036 | 728 | 1084 | 8108 | 8561 | 16669 | 1091 | 1082 |
| 3/2/2016 | Wed | | | 50.5 | 49.5 | 13935 | 13678 | 27613 | 5813 | 5166 | 10979 | 752 | 1008 | 8122 | 8512 | 16634 | 1080 | 1053 |
| 3/3/2016 | Thu | | | 50.6 | 49.4 | 14052 | 13695 | 27747 | 5754 | 5011 | 10765 | 815 | 878 | 8298 | 8684 | 16982 | 1198 | 1126 |
| 3/4/2016 | Fri | | | 50.2 | 49.8 | 14460 | 14344 | 28804 | 5787 | 5149 | 10936 | 811 | 1023 | 8673 | 9195 | 17868 | 1098 | 1172 |
| 3/5/2016 | Sat | | 1 | 50.7 | 49.3 | 13894 | 13536 | 27430 | 4630 | 5115 | 9745 | 849 | 1065 | 9264 | 8421 | 17685 | 1183 | 896 |
| 3/6/2016 | Sun | | | 49.8 | 50.2 | 11991 | 12071 | 24062 | 4106 | 4136 | 8242 | 812 | 865 | 7885 | 7935 | 15820 | 1027 | 884 |
| 3/7/2016 | Mon | | | 50.0 | 50.0 | 13844 | 13868 | 27712 | 5703 | 5142 | 10845 | 756 | 1007 | 8141 | 8726 | 16867 | 1096 | 1136 |
| 3/8/2016 | Tue | | | 49.9 | 50.1 | 14095 | 14155 | 28250 | 6011 | 5169 | 11180 | 806 | 1067 | 8084 | 8986 | 17070 | 1090 | 1136 |
| 3/9/2016 | Wed | | | 50.4 | 49.6 | 14478 | 14228 | 28706 | 5906 | 5413 | 11319 | 838 | 1174 | 8572 | 8815 | 17387 | 1212 | 1132 |
| 3/10/2016 | Thu | | | 50.2 | 49.8 | 14104 | 13989 | 28093 | 5765 | 5354 | 11119 | 707 | 1138 | 8339 | 8635 | 16974 | 1108 | 1172 |
| 3/11/2016 | Fri | | | 50.9 | 49.1 | 13534 | 13047 | 26581 | 5714 | 4662 | 10376 | 705 | 952 | 7820 | 8385 | 16205 | 915 | 963 |
| 3/12/2016 | Sat | | | 50.3 | 49.7 | 13177 | 13018 | 26195 | 4439 | 5128 | 9567 | 791 | 989 | 8738 | 7890 | 16628 | 1067 | 897 |
| 3/13/2016 | Sun | | | 50.1 | 49.9 | 11723 | 11676 | 23399 | 4053 | 4184 | 8237 | 793 | 876 | 7670 | 7492 | 15162 | 1012 | 838 |
| 3/14/2016 | Mon | | | 50.3 | 49.7 | 13648 | 13498 | 27146 | 5632 | 5153 | 10785 | 1026 | 685 | 8016 | 8345 | 16361 | 1054 | 1161 |
| 3/15/2016 | Tue | | | 50.1 | 49.9 | 13835 | 13768 | 27603 | 5822 | 5286 | 11108 | 1056 | 760 | 8013 | 8482 | 16495 | 1067 | 1231 |
| 3/16/2016 | Wed | | | 50.4 | 49.6 | 14620 | 14400 | 29020 | 5876 | 5465 | 11341 | 799 | 1148 | 8744 | 8935 | 17679 | 1184 | 1087 |
| 3/17/2016 | Thu | | | 50.5 | 49.5 | 14299 | 14013 | 28312 | 5761 | 5372 | 11133 | 871 | 1035 | 8538 | 8641 | 17179 | 1162 | 1121 |
| 3/18/2016 | Fri | | | 50.3 | 49.7 | 14807 | 14626 | 29433 | 5981 | 5383 | 11364 | 936 | 1035 | 8826 | 9243 | 18069 | 1037 | 1122 |
| 3/19/2016 | Sat | | | 50.5 | 49.5 | 13567 | 13300 | 26867 | 4873 | 5242 | 10115 | 972 | 1031 | 8694 | 8058 | 16752 | 1081 | 978 |
| 3/20/2016 | Sun | | | 50.4 | 49.6 | 12503 | 12285 | 24788 | 4352 | 4467 | 8819 | 852 | 939 | 8151 | 7818 | 15969 | 1047 | 964 |
| 3/21/2016 | Mon | | | 50.3 | 49.7 | 13954 | 13815 | 27769 | 5742 | 5022 | 10764 | 806 | 997 | 8212 | 8793 | 17005 | 1037 | 1171 |
| 3/22/2016 | Tue | | | 50.4 | 49.6 | 13992 | 13784 | 27776 | 5761 | 5111 | 10872 | 780 | 1038 | 8231 | 8673 | 16904 | 1114 | 1133 |
| 3/23/2016 | Wed | | | 50.2 | 49.8 | 14333 | 14217 | 28550 | 6002 | 5301 | 11303 | 830 | 1066 | 8331 | 8916 | 17247 | 1033 | 1202 |
| 3/24/2016 | Thu | | | 50.2 | 49.8 | 14498 | 14360 | 28858 | 5784 | 5382 | 11166 | 745 | 1098 | 8714 | 8978 | 17692 | 1098 | 1120 |
| 3/25/2016 | Fri | * | | 50.1 | 49.9 | 14090 | 14056 | 28146 | 5720 | 5174 | 10894 | 850 | 1047 | 8370 | 8882 | 17252 | 1045 | 1120 |
| 3/26/2016 | Sat | | | 50.4 | 49.6 | 13402 | 13215 | 26617 | 4603 | 5019 | 9622 | 940 | 1004 | 8799 | 8196 | 16995 | 1083 | 926 |
| 3/27/2016 | Sun | * | | 49.4 | 50.6 | 11004 | 11266 | 22270 | 4040 | 4060 | 8100 | 827 | 787 | 6964 | 7206 | 14170 | 989 | 760 |
| 3/28/2016 | Mon | | | 50.1 | 49.9 | 14295 | 14239 | 28534 | 5701 | 5510 | 11211 | 767 | 1170 | 8594 | 8729 | 17323 | 1063 | 1140 |
| 3/29/2016 | Tue | | | 50.0 | 50.0 | 14015 | 13990 | 28005 | 5921 | 5443 | 11364 | 865 | 972 | 8094 | 8547 | 16641 | 1067 | 1178 |
| 3/30/2016 | Wed | | | 50.1 | 49.9 | 13859 | 13815 | 27674 | 5780 | 5265 | 11045 | 806 | 942 | 8079 | 8550 | 16629 | 1065 | 1182 |
| 3/31/2016 | Thu | | | 50.2 | 49.8 | 14403 | 14309 | 28712 | 6024 | 5328 | 11352 | 723 | 1091 | 8379 | 8981 | 17360 | 1084 | 1158 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**April, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 4/1/2016 | Fri | | | 50.0 | 50.0 | 13862 | 13887 | 27749 | 5524 | 4949 | 10473 | 1010 | 1045 | 8338 | 8938 | 17276 | 1058 | 1174 |
| 4/2/2016 | Sat | | | 50.5 | 49.5 | 13454 | 13170 | 26624 | 4499 | 5396 | 9895 | 792 | 1062 | 8955 | 7774 | 16729 | 1179 | 874 |
| 4/3/2016 | Sun | | | 50.0 | 50.0 | 11784 | 11769 | 23553 | 4037 | 4286 | 8323 | 709 | 874 | 7747 | 7483 | 15230 | 946 | 892 |
| 4/4/2016 | Mon | | | 50.4 | 49.6 | 13678 | 13480 | 27158 | 5824 | 5154 | 10978 | 717 | 1019 | 7854 | 8326 | 16180 | 1056 | 1173 |
| 4/5/2016 | Tue | | | 50.3 | 49.7 | 13922 | 13742 | 27664 | 5784 | 5311 | 11095 | 1052 | 717 | 8138 | 8431 | 16569 | 983 | 1183 |
| 4/6/2016 | Wed | | | 50.3 | 49.7 | 14448 | 14304 | 28752 | 5944 | 5534 | 11478 | 885 | 1158 | 8504 | 8770 | 17274 | 1088 | 1055 |
| 4/7/2016 | Thu | | | 50.1 | 49.9 | 14298 | 14267 | 28565 | 5797 | 5363 | 11160 | 818 | 1041 | 8501 | 8904 | 17405 | 1116 | 1006 |
| 4/8/2016 | Fri | | | 50.3 | 49.7 | 14652 | 14481 | 29133 | 5801 | 5454 | 11255 | 877 | 1055 | 8851 | 9027 | 17878 | 1140 | 1061 |
| 4/9/2016 | Sat | | | 51.0 | 49.0 | 13640 | 13129 | 26769 | 4645 | 5306 | 9951 | 890 | 975 | 8995 | 7823 | 16818 | 1068 | 908 |
| 4/10/2016 | Sun | | | 49.3 | 50.7 | 11929 | 12260 | 24189 | 4312 | 4470 | 8782 | 827 | 879 | 7617 | 7790 | 15407 | 877 | 1014 |
| 4/11/2016 | Mon | | | 50.1 | 49.9 | 13603 | 13529 | 27132 | 5816 | 5341 | 11157 | 768 | 1043 | 7787 | 8188 | 15975 | 1074 | 1126 |
| 4/12/2016 | Tue | | | 50.1 | 49.9 | 13915 | 13860 | 27775 | 5880 | 5456 | 11336 | 1045 | 901 | 8035 | 8404 | 16439 | 1027 | 1132 |
| 4/13/2016 | Wed | | | 50.3 | 49.7 | 13885 | 13717 | 27602 | 5823 | 5393 | 11216 | 777 | 1057 | 8062 | 8324 | 16386 | 1148 | 1134 |
| 4/14/2016 | Thu | | | 50.2 | 49.8 | 13726 | 13631 | 27357 | 5774 | 5299 | 11073 | 922 | 872 | 7952 | 8332 | 16284 | 1000 | 1159 |
| 4/15/2016 | Fri | | | 50.3 | 49.7 | 14609 | 14409 | 29018 | 5914 | 5470 | 11384 | 722 | 1090 | 8695 | 8939 | 17634 | 1126 | 1107 |
| 4/16/2016 | Sat | | | 50.6 | 49.4 | 13906 | 13598 | 27504 | 4873 | 5344 | 10217 | 801 | 1079 | 9033 | 8254 | 17287 | 1111 | 910 |
| 4/17/2016 | Sun | | | 49.3 | 50.7 | 11870 | 12198 | 24068 | 4141 | 4523 | 8664 | 793 | 996 | 7729 | 7675 | 15404 | 1023 | 874 |
| 4/18/2016 | Mon | | | 50.3 | 49.7 | 13713 | 13570 | 27283 | 5857 | 5538 | 11395 | 774 | 1147 | 7856 | 8032 | 15888 | 1052 | 1131 |
| 4/19/2016 | Tue | | 1 | 49.9 | 50.1 | 13708 | 13778 | 27486 | 5878 | 5341 | 11219 | 1115 | 692 | 7830 | 8437 | 16267 | 1021 | 1168 |
| 4/20/2016 | Wed | | | 50.5 | 49.5 | 13976 | 13720 | 27696 | 5791 | 5425 | 11216 | 946 | 832 | 8185 | 8295 | 16480 | 1099 | 1081 |
| 4/21/2016 | Thu | | | 50.9 | 49.1 | 14480 | 13974 | 28454 | 6102 | 5490 | 11592 | 1029 | 839 | 8378 | 8484 | 16862 | 1083 | 1167 |
| 4/22/2016 | Fri | | | 50.0 | 50.0 | 14813 | 14787 | 29600 | 5965 | 5813 | 11778 | 729 | 1122 | 8848 | 8974 | 17822 | 1156 | 1066 |
| 4/23/2016 | Sat | | | 50.4 | 49.6 | 13757 | 13513 | 27270 | 4842 | 5521 | 10363 | 956 | 1090 | 8915 | 7992 | 16907 | 1008 | 1032 |
| 4/24/2016 | Sun | | | 49.3 | 50.7 | 11800 | 12122 | 23922 | 4136 | 4384 | 8520 | 767 | 916 | 7664 | 7738 | 15402 | 1019 | 954 |
| 4/25/2016 | Mon | | | 50.0 | 50.0 | 13811 | 13807 | 27618 | 6007 | 5446 | 11453 | 986 | 900 | 7804 | 8361 | 16165 | 1119 | 1117 |
| 4/26/2016 | Tue | | | 50.1 | 49.9 | 13910 | 13882 | 27792 | 6129 | 5572 | 11701 | 1159 | 709 | 7781 | 8310 | 16091 | 1033 | 1097 |
| 4/27/2016 | Wed | | | 50.1 | 49.9 | 13914 | 13869 | 27783 | 5986 | 5544 | 11530 | 1087 | 784 | 7928 | 8325 | 16253 | 1004 | 1151 |
| 4/28/2016 | Thu | | | 50.1 | 49.9 | 14072 | 14019 | 28091 | 6000 | 5398 | 11398 | 1117 | 716 | 8072 | 8621 | 16693 | 1012 | 1122 |
| 4/29/2016 | Fri | | | 50.0 | 50.0 | 14206 | 14229 | 28435 | 5908 | 5175 | 11083 | 1088 | 713 | 8298 | 9054 | 17352 | 1063 | 1097 |
| 4/30/2016 | Sat | | | 50.4 | 49.6 | 13694 | 13482 | 27176 | 4669 | 5384 | 10053 | 850 | 1053 | 9025 | 8098 | 17123 | 1101 | 942 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**May, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 5/1/2016 | Sun | | | 49.3 | 50.7 | 11905 | 12231 | 24136 | 4167 | 4584 | 8751 | 783 | 888 | 7738 | 7647 | 15385 | 1077 | 783 |
| 5/2/2016 | Mon | | | 50.2 | 49.8 | 13560 | 13442 | 27002 | 5995 | 5305 | 11300 | 1093 | 747 | 7565 | 8137 | 15702 | 1058 | 1075 |
| 5/3/2016 | Tue | | | 50.2 | 49.8 | 13555 | 13423 | 26978 | 5966 | 5191 | 11157 | 1119 | 698 | 7589 | 8232 | 15821 | 1022 | 1076 |
| 5/4/2016 | Wed | | | 50.4 | 49.6 | 13702 | 13478 | 27180 | 5753 | 5287 | 11040 | 748 | 1018 | 7949 | 8191 | 16140 | 1051 | 1119 |
| 5/5/2016 | Thu | | | 50.6 | 49.4 | 13565 | 13224 | 26789 | 5825 | 5078 | 10903 | 1072 | 736 | 7740 | 8146 | 15886 | 989 | 1109 |
| 5/6/2016 | Fri | | | 50.4 | 49.6 | 14162 | 13946 | 28108 | 5883 | 5277 | 11160 | 766 | 1023 | 8279 | 8669 | 16948 | 1042 | 979 |
| 5/7/2016 | Sat | | | 50.4 | 49.6 | 13594 | 13375 | 26969 | 4787 | 5475 | 10262 | 940 | 1017 | 8807 | 7900 | 16707 | 1064 | 990 |
| 5/8/2016 | Sun | | | 49.5 | 50.5 | 12019 | 12275 | 24294 | 4546 | 4215 | 8761 | 931 | 946 | 7473 | 8060 | 15533 | 1088 | 946 |
| 5/9/2016 | Mon | | | 50.3 | 49.7 | 13753 | 13572 | 27325 | 6001 | 5229 | 11230 | 830 | 1082 | 7752 | 8343 | 16095 | 1095 | 1059 |
| 5/10/2016 | Tue | | | 50.4 | 49.6 | 13832 | 13607 | 27439 | 5962 | 5207 | 11169 | 1111 | 670 | 7870 | 8400 | 16270 | 1191 | 958 |
| 5/11/2016 | Wed | | | 50.3 | 49.7 | 13638 | 13477 | 27115 | 5872 | 5109 | 10981 | 1035 | 719 | 7766 | 8368 | 16134 | 1019 | 1118 |
| 5/12/2016 | Thu | | | 50.6 | 49.4 | 13785 | 13472 | 27257 | 5737 | 5127 | 10864 | 1127 | 620 | 8048 | 8345 | 16393 | 1004 | 1226 |
| 5/13/2016 | Fri | | | 50.7 | 49.3 | 14682 | 14298 | 28980 | 5961 | 5296 | 11257 | 940 | 834 | 8721 | 9002 | 17723 | 1166 | 1137 |
| 5/14/2016 | Sat | | | 50.4 | 49.6 | 13250 | 13024 | 26274 | 4825 | 5335 | 10160 | 870 | 969 | 8425 | 7689 | 16114 | 1028 | 885 |
| 5/15/2016 | Sun | | | 49.4 | 50.6 | 11741 | 12024 | 23765 | 4179 | 4279 | 8458 | 841 | 842 | 7562 | 7745 | 15307 | 1009 | 839 |
| 5/16/2016 | Mon | | | 50.4 | 49.6 | 13768 | 13550 | 27318 | 5867 | 5329 | 11196 | 1034 | 754 | 7901 | 8221 | 16122 | 1033 | 1160 |
| 5/17/2016 | Tue | | | 50.3 | 49.7 | 14013 | 13829 | 27842 | 6088 | 5351 | 11439 | 1093 | 747 | 7925 | 8478 | 16403 | 972 | 1154 |
| 5/18/2016 | Wed | | | 50.3 | 49.7 | 13887 | 13708 | 27595 | 5944 | 5256 | 11200 | 1131 | 683 | 7943 | 8452 | 16395 | 975 | 1114 |
| 5/19/2016 | Thu | | | 50.6 | 49.4 | 14496 | 14166 | 28662 | 6145 | 5369 | 11514 | 1157 | 653 | 8351 | 8797 | 17148 | 1119 | 1076 |
| 5/20/2016 | Fri | | | 50.4 | 49.6 | 14394 | 14178 | 28572 | 5936 | 5410 | 11346 | 836 | 1042 | 8458 | 8768 | 17226 | 1074 | 1119 |
| 5/21/2016 | Sat | | | 50.7 | 49.3 | 13362 | 13006 | 26368 | 4834 | 5193 | 10027 | 943 | 965 | 8528 | 7813 | 16341 | 1165 | 822 |
| 5/22/2016 | Sun | | | 49.9 | 50.1 | 12257 | 12318 | 24575 | 4284 | 4548 | 8832 | 975 | 876 | 7973 | 7770 | 15743 | 1108 | 832 |
| 5/23/2016 | Mon | | | 50.1 | 49.9 | 14026 | 13973 | 27999 | 5983 | 5392 | 11375 | 1134 | 685 | 8043 | 8581 | 16624 | 1001 | 1189 |
| 5/24/2016 | Tue | | | 50.0 | 50.0 | 13838 | 13856 | 27694 | 5952 | 5415 | 11367 | 1152 | 674 | 7886 | 8441 | 16327 | 1060 | 958 |
| 5/25/2016 | Wed | | | 50.3 | 49.7 | 14194 | 14022 | 28216 | 6004 | 5288 | 11292 | 797 | 1015 | 8190 | 8734 | 16924 | 1139 | 1110 |
| 5/26/2016 | Thu | | | 50.5 | 49.5 | 14501 | 14235 | 28736 | 6073 | 5463 | 11536 | 1176 | 715 | 8428 | 8772 | 17200 | 1040 | 1129 |
| 5/27/2016 | Fri | | | 50.1 | 49.9 | 15077 | 14988 | 30065 | 6252 | 5720 | 11972 | 832 | 1052 | 8825 | 9268 | 18093 | 1096 | 1203 |
| 5/28/2016 | Sat | | | 50.5 | 49.5 | 14154 | 13855 | 28009 | 5093 | 5480 | 10573 | 865 | 1012 | 9061 | 8375 | 17436 | 1070 | 917 |
| 5/29/2016 | Sun | | | 49.9 | 50.1 | 12742 | 12806 | 25548 | 4598 | 4866 | 9464 | 829 | 940 | 8144 | 7940 | 16084 | 1059 | 887 |
| 5/30/2016 | Mon | * | | 49.4 | 50.6 | 11836 | 12102 | 23938 | 4681 | 4692 | 9373 | 873 | 907 | 7155 | 7410 | 14565 | 992 | 886 |
| 5/31/2016 | Tue | | | 49.9 | 50.1 | 14143 | 14228 | 28371 | 5983 | 5497 | 11480 | 828 | 1047 | 8160 | 8731 | 16891 | 1041 | 1112 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**June, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 6/1/2016 | Wed | | | 50.2 | 49.8 | 14103 | 13969 | 28072 | 6184 | 5293 | 11477 | 837 | 1020 | 7919 | 8676 | 16595 | 1008 | 1102 |
| 6/2/2016 | Thu | | | 50.4 | 49.6 | 14075 | 13876 | 27951 | 5990 | 5257 | 11247 | 767 | 982 | 8085 | 8619 | 16704 | 998 | 1026 |
| 6/3/2016 | Fri | | | 50.6 | 49.4 | 14528 | 14171 | 28699 | 5880 | 5213 | 11093 | 774 | 966 | 8648 | 8958 | 17606 | 1002 | 1124 |
| 6/4/2016 | Sat | | | 50.3 | 49.7 | 13563 | 13385 | 26948 | 5122 | 5051 | 10173 | 892 | 1021 | 8441 | 8334 | 16775 | 1043 | 979 |
| 6/5/2016 | Sun | | | 49.6 | 50.4 | 11458 | 11626 | 23084 | 3966 | 4494 | 8460 | 786 | 891 | 7492 | 7132 | 14624 | 1085 | 728 |
| 6/6/2016 | Mon | | | 50.3 | 49.7 | 13844 | 13658 | 27502 | 5753 | 5234 | 10987 | 754 | 1045 | 8091 | 8424 | 16515 | 1061 | 1006 |
| 6/7/2016 | Tue | | | 50.2 | 49.8 | 13856 | 13754 | 27610 | 5893 | 5150 | 11043 | 1035 | 715 | 7963 | 8604 | 16567 | 994 | 1161 |
| 6/8/2016 | Wed | | | 50.3 | 49.7 | 13957 | 13801 | 27758 | 5850 | 5231 | 11081 | 1028 | 762 | 8107 | 8570 | 16677 | 964 | 1166 |
| 6/9/2016 | Thu | | | 50.4 | 49.6 | 14566 | 14363 | 28929 | 6228 | 5450 | 11678 | 870 | 1019 | 8338 | 8913 | 17251 | 1044 | 1106 |
| 6/10/2016 | Fri | * | | 50.6 | 49.4 | 14733 | 14375 | 29108 | 6052 | 5424 | 11476 | 814 | 1078 | 8681 | 8951 | 17632 | 990 | 1052 |
| 6/11/2016 | Sat | | | 50.2 | 49.8 | 13684 | 13563 | 27247 | 5024 | 5492 | 10516 | 949 | 1003 | 8660 | 8071 | 16731 | 1032 | 927 |
| 6/12/2016 | Sun | | | 50.3 | 49.7 | 12497 | 12371 | 24868 | 4645 | 4716 | 9361 | 896 | 897 | 7852 | 7655 | 15507 | 1085 | 865 |
| 6/13/2016 | Mon | | | 50.3 | 49.7 | 14165 | 14000 | 28165 | 6237 | 5491 | 11728 | 1103 | 782 | 7928 | 8509 | 16437 | 1052 | 1007 |
| 6/14/2016 | Tue | | | 50.2 | 49.8 | 14436 | 14322 | 28758 | 6325 | 5498 | 11823 | 831 | 1070 | 8111 | 8824 | 16935 | 1064 | 1034 |
| 6/15/2016 | Wed | | | 50.3 | 49.7 | 14295 | 14123 | 28418 | 6086 | 5408 | 11494 | 733 | 1058 | 8209 | 8715 | 16924 | 1022 | 1057 |
| 6/16/2016 | Thu | | | 50.1 | 49.9 | 14119 | 14039 | 28158 | 6097 | 5370 | 11467 | 835 | 964 | 8022 | 8669 | 16691 | 1037 | 1106 |
| 6/17/2016 | Fri | | | 50.4 | 49.6 | 14734 | 14495 | 29229 | 5902 | 5476 | 11378 | 829 | 1020 | 8832 | 9019 | 17851 | 1117 | 987 |
| 6/18/2016 | Sat | | | 49.9 | 50.1 | 13441 | 13476 | 26917 | 4905 | 5306 | 10211 | 879 | 981 | 8536 | 8170 | 16706 | 1074 | 905 |
| 6/19/2016 | Sun | | | 49.8 | 50.2 | 11729 | 11812 | 23541 | 4382 | 4239 | 8621 | 964 | 843 | 7347 | 7573 | 14920 | 1036 | 807 |
| 6/20/2016 | Mon | | | 50.6 | 49.4 | 14110 | 13770 | 27880 | 5924 | 5221 | 11145 | 828 | 969 | 8186 | 8549 | 16735 | 1108 | 1053 |
| 6/21/2016 | Tue | | | 50.3 | 49.7 | 14410 | 14237 | 28647 | 6183 | 5374 | 11557 | 1125 | 703 | 8227 | 8863 | 17090 | 1058 | 1047 |
| 6/22/2016 | Wed | | | 50.4 | 49.6 | 13482 | 13264 | 26746 | 6300 | 5541 | 11841 | 1093 | 741 | 7182 | 7723 | 14905 | 1015 | 858 |
| 6/23/2016 | Thu | | | 50.3 | 49.7 | 14823 | 14653 | 29476 | 6293 | 5545 | 11838 | 899 | 1038 | 8530 | 9108 | 17638 | 1049 | 1138 |
| 6/24/2016 | Fri | | | 50.6 | 49.4 | 14978 | 14647 | 29625 | 6101 | 5525 | 11626 | 770 | 1128 | 8877 | 9122 | 17999 | 1026 | 1170 |
| 6/25/2016 | Sat | | | 50.3 | 49.7 | 13994 | 13813 | 27807 | 5345 | 5214 | 10559 | 934 | 941 | 8649 | 8599 | 17248 | 1038 | 1026 |
| 6/26/2016 | Sun | | | 49.8 | 50.2 | 12304 | 12400 | 24704 | 4239 | 4561 | 8800 | 805 | 930 | 8065 | 7839 | 15904 | 1030 | 958 |
| 6/27/2016 | Mon | | | 50.0 | 50.0 | 14021 | 14014 | 28035 | 5991 | 5250 | 11241 | 768 | 996 | 8030 | 8764 | 16794 | 999 | 1150 |
| 6/28/2016 | Tue | | | 50.2 | 49.8 | 14404 | 14265 | 28669 | 6307 | 5382 | 11689 | 888 | 959 | 8097 | 8883 | 16980 | 1044 | 1142 |
| 6/29/2016 | Wed | | | 50.3 | 49.7 | 14398 | 14209 | 28607 | 6067 | 5377 | 11444 | 746 | 1046 | 8331 | 8832 | 17163 | 1108 | 1076 |
| 6/30/2016 | Thu | | | 50.3 | 49.7 | 14575 | 14378 | 28953 | 5971 | 5506 | 11477 | 822 | 1015 | 8604 | 8872 | 17476 | 999 | 1144 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**July, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 7/1/2016 | Fri | | | 50.5 | 49.5 | 14967 | 14648 | 29615 | 5956 | 5550 | 11506 | 781 | 1056 | 9011 | 9098 | 18109 | 1098 | 1097 |
| 7/2/2016 | Sat | | 3 | 49.2 | 50.8 | 8449 | 8713 | 17162 | 4376 | 5546 | 9922 | 879 | 1006 | 4073 | 3167 | 7240 | 1079 | 837 |
| 7/3/2016 | Sun | | | 51.5 | 48.5 | 12805 | 12054 | 24859 | 5574 | 5414 | 10988 | 747 | 836 | 7231 | 6640 | 13871 | 892 | 766 |
| 7/4/2016 | Mon | * | | 50.3 | 49.7 | 12055 | 11905 | 23960 | 4376 | 3804 | 8180 | 816 | 715 | 7679 | 8101 | 15780 | 1013 | 757 |
| 7/5/2016 | Tue | | | 49.3 | 50.7 | 14114 | 14532 | 28646 | 5822 | 5680 | 11502 | 771 | 1120 | 8292 | 8852 | 17144 | 1014 | 981 |
| 7/6/2016 | Wed | | | 50.0 | 50.0 | 14035 | 14037 | 28072 | 5862 | 5546 | 11408 | 762 | 1100 | 8173 | 8491 | 16664 | 958 | 1162 |
| 7/7/2016 | Thu | | | 50.1 | 49.9 | 14657 | 14572 | 29229 | 6197 | 5473 | 11670 | 868 | 982 | 8460 | 9099 | 17559 | 1041 | 1084 |
| 7/8/2016 | Fri | | | 50.2 | 49.8 | 13965 | 13869 | 27834 | 6258 | 5454 | 11712 | 816 | 1013 | 7707 | 8415 | 16122 | 982 | 997 |
| 7/9/2016 | Sat | | | 50.1 | 49.9 | 13448 | 13373 | 26821 | 4912 | 5491 | 10403 | 849 | 1051 | 8536 | 7882 | 16418 | 1022 | 908 |
| 7/10/2016 | Sun | | | 49.9 | 50.1 | 12213 | 12263 | 24476 | 4296 | 4490 | 8786 | 853 | 891 | 7917 | 7773 | 15690 | 1016 | 870 |
| 7/11/2016 | Mon | | 1 | 50.5 | 49.5 | 14054 | 13790 | 27844 | 5977 | 5215 | 11192 | 806 | 979 | 8077 | 8575 | 16652 | 990 | 1088 |
| 7/12/2016 | Tue | | | 50.3 | 49.7 | 14110 | 13962 | 28072 | 6039 | 5286 | 11325 | 863 | 1018 | 8071 | 8676 | 16747 | 988 | 1117 |
| 7/13/2016 | Wed | | | 50.2 | 49.8 | 14063 | 13924 | 27987 | 5837 | 5308 | 11145 | 1130 | 695 | 8226 | 8616 | 16842 | 1040 | 1097 |
| 7/14/2016 | Thu | | | 50.2 | 49.8 | 14356 | 14249 | 28605 | 5905 | 5312 | 11217 | 761 | 1033 | 8451 | 8937 | 17388 | 1047 | 1069 |
| 7/15/2016 | Fri | | | 50.0 | 50.0 | 14959 | 14937 | 29896 | 6156 | 5480 | 11636 | 793 | 1106 | 8803 | 9457 | 18260 | 1068 | 1076 |
| 7/16/2016 | Sat | | | 50.3 | 49.7 | 13690 | 13508 | 27198 | 4929 | 5454 | 10383 | 917 | 1054 | 8761 | 8054 | 16815 | 1004 | 914 |
| 7/17/2016 | Sun | | | 50.2 | 49.8 | 12040 | 11959 | 23999 | 4290 | 4406 | 8696 | 889 | 861 | 7750 | 7553 | 15303 | 996 | 912 |
| 7/18/2016 | Mon | | | 50.4 | 49.6 | 14028 | 13790 | 27818 | 5818 | 5242 | 11060 | 742 | 1026 | 8210 | 8548 | 16758 | 1062 | 1115 |
| 7/19/2016 | Tue | | | 50.4 | 49.6 | 14482 | 14280 | 28762 | 6176 | 5320 | 11496 | 812 | 994 | 8306 | 8960 | 17266 | 1024 | 1101 |
| 7/20/2016 | Wed | | | 50.2 | 49.8 | 14483 | 14350 | 28833 | 6150 | 5513 | 11663 | 824 | 1026 | 8333 | 8837 | 17170 | 1083 | 1102 |
| 7/21/2016 | Thu | | | 50.3 | 49.7 | 14832 | 14677 | 29509 | 6246 | 5640 | 11886 | 885 | 1053 | 8586 | 9037 | 17623 | 976 | 1063 |
| 7/22/2016 | Fri | | | 50.0 | 50.0 | 14677 | 14680 | 29357 | 5977 | 5604 | 11581 | 829 | 1085 | 8700 | 9076 | 17776 | 1139 | 1017 |
| 7/23/2016 | Sat | | 3 | 50.0 | 50.0 | 9933 | 9918 | 19851 | 3646 | 4081 | 7727 | 629 | 891 | 6287 | 5837 | 12124 | 902 | 640 |
| 7/24/2016 | Sun | | 3 | 50.3 | 49.7 | 9613 | 9509 | 19122 | 2838 | 3204 | 6042 | 629 | 785 | 6775 | 6305 | 13080 | 938 | 657 |
| 7/25/2016 | Mon | | | 50.5 | 49.5 | 14095 | 13796 | 27891 | 5787 | 5149 | 10936 | 806 | 1082 | 8308 | 8647 | 16955 | 1009 | 1107 |
| 7/26/2016 | Tue | | | 50.2 | 49.8 | 14548 | 14447 | 28995 | 6016 | 5550 | 11566 | 771 | 1054 | 8532 | 8897 | 17429 | 1044 | 1139 |
| 7/27/2016 | Wed | | | 50.3 | 49.7 | 14546 | 14388 | 28934 | 6044 | 5442 | 11486 | 762 | 1041 | 8502 | 8946 | 17448 | 1017 | 1124 |
| 7/28/2016 | Thu | | | 50.1 | 49.9 | 14559 | 14502 | 29061 | 5991 | 5528 | 11519 | 795 | 1005 | 8568 | 8974 | 17542 | 979 | 1082 |
| 7/29/2016 | Fri | | | 50.3 | 49.7 | 15239 | 15066 | 30305 | 6155 | 5558 | 11713 | 868 | 1062 | 9084 | 9508 | 18592 | 1083 | 1096 |
| 7/30/2016 | Sat | | | 50.2 | 49.8 | 13965 | 13861 | 27826 | 4911 | 5163 | 10074 | 945 | 957 | 9054 | 8698 | 17752 | 1034 | 969 |
| 7/31/2016 | Sun | | | 49.8 | 50.2 | 12402 | 12509 | 24911 | 4347 | 4654 | 9001 | 831 | 985 | 8055 | 7855 | 15910 | 1050 | 904 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**August, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 8/1/2016 | Mon | | | 50.3 | 49.7 | 14087 | 13908 | 27995 | 5867 | 5399 | 11266 | 856 | 947 | 8220 | 8509 | 16729 | 1081 | 1160 |
| 8/2/2016 | Tue | | | 50.3 | 49.7 | 14181 | 13994 | 28175 | 5967 | 5415 | 11382 | 1074 | 696 | 8214 | 8579 | 16793 | 1048 | 1128 |
| 8/3/2016 | Wed | | | 50.3 | 49.7 | 14285 | 14135 | 28420 | 6009 | 5484 | 11493 | 776 | 1014 | 8276 | 8651 | 16927 | 1054 | 1100 |
| 8/4/2016 | Thu | | | 50.3 | 49.7 | 14305 | 14156 | 28461 | 5980 | 5425 | 11405 | 816 | 1008 | 8325 | 8731 | 17056 | 1068 | 1173 |
| 8/5/2016 | Fri | | | 50.2 | 49.8 | 15013 | 14865 | 29878 | 5985 | 5463 | 11448 | 873 | 923 | 9028 | 9402 | 18430 | 1089 | 1109 |
| 8/6/2016 | Sat | | | 50.2 | 49.8 | 13744 | 13624 | 27368 | 4815 | 5226 | 10041 | 748 | 1088 | 8929 | 8398 | 17327 | 1117 | 933 |
| 8/7/2016 | Sun | | | 49.9 | 50.1 | 11901 | 11937 | 23838 | 4115 | 4295 | 8410 | 840 | 957 | 7786 | 7642 | 15428 | 1025 | 877 |
| 8/8/2016 | Mon | | | 50.3 | 49.7 | 13987 | 13838 | 27825 | 5884 | 5262 | 11146 | 780 | 1012 | 8103 | 8576 | 16679 | 1062 | 1160 |
| 8/9/2016 | Tue | | | 50.1 | 49.9 | 14353 | 14288 | 28641 | 6053 | 5530 | 11583 | 761 | 1058 | 8300 | 8758 | 17058 | 983 | 1142 |
| 8/10/2016 | Wed | | | 49.9 | 50.1 | 14052 | 14083 | 28135 | 5959 | 5494 | 11453 | 1029 | 844 | 8093 | 8589 | 16682 | 1032 | 1077 |
| 8/11/2016 | Thu | | | 50.2 | 49.8 | 14371 | 14237 | 28608 | 5973 | 5479 | 11452 | 995 | 822 | 8398 | 8758 | 17156 | 1000 | 1155 |
| 8/12/2016 | Fri | | | 50.3 | 49.7 | 14821 | 14670 | 29491 | 6074 | 5522 | 11596 | 819 | 1047 | 8747 | 9148 | 17895 | 1064 | 1097 |
| 8/13/2016 | Sat | | | 49.9 | 50.1 | 13502 | 13583 | 27085 | 4924 | 5016 | 9940 | 894 | 907 | 8578 | 8567 | 17145 | 987 | 988 |
| 8/14/2016 | Sun | | | 49.4 | 50.6 | 12102 | 12388 | 24490 | 4325 | 4442 | 8767 | 816 | 954 | 7777 | 7946 | 15723 | 1105 | 814 |
| 8/15/2016 | Mon | | | 50.1 | 49.9 | 13926 | 13889 | 27815 | 5927 | 5392 | 11319 | 959 | 847 | 7999 | 8497 | 16496 | 1076 | 1076 |
| 8/16/2016 | Tue | | | 50.3 | 49.7 | 14160 | 13986 | 28146 | 5964 | 5409 | 11373 | 979 | 792 | 8196 | 8577 | 16773 | 1006 | 1086 |
| 8/17/2016 | Wed | | | 50.3 | 49.7 | 14490 | 14289 | 28779 | 6138 | 5519 | 11657 | 1089 | 770 | 8352 | 8770 | 17122 | 1022 | 1157 |
| 8/18/2016 | Thu | | | 50.2 | 49.8 | 14358 | 14235 | 28593 | 6035 | 5471 | 11506 | 785 | 1039 | 8323 | 8764 | 17087 | 1045 | 1099 |
| 8/19/2016 | Fri | * | | 50.5 | 49.5 | 14852 | 14532 | 29384 | 5793 | 5232 | 11025 | 798 | 1053 | 9059 | 9300 | 18359 | 1109 | 1099 |
| 8/20/2016 | Sat | | | 50.0 | 50.0 | 13402 | 13402 | 26804 | 4714 | 5349 | 10063 | 863 | 1043 | 8688 | 8053 | 16741 | 1113 | 959 |
| 8/21/2016 | Sun | | | 49.6 | 50.4 | 11990 | 12182 | 24172 | 4063 | 4355 | 8418 | 795 | 891 | 7927 | 7827 | 15754 | 962 | 961 |
| 8/22/2016 | Mon | | 1 | 50.2 | 49.8 | 14163 | 14023 | 28186 | 6007 | 5427 | 11434 | 804 | 1039 | 8156 | 8596 | 16752 | 1092 | 1134 |
| 8/23/2016 | Tue | | | 50.0 | 50.0 | 13765 | 13746 | 27511 | 5826 | 5323 | 11149 | 932 | 824 | 7939 | 8423 | 16362 | 1006 | 1143 |
| 8/24/2016 | Wed | | | 50.2 | 49.8 | 13971 | 13858 | 27829 | 5883 | 5581 | 11464 | 727 | 1102 | 8088 | 8277 | 16365 | 1045 | 1174 |
| 8/25/2016 | Thu | | | 50.0 | 50.0 | 13970 | 13986 | 27956 | 5783 | 5515 | 11298 | 955 | 840 | 8187 | 8471 | 16658 | 1047 | 1088 |
| 8/26/2016 | Fri | | | 50.1 | 49.9 | 14192 | 14157 | 28349 | 5783 | 5345 | 11128 | 722 | 1098 | 8409 | 8812 | 17221 | 1036 | 1105 |
| 8/27/2016 | Sat | | | 50.3 | 49.7 | 13190 | 13040 | 26230 | 4697 | 5146 | 9843 | 843 | 1007 | 8493 | 7894 | 16387 | 1024 | 913 |
| 8/28/2016 | Sun | | | 49.7 | 50.3 | 11622 | 11754 | 23376 | 4047 | 4314 | 8361 | 842 | 910 | 7575 | 7440 | 15015 | 1019 | 889 |
| 8/29/2016 | Mon | | | 49.8 | 50.2 | 13108 | 13203 | 26311 | 5658 | 5297 | 10955 | 1126 | 636 | 7450 | 7906 | 15356 | 951 | 1138 |
| 8/30/2016 | Tue | | | 49.5 | 50.5 | 13175 | 13458 | 26633 | 5778 | 5292 | 11070 | 1120 | 672 | 7397 | 8166 | 15563 | 989 | 1081 |
| 8/31/2016 | Wed | | 1 | 50.1 | 49.9 | 12394 | 12366 | 24760 | 5485 | 4771 | 10256 | 706 | 914 | 6909 | 7595 | 14504 | 898 | 1050 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**September, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 9/1/2016 | Thu | | 1 | 50.9 | 49.1 | 12828 | 12380 | 25208 | 5413 | 4491 | 9904 | 764 | 883 | 7415 | 7889 | 15304 | 892 | 1141 |
| 9/2/2016 | Fri | | | 50.6 | 49.4 | 13335 | 13036 | 26371 | 5561 | 4977 | 10538 | 1059 | 612 | 7774 | 8059 | 15833 | 1029 | 1064 |
| 9/3/2016 | Sat | | 3 | 51.0 | 49.0 | 11082 | 10629 | 21711 | 3602 | 3858 | 7460 | 687 | 960 | 7480 | 6771 | 14251 | 1015 | 714 |
| 9/4/2016 | Sun | | | 50.3 | 49.7 | 11708 | 11569 | 23277 | 4036 | 4162 | 8198 | 828 | 901 | 7672 | 7407 | 15079 | 1003 | 882 |
| 9/5/2016 | Mon | * | | 49.8 | 50.2 | 12428 | 12527 | 24955 | 4861 | 4418 | 9279 | 877 | 919 | 7567 | 8109 | 15676 | 977 | 958 |
| 9/6/2016 | Tue | | | 50.3 | 49.7 | 14030 | 13837 | 27867 | 5956 | 5625 | 11581 | 1074 | 788 | 8074 | 8212 | 16286 | 1034 | 1096 |
| 9/7/2016 | Wed | | | 50.4 | 49.6 | 14166 | 13917 | 28083 | 6104 | 5346 | 11450 | 1145 | 729 | 8062 | 8571 | 16633 | 1070 | 1012 |
| 9/8/2016 | Thu | | | 50.6 | 49.4 | 14168 | 13813 | 27981 | 6125 | 5265 | 11390 | 1003 | 828 | 8043 | 8548 | 16591 | 1000 | 1096 |
| 9/9/2016 | Fri | | 1 | 50.5 | 49.5 | 14602 | 14294 | 28896 | 6109 | 5385 | 11494 | 1067 | 758 | 8493 | 8909 | 17402 | 1054 | 970 |
| 9/10/2016 | Sat | | | 50.7 | 49.3 | 13417 | 13053 | 26470 | 4618 | 5208 | 9826 | 745 | 1036 | 8799 | 7845 | 16644 | 1014 | 914 |
| 9/11/2016 | Sun | | | 49.8 | 50.2 | 11338 | 11412 | 22750 | 3986 | 4225 | 8211 | 823 | 868 | 7352 | 7187 | 14539 | 950 | 875 |
| 9/12/2016 | Mon | | 1 | 50.5 | 49.5 | 13557 | 13281 | 26838 | 5663 | 5506 | 11169 | 718 | 1037 | 7894 | 7775 | 15669 | 1136 | 1042 |
| 9/13/2016 | Tue | | | 50.5 | 49.5 | 12759 | 12497 | 25256 | 5679 | 5441 | 11120 | 741 | 1025 | 7080 | 7056 | 14136 | 1051 | 1032 |
| 9/14/2016 | Wed | | 3 | 49.1 | 50.9 | 10169 | 10553 | 20722 | 4753 | 4667 | 9420 | 826 | 637 | 5416 | 5886 | 11302 | 661 | 702 |
| 9/15/2016 | Thu | | | 49.9 | 50.1 | 12274 | 12326 | 24600 | 5337 | 4604 | 9941 | 992 | 571 | 6937 | 7722 | 14659 | 822 | 882 |
| 9/16/2016 | Fri | | | 50.1 | 49.9 | 13672 | 13639 | 27311 | 5903 | 5294 | 11197 | 1008 | 745 | 7769 | 8345 | 16114 | 999 | 1004 |
| 9/17/2016 | Sat | | | 50.3 | 49.7 | 13465 | 13302 | 26767 | 5121 | 5285 | 10406 | 892 | 975 | 8344 | 8017 | 16361 | 1003 | 1039 |
| 9/18/2016 | Sun | | | 49.5 | 50.5 | 11187 | 11424 | 22611 | 4270 | 4464 | 8734 | 665 | 906 | 6917 | 6960 | 13877 | 971 | 758 |
| 9/19/2016 | Mon | | | 50.3 | 49.7 | 13402 | 13256 | 26658 | 5766 | 5267 | 11033 | 955 | 848 | 7636 | 7989 | 15625 | 1036 | 1173 |
| 9/20/2016 | Tue | | | 50.5 | 49.5 | 13912 | 13636 | 27548 | 5935 | 5428 | 11363 | 1070 | 749 | 7977 | 8208 | 16185 | 1094 | 1060 |
| 9/21/2016 | Wed | | | 50.8 | 49.2 | 14379 | 13938 | 28317 | 6075 | 5599 | 11674 | 968 | 923 | 8304 | 8339 | 16643 | 1031 | 986 |
| 9/22/2016 | Thu | | | 50.2 | 49.8 | 14490 | 14398 | 28888 | 6167 | 5708 | 11875 | 969 | 950 | 8323 | 8690 | 17013 | 1077 | 1134 |
| 9/23/2016 | Fri | | | 50.2 | 49.8 | 14409 | 14315 | 28724 | 6011 | 5549 | 11560 | 986 | 898 | 8398 | 8766 | 17164 | 1099 | 1086 |
| 9/24/2016 | Sat | | | 50.8 | 49.2 | 13657 | 13221 | 26878 | 4769 | 5328 | 10097 | 812 | 1032 | 8888 | 7893 | 16781 | 989 | 979 |
| 9/25/2016 | Sun | | | 48.7 | 51.3 | 11264 | 11875 | 23139 | 4134 | 4818 | 8952 | 733 | 930 | 7130 | 7057 | 14187 | 899 | 875 |
| 9/26/2016 | Mon | | | 50.1 | 49.9 | 13063 | 12993 | 26056 | 5760 | 5194 | 10954 | 1078 | 708 | 7303 | 7799 | 15102 | 946 | 1186 |
| 9/27/2016 | Tue | | | 49.9 | 50.1 | 13404 | 13444 | 26848 | 5851 | 5343 | 11194 | 1046 | 758 | 7553 | 8101 | 15654 | 959 | 1015 |
| 9/28/2016 | Wed | | 1 | 50.2 | 49.8 | 13114 | 13031 | 26145 | 5705 | 5164 | 10869 | 1053 | 759 | 7409 | 7867 | 15276 | 1013 | 987 |
| 9/29/2016 | Thu | | | 50.2 | 49.8 | 13393 | 13303 | 26696 | 5747 | 5304 | 11051 | 1099 | 695 | 7646 | 7999 | 15645 | 946 | 1153 |
| 9/30/2016 | Fri | | | 50.4 | 49.6 | 13698 | 13455 | 27153 | 5796 | 5022 | 10818 | 1074 | 689 | 7902 | 8433 | 16335 | 1047 | 1088 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**October, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 10/1/2016 | Sat | | | 50.5 | 49.5 | 12686 | 12450 | 25136 | 4486 | 5135 | 9621 | 702 | 1047 | 8200 | 7315 | 15515 | 1149 | 734 |
| 10/2/2016 | Sun | | | 50.0 | 50.0 | 11056 | 11055 | 22111 | 3853 | 4119 | 7972 | 700 | 873 | 7203 | 6936 | 14139 | 909 | 822 |
| 10/3/2016 | Mon | | | 50.7 | 49.3 | 13503 | 13144 | 26647 | 5677 | 5196 | 10873 | 761 | 1040 | 7826 | 7948 | 15774 | 1051 | 1158 |
| 10/4/2016 | Tue | | | 50.5 | 49.5 | 13228 | 12987 | 26215 | 5705 | 5140 | 10845 | 991 | 734 | 7523 | 7847 | 15370 | 1003 | 1197 |
| 10/5/2016 | Wed | | | 50.5 | 49.5 | 13477 | 13212 | 26689 | 5750 | 5150 | 10900 | 967 | 773 | 7727 | 8062 | 15789 | 973 | 1159 |
| 10/6/2016 | Thu | | | 50.5 | 49.5 | 13943 | 13645 | 27588 | 5840 | 5319 | 11159 | 978 | 797 | 8103 | 8326 | 16429 | 1015 | 1135 |
| 10/7/2016 | Fri | | | 50.2 | 49.8 | 14372 | 14281 | 28653 | 5922 | 5364 | 11286 | 724 | 1097 | 8450 | 8917 | 17367 | 1082 | 1009 |
| 10/8/2016 | Sat | | | 50.6 | 49.4 | 13619 | 13295 | 26914 | 4754 | 5258 | 10012 | 719 | 1022 | 8865 | 8037 | 16902 | 1112 | 897 |
| 10/9/2016 | Sun | | | 50.0 | 50.0 | 11616 | 11618 | 23234 | 3996 | 4221 | 8217 | 747 | 887 | 7620 | 7397 | 15017 | 1019 | 839 |
| 10/10/2016 | Mon | | | 50.6 | 49.4 | 13982 | 13641 | 27623 | 5880 | 5311 | 11191 | 832 | 1063 | 8102 | 8330 | 16432 | 1101 | 1132 |
| 10/11/2016 | Tue | | | 50.4 | 49.6 | 14113 | 13871 | 27984 | 5823 | 5443 | 11266 | 779 | 1014 | 8290 | 8428 | 16718 | 1065 | 1137 |
| 10/12/2016 | Wed | | | 50.3 | 49.7 | 14250 | 14097 | 28347 | 5872 | 5558 | 11430 | 733 | 1060 | 8378 | 8539 | 16917 | 1025 | 1106 |
| 10/13/2016 | Thu | | | 50.4 | 49.6 | 14039 | 13828 | 27867 | 5963 | 5286 | 11249 | 772 | 1019 | 8076 | 8542 | 16618 | 1043 | 1120 |
| 10/14/2016 | Fri | | | 50.1 | 49.9 | 14448 | 14392 | 28840 | 5894 | 5494 | 11388 | 823 | 1053 | 8554 | 8898 | 17452 | 1102 | 1149 |
| 10/15/2016 | Sat | | | 50.2 | 49.8 | 13503 | 13411 | 26914 | 4657 | 5362 | 10019 | 826 | 1014 | 8846 | 8049 | 16895 | 1071 | 988 |
| 10/16/2016 | Sun | | | 50.1 | 49.9 | 11718 | 11661 | 23379 | 4032 | 4335 | 8367 | 751 | 898 | 7686 | 7326 | 15012 | 1053 | 822 |
| 10/17/2016 | Mon | | | 50.3 | 49.7 | 13523 | 13356 | 26879 | 5706 | 5395 | 11101 | 869 | 960 | 7817 | 7961 | 15778 | 984 | 1143 |
| 10/18/2016 | Tue | | | 50.4 | 49.6 | 13744 | 13510 | 27254 | 5817 | 5307 | 11124 | 1022 | 744 | 7927 | 8203 | 16130 | 1047 | 1082 |
| 10/19/2016 | Wed | | | 50.4 | 49.6 | 13423 | 13185 | 26608 | 5794 | 5135 | 10929 | 879 | 801 | 7629 | 8050 | 15679 | 874 | 1145 |
| 10/20/2016 | Thu | | | 50.3 | 49.7 | 14311 | 14121 | 28432 | 5980 | 5328 | 11308 | 799 | 989 | 8331 | 8793 | 17124 | 998 | 1141 |
| 10/21/2016 | Fri | | | 50.5 | 49.5 | 14463 | 14191 | 28654 | 5845 | 5265 | 11110 | 1110 | 666 | 8618 | 8926 | 17544 | 1133 | 981 |
| 10/22/2016 | Sat | | | 50.3 | 49.7 | 13158 | 12999 | 26157 | 4510 | 5292 | 9802 | 798 | 1057 | 8648 | 7707 | 16355 | 1170 | 772 |
| 10/23/2016 | Sun | | | 50.3 | 49.7 | 11425 | 11270 | 22695 | 4020 | 4094 | 8114 | 725 | 966 | 7405 | 7176 | 14581 | 919 | 885 |
| 10/24/2016 | Mon | | | 49.8 | 50.2 | 13690 | 13818 | 27508 | 5680 | 5591 | 11271 | 697 | 1090 | 8010 | 8227 | 16237 | 1105 | 1075 |
| 10/25/2016 | Tue | | | 49.9 | 50.1 | 13794 | 13846 | 27640 | 5912 | 5653 | 11565 | 1100 | 710 | 7882 | 8193 | 16075 | 1038 | 1130 |
| 10/26/2016 | Wed | | | 50.0 | 50.0 | 13759 | 13734 | 27493 | 5940 | 5319 | 11259 | 923 | 899 | 7819 | 8415 | 16234 | 1093 | 1102 |
| 10/27/2016 | Thu | | | 50.2 | 49.8 | 13978 | 13845 | 27823 | 5874 | 5425 | 11299 | 1075 | 790 | 8104 | 8420 | 16524 | 1069 | 1155 |
| 10/28/2016 | Fri | | | 50.4 | 49.6 | 14405 | 14191 | 28596 | 5734 | 5548 | 11282 | 733 | 1099 | 8671 | 8643 | 17314 | 1155 | 1096 |
| 10/29/2016 | Sat | | | 50.2 | 49.8 | 12463 | 12386 | 24849 | 4092 | 5300 | 9392 | 708 | 1065 | 8371 | 7086 | 15457 | 1151 | 702 |
| 10/30/2016 | Sun | | | 50.4 | 49.6 | 11113 | 10931 | 22044 | 3687 | 4098 | 7785 | 684 | 962 | 7426 | 6833 | 14259 | 1019 | 769 |
| 10/31/2016 | Mon | | | 52.3 | 47.7 | 13447 | 12254 | 25701 | 5468 | 4760 | 10228 | 696 | 927 | 7979 | 7494 | 15473 | 1159 | 938 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**November, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 11/1/2016 | Tue | | | 47.7 | 52.3 | 10669 | 11702 | 22371 | 3984 | 4485 | 8469 | 926 | 1003 | 6685 | 7217 | 13902 | 831 | 1051 |
| 11/2/2016 | Wed | | | 50.2 | 49.8 | 13628 | 13538 | 27166 | 5814 | 5403 | 11217 | 1071 | 717 | 7814 | 8135 | 15949 | 941 | 1141 |
| 11/3/2016 | Thu | | | 50.6 | 49.4 | 13968 | 13640 | 27608 | 6068 | 5189 | 11257 | 801 | 1003 | 7900 | 8451 | 16351 | 1008 | 1199 |
| 11/4/2016 | Fri | | | 50.4 | 49.6 | 14418 | 14179 | 28597 | 5851 | 5353 | 11204 | 766 | 1047 | 8567 | 8826 | 17393 | 1027 | 1217 |
| 11/5/2016 | Sat | | 1 | 50.0 | 50.0 | 13309 | 13305 | 26614 | 4492 | 5584 | 10076 | 869 | 975 | 8817 | 7721 | 16538 | 1055 | 935 |
| 11/6/2016 | Sun | | | 50.5 | 49.5 | 11505 | 11271 | 22776 | 3985 | 4105 | 8090 | 831 | 868 | 7520 | 7166 | 14686 | 1064 | 754 |
| 11/7/2016 | Mon | | | 50.7 | 49.3 | 13844 | 13472 | 27316 | 5731 | 5212 | 10943 | 666 | 1061 | 8113 | 8260 | 16373 | 1072 | 1164 |
| 11/8/2016 | Tue | * | | 50.4 | 49.6 | 13786 | 13588 | 27374 | 6033 | 5054 | 11087 | 772 | 1103 | 7753 | 8534 | 16287 | 1011 | 1135 |
| 11/9/2016 | Wed | | | 50.3 | 49.7 | 13871 | 13683 | 27554 | 5873 | 5295 | 11168 | 743 | 1021 | 7998 | 8388 | 16386 | 1076 | 1215 |
| 11/10/2016 | Thu | | 1 | 50.7 | 49.3 | 14430 | 14013 | 28443 | 5986 | 5360 | 11346 | 754 | 1051 | 8444 | 8653 | 17097 | 1075 | 1171 |
| 11/11/2016 | Fri | * | | 50.6 | 49.4 | 14666 | 14343 | 29009 | 5865 | 5165 | 11030 | 899 | 1042 | 8801 | 9178 | 17979 | 996 | 1161 |
| 11/12/2016 | Sat | | | 49.9 | 50.1 | 12979 | 13033 | 26012 | 4663 | 5075 | 9738 | 846 | 1013 | 8316 | 7958 | 16274 | 1027 | 949 |
| 11/13/2016 | Sun | | | 49.1 | 50.9 | 11075 | 11465 | 22540 | 3876 | 4086 | 7962 | 762 | 892 | 7199 | 7379 | 14578 | 912 | 891 |
| 11/14/2016 | Mon | | | 49.8 | 50.2 | 13830 | 13931 | 27761 | 5915 | 5331 | 11246 | 751 | 1070 | 7915 | 8600 | 16515 | 1041 | 1154 |
| 11/15/2016 | Tue | | | 50.0 | 50.0 | 13744 | 13744 | 27488 | 5891 | 5075 | 10966 | 966 | 828 | 7853 | 8669 | 16522 | 1068 | 1189 |
| 11/16/2016 | Wed | | | 50.1 | 49.9 | 13765 | 13726 | 27491 | 5778 | 5158 | 10936 | 704 | 1014 | 7987 | 8568 | 16555 | 1009 | 1157 |
| 11/17/2016 | Thu | | | 50.4 | 49.6 | 13999 | 13785 | 27784 | 5873 | 5101 | 10974 | 718 | 1029 | 8126 | 8684 | 16810 | 1005 | 1173 |
| 11/18/2016 | Fri | | | 50.3 | 49.7 | 14332 | 14164 | 28496 | 5929 | 5243 | 11172 | 738 | 1056 | 8403 | 8921 | 17324 | 1070 | 1181 |
| 11/19/2016 | Sat | | 1 | 50.2 | 49.8 | 13003 | 12883 | 25886 | 4514 | 4895 | 9409 | 735 | 1029 | 8489 | 7988 | 16477 | 1149 | 936 |
| 11/20/2016 | Sun | | | 50.7 | 49.3 | 11494 | 11179 | 22673 | 3984 | 4011 | 7995 | 781 | 818 | 7510 | 7168 | 14678 | 951 | 895 |
| 11/21/2016 | Mon | | | 50.4 | 49.6 | 14064 | 13816 | 27880 | 6109 | 4948 | 11057 | 766 | 1020 | 7955 | 8868 | 16823 | 1053 | 1133 |
| 11/22/2016 | Tue | | | 50.1 | 49.9 | 13972 | 13898 | 27870 | 6192 | 5024 | 11216 | 1176 | 619 | 7780 | 8874 | 16654 | 976 | 1230 |
| 11/23/2016 | Wed | | | 49.8 | 50.2 | 13506 | 13596 | 27102 | 5934 | 4960 | 10894 | 1136 | 609 | 7572 | 8636 | 16208 | 1105 | 975 |
| 11/24/2016 | Thu | * | | 50.0 | 50.0 | 9716 | 9728 | 19444 | 3305 | 3470 | 6775 | 613 | 755 | 6411 | 6258 | 12669 | 862 | 666 |
| 11/25/2016 | Fri | | 3 | 50.2 | 49.8 | 14075 | 13971 | 28046 | 5194 | 5163 | 10357 | 895 | 980 | 8881 | 8808 | 17689 | 1085 | 1080 |
| 11/26/2016 | Sat | | | 49.9 | 50.1 | 12860 | 12897 | 25757 | 4376 | 4765 | 9141 | 798 | 976 | 8484 | 8132 | 16616 | 1134 | 890 |
| 11/27/2016 | Sun | | | 49.3 | 50.7 | 11045 | 11380 | 22425 | 3658 | 4019 | 7677 | 763 | 883 | 7387 | 7361 | 14748 | 985 | 862 |
| 11/28/2016 | Mon | | | 50.1 | 49.9 | 13731 | 13658 | 27389 | 5889 | 5190 | 11079 | 774 | 1066 | 7842 | 8468 | 16310 | 1001 | 1191 |
| 11/29/2016 | Tue | | | 49.8 | 50.2 | 13603 | 13700 | 27303 | 5691 | 5338 | 11029 | 747 | 1030 | 7912 | 8362 | 16274 | 1086 | 1154 |
| 11/30/2016 | Wed | | 1 | 50.0 | 50.0 | 12877 | 12879 | 25756 | 5425 | 5096 | 10521 | 676 | 1098 | 7452 | 7783 | 15235 | 1007 | 1129 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**December, 2016**

STATION NO 030121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

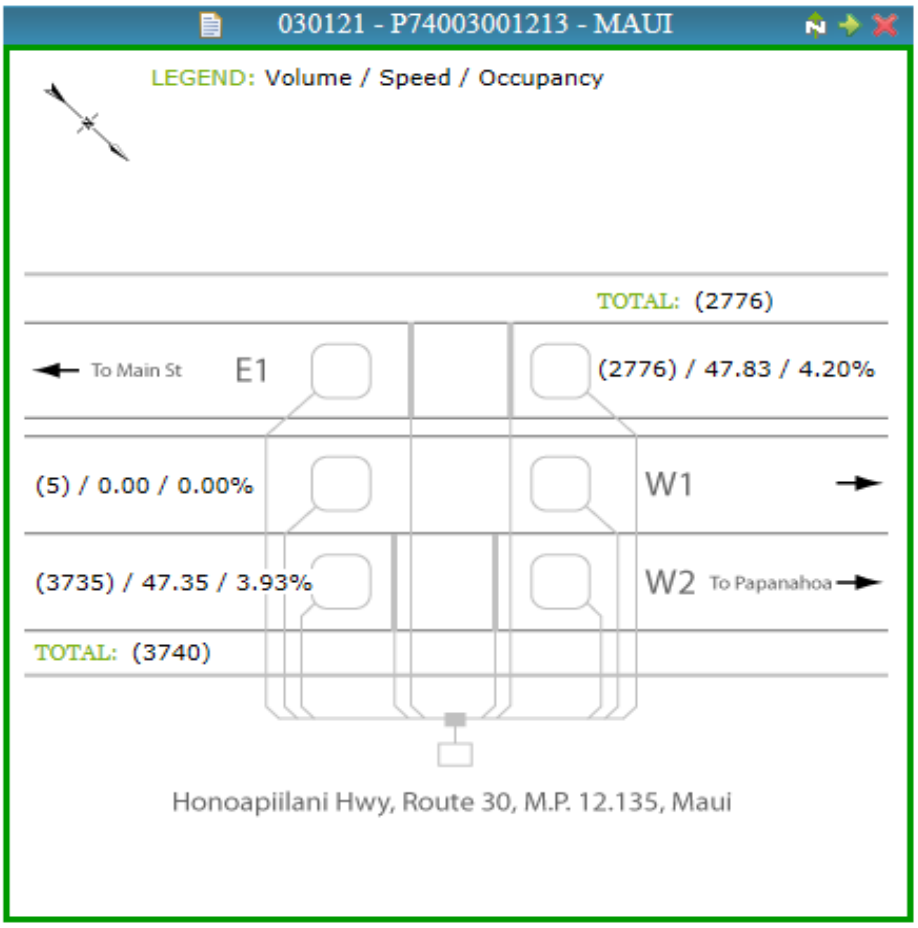
DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 12/1/2016 | Thu | | | 51.0 | 49.0 | 12975 | 12459 | 25434 | 5857 | 4946 | 10803 | 874 | 1027 | 7118 | 7513 | 14631 | 1104 | 1150 |
| 12/2/2016 | Fri | | | 50.5 | 49.5 | 13399 | 13121 | 26520 | 5642 | 4518 | 10160 | 745 | 911 | 7757 | 8603 | 16360 | 968 | 1182 |
| 12/3/2016 | Sat | | | 51.0 | 49.0 | 12509 | 12042 | 24551 | 4055 | 4475 | 8530 | 745 | 923 | 8454 | 7567 | 16021 | 1134 | 819 |
| 12/4/2016 | Sun | | | 49.6 | 50.4 | 10648 | 10841 | 21489 | 3548 | 3894 | 7442 | 672 | 966 | 7100 | 6947 | 14047 | 978 | 912 |
| 12/5/2016 | Mon | | 1 | 50.4 | 49.6 | 13071 | 12872 | 25943 | 5345 | 4818 | 10163 | 716 | 995 | 7726 | 8054 | 15780 | 931 | 1140 |
| 12/6/2016 | Tue | | | 50.0 | 50.0 | 13437 | 13416 | 26853 | 5724 | 5128 | 10852 | 849 | 863 | 7713 | 8288 | 16001 | 1038 | 1067 |
| 12/7/2016 | Wed | | 1 | 50.1 | 49.9 | 13186 | 13141 | 26327 | 5518 | 4912 | 10430 | 1023 | 652 | 7668 | 8229 | 15897 | 1031 | 1105 |
| 12/8/2016 | Thu | | 1 | 50.0 | 50.0 | 12061 | 12055 | 24116 | 5242 | 4875 | 10117 | 650 | 1037 | 6819 | 7180 | 13999 | 929 | 1046 |
| 12/9/2016 | Fri | | | 50.3 | 49.7 | 13992 | 13843 | 27835 | 5285 | 4985 | 10270 | 729 | 1135 | 8707 | 8858 | 17565 | 1103 | 1141 |
| 12/10/2016 | Sat | | | 50.4 | 49.6 | 11819 | 11611 | 23430 | 3838 | 4522 | 8360 | 688 | 999 | 7981 | 7089 | 15070 | 1010 | 846 |
| 12/11/2016 | Sun | | | 49.2 | 50.8 | 9325 | 9613 | 18938 | 3425 | 3622 | 7047 | 660 | 868 | 5900 | 5991 | 11891 | 892 | 901 |
| 12/12/2016 | Mon | | | 50.3 | 49.7 | 13441 | 13288 | 26729 | 6018 | 5288 | 11306 | 662 | 951 | 7423 | 8000 | 15423 | 943 | 1183 |
| 12/13/2016 | Tue | | | 50.0 | 50.0 | 13651 | 13666 | 27317 | 5796 | 5210 | 11006 | 1116 | 607 | 7855 | 8456 | 16311 | 1087 | 1246 |
| 12/14/2016 | Wed | | | 49.9 | 50.1 | 13617 | 13659 | 27276 | 5725 | 4989 | 10714 | 764 | 1003 | 7892 | 8670 | 16562 | 1044 | 1098 |
| 12/15/2016 | Thu | | | 50.1 | 49.9 | 13394 | 13364 | 26758 | 5701 | 4996 | 10697 | 817 | 878 | 7693 | 8368 | 16061 | 996 | 1025 |
| 12/16/2016 | Fri | | | 50.7 | 49.3 | 14177 | 13801 | 27978 | 5507 | 4935 | 10442 | 709 | 1033 | 8670 | 8866 | 17536 | 1109 | 1178 |
| 12/17/2016 | Sat | | | 50.3 | 49.7 | 12705 | 12565 | 25270 | 4018 | 4839 | 8857 | 729 | 1025 | 8687 | 7726 | 16413 | 1083 | 835 |
| 12/18/2016 | Sun | | | 50.3 | 49.7 | 11654 | 11495 | 23149 | 3780 | 3970 | 7750 | 730 | 948 | 7874 | 7525 | 15399 | 952 | 968 |
| 12/19/2016 | Mon | | 1 | 51.0 | 49.0 | 13825 | 13298 | 27123 | 5528 | 4916 | 10444 | 739 | 1007 | 8297 | 8382 | 16679 | 1028 | 1131 |
| 12/20/2016 | Tue | | | 50.6 | 49.4 | 14243 | 13927 | 28170 | 5774 | 5102 | 10876 | 741 | 981 | 8469 | 8825 | 17294 | 1054 | 1214 |
| 12/21/2016 | Wed | | | 50.4 | 49.6 | 14449 | 14227 | 28676 | 5827 | 4991 | 10818 | 837 | 970 | 8622 | 9236 | 17858 | 1101 | 1160 |
| 12/22/2016 | Thu | | | 50.3 | 49.7 | 14963 | 14768 | 29731 | 5844 | 5305 | 11149 | 834 | 1076 | 9119 | 9463 | 18582 | 1133 | 1195 |
| 12/23/2016 | Fri | | | 49.7 | 50.3 | 14709 | 14903 | 29612 | 5644 | 5280 | 10924 | 834 | 1095 | 9065 | 9623 | 18688 | 1120 | 1146 |
| 12/24/2016 | Sat | | | 50.7 | 49.3 | 11882 | 11571 | 23453 | 4059 | 4388 | 8447 | 729 | 911 | 7823 | 7183 | 15006 | 1034 | 892 |
| 12/25/2016 | Sun | | | 50.8 | 49.2 | 9844 | 9515 | 19359 | 3106 | 3122 | 6228 | 630 | 733 | 6738 | 6393 | 13131 | 832 | 679 |
| 12/26/2016 | Mon | * | | 50.9 | 49.1 | 13609 | 13135 | 26744 | 4801 | 4597 | 9398 | 1025 | 1068 | 8808 | 8538 | 17346 | 1083 | 1042 |
| 12/27/2016 | Tue | | | 50.6 | 49.4 | 14529 | 14196 | 28725 | 5927 | 5163 | 11090 | 910 | 1027 | 8602 | 9033 | 17635 | 1068 | 1179 |
| 12/28/2016 | Wed | | | 50.4 | 49.6 | 14444 | 14239 | 28683 | 5955 | 4908 | 10863 | 925 | 933 | 8489 | 9331 | 17820 | 1127 | 1109 |
| 12/29/2016 | Thu | | | 50.4 | 49.6 | 14593 | 14380 | 28973 | 5771 | 5039 | 10810 | 896 | 1034 | 8822 | 9341 | 18163 | 1111 | 1107 |
| 12/30/2016 | Fri | | | 50.0 | 50.0 | 14593 | 14576 | 29169 | 5830 | 5188 | 11018 | 934 | 1040 | 8763 | 9388 | 18151 | 929 | 1174 |
| 12/31/2016 | Sat | | | 50.3 | 49.7 | 10718 | 10602 | 21320 | 3945 | 4163 | 8108 | 721 | 913 | 6773 | 6439 | 13212 | 976 | 698 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR


030121 - P74003001213 - MAUI
LEGEND: Volume / Speed / Occupancy
TOTAL: (2776)
To Main St
E1
(2776) / 47.83 / 4.20%
(5) / 0.00 / 0.00%
W1
(3735) / 47.35 / 3.93%
W2
To Papanahoa
TOTAL: (3740)
Honoapiilani Hwy, Route 30, M.P. 12.135, Maui

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2018 - 2018
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 27850 | 28851 | 28595 | 28987 | 29608 | 27159 | 25109 | 28778 | 28023 | 0.99910 | 0.97287 |
| February | 27586 | 28278 | 28724 | 28057 | 29635 | 26998 | 24065 | 28456 | 27620 | 1.01364 | 0.98388 |
| March | 28464 | 28697 | 28921 | 29097 | 29676 | 26869 | 24722 | 28971 | 28064 | 0.99764 | 0.96640 |
| April | 27806 | 28547 | 28071 | 28758 | 29612 | 26971 | 24293 | 28559 | 27722 | 1.00992 | 0.98035 |
| May | 28843 | 29125 | 28579 | 28562 | 29467 | 27564 | 25002 | 28915 | 28163 | 0.99411 | 0.96826 |
| June | 28576 | 29179 | 29069 | 29464 | 30135 | 28288 | 25632 | 29285 | 28621 | 0.97822 | 0.95603 |
| July | 29257 | 29506 | 29986 | 30272 | 31157 | 28994 | 26052 | 30036 | 29318 | 0.95496 | 0.93214 |
| August | 28047 | 28279 | 28983 | 28476 | 29876 | 28358 | 26255 | 28732 | 28325 | 0.98844 | 0.97442 |
| September | 28353 | 26983 | 24468 | 28143 | 29397 | 27375 | 23629 | 27469 | 26907 | 1.04053 | 1.01925 |
| October | 27897 | 28443 | 28556 | 29436 | 29791 | 27390 | 24470 | 28825 | 27998 | 0.99999 | 0.97130 |
| November | 27816 | 28571 | 28409 | 28035 | 28882 | 26698 | 23513 | 28343 | 27418 | 1.02114 | 0.98782 |
| December | 26997 | 28106 | 28717 | 29455 | 30019 | 26926 | 24311 | 28659 | 27790 | 1.00745 | 0.97692 |
| AVERAGE | 28124 | 28547 | 28423 | 28895 | 29771 | 27466 | 24754 | AVERAGE 28752 | D1+D2 AADT 27997 | | |

K-FACTOR 8.42%
K-FACTOR PERIOD PM
D-FACTOR 50.45%

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2018 - 2018
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13956 | 14536 | 14361 | 14617 | 14850 | 13727 | 12554 | 14464 | 14086 | 0.99585 | 0.96981 |
| February | 13843 | 14180 | 14453 | 14140 | 14873 | 13543 | 12076 | 14298 | 13872 | 1.01116 | 0.98109 |
| March | 14301 | 14409 | 14522 | 14640 | 14897 | 13488 | 12368 | 14554 | 14089 | 0.99559 | 0.96382 |
| April | 13927 | 14340 | 14062 | 14447 | 14842 | 13578 | 11980 | 14323 | 13882 | 1.01045 | 0.97932 |
| May | 14399 | 14553 | 14307 | 14362 | 14733 | 13875 | 12480 | 14471 | 14101 | 0.99476 | 0.96936 |
| June | 14383 | 14606 | 14570 | 14727 | 15125 | 14220 | 12753 | 14682 | 14341 | 0.97815 | 0.95540 |
| July | 14626 | 14783 | 14915 | 14977 | 15456 | 14570 | 12938 | 14951 | 14609 | 0.96016 | 0.93819 |
| August | 15001 | 14065 | 14381 | 14111 | 14943 | 14085 | 13016 | 14500 | 14229 | 0.98584 | 0.96739 |
| September | 13984 | 13480 | 12254 | 14189 | 14664 | 13798 | 11675 | 13714 | 13435 | 1.04410 | 1.02283 |
| October | 13908 | 14173 | 14437 | 14721 | 14871 | 13782 | 12155 | 14422 | 14007 | 1.00145 | 0.97261 |
| November | 13981 | 14209 | 14218 | 13979 | 14483 | 13423 | 11722 | 14174 | 13716 | 1.02268 | 0.98966 |
| December | 13606 | 14011 | 14464 | 14876 | 15085 | 13558 | 12119 | 14408 | 13960 | 1.00483 | 0.97355 |
| AVERAGE | 14160 | 14278 | 14245 | 14482 | 14902 | 13804 | 12319 | AVERAGE 14413 | D1 AADT 14027 | | |

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2018 - 2018
LOC'N 20.7955 -156.583221

Maui
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13894 | 14316 | 14234 | 14370 | 14758 | 13432 | 12555 | 14314 | 13937 | 1.00237 | 0.97595 |
| February | 13743 | 14098 | 14271 | 13918 | 14763 | 13456 | 11989 | 14158 | 13748 | 1.01614 | 0.98670 |
| March | 14162 | 14289 | 14399 | 14457 | 14778 | 13381 | 12354 | 14417 | 13974 | 0.99970 | 0.96900 |
| April | 13879 | 14207 | 14009 | 14311 | 14770 | 13393 | 12313 | 14235 | 13840 | 1.00939 | 0.98139 |
| May | 14444 | 14572 | 14272 | 14200 | 14733 | 13690 | 12523 | 14444 | 14062 | 0.99346 | 0.96717 |
| June | 14193 | 14573 | 14500 | 14737 | 15011 | 14068 | 12880 | 14603 | 14280 | 0.97829 | 0.95668 |
| July | 14631 | 14723 | 15071 | 15295 | 15702 | 14424 | 13114 | 15084 | 14708 | 0.94980 | 0.92613 |
| August | 13046 | 14215 | 14602 | 14365 | 14933 | 14273 | 13239 | 14232 | 14096 | 0.99105 | 0.98158 |
| September | 14368 | 13504 | 12214 | 13954 | 14733 | 13577 | 11954 | 13754 | 13472 | 1.03697 | 1.01568 |
| October | 13989 | 14270 | 14118 | 14715 | 14920 | 13608 | 12315 | 14402 | 13991 | 0.99853 | 0.96998 |
| November | 13836 | 14362 | 14192 | 14056 | 14399 | 13275 | 11792 | 14169 | 13701 | 1.01960 | 0.98597 |
| December | 13391 | 14095 | 14253 | 14579 | 14934 | 13368 | 12192 | 14250 | 13830 | 1.01010 | 0.98032 |
| AVERAGE | 13965 | 14269 | 14178 | 14413 | 14869 | 13662 | 12435 | AVERAGE 14339 | D2 AADT 13970 | | |

**January, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 1/1/2018 | Mon | * | | 49.9 | 50.1 | 10530 | 10563 | 21093 | 3783 | 3779 | 7562 | 758 | 812 | 6747 | 6784 | 13531 | 1074 | 944 |
| 1/2/2018 | Tue | | | 50.5 | 49.5 | 14976 | 14654 | 29630 | 6018 | 5323 | 11341 | 936 | 1045 | 8958 | 9331 | 18289 | 1079 | 1153 |
| 1/3/2018 | Wed | | | 50.4 | 49.6 | 14953 | 14721 | 29674 | 6200 | 5373 | 11573 | 880 | 1074 | 8753 | 9348 | 18101 | 1082 | 1107 |
| 1/4/2018 | Thu | | | 50.3 | 49.7 | 14650 | 14491 | 29141 | 6321 | 5025 | 11346 | 844 | 986 | 8329 | 9466 | 17795 | 1001 | 1052 |
| 1/5/2018 | Fri | | | 50.2 | 49.8 | 15099 | 14982 | 30081 | 6275 | 5221 | 11496 | 920 | 1105 | 8824 | 9761 | 18585 | 1053 | 1193 |
| 1/6/2018 | Sat | | | 50.8 | 49.2 | 14053 | 13622 | 27675 | 5166 | 4963 | 10129 | 934 | 1003 | 8887 | 8659 | 17546 | 1084 | 1000 |
| 1/7/2018 | Sun | | | 49.6 | 50.4 | 12784 | 12976 | 25760 | 4922 | 4191 | 9113 | 931 | 935 | 7862 | 8785 | 16647 | 964 | 1110 |
| 1/8/2018 | Mon | | | 50.1 | 49.9 | 14247 | 14195 | 28442 | 5909 | 5610 | 11519 | 798 | 1123 | 8338 | 8585 | 16923 | 1072 | 1138 |
| 1/9/2018 | Tue | | 1 | 50.1 | 49.9 | 14069 | 14027 | 28096 | 5861 | 5382 | 11243 | 808 | 1062 | 8208 | 8645 | 16853 | 1037 | 1159 |
| 1/10/2018 | Wed | | | 50.3 | 49.7 | 14416 | 14244 | 28660 | 6004 | 5478 | 11482 | 748 | 1179 | 8412 | 8766 | 17178 | 1089 | 1121 |
| 1/11/2018 | Thu | | | 50.6 | 49.4 | 14621 | 14268 | 28889 | 6068 | 5442 | 11510 | 729 | 1130 | 8553 | 8826 | 17379 | 1101 | 1049 |
| 1/12/2018 | Fri | | | 50.2 | 49.8 | 15226 | 15076 | 30302 | 6075 | 5518 | 11593 | 845 | 1121 | 9151 | 9558 | 18709 | 1164 | 1098 |
| 1/13/2018 | Sat | | | 51.0 | 49.0 | 13868 | 13320 | 27188 | 4847 | 5045 | 9892 | 902 | 1004 | 9021 | 8275 | 17296 | 1160 | 846 |
| 1/14/2018 | Sun | | | 50.1 | 49.9 | 12990 | 12928 | 25918 | 4936 | 4352 | 9288 | 813 | 922 | 8054 | 8576 | 16630 | 1072 | 990 |
| 1/15/2018 | Mon | * | | 50.2 | 49.8 | 14224 | 14134 | 28358 | 5674 | 5112 | 10786 | 911 | 1033 | 8550 | 9022 | 17572 | 1096 | 1143 |
| 1/16/2018 | Tue | | | 50.4 | 49.6 | 14600 | 14347 | 28947 | 6070 | 5507 | 11577 | 934 | 1089 | 8530 | 8840 | 17370 | 1021 | 1086 |
| 1/17/2018 | Wed | | | 50.0 | 50.0 | 14310 | 14311 | 28621 | 5836 | 5377 | 11213 | 766 | 1124 | 8474 | 8934 | 17408 | 1196 | 1147 |
| 1/18/2018 | Thu | | | 50.4 | 49.6 | 14521 | 14292 | 28813 | 5968 | 5494 | 11462 | 768 | 1122 | 8553 | 8798 | 17351 | 1113 | 1109 |
| 1/19/2018 | Fri | | | 50.1 | 49.9 | 14471 | 14419 | 28890 | 5819 | 5238 | 11057 | 776 | 1036 | 8652 | 9181 | 17833 | 1116 | 1138 |
| 1/20/2018 | Sat | | | 50.1 | 49.9 | 13841 | 13802 | 27643 | 4931 | 5146 | 10077 | 892 | 1062 | 8910 | 8656 | 17566 | 1135 | 1014 |
| 1/21/2018 | Sun | | 1 | 49.9 | 50.1 | 11490 | 11514 | 23004 | 4039 | 3992 | 8031 | 736 | 952 | 7451 | 7522 | 14973 | 995 | 855 |
| 1/22/2018 | Mon | | | 50.3 | 49.7 | 14112 | 13953 | 28065 | 5892 | 5251 | 11143 | 811 | 1042 | 8220 | 8702 | 16922 | 1135 | 945 |
| 1/23/2018 | Tue | | | 50.4 | 49.6 | 14531 | 14275 | 28806 | 6219 | 5168 | 11387 | 811 | 1069 | 8312 | 9107 | 17419 | 1122 | 1116 |
| 1/24/2018 | Wed | | | 50.2 | 49.8 | 14140 | 14046 | 28186 | 5938 | 5310 | 11248 | 819 | 1037 | 8202 | 8736 | 16938 | 1128 | 1095 |
| 1/25/2018 | Thu | | | 50.4 | 49.6 | 14675 | 14428 | 29103 | 6049 | 5422 | 11471 | 787 | 1097 | 8626 | 9006 | 17632 | 1052 | 1128 |
| 1/26/2018 | Fri | | | 50.1 | 49.9 | 14604 | 14556 | 29160 | 5929 | 5250 | 11179 | 736 | 1093 | 8675 | 9306 | 17981 | 1076 | 1158 |
| 1/27/2018 | Sat | | | 50.3 | 49.7 | 13144 | 12985 | 26129 | 4497 | 4953 | 9450 | 823 | 1031 | 8647 | 8032 | 16679 | 1075 | 907 |
| 1/28/2018 | Sun | | | 50.3 | 49.7 | 11887 | 11762 | 23649 | 4282 | 4100 | 8382 | 786 | 909 | 7605 | 7662 | 15267 | 942 | 973 |
| 1/29/2018 | Mon | | | 50.0 | 50.0 | 13510 | 13533 | 27043 | 5813 | 5255 | 11068 | 756 | 1049 | 7697 | 8278 | 15975 | 1032 | 1165 |
| 1/30/2018 | Tue | | | 50.1 | 49.9 | 14035 | 13987 | 28022 | 6032 | 5337 | 11369 | 768 | 1051 | 8003 | 8650 | 16653 | 1064 | 1089 |
| 1/31/2018 | Wed | | | 50.2 | 49.8 | 13984 | 13848 | 27832 | 5791 | 5245 | 11036 | 772 | 1057 | 8193 | 8603 | 16796 | 1115 | 1128 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**February, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 2/1/2018 | Thu | | | 50.6 | 49.4 | 13992 | 13676 | 27668 | 5715 | 5305 | 11020 | 752 | 1155 | 8277 | 8371 | 16648 | 1071 | 1186 |
| 2/2/2018 | Fri | | | 50.1 | 49.9 | 14779 | 14698 | 29477 | 5900 | 5404 | 11304 | 834 | 1128 | 8879 | 9294 | 18173 | 1135 | 1098 |
| 2/3/2018 | Sat | | | 49.9 | 50.1 | 13330 | 13392 | 26722 | 4628 | 5060 | 9688 | 843 | 1029 | 8702 | 8332 | 17034 | 1163 | 908 |
| 2/4/2018 | Sun | | 3 | 50.2 | 49.8 | 10311 | 10217 | 20528 | 3886 | 3796 | 7682 | 733 | 866 | 6425 | 6421 | 12846 | 849 | 858 |
| 2/5/2018 | Mon | | | 50.3 | 49.7 | 13343 | 13189 | 26532 | 5563 | 5072 | 10635 | 778 | 1115 | 7780 | 8117 | 15897 | 1058 | 1135 |
| 2/6/2018 | Tue | | | 50.3 | 49.7 | 13651 | 13491 | 27142 | 5782 | 5194 | 10976 | 795 | 1036 | 7869 | 8297 | 16166 | 1042 | 1019 |
| 2/7/2018 | Wed | | | 50.5 | 49.5 | 14244 | 13968 | 28212 | 5912 | 5177 | 11089 | 766 | 1068 | 8332 | 8791 | 17123 | 1104 | 1133 |
| 2/8/2018 | Thu | | | 50.5 | 49.5 | 14707 | 14400 | 29107 | 6128 | 5499 | 11627 | 783 | 1124 | 8579 | 8901 | 17480 | 1037 | 1177 |
| 2/9/2018 | Fri | | | 50.1 | 49.9 | 15125 | 15055 | 30180 | 6118 | 5526 | 11644 | 895 | 1092 | 9007 | 9529 | 18536 | 1046 | 1149 |
| 2/10/2018 | Sat | | 1 | 50.1 | 49.9 | 13694 | 13621 | 27315 | 4700 | 5210 | 9910 | 876 | 1022 | 8994 | 8411 | 17405 | 1128 | 967 |
| 2/11/2018 | Sun | | | 50.2 | 49.8 | 11943 | 11840 | 23783 | 4220 | 4111 | 8331 | 829 | 947 | 7723 | 7729 | 15452 | 1088 | 896 |
| 2/12/2018 | Mon | | | 50.1 | 49.9 | 14068 | 14009 | 28077 | 6026 | 5306 | 11332 | 808 | 1043 | 8042 | 8703 | 16745 | 1093 | 1105 |
| 2/13/2018 | Tue | | | 50.2 | 49.8 | 14292 | 14186 | 28478 | 6044 | 5448 | 11492 | 762 | 1100 | 8248 | 8738 | 16986 | 1087 | 1119 |
| 2/14/2018 | Wed | | | 50.2 | 49.8 | 14136 | 13997 | 28133 | 6008 | 5147 | 11155 | 812 | 1012 | 8128 | 8850 | 16978 | 1093 | 1074 |
| 2/15/2018 | Thu | | | 50.5 | 49.5 | 13599 | 13336 | 26935 | 5279 | 4973 | 10252 | 862 | 1050 | 8320 | 8363 | 16683 | 995 | 1033 |
| 2/16/2018 | Fri | | | 50.5 | 49.5 | 15004 | 14725 | 29729 | 6031 | 5538 | 11569 | 835 | 1156 | 8973 | 9187 | 18160 | 1039 | 1158 |
| 2/17/2018 | Sat | | | 50.1 | 49.9 | 13523 | 13492 | 27015 | 4755 | 5027 | 9782 | 888 | 1070 | 8768 | 8465 | 17233 | 1062 | 987 |
| 2/18/2018 | Sun | | | 50.3 | 49.7 | 11966 | 11823 | 23789 | 4190 | 4120 | 8310 | 807 | 1022 | 7776 | 7703 | 15479 | 1011 | 990 |
| 2/19/2018 | Mon | * | | 49.9 | 50.1 | 12998 | 13040 | 26038 | 5119 | 4564 | 9683 | 835 | 1015 | 7879 | 8476 | 16355 | 1020 | 1148 |
| 2/20/2018 | Tue | | | 50.4 | 49.6 | 14659 | 14452 | 29111 | 6005 | 5591 | 11596 | 745 | 1116 | 8654 | 8861 | 17515 | 1113 | 1021 |
| 2/21/2018 | Wed | | | 50.3 | 49.7 | 14766 | 14581 | 29347 | 6171 | 5546 | 11717 | 804 | 1117 | 8595 | 9035 | 17630 | 1141 | 1155 |
| 2/22/2018 | Thu | | | 50.0 | 50.0 | 14260 | 14258 | 28518 | 5912 | 5238 | 11150 | 835 | 1082 | 8348 | 9020 | 17368 | 1020 | 1009 |
| 2/23/2018 | Fri | | | 50.0 | 50.0 | 14582 | 14573 | 29155 | 5985 | 5004 | 10989 | 853 | 1098 | 8597 | 9569 | 18166 | 1051 | 1178 |
| 2/24/2018 | Sat | | | 50.5 | 49.5 | 13775 | 13483 | 27258 | 4691 | 5031 | 9722 | 828 | 1042 | 9084 | 8452 | 17536 | 1027 | 1017 |
| 2/25/2018 | Sun | | | 50.0 | 50.0 | 12319 | 12305 | 24624 | 4317 | 4248 | 8565 | 865 | 988 | 8002 | 8057 | 16059 | 1072 | 974 |
| 2/26/2018 | Mon | | | 50.2 | 49.8 | 14117 | 14032 | 28149 | 5924 | 5371 | 11295 | 756 | 1095 | 8193 | 8661 | 16854 | 1023 | 1124 |
| 2/27/2018 | Tue | | | 49.7 | 50.3 | 14119 | 14261 | 28380 | 5925 | 5626 | 11551 | 787 | 1102 | 8194 | 8635 | 16829 | 1050 | 1168 |
| 2/28/2018 | Wed | | | 50.2 | 49.8 | 14665 | 14538 | 29203 | 5897 | 5541 | 11438 | 809 | 1109 | 8768 | 8997 | 17765 | 1099 | 1136 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**March, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 3/1/2018 | Thu | | | 50.6 | 49.4 | 14644 | 14299 | 28943 | 5929 | 5322 | 11251 | 766 | 1101 | 8715 | 8977 | 17692 | 1147 | 1185 |
| 3/2/2018 | Fri | | | 50.0 | 50.0 | 14876 | 14901 | 29777 | 6025 | 5487 | 11512 | 812 | 1083 | 8851 | 9414 | 18265 | 1118 | 1109 |
| 3/3/2018 | Sat | | | 50.0 | 50.0 | 13525 | 13548 | 27073 | 4691 | 5356 | 10047 | 818 | 1088 | 8834 | 8192 | 17026 | 1041 | 1003 |
| 3/4/2018 | Sun | | | 50.1 | 49.9 | 12609 | 12551 | 25160 | 4389 | 4333 | 8722 | 874 | 992 | 8220 | 8218 | 16438 | 1096 | 994 |
| 3/5/2018 | Mon | | | 50.2 | 49.8 | 14163 | 14049 | 28212 | 5894 | 5419 | 11313 | 799 | 1057 | 8269 | 8630 | 16899 | 1067 | 1054 |
| 3/6/2018 | Tue | | | 50.4 | 49.6 | 14613 | 14401 | 29014 | 6122 | 5533 | 11655 | 777 | 1083 | 8491 | 8868 | 17359 | 998 | 1141 |
| 3/7/2018 | Wed | | | 50.1 | 49.9 | 14456 | 14394 | 28850 | 6061 | 5454 | 11515 | 1175 | 666 | 8395 | 8940 | 17335 | 1100 | 1143 |
| 3/8/2018 | Thu | | | 50.3 | 49.7 | 14748 | 14592 | 29340 | 6078 | 5579 | 11657 | 823 | 1132 | 8670 | 9013 | 17683 | 1077 | 1136 |
| 3/9/2018 | Fri | | | 50.3 | 49.7 | 15170 | 14992 | 30162 | 6114 | 5407 | 11521 | 906 | 1112 | 9056 | 9585 | 18641 | 1149 | 1092 |
| 3/10/2018 | Sat | | | 50.2 | 49.8 | 13354 | 13226 | 26580 | 4515 | 5184 | 9699 | 841 | 1024 | 8839 | 8042 | 16881 | 1005 | 963 |
| 3/11/2018 | Sun | | | 49.9 | 50.1 | 12179 | 12216 | 24395 | 4095 | 4565 | 8660 | 883 | 967 | 8084 | 7651 | 15735 | 1116 | 865 |
| 3/12/2018 | Mon | | | 50.3 | 49.7 | 14474 | 14319 | 28793 | 6143 | 5560 | 11703 | 908 | 1106 | 8331 | 8759 | 17090 | 1082 | 1078 |
| 3/13/2018 | Tue | | | 50.2 | 49.8 | 14500 | 14388 | 28888 | 6141 | 5612 | 11753 | 869 | 1158 | 8359 | 8776 | 17135 | 1019 | 1057 |
| 3/14/2018 | Wed | | | 50.4 | 49.6 | 14369 | 14127 | 28496 | 6116 | 5397 | 11513 | 777 | 1099 | 8253 | 8730 | 16983 | 1074 | 1133 |
| 3/15/2018 | Thu | | | 50.1 | 49.9 | 14214 | 14156 | 28370 | 6087 | 5410 | 11497 | 792 | 1034 | 8127 | 8746 | 16873 | 1088 | 1109 |
| 3/16/2018 | Fri | | | 50.1 | 49.9 | 14827 | 14751 | 29578 | 6065 | 5661 | 11726 | 856 | 1077 | 8762 | 9090 | 17852 | 1060 | 1109 |
| 3/17/2018 | Sat | | | 50.2 | 49.8 | 13671 | 13558 | 27229 | 4976 | 5414 | 10390 | 876 | 1009 | 8695 | 8144 | 16839 | 1153 | 825 |
| 3/18/2018 | Sun | | | 49.9 | 50.1 | 12635 | 12711 | 25346 | 4387 | 4436 | 8823 | 871 | 971 | 8248 | 8275 | 16523 | 1116 | 942 |
| 3/19/2018 | Mon | | | 50.3 | 49.7 | 14267 | 14119 | 28386 | 5910 | 5416 | 11326 | 900 | 1062 | 8357 | 8703 | 17060 | 1067 | 1051 |
| 3/20/2018 | Tue | | | 50.2 | 49.8 | 13958 | 13843 | 27801 | 5846 | 5315 | 11161 | 734 | 1070 | 8112 | 8528 | 16640 | 1073 | 1146 |
| 3/21/2018 | Wed | | | 50.3 | 49.7 | 14774 | 14594 | 29368 | 6038 | 5509 | 11547 | 930 | 1034 | 8736 | 9085 | 17821 | 1041 | 1120 |
| 3/22/2018 | Thu | | | 50.2 | 49.8 | 14647 | 14549 | 29196 | 6108 | 5544 | 11652 | 874 | 1061 | 8539 | 9005 | 17544 | 1123 | 1123 |
| 3/23/2018 | Fri | | | 50.4 | 49.6 | 14716 | 14469 | 29185 | 5859 | 5313 | 11172 | 794 | 1130 | 8857 | 9156 | 18013 | 1151 | 1022 |
| 3/24/2018 | Sat | | | 50.4 | 49.6 | 13024 | 12832 | 25856 | 4483 | 5103 | 9586 | 824 | 1112 | 8541 | 7729 | 16270 | 1030 | 1068 |
| 3/25/2018 | Sun | | | 50.2 | 49.8 | 12047 | 11939 | 23986 | 4204 | 4213 | 8417 | 869 | 871 | 7843 | 7726 | 15569 | 916 | 994 |
| 3/26/2018 | Mon | * | | 50.6 | 49.4 | 14101 | 13780 | 27881 | 5816 | 5256 | 11072 | 815 | 1089 | 8285 | 8524 | 16809 | 1085 | 1019 |
| 3/27/2018 | Tue | | | 50.1 | 49.9 | 14563 | 14522 | 29085 | 6182 | 5760 | 11942 | 738 | 1143 | 8381 | 8762 | 17143 | 1057 | 1057 |
| 3/28/2018 | Wed | | | 50.0 | 50.0 | 14490 | 14480 | 28970 | 6193 | 5359 | 11552 | 1164 | 723 | 8297 | 9121 | 17418 | 1078 | 1167 |
| 3/29/2018 | Thu | | | 50.4 | 49.6 | 14946 | 14689 | 29635 | 6283 | 5637 | 11920 | 843 | 1028 | 8663 | 9052 | 17715 | 1042 | 1108 |
| 3/30/2018 | Fri | * | | 50.2 | 49.8 | 14902 | 14807 | 29709 | 6220 | 5474 | 11694 | 932 | 1007 | 8682 | 9333 | 18015 | 1006 | 1136 |
| 3/31/2018 | Sat | | | 50.2 | 49.8 | 13868 | 13740 | 27608 | 5094 | 5277 | 10371 | 949 | 1055 | 8774 | 8463 | 17237 | 1107 | 918 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**April, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 4/1/2018 | Sun | * | | 49.4 | 50.6 | 11505 | 11785 | 23290 | 4308 | 4130 | 8438 | 818 | 850 | 7197 | 7655 | 14852 | 912 | 907 |
| 4/2/2018 | Mon | | | 50.5 | 49.5 | 14109 | 13843 | 27952 | 5961 | 5667 | 11628 | 846 | 1066 | 8148 | 8176 | 16324 | 1054 | 1002 |
| 4/3/2018 | Tue | | | 50.4 | 49.6 | 13958 | 13743 | 27701 | 5889 | 5227 | 11116 | 1109 | 689 | 8069 | 8516 | 16585 | 1049 | 1156 |
| 4/4/2018 | Wed | | | 50.2 | 49.8 | 14280 | 14151 | 28431 | 6065 | 5702 | 11767 | 828 | 1115 | 8215 | 8449 | 16664 | 1093 | 1163 |
| 4/5/2018 | Thu | | | 49.9 | 50.1 | 14098 | 14128 | 28226 | 5842 | 5557 | 11399 | 746 | 1110 | 8256 | 8571 | 16827 | 1058 | 1108 |
| 4/6/2018 | Fri | | | 50.2 | 49.8 | 14895 | 14762 | 29657 | 6204 | 5599 | 11803 | 902 | 1118 | 8691 | 9163 | 17854 | 984 | 1155 |
| 4/7/2018 | Sat | | | 50.3 | 49.7 | 13198 | 13025 | 26223 | 4562 | 5389 | 9951 | 790 | 1082 | 8636 | 7636 | 16272 | 1072 | 999 |
| 4/8/2018 | Sun | | | 49.6 | 50.4 | 11527 | 11704 | 23231 | 3954 | 4292 | 8246 | 851 | 962 | 7573 | 7412 | 14985 | 1088 | 845 |
| 4/9/2018 | Mon | | | 50.3 | 49.7 | 14197 | 14038 | 28235 | 6028 | 5493 | 11521 | 907 | 1051 | 8169 | 8545 | 16714 | 1067 | 1121 |
| 4/10/2018 | Tue | | | 50.2 | 49.8 | 14323 | 14186 | 28509 | 6299 | 5452 | 11751 | 966 | 902 | 8024 | 8734 | 16758 | 1154 | 1091 |
| 4/11/2018 | Wed | | | 50.4 | 49.6 | 13959 | 13745 | 27704 | 6092 | 4633 | 10725 | 1007 | 901 | 7867 | 9112 | 16979 | 1037 | 1138 |
| 4/12/2018 | Thu | | | 50.3 | 49.7 | 14673 | 14477 | 29150 | 6263 | 5719 | 11982 | 825 | 1075 | 8410 | 8758 | 17168 | 1083 | 1148 |
| 4/13/2018 | Fri | | | 50.1 | 49.9 | 15257 | 15177 | 30434 | 6245 | 5736 | 11981 | 870 | 1106 | 9012 | 9441 | 18453 | 1080 | 1111 |
| 4/14/2018 | Sat | | | 50.3 | 49.7 | 13719 | 13531 | 27250 | 5117 | 5520 | 10637 | 854 | 1028 | 8602 | 8011 | 16613 | 1060 | 990 |
| 4/15/2018 | Sun | | | 49.7 | 50.3 | 12361 | 12525 | 24886 | 4537 | 4652 | 9189 | 910 | 994 | 7824 | 7873 | 15697 | 980 | 998 |
| 4/16/2018 | Mon | | | 50.3 | 49.7 | 14077 | 13888 | 27965 | 5999 | 4970 | 10969 | 1071 | 818 | 8078 | 8918 | 16996 | 989 | 1112 |
| 4/17/2018 | Tue | | | 50.2 | 49.8 | 14807 | 14695 | 29502 | 6284 | 5886 | 12170 | 957 | 1011 | 8523 | 8809 | 17332 | 980 | 1103 |
| 4/18/2018 | Wed | | | 50.4 | 49.6 | 14610 | 14354 | 28964 | 6325 | 5621 | 11946 | 1154 | 739 | 8285 | 8733 | 17018 | 1102 | 945 |
| 4/19/2018 | Thu | | | 50.4 | 49.6 | 14670 | 14451 | 29121 | 6393 | 5413 | 11806 | 923 | 1123 | 8277 | 9038 | 17315 | 1144 | 1016 |
| 4/20/2018 | Fri | | | 50.0 | 50.0 | 14489 | 14475 | 28964 | 6180 | 5567 | 11747 | 819 | 1104 | 8309 | 8908 | 17217 | 1060 | 1057 |
| 4/21/2018 | Sat | | | 50.2 | 49.8 | 13557 | 13445 | 27002 | 4880 | 5386 | 10266 | 872 | 986 | 8677 | 8059 | 16736 | 1104 | 871 |
| 4/22/2018 | Sun | | | 49.2 | 50.8 | 12044 | 12414 | 24458 | 4430 | 4630 | 9060 | 786 | 978 | 7614 | 7784 | 15398 | 1004 | 929 |
| 4/23/2018 | Mon | | | 49.8 | 50.2 | 13260 | 13365 | 26625 | 5727 | 5204 | 10931 | 934 | 855 | 7533 | 8161 | 15694 | 1000 | 1042 |
| 4/24/2018 | Tue | | | 50.1 | 49.9 | 14271 | 14203 | 28474 | 6266 | 5792 | 12058 | 933 | 1015 | 8005 | 8411 | 16416 | 1110 | 1105 |
| 4/25/2018 | Wed | | | 49.3 | 50.7 | 13399 | 13784 | 27183 | 5683 | 5315 | 10998 | 1196 | 675 | 7716 | 8469 | 16185 | 988 | 1172 |
| 4/26/2018 | Thu | | | 50.3 | 49.7 | 14347 | 14186 | 28533 | 6165 | 5557 | 11722 | 838 | 1034 | 8182 | 8629 | 16811 | 1069 | 1132 |
| 4/27/2018 | Fri | | | 50.1 | 49.9 | 14727 | 14666 | 29393 | 5886 | 5848 | 11734 | 825 | 1134 | 8841 | 8818 | 17659 | 1089 | 1181 |
| 4/28/2018 | Sat | | | 50.5 | 49.5 | 13839 | 13570 | 27409 | 4610 | 5641 | 10251 | 894 | 1190 | 9229 | 7929 | 17158 | 1052 | 965 |
| 4/29/2018 | Sun | | | 48.7 | 51.3 | 11987 | 12609 | 24596 | 4233 | 4684 | 8917 | 851 | 1024 | 7754 | 7925 | 15679 | 967 | 965 |
| 4/30/2018 | Mon | | | 49.5 | 50.5 | 13990 | 14263 | 28253 | 5998 | 5573 | 11571 | 799 | 1097 | 7992 | 8690 | 16682 | 1052 | 1161 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**May, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 5/1/2018 | Tue | | | 50.0 | 50.0 | 14296 | 14295 | 28591 | 6054 | 5830 | 11884 | 1240 | 645 | 8242 | 8465 | 16707 | 1031 | 1184 |
| 5/2/2018 | Wed | | | 50.0 | 50.0 | 13999 | 14000 | 27999 | 5750 | 5760 | 11510 | 1112 | 726 | 8249 | 8240 | 16489 | 1188 | 1130 |
| 5/3/2018 | Thu | | | 50.5 | 49.5 | 14260 | 13970 | 28230 | 5939 | 5441 | 11380 | 788 | 1081 | 8321 | 8529 | 16850 | 1046 | 1145 |
| 5/4/2018 | Fri | | | 50.2 | 49.8 | 14767 | 14663 | 29430 | 6053 | 5688 | 11741 | 781 | 1123 | 8714 | 8975 | 17689 | 1107 | 1153 |
| 5/5/2018 | Sat | | | 50.2 | 49.8 | 13458 | 13338 | 26796 | 4689 | 5350 | 10039 | 778 | 1024 | 8769 | 7988 | 16757 | 1102 | 990 |
| 5/6/2018 | Sun | | | 49.7 | 50.3 | 12145 | 12302 | 24447 | 4217 | 4569 | 8786 | 818 | 911 | 7928 | 7733 | 15661 | 1037 | 968 |
| 5/7/2018 | Mon | | | 49.8 | 50.2 | 14476 | 14566 | 29042 | 6043 | 5975 | 12018 | 819 | 1225 | 8433 | 8591 | 17024 | 1132 | 1214 |
| 5/8/2018 | Tue | | | 50.2 | 49.8 | 14790 | 14649 | 29439 | 6294 | 5790 | 12084 | 805 | 1200 | 8496 | 8859 | 17355 | 1155 | 1143 |
| 5/9/2018 | Wed | | | 50.1 | 49.9 | 13956 | 13891 | 27847 | 6135 | 5440 | 11575 | 998 | 891 | 7821 | 8451 | 16272 | 977 | 1173 |
| 5/10/2018 | Thu | | | 50.1 | 49.9 | 14232 | 14159 | 28391 | 6008 | 5393 | 11401 | 908 | 887 | 8224 | 8766 | 16990 | 1047 | 1235 |
| 5/11/2018 | Fri | | | 50.4 | 49.6 | 14611 | 14382 | 28993 | 5875 | 5539 | 11414 | 782 | 1102 | 8736 | 8843 | 17579 | 1128 | 1120 |
| 5/12/2018 | Sat | | | 50.5 | 49.5 | 13927 | 13652 | 27579 | 4921 | 5916 | 10837 | 928 | 1066 | 9006 | 7736 | 16742 | 1152 | 818 |
| 5/13/2018 | Sun | | 1 | 49.7 | 50.3 | 12572 | 12704 | 25276 | 4629 | 4435 | 9064 | 960 | 896 | 7943 | 8269 | 16212 | 1092 | 989 |
| 5/14/2018 | Mon | | | 49.8 | 50.2 | 14371 | 14473 | 28844 | 5972 | 5684 | 11656 | 1097 | 767 | 8399 | 8789 | 17188 | 1084 | 1171 |
| 5/15/2018 | Tue | | | 49.7 | 50.3 | 14719 | 14911 | 29630 | 6412 | 5953 | 12365 | 768 | 1208 | 8307 | 8958 | 17265 | 1129 | 1191 |
| 5/16/2018 | Wed | | | 50.1 | 49.9 | 14624 | 14552 | 29176 | 6398 | 5656 | 12054 | 1023 | 1016 | 8226 | 8896 | 17122 | 1067 | 1206 |
| 5/17/2018 | Thu | | | 50.9 | 49.1 | 13723 | 13240 | 26963 | 5843 | 5125 | 10968 | 1253 | 630 | 7880 | 8115 | 15995 | 1079 | 1039 |
| 5/18/2018 | Fri | | | 49.0 | 51.0 | 14177 | 14768 | 28945 | 6173 | 5619 | 11792 | 787 | 1091 | 8004 | 9149 | 17153 | 1008 | 1073 |
| 5/19/2018 | Sat | | | 50.0 | 50.0 | 13980 | 13956 | 27936 | 5036 | 5539 | 10575 | 874 | 1037 | 8944 | 8417 | 17361 | 1065 | 1040 |
| 5/20/2018 | Sun | | | 49.9 | 50.1 | 12934 | 12966 | 25900 | 4909 | 4759 | 9668 | 962 | 948 | 8025 | 8207 | 16232 | 1123 | 921 |
| 5/21/2018 | Mon | | | 50.1 | 49.9 | 14350 | 14292 | 28642 | 6131 | 5750 | 11881 | 961 | 933 | 8219 | 8542 | 16761 | 1082 | 1041 |
| 5/22/2018 | Tue | | | 50.1 | 49.9 | 14482 | 14447 | 28929 | 6257 | 5746 | 12003 | 1157 | 759 | 8225 | 8701 | 16926 | 1043 | 1172 |
| 5/23/2018 | Wed | | | 50.1 | 49.9 | 14445 | 14380 | 28825 | 6047 | 5774 | 11821 | 742 | 1124 | 8398 | 8606 | 17004 | 1083 | 1146 |
| 5/24/2018 | Thu | | | 50.0 | 50.0 | 14860 | 14877 | 29737 | 6346 | 5787 | 12133 | 1053 | 876 | 8514 | 9090 | 17604 | 1083 | 1243 |
| 5/25/2018 | Fri | | | 50.4 | 49.6 | 15378 | 15120 | 30498 | 6144 | 5927 | 12071 | 778 | 1139 | 9234 | 9193 | 18427 | 1162 | 1216 |
| 5/26/2018 | Sat | | | 50.6 | 49.4 | 14133 | 13813 | 27946 | 4886 | 5848 | 10734 | 990 | 1104 | 9247 | 7965 | 17212 | 1189 | 880 |
| 5/27/2018 | Sun | | | 50.1 | 49.9 | 12360 | 12300 | 24660 | 4218 | 4367 | 8585 | 781 | 900 | 8142 | 7933 | 16075 | 1039 | 1074 |
| 5/28/2018 | Mon | * | | 49.1 | 50.9 | 12850 | 13341 | 26191 | 5122 | 5085 | 10207 | 960 | 984 | 7728 | 8256 | 15984 | 1037 | 971 |
| 5/29/2018 | Tue | | | 49.9 | 50.1 | 14476 | 14559 | 29035 | 6197 | 5887 | 12084 | 894 | 1101 | 8279 | 8672 | 16951 | 1138 | 1174 |
| 5/30/2018 | Wed | | | 50.0 | 50.0 | 14510 | 14539 | 29049 | 6206 | 5761 | 11967 | 902 | 988 | 8304 | 8778 | 17082 | 1067 | 1032 |
| 5/31/2018 | Thu | | | 50.0 | 50.0 | 14733 | 14754 | 29487 | 6363 | 5880 | 12243 | 885 | 1026 | 8370 | 8874 | 17244 | 1028 | 1067 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**June, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 6/1/2018 | Fri | | | 50.3 | 49.7 | 15081 | 14898 | 29979 | 6213 | 5787 | 12000 | 863 | 1145 | 8868 | 9111 | 17979 | 1177 | 1059 |
| 6/2/2018 | Sat | | | 50.1 | 49.9 | 13443 | 13391 | 26834 | 4947 | 5615 | 10562 | 788 | 1080 | 8496 | 7776 | 16272 | 1099 | 850 |
| 6/3/2018 | Sun | | | 49.6 | 50.4 | 12399 | 12600 | 24999 | 4662 | 4581 | 9243 | 932 | 936 | 7737 | 8019 | 15756 | 1005 | 940 |
| 6/4/2018 | Mon | | | 50.4 | 49.6 | 14770 | 14515 | 29285 | 6289 | 5827 | 12116 | 891 | 1087 | 8481 | 8688 | 17169 | 1111 | 1115 |
| 6/5/2018 | Tue | | | 50.2 | 49.8 | 14988 | 14889 | 29877 | 6444 | 5878 | 12322 | 869 | 1125 | 8544 | 9011 | 17555 | 1132 | 1176 |
| 6/6/2018 | Wed | | | 50.3 | 49.7 | 14295 | 14138 | 28433 | 6295 | 5650 | 11945 | 832 | 1093 | 8000 | 8488 | 16488 | 1129 | 1010 |
| 6/7/2018 | Thu | | | 50.3 | 49.7 | 14344 | 14172 | 28516 | 6076 | 5476 | 11552 | 814 | 1102 | 8268 | 8696 | 16964 | 1156 | 1115 |
| 6/8/2018 | Fri | | | 50.5 | 49.5 | 15331 | 15049 | 30380 | 6149 | 5697 | 11846 | 839 | 1174 | 9182 | 9352 | 18534 | 1146 | 1160 |
| 6/9/2018 | Sat | | | 50.1 | 49.9 | 14615 | 14575 | 29190 | 5685 | 5717 | 11402 | 986 | 1099 | 8930 | 8858 | 17788 | 1140 | 909 |
| 6/10/2018 | Sun | | | 50.0 | 50.0 | 13170 | 13159 | 26329 | 4840 | 4768 | 9608 | 904 | 928 | 8330 | 8391 | 16721 | 979 | 1014 |
| 6/11/2018 | Mon | * | | 49.8 | 50.2 | 13887 | 14016 | 27903 | 5630 | 5448 | 11078 | 859 | 1057 | 8257 | 8568 | 16825 | 1053 | 1229 |
| 6/12/2018 | Tue | | | 50.1 | 49.9 | 14400 | 14359 | 28759 | 6051 | 5770 | 11821 | 1133 | 745 | 8349 | 8589 | 16938 | 959 | 1233 |
| 6/13/2018 | Wed | | | 50.2 | 49.8 | 14579 | 14459 | 29038 | 5963 | 5669 | 11632 | 838 | 1075 | 8616 | 8790 | 17406 | 1062 | 1173 |
| 6/14/2018 | Thu | | | 50.2 | 49.8 | 14731 | 14592 | 29323 | 6059 | 5700 | 11759 | 820 | 1101 | 8672 | 8892 | 17564 | 1095 | 1189 |
| 6/15/2018 | Fri | | | 50.2 | 49.8 | 15314 | 15186 | 30500 | 6184 | 5752 | 11936 | 829 | 1169 | 9130 | 9434 | 18564 | 1101 | 1127 |
| 6/16/2018 | Sat | | | 50.1 | 49.9 | 14849 | 14798 | 29647 | 5852 | 5706 | 11558 | 918 | 1150 | 8997 | 9092 | 18089 | 1078 | 1081 |
| 6/17/2018 | Sun | | | 49.7 | 50.3 | 12834 | 13006 | 25840 | 4709 | 4530 | 9239 | 969 | 917 | 8125 | 8476 | 16601 | 1152 | 889 |
| 6/18/2018 | Mon | | | 50.3 | 49.7 | 14099 | 13941 | 28040 | 5774 | 5453 | 11227 | 781 | 1088 | 8325 | 8488 | 16813 | 1022 | 1118 |
| 6/19/2018 | Tue | | | 50.2 | 49.8 | 14408 | 14288 | 28696 | 6011 | 5577 | 11588 | 780 | 1042 | 8397 | 8711 | 17108 | 1035 | 1224 |
| 6/20/2018 | Wed | | | 50.1 | 49.9 | 14466 | 14409 | 28875 | 5993 | 5572 | 11565 | 749 | 1112 | 8473 | 8837 | 17310 | 1020 | 1199 |
| 6/21/2018 | Thu | | | 50.1 | 49.9 | 14602 | 14516 | 29118 | 5897 | 5571 | 11468 | 730 | 1115 | 8705 | 8945 | 17650 | 1072 | 1121 |
| 6/22/2018 | Fri | | | 49.9 | 50.1 | 14755 | 14803 | 29558 | 5920 | 5539 | 11459 | 838 | 1131 | 8835 | 9264 | 18099 | 1072 | 1242 |
| 6/23/2018 | Sat | | | 50.4 | 49.6 | 13860 | 13633 | 27493 | 4757 | 5658 | 10415 | 742 | 1167 | 9103 | 7975 | 17078 | 1130 | 998 |
| 6/24/2018 | Sun | | | 49.7 | 50.3 | 12608 | 12753 | 25361 | 4456 | 4469 | 8925 | 862 | 953 | 8152 | 8284 | 16436 | 1026 | 949 |
| 6/25/2018 | Mon | | | 50.3 | 49.7 | 14280 | 14124 | 28404 | 5915 | 5530 | 11445 | 860 | 1022 | 8365 | 8594 | 16959 | 1058 | 1172 |
| 6/26/2018 | Tue | | | 49.8 | 50.2 | 14628 | 14757 | 29385 | 6183 | 5664 | 11847 | 795 | 1081 | 8445 | 9093 | 17538 | 1077 | 1179 |
| 6/27/2018 | Wed | | | 49.9 | 50.1 | 14938 | 14993 | 29931 | 6265 | 5743 | 12008 | 795 | 1156 | 8673 | 9250 | 17923 | 1119 | 1039 |
| 6/28/2018 | Thu | | | 49.3 | 50.7 | 15232 | 15666 | 30898 | 6350 | 5899 | 12249 | 892 | 1123 | 8882 | 9767 | 18649 | 1133 | 1243 |
| 6/29/2018 | Fri | | | 50.0 | 50.0 | 15143 | 15117 | 30260 | 6117 | 5861 | 11978 | 837 | 1138 | 9026 | 9256 | 18282 | 1129 | 1044 |
| 6/30/2018 | Sat | | | 50.7 | 49.3 | 14335 | 13941 | 28276 | 4875 | 5681 | 10556 | 904 | 1040 | 9460 | 8260 | 17720 | 1160 | 947 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**July, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 7/1/2018 | Sun | | | 49.8 | 50.2 | 12703 | 12800 | 25503 | 4405 | 4789 | 9194 | 867 | 993 | 8298 | 8011 | 16309 | 1041 | 932 |
| 7/2/2018 | Mon | | | 49.9 | 50.1 | 14710 | 14740 | 29450 | 5934 | 5580 | 11514 | 805 | 1069 | 8776 | 9160 | 17936 | 1070 | 1200 |
| 7/3/2018 | Tue | | | 50.3 | 49.7 | 15336 | 15179 | 30515 | 6247 | 5951 | 12198 | 882 | 1065 | 9089 | 9228 | 18317 | 1133 | 1196 |
| 7/4/2018 | Wed | * | | 50.8 | 49.2 | 13779 | 13328 | 27107 | 5289 | 3984 | 9273 | 911 | 728 | 8490 | 9344 | 17834 | 1184 | 797 |
| 7/5/2018 | Thu | | | 49.1 | 50.9 | 14859 | 15378 | 30237 | 5909 | 6189 | 12098 | 836 | 1186 | 8950 | 9189 | 18139 | 1103 | 1221 |
| 7/6/2018 | Fri | | | 49.3 | 50.7 | 15644 | 16077 | 31721 | 6201 | 6022 | 12223 | 921 | 1131 | 9443 | 10055 | 19498 | 1111 | 1192 |
| 7/7/2018 | Sat | | | 50.1 | 49.9 | 14602 | 14553 | 29155 | 5039 | 5977 | 11016 | 957 | 1156 | 9563 | 8576 | 18139 | 1203 | 1007 |
| 7/8/2018 | Sun | | | 49.7 | 50.3 | 12843 | 12986 | 25829 | 4625 | 4732 | 9357 | 897 | 922 | 8218 | 8254 | 16472 | 976 | 937 |
| 7/9/2018 | Mon | | | 50.2 | 49.8 | 14515 | 14377 | 28892 | 5951 | 5604 | 11555 | 829 | 1050 | 8564 | 8773 | 17337 | 1067 | 1109 |
| 7/10/2018 | Tue | | | 50.0 | 50.0 | 14460 | 14452 | 28912 | 5950 | 5625 | 11575 | 787 | 1092 | 8510 | 8827 | 17337 | 1058 | 1164 |
| 7/11/2018 | Wed | | | 49.3 | 50.7 | 14794 | 15240 | 30034 | 6091 | 5621 | 11712 | 860 | 1110 | 8703 | 9619 | 18322 | 1150 | 1083 |
| 7/12/2018 | Thu | | | 48.7 | 51.3 | 14890 | 15654 | 30544 | 6009 | 5742 | 11751 | 813 | 1123 | 8881 | 9912 | 18793 | 1139 | 1145 |
| 7/13/2018 | Fri | | | 49.2 | 50.8 | 15524 | 16022 | 31546 | 6141 | 5986 | 12127 | 901 | 1127 | 9383 | 10036 | 19419 | 1136 | 1189 |
| 7/14/2018 | Sat | | | 50.3 | 49.7 | 14657 | 14472 | 29129 | 5449 | 5738 | 11187 | 815 | 1218 | 9208 | 8734 | 17942 | 1070 | 1060 |
| 7/15/2018 | Sun | | 1 | 49.7 | 50.3 | 12893 | 13030 | 25923 | 4477 | 4648 | 9125 | 900 | 940 | 8416 | 8382 | 16798 | 1039 | 965 |
| 7/16/2018 | Mon | | | 50.1 | 49.9 | 14417 | 14336 | 28753 | 5884 | 5565 | 11449 | 809 | 1088 | 8533 | 8771 | 17304 | 1032 | 1207 |
| 7/17/2018 | Tue | | 1 | 50.3 | 49.7 | 14642 | 14454 | 29096 | 6095 | 5650 | 11745 | 870 | 1084 | 8547 | 8804 | 17351 | 1100 | 1166 |
| 7/18/2018 | Wed | | | 50.0 | 50.0 | 14836 | 14857 | 29693 | 6156 | 5560 | 11716 | 870 | 1048 | 8680 | 9297 | 17977 | 1033 | 1212 |
| 7/19/2018 | Thu | | | 49.9 | 50.1 | 15151 | 15223 | 30374 | 6241 | 5689 | 11930 | 838 | 1124 | 8910 | 9534 | 18444 | 1083 | 1141 |
| 7/20/2018 | Fri | | | 49.8 | 50.2 | 15464 | 15584 | 31048 | 6291 | 5831 | 12122 | 923 | 1114 | 9173 | 9753 | 18926 | 1094 | 1177 |
| 7/21/2018 | Sat | | | 50.4 | 49.6 | 15025 | 14784 | 29809 | 5573 | 5923 | 11496 | 1013 | 1180 | 9452 | 8861 | 18313 | 1166 | 977 |
| 7/22/2018 | Sun | | | 49.5 | 50.5 | 13552 | 13831 | 27383 | 5116 | 4916 | 10032 | 957 | 1030 | 8436 | 8915 | 17351 | 1050 | 1060 |
| 7/23/2018 | Mon | | | 50.2 | 49.8 | 14949 | 14849 | 29798 | 6153 | 5762 | 11915 | 851 | 1154 | 8796 | 9087 | 17883 | 1087 | 1168 |
| 7/24/2018 | Tue | | | 50.1 | 49.9 | 14991 | 14945 | 29936 | 6165 | 5842 | 12007 | 893 | 1022 | 8826 | 9103 | 17929 | 1061 | 1214 |
| 7/25/2018 | Wed | | | 50.0 | 50.0 | 15115 | 15116 | 30231 | 6101 | 5662 | 11763 | 862 | 1094 | 9014 | 9454 | 18468 | 1117 | 1227 |
| 7/26/2018 | Thu | | | 50.1 | 49.9 | 15009 | 14923 | 29932 | 5898 | 5647 | 11545 | 777 | 1153 | 9111 | 9276 | 18387 | 1119 | 1168 |
| 7/27/2018 | Fri | | | 50.1 | 49.9 | 15191 | 15123 | 30314 | 5836 | 5842 | 11678 | 786 | 1183 | 9355 | 9281 | 18636 | 1145 | 1198 |
| 7/28/2018 | Sat | | | 50.2 | 49.8 | 13995 | 13886 | 27881 | 4746 | 5566 | 10312 | 893 | 1041 | 9249 | 8320 | 17569 | 1055 | 1079 |
| 7/29/2018 | Sun | | | 49.6 | 50.4 | 12654 | 12839 | 25493 | 4305 | 4700 | 9005 | 837 | 975 | 8349 | 8139 | 16488 | 958 | 1053 |
| 7/30/2018 | Mon | | | 49.5 | 50.5 | 14540 | 14853 | 29393 | 5827 | 5669 | 11496 | 827 | 1120 | 8713 | 9184 | 17897 | 1062 | 1232 |
| 7/31/2018 | Tue | | | 50.0 | 50.0 | 14343 | 14317 | 28660 | 5961 | 5529 | 11490 | 792 | 1047 | 8382 | 8788 | 17170 | 1010 | 1154 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**August, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 8/1/2018 | Wed | | | 49.7 | 50.3 | 15020 | 15221 | 30241 | 6100 | 5731 | 11831 | 810 | 1159 | 8920 | 9490 | 18410 | 1081 | 1245 |
| 8/2/2018 | Thu | | | 49.1 | 50.9 | 14976 | 15507 | 30483 | 6103 | 5902 | 12005 | 778 | 1200 | 8873 | 9605 | 18478 | 1113 | 1251 |
| 8/3/2018 | Fri | | | 49.4 | 50.6 | 15601 | 15999 | 31600 | 6158 | 5932 | 12090 | 838 | 1192 | 9443 | 10067 | 19510 | 1120 | 1182 |
| 8/4/2018 | Sat | | | 49.5 | 50.5 | 13797 | 14083 | 27880 | 4663 | 5691 | 10354 | 908 | 1156 | 9134 | 8392 | 17526 | 1046 | 1188 |
| 8/5/2018 | Sun | | | 49.8 | 50.2 | 12915 | 13009 | 25924 | 4389 | 4789 | 9178 | 905 | 940 | 8526 | 8220 | 16746 | 1148 | 841 |
| 8/6/2018 | Mon | | | 64.3 | 35.7 | 18901 | 10474 | 29375 | 8390 | 3041 | 11431 | 893 | 915 | 10511 | 7433 | 17944 | 1023 | 1206 |
| 8/7/2018 | Tue | | | 49.5 | 50.5 | 15038 | 15363 | 30401 | 6170 | 5786 | 11956 | 850 | 1068 | 8868 | 9577 | 18445 | 1105 | 1200 |
| 8/8/2018 | Wed | | | 48.7 | 51.3 | 14917 | 15723 | 30640 | 6370 | 5957 | 12327 | 868 | 1213 | 8547 | 9766 | 18313 | 1063 | 1121 |
| 8/9/2018 | Thu | | | 48.8 | 51.2 | 14055 | 14758 | 28813 | 6290 | 5596 | 11886 | 875 | 1097 | 7765 | 9162 | 16927 | 1032 | 1168 |
| 8/10/2018 | Fri | | | 49.7 | 50.3 | 15706 | 15918 | 31624 | 6332 | 6038 | 12370 | 861 | 1194 | 9374 | 9880 | 19254 | 1128 | 1073 |
| 8/11/2018 | Sat | | | 49.3 | 50.7 | 14299 | 14712 | 29011 | 5116 | 5664 | 10780 | 909 | 1021 | 9183 | 9048 | 18231 | 1098 | 1068 |
| 8/12/2018 | Sun | | | 49.3 | 50.7 | 13116 | 13469 | 26585 | 4724 | 4824 | 9548 | 859 | 1005 | 8392 | 8645 | 17037 | 1040 | 1007 |
| 8/13/2018 | Mon | | | 50.0 | 50.0 | 14662 | 14665 | 29327 | 6205 | 5754 | 11959 | 753 | 1133 | 8457 | 8911 | 17368 | 1020 | 1126 |
| 8/14/2018 | Tue | | | 49.6 | 50.4 | 14551 | 14757 | 29308 | 6128 | 5814 | 11942 | 1082 | 837 | 8423 | 8943 | 17366 | 1115 | 1222 |
| 8/15/2018 | Wed | | 1 | 50.1 | 49.9 | 14676 | 14635 | 29311 | 6160 | 5207 | 11367 | 854 | 1218 | 8516 | 9428 | 17944 | 1123 | 1195 |
| 8/16/2018 | Thu | | 2 | 66.6 | 33.4 | 18884 | 9490 | 28374 | 8577 | 2596 | 11173 | 1110 | 750 | 10307 | 6894 | 17201 | 1093 | 1207 |
| 8/17/2018 | Fri | * | | 50.3 | 49.7 | 15206 | 15028 | 30234 | 6062 | 5321 | 11383 | 831 | 1100 | 9144 | 9707 | 18851 | 1119 | 1142 |
| 8/18/2018 | Sat | | | 50.2 | 49.8 | 14159 | 14024 | 28183 | 5046 | 5422 | 10468 | 894 | 1005 | 9113 | 8602 | 17715 | 1183 | 963 |
| 8/19/2018 | Sun | | 1 | 49.0 | 51.0 | 12347 | 12868 | 25215 | 4332 | 4748 | 9080 | 837 | 944 | 8015 | 8120 | 16135 | 1012 | 917 |
| 8/20/2018 | Mon | | | 48.9 | 51.1 | 14472 | 15093 | 29565 | 5877 | 6323 | 12200 | 792 | 1354 | 8595 | 8770 | 17365 | 997 | 1213 |
| 8/21/2018 | Tue | | | 49.8 | 50.2 | 14157 | 14295 | 28452 | 5924 | 5490 | 11414 | 1137 | 732 | 8233 | 8805 | 17038 | 1109 | 1112 |
| 8/22/2018 | Wed | | 3 | 48.5 | 51.5 | 10183 | 10824 | 21007 | 5068 | 4845 | 9913 | 645 | 981 | 5115 | 5979 | 11094 | 845 | 823 |
| 8/23/2018 | Thu | | 3 | 46.7 | 53.3 | 4598 | 5238 | 9836 | 2572 | 2555 | 5127 | 415 | 492 | 2026 | 2683 | 4709 | 407 | 488 |
| 8/24/2018 | Fri | | 3 | 45.1 | 54.9 | 2989 | 3637 | 6626 | 750 | 1119 | 1869 | 247 | 285 | 2239 | 2518 | 4757 | 296 | 376 |
| 8/25/2018 | Sat | | 3 | 48.2 | 51.8 | 9783 | 10528 | 20311 | 3657 | 4301 | 7958 | 687 | 1037 | 6126 | 6227 | 12353 | 876 | 896 |
| 8/26/2018 | Sun | | 3 | 49.4 | 50.6 | 9445 | 9669 | 19114 | 3485 | 3400 | 6885 | 660 | 817 | 5960 | 6269 | 12229 | 813 | 757 |
| 8/27/2018 | Mon | | | 50.0 | 50.0 | 11968 | 11953 | 23921 | 5387 | 4371 | 9758 | 809 | 745 | 6581 | 7582 | 14163 | 825 | 1096 |
| 8/28/2018 | Tue | | | 50.1 | 49.9 | 12512 | 12444 | 24956 | 5825 | 4707 | 10532 | 1140 | 588 | 6687 | 7737 | 14424 | 845 | 1084 |
| 8/29/2018 | Wed | | | 50.7 | 49.3 | 13206 | 12863 | 26069 | 5874 | 4705 | 10579 | 1086 | 710 | 7332 | 8158 | 15490 | 891 | 1189 |
| 8/30/2018 | Thu | | | 50.9 | 49.1 | 13302 | 12829 | 26131 | 5805 | 4747 | 10552 | 1173 | 622 | 7497 | 8082 | 15579 | 946 | 1129 |
| 8/31/2018 | Fri | | | 51.2 | 48.8 | 13522 | 12882 | 26404 | 5846 | 4790 | 10636 | 758 | 977 | 7676 | 8092 | 15768 | 965 | 930 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**September, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 9/1/2018 | Sat | | | 51.6 | 48.4 | 13989 | 13147 | 27136 | 5059 | 5126 | 10185 | 749 | 1085 | 8930 | 8021 | 16951 | 952 | 1061 |
| 9/2/2018 | Sun | | | 49.7 | 50.3 | 12749 | 12901 | 25650 | 4639 | 4733 | 9372 | 920 | 954 | 8110 | 8168 | 16278 | 1082 | 924 |
| 9/3/2018 | Mon | * | | 48.8 | 51.2 | 12269 | 12870 | 25139 | 4846 | 4743 | 9589 | 859 | 972 | 7423 | 8127 | 15550 | 994 | 988 |
| 9/4/2018 | Tue | | | 50.0 | 50.0 | 14030 | 14033 | 28063 | 6039 | 5632 | 11671 | 733 | 1154 | 7991 | 8401 | 16392 | 1077 | 1139 |
| 9/5/2018 | Wed | | | 49.5 | 50.5 | 13806 | 14061 | 27867 | 5907 | 5527 | 11434 | 1228 | 718 | 7899 | 8534 | 16433 | 1025 | 1199 |
| 9/6/2018 | Thu | | | 50.2 | 49.8 | 13879 | 13760 | 27639 | 5987 | 5405 | 11392 | 1059 | 805 | 7892 | 8355 | 16247 | 1004 | 1129 |
| 9/7/2018 | Fri | | | 49.7 | 50.3 | 14457 | 14640 | 29097 | 5989 | 5566 | 11555 | 785 | 1076 | 8468 | 9074 | 17542 | 1147 | 1209 |
| 9/8/2018 | Sat | | | 50.1 | 49.9 | 13745 | 13709 | 27454 | 4767 | 5381 | 10148 | 713 | 1166 | 8978 | 8328 | 17306 | 1158 | 900 |
| 9/9/2018 | Sun | | | 48.7 | 51.3 | 11366 | 11984 | 23350 | 3937 | 4617 | 8554 | 715 | 880 | 7429 | 7367 | 14796 | 994 | 924 |
| 9/10/2018 | Mon | | | 47.6 | 52.4 | 14126 | 15556 | 29682 | 5892 | 6564 | 12456 | 797 | 1371 | 8234 | 8992 | 17226 | 1014 | 1210 |
| 9/11/2018 | Tue | | | 50.0 | 50.0 | 11836 | 11826 | 23662 | 5761 | 5166 | 10927 | 1118 | 647 | 6075 | 6660 | 12735 | 887 | 924 |
| 9/12/2018 | Wed | | | 50.7 | 49.3 | 6614 | 6425 | 13039 | 2557 | 2068 | 4625 | 382 | 451 | 4057 | 4357 | 8414 | 544 | 600 |
| 9/13/2018 | Thu | | | 50.6 | 49.4 | 14010 | 13654 | 27664 | 5853 | 5283 | 11136 | 799 | 1103 | 8157 | 8371 | 16528 | 1165 | 1142 |
| 9/14/2018 | Fri | | | 50.3 | 49.7 | 14930 | 14753 | 29683 | 5980 | 5727 | 11707 | 753 | 1155 | 8950 | 9026 | 17976 | 1107 | 1190 |
| 9/15/2018 | Sat | | | 50.2 | 49.8 | 13932 | 13806 | 27738 | 5238 | 5750 | 10988 | 880 | 1215 | 8694 | 8056 | 16750 | 1121 | 930 |
| 9/16/2018 | Sun | | | 49.7 | 50.3 | 11427 | 11586 | 23013 | 3946 | 4307 | 8253 | 746 | 815 | 7481 | 7279 | 14760 | 960 | 852 |
| 9/17/2018 | Mon | | | 50.6 | 49.4 | 13890 | 13578 | 27468 | 5825 | 5548 | 11373 | 1061 | 778 | 8065 | 8030 | 16095 | 1068 | 1133 |
| 9/18/2018 | Tue | | | 50.0 | 50.0 | 13980 | 13965 | 27945 | 5979 | 5621 | 11600 | 1190 | 758 | 8001 | 8344 | 16345 | 1008 | 1203 |
| 9/19/2018 | Wed | | | 50.4 | 49.6 | 14583 | 14374 | 28957 | 6082 | 5724 | 11806 | 1205 | 721 | 8501 | 8650 | 17151 | 1061 | 1223 |
| 9/20/2018 | Thu | | | 50.4 | 49.6 | 14678 | 14448 | 29126 | 6165 | 5783 | 11948 | 1053 | 954 | 8513 | 8665 | 17178 | 1097 | 1166 |
| 9/21/2018 | Fri | | | 49.7 | 50.3 | 14745 | 14941 | 29686 | 5999 | 5765 | 11764 | 1103 | 804 | 8746 | 9176 | 17922 | 1058 | 1254 |
| 9/22/2018 | Sat | | | 50.3 | 49.7 | 13929 | 13740 | 27669 | 4730 | 5542 | 10272 | 838 | 1118 | 9199 | 8198 | 17397 | 1223 | 847 |
| 9/23/2018 | Sun | | | 49.5 | 50.5 | 11401 | 11636 | 23037 | 4024 | 4280 | 8304 | 764 | 891 | 7377 | 7356 | 14733 | 892 | 908 |
| 9/24/2018 | Mon | | | 49.9 | 50.1 | 13937 | 13971 | 27908 | 5899 | 5821 | 11720 | 780 | 1176 | 8038 | 8150 | 16188 | 1027 | 1107 |
| 9/25/2018 | Tue | | | 49.8 | 50.2 | 14072 | 14190 | 28262 | 6044 | 5888 | 11932 | 1098 | 904 | 8028 | 8302 | 16330 | 980 | 1180 |
| 9/26/2018 | Wed | | | 50.0 | 50.0 | 14013 | 13994 | 28007 | 5921 | 5579 | 11500 | 1047 | 815 | 8092 | 8415 | 16507 | 958 | 1224 |
| 9/27/2018 | Thu | | 3 | 51.0 | 49.0 | 9936 | 9535 | 19471 | 5410 | 4419 | 9829 | 1187 | 671 | 4526 | 5116 | 9642 | 1008 | 1115 |
| 9/28/2018 | Fri | | | 49.9 | 50.1 | 14524 | 14597 | 29121 | 5845 | 5591 | 11436 | 770 | 1134 | 8679 | 9006 | 17685 | 1031 | 1211 |
| 9/29/2018 | Sat | | | 49.8 | 50.2 | 13394 | 13484 | 26878 | 4658 | 5567 | 10225 | 819 | 1097 | 8736 | 7917 | 16653 | 1133 | 875 |
| 9/30/2018 | Sun | | | 49.5 | 50.5 | 11432 | 11665 | 23097 | 4110 | 4385 | 8495 | 767 | 878 | 7322 | 7280 | 14602 | 966 | 922 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**October, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 10/1/2018 | Mon | | | 50.2 | 49.8 | 13461 | 13328 | 26789 | 5790 | 5384 | 11174 | 1067 | 718 | 7671 | 7944 | 15615 | 950 | 1101 |
| 10/2/2018 | Tue | | | 50.3 | 49.7 | 14072 | 13912 | 27984 | 6093 | 5577 | 11670 | 1151 | 762 | 7979 | 8335 | 16314 | 1028 | 1172 |
| 10/3/2018 | Wed | | | 50.5 | 49.5 | 14603 | 14333 | 28936 | 6310 | 5566 | 11876 | 1145 | 808 | 8293 | 8767 | 17060 | 1116 | 1163 |
| 10/4/2018 | Thu | | | 49.8 | 50.2 | 14518 | 14611 | 29129 | 6324 | 5744 | 12068 | 1220 | 692 | 8194 | 8867 | 17061 | 1086 | 1065 |
| 10/5/2018 | Fri | | | 49.7 | 50.3 | 15243 | 15405 | 30648 | 6337 | 5939 | 12276 | 909 | 1206 | 8906 | 9466 | 18372 | 1140 | 1062 |
| 10/6/2018 | Sat | | | 50.8 | 49.2 | 13932 | 13515 | 27447 | 4949 | 5525 | 10474 | 730 | 1164 | 8983 | 7990 | 16973 | 1207 | 942 |
| 10/7/2018 | Sun | | | 49.7 | 50.3 | 11953 | 12083 | 24036 | 4169 | 4463 | 8632 | 778 | 920 | 7784 | 7620 | 15404 | 941 | 1004 |
| 10/8/2018 | Mon | | | 50.0 | 50.0 | 13849 | 13832 | 27681 | 5731 | 5654 | 11385 | 883 | 1086 | 8118 | 8178 | 16296 | 1040 | 1179 |
| 10/9/2018 | Tue | | | 50.2 | 49.8 | 14346 | 14235 | 28581 | 5977 | 5722 | 11699 | 842 | 1073 | 8369 | 8513 | 16882 | 1117 | 1139 |
| 10/10/2018 | Wed | | | 49.6 | 50.4 | 14669 | 14905 | 29574 | 6203 | 5877 | 12080 | 840 | 1145 | 8466 | 9028 | 17494 | 1054 | 1142 |
| 10/11/2018 | Thu | | | 50.1 | 49.9 | 14840 | 14786 | 29626 | 6371 | 5844 | 12215 | 824 | 1130 | 8469 | 8942 | 17411 | 1129 | 1213 |
| 10/12/2018 | Fri | | | 49.5 | 50.5 | 14653 | 14933 | 29586 | 6159 | 5806 | 11965 | 853 | 1129 | 8494 | 9127 | 17621 | 1002 | 1206 |
| 10/13/2018 | Sat | | | 50.2 | 49.8 | 13307 | 13195 | 26502 | 4794 | 5413 | 10207 | 826 | 1135 | 8513 | 7782 | 16295 | 1060 | 1103 |
| 10/14/2018 | Sun | | | 49.6 | 50.4 | 11907 | 12121 | 24028 | 4493 | 4513 | 9006 | 769 | 948 | 7414 | 7608 | 15022 | 935 | 920 |
| 10/15/2018 | Mon | | | 50.2 | 49.8 | 14014 | 13915 | 27929 | 5967 | 5738 | 11705 | 992 | 895 | 8047 | 8177 | 16224 | 1085 | 1118 |
| 10/16/2018 | Tue | | | 49.8 | 50.2 | 14102 | 14232 | 28334 | 6041 | 5637 | 11678 | 1145 | 762 | 8061 | 8595 | 16656 | 999 | 1260 |
| 10/17/2018 | Wed | | | 50.0 | 50.0 | 14291 | 14269 | 28560 | 6144 | 5598 | 11742 | 1165 | 728 | 8147 | 8671 | 16818 | 1062 | 1254 |
| 10/18/2018 | Thu | | | 50.0 | 50.0 | 14713 | 14687 | 29400 | 6209 | 5736 | 11945 | 1225 | 750 | 8504 | 8951 | 17455 | 1144 | 1252 |
| 10/19/2018 | Fri | | | 50.3 | 49.7 | 14490 | 14330 | 28820 | 6094 | 5494 | 11588 | 774 | 1079 | 8396 | 8836 | 17232 | 1076 | 1189 |
| 10/20/2018 | Sat | | | 50.2 | 49.8 | 14139 | 14021 | 28160 | 5206 | 5745 | 10951 | 938 | 1142 | 8933 | 8276 | 17209 | 1164 | 980 |
| 10/21/2018 | Sun | | | 49.8 | 50.2 | 12726 | 12803 | 25529 | 4767 | 4759 | 9526 | 849 | 976 | 7959 | 8044 | 16003 | 1069 | 944 |
| 10/22/2018 | Mon | | | 49.4 | 50.6 | 14476 | 14825 | 29301 | 6322 | 5991 | 12313 | 834 | 1181 | 8154 | 8834 | 16988 | 1100 | 1201 |
| 10/23/2018 | Tue | | | 50.3 | 49.7 | 14631 | 14454 | 29085 | 6313 | 5777 | 12090 | 1141 | 864 | 8318 | 8677 | 16995 | 1073 | 1129 |
| 10/24/2018 | Wed | | | 50.5 | 49.5 | 14487 | 14221 | 28708 | 6159 | 5593 | 11752 | 1208 | 681 | 8328 | 8628 | 16956 | 1029 | 1233 |
| 10/25/2018 | Thu | | | 50.1 | 49.9 | 14814 | 14776 | 29590 | 6299 | 5747 | 12046 | 1090 | 886 | 8515 | 9029 | 17544 | 1104 | 1273 |
| 10/26/2018 | Fri | | | 50.1 | 49.9 | 15099 | 15012 | 30111 | 6455 | 5910 | 12365 | 861 | 1136 | 8644 | 9102 | 17746 | 1195 | 1163 |
| 10/27/2018 | Sat | | | 50.1 | 49.9 | 13748 | 13701 | 27449 | 4910 | 5661 | 10571 | 718 | 1186 | 8838 | 8040 | 16878 | 1173 | 945 |
| 10/28/2018 | Sun | | | 49.6 | 50.4 | 12035 | 12251 | 24286 | 4545 | 4432 | 8977 | 773 | 936 | 7490 | 7819 | 15309 | 1021 | 943 |
| 10/29/2018 | Mon | | | 49.5 | 50.5 | 13742 | 14043 | 27785 | 5875 | 5800 | 11675 | 761 | 1182 | 7867 | 8243 | 16110 | 1045 | 1167 |
| 10/30/2018 | Tue | | | 48.6 | 51.4 | 13715 | 14517 | 28232 | 5832 | 5652 | 11484 | 761 | 1137 | 7883 | 8865 | 16748 | 1073 | 1191 |
| 10/31/2018 | Wed | | | 52.4 | 47.6 | 14136 | 12864 | 27000 | 5736 | 4763 | 10499 | 1159 | 570 | 8400 | 8101 | 16501 | 1213 | 985 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**November, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 11/1/2018 | Thu | | | 48.5 | 51.5 | 13741 | 14573 | 28314 | 5799 | 5931 | 11730 | 1061 | 723 | 7942 | 8642 | 16584 | 1059 | 1188 |
| 11/2/2018 | Fri | | | 50.3 | 49.7 | 14430 | 14232 | 28662 | 5978 | 5596 | 11574 | 974 | 1080 | 8452 | 8636 | 17088 | 999 | 1166 |
| 11/3/2018 | Sat | | | 50.5 | 49.5 | 13395 | 13108 | 26503 | 4467 | 5663 | 10130 | 613 | 1238 | 8928 | 7445 | 16373 | 1229 | 791 |
| 11/4/2018 | Sun | | | 50.2 | 49.8 | 11448 | 11360 | 22808 | 4079 | 4175 | 8254 | 808 | 918 | 7369 | 7185 | 14554 | 1100 | 829 |
| 11/5/2018 | Mon | | | 50.3 | 49.7 | 13477 | 13320 | 26797 | 5694 | 5299 | 10993 | 706 | 1055 | 7783 | 8021 | 15804 | 1008 | 1191 |
| 11/6/2018 | Tue | * | | 50.2 | 49.8 | 13684 | 13565 | 27249 | 5767 | 5177 | 10944 | 725 | 1101 | 7917 | 8388 | 16305 | 1038 | 1203 |
| 11/7/2018 | Wed | | | 50.3 | 49.7 | 14010 | 13824 | 27834 | 5864 | 5367 | 11231 | 1170 | 607 | 8146 | 8457 | 16603 | 1001 | 1257 |
| 11/8/2018 | Thu | | | 50.3 | 49.7 | 14156 | 14011 | 28167 | 5962 | 5440 | 11402 | 791 | 1038 | 8194 | 8571 | 16765 | 1060 | 1196 |
| 11/9/2018 | Fri | | | 50.3 | 49.7 | 14784 | 14599 | 29383 | 5966 | 5476 | 11442 | 762 | 1126 | 8818 | 9123 | 17941 | 1059 | 1214 |
| 11/10/2018 | Sat | | | 50.4 | 49.6 | 13533 | 13322 | 26855 | 4768 | 5426 | 10194 | 876 | 1142 | 8765 | 7896 | 16661 | 1028 | 1083 |
| 11/11/2018 | Sun | | | 49.7 | 50.3 | 11810 | 11939 | 23749 | 3991 | 4468 | 8459 | 769 | 952 | 7819 | 7471 | 15290 | 1033 | 927 |
| 11/12/2018 | Mon | * | | 49.8 | 50.2 | 13365 | 13495 | 26860 | 5419 | 5141 | 10560 | 847 | 1090 | 7946 | 8354 | 16300 | 978 | 1207 |
| 11/13/2018 | Tue | | | 49.9 | 50.1 | 14048 | 14112 | 28160 | 5890 | 5442 | 11332 | 725 | 1189 | 8158 | 8670 | 16828 | 1037 | 1164 |
| 11/14/2018 | Wed | | | 50.0 | 50.0 | 14339 | 14326 | 28665 | 5914 | 5614 | 11528 | 748 | 1088 | 8425 | 8712 | 17137 | 1067 | 1238 |
| 11/15/2018 | Thu | | | 50.5 | 49.5 | 14444 | 14157 | 28601 | 5934 | 5450 | 11384 | 825 | 1028 | 8510 | 8707 | 17217 | 1117 | 1235 |
| 11/16/2018 | Fri | | | 50.0 | 50.0 | 14770 | 14743 | 29513 | 6039 | 5341 | 11380 | 851 | 1047 | 8731 | 9402 | 18133 | 1124 | 1268 |
| 11/17/2018 | Sat | | | 50.4 | 49.6 | 13723 | 13511 | 27234 | 4567 | 5317 | 9884 | 869 | 1221 | 9156 | 8194 | 17350 | 965 | 1121 |
| 11/18/2018 | Sun | | | 50.2 | 49.8 | 11947 | 11857 | 23804 | 4159 | 4386 | 8545 | 791 | 978 | 7788 | 7471 | 15259 | 1024 | 945 |
| 11/19/2018 | Mon | | | 50.4 | 49.6 | 13979 | 13734 | 27713 | 6188 | 5087 | 11275 | 1175 | 609 | 7791 | 8647 | 16438 | 1006 | 1210 |
| 11/20/2018 | Tue | | | 49.9 | 50.1 | 14454 | 14532 | 28986 | 6343 | 5319 | 11662 | 842 | 1085 | 8111 | 9213 | 17324 | 1051 | 1282 |
| 11/21/2018 | Wed | | | 50.0 | 50.0 | 14618 | 14626 | 29244 | 6298 | 5177 | 11475 | 775 | 1046 | 8320 | 9449 | 17769 | 1133 | 1193 |
| 11/22/2018 | Thu | * | 1 | 50.0 | 50.0 | 10706 | 10720 | 21426 | 3687 | 3950 | 7637 | 619 | 884 | 7019 | 6770 | 13789 | 915 | 730 |
| 11/23/2018 | Fri | | 3 | 49.8 | 50.2 | 14343 | 14469 | 28812 | 5382 | 5710 | 11092 | 914 | 1181 | 8961 | 8759 | 17720 | 1066 | 1113 |
| 11/24/2018 | Sat | | | 49.8 | 50.2 | 13041 | 13158 | 26199 | 4294 | 5189 | 9483 | 830 | 1075 | 8747 | 7969 | 16716 | 1089 | 912 |
| 11/25/2018 | Sun | | | 49.3 | 50.7 | 11681 | 12010 | 23691 | 4005 | 4224 | 8229 | 777 | 887 | 7676 | 7786 | 15462 | 994 | 964 |
| 11/26/2018 | Mon | | | 50.1 | 49.9 | 14486 | 14453 | 28939 | 6064 | 5737 | 11801 | 824 | 1138 | 8422 | 8716 | 17138 | 1109 | 1240 |
| 11/27/2018 | Tue | | | 49.4 | 50.6 | 14124 | 14443 | 28567 | 6087 | 5547 | 11634 | 1144 | 717 | 8037 | 8896 | 16933 | 1060 | 1251 |
| 11/28/2018 | Wed | | | 49.8 | 50.2 | 13904 | 13990 | 27894 | 5882 | 5365 | 11247 | 678 | 1158 | 8022 | 8625 | 16647 | 1015 | 1246 |
| 11/29/2018 | Thu | | | 50.2 | 49.8 | 13576 | 13481 | 27057 | 5812 | 5127 | 10939 | 1191 | 651 | 7764 | 8354 | 16118 | 973 | 1193 |
| 11/30/2018 | Fri | | | 49.9 | 50.1 | 13946 | 14022 | 27968 | 5761 | 5291 | 11052 | 803 | 1074 | 8185 | 8731 | 16916 | 1045 | 1179 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**December, 2018**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

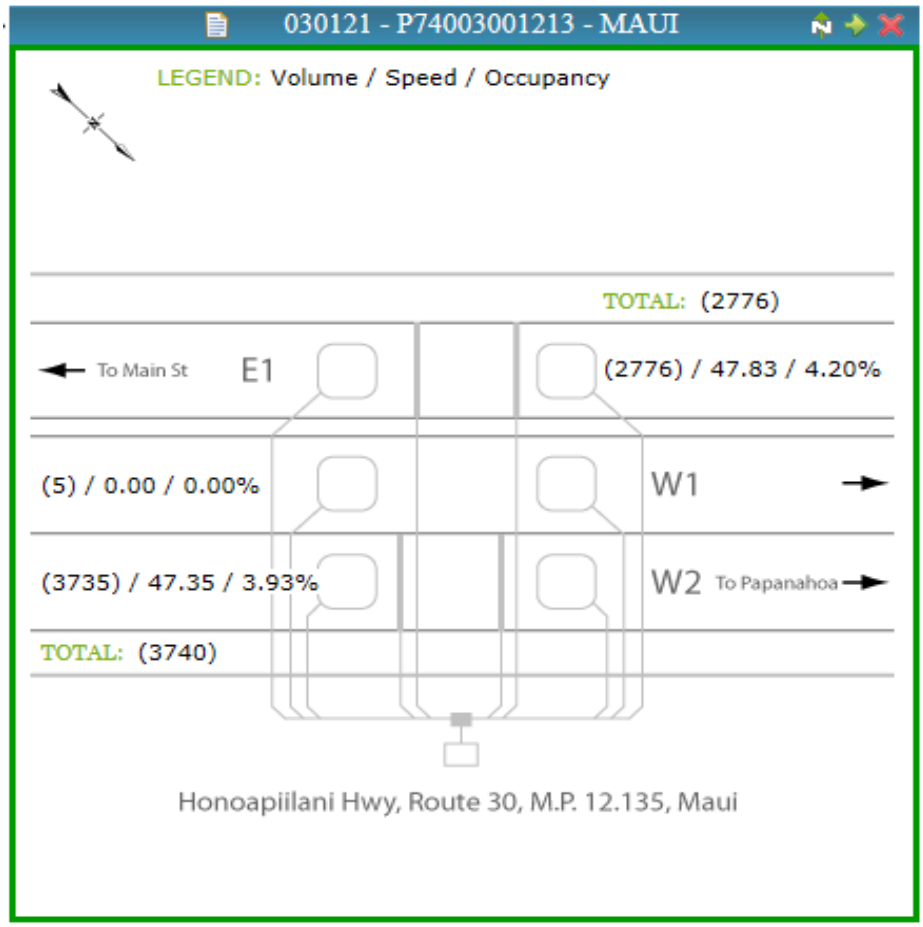
DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 12/1/2018 | Sat | | | 50.7 | 49.3 | 13087 | 12719 | 25806 | 4293 | 4829 | 9122 | 733 | 1057 | 8794 | 7890 | 16684 | 1022 | 982 |
| 12/2/2018 | Sun | | | 49.9 | 50.1 | 11121 | 11161 | 22282 | 3812 | 3858 | 7670 | 676 | 891 | 7309 | 7303 | 14612 | 923 | 885 |
| 12/3/2018 | Mon | | | 50.3 | 49.7 | 13858 | 13692 | 27550 | 5754 | 5281 | 11035 | 733 | 1058 | 8104 | 8411 | 16515 | 1043 | 1197 |
| 12/4/2018 | Tue | | 1 | 50.2 | 49.8 | 13860 | 13775 | 27635 | 5817 | 5445 | 11262 | 722 | 1105 | 8043 | 8330 | 16373 | 1005 | 1209 |
| 12/5/2018 | Wed | | | 50.3 | 49.7 | 14300 | 14147 | 28447 | 5954 | 5280 | 11234 | 1104 | 701 | 8346 | 8867 | 17213 | 1035 | 1275 |
| 12/6/2018 | Thu | | | 50.4 | 49.6 | 14588 | 14334 | 28922 | 6023 | 5368 | 11391 | 825 | 1056 | 8565 | 8966 | 17531 | 1167 | 1258 |
| 12/7/2018 | Fri | | | 50.0 | 50.0 | 14550 | 14548 | 29098 | 5717 | 5396 | 11113 | 743 | 1108 | 8833 | 9152 | 17985 | 1047 | 1275 |
| 12/8/2018 | Sat | | | 50.2 | 49.8 | 13381 | 13265 | 26646 | 4344 | 5495 | 9839 | 733 | 1266 | 9037 | 7770 | 16807 | 1181 | 869 |
| 12/9/2018 | Sun | | | 49.4 | 50.6 | 11534 | 11808 | 23342 | 3906 | 4128 | 8034 | 738 | 969 | 7628 | 7680 | 15308 | 986 | 948 |
| 12/10/2018 | Mon | | 1 | 49.6 | 50.4 | 13486 | 13682 | 27168 | 5713 | 5327 | 11040 | 814 | 1074 | 7773 | 8355 | 16128 | 970 | 1198 |
| 12/11/2018 | Tue | | | 49.8 | 50.2 | 14076 | 14189 | 28265 | 5932 | 5674 | 11606 | 790 | 1150 | 8144 | 8515 | 16659 | 1090 | 1183 |
| 12/12/2018 | Wed | | | 49.7 | 50.3 | 13241 | 13402 | 26643 | 5816 | 5078 | 10894 | 757 | 991 | 7425 | 8324 | 15749 | 1041 | 1158 |
| 12/13/2018 | Thu | | 1 | 49.9 | 50.1 | 13887 | 13919 | 27806 | 5804 | 5287 | 11091 | 737 | 1134 | 8083 | 8632 | 16715 | 1063 | 1170 |
| 12/14/2018 | Fri | | | 50.1 | 49.9 | 14517 | 14471 | 28988 | 5806 | 5331 | 11137 | 714 | 1098 | 8711 | 9140 | 17851 | 1086 | 1220 |
| 12/15/2018 | Sat | | | 50.3 | 49.7 | 13165 | 12997 | 26162 | 4349 | 4982 | 9331 | 645 | 1203 | 8816 | 8015 | 16831 | 1092 | 928 |
| 12/16/2018 | Sun | | | 49.4 | 50.6 | 11796 | 12085 | 23881 | 4115 | 4135 | 8250 | 859 | 930 | 7681 | 7950 | 15631 | 1005 | 979 |
| 12/17/2018 | Mon | | | 50.4 | 49.6 | 13857 | 13660 | 27517 | 5801 | 5234 | 11035 | 757 | 995 | 8056 | 8426 | 16482 | 1007 | 1199 |
| 12/18/2018 | Tue | | | 49.9 | 50.1 | 13946 | 14000 | 27946 | 5921 | 5441 | 11362 | 730 | 1158 | 8025 | 8559 | 16584 | 998 | 1182 |
| 12/19/2018 | Wed | | | 50.8 | 49.2 | 14992 | 14508 | 29500 | 5919 | 5421 | 11340 | 749 | 1196 | 9073 | 9087 | 18160 | 1201 | 1199 |
| 12/20/2018 | Thu | | | 50.8 | 49.2 | 14640 | 14204 | 28844 | 5885 | 5269 | 11154 | 793 | 1032 | 8755 | 8935 | 17690 | 1145 | 1206 |
| 12/21/2018 | Fri | | | 50.4 | 49.6 | 15380 | 15120 | 30500 | 5870 | 5694 | 11564 | 786 | 1245 | 9510 | 9426 | 18936 | 1132 | 1193 |
| 12/22/2018 | Sat | | | 50.3 | 49.7 | 14038 | 13860 | 27898 | 4362 | 5400 | 9762 | 793 | 1205 | 9676 | 8460 | 18136 | 1184 | 962 |
| 12/23/2018 | Sun | | | 50.4 | 49.6 | 12677 | 12500 | 25177 | 4009 | 4579 | 8588 | 714 | 1041 | 8668 | 7921 | 16589 | 1003 | 938 |
| 12/24/2018 | Mon | | | 51.0 | 49.0 | 13369 | 12847 | 26216 | 4914 | 4854 | 9768 | 858 | 989 | 8455 | 7993 | 16448 | 1152 | 1047 |
| 12/25/2018 | Tue | * | 1 | 50.7 | 49.3 | 10190 | 9894 | 20084 | 3164 | 3362 | 6526 | 599 | 808 | 7026 | 6532 | 13558 | 898 | 724 |
| 12/26/2018 | Wed | | | 50.6 | 49.4 | 15322 | 14956 | 30278 | 5784 | 5555 | 11339 | 891 | 1105 | 9538 | 9401 | 18939 | 1166 | 1170 |
| 12/27/2018 | Thu | | | 50.3 | 49.7 | 15400 | 15200 | 30600 | 5933 | 5612 | 11545 | 855 | 1151 | 9467 | 9588 | 19055 | 1132 | 1193 |
| 12/28/2018 | Fri | | | 50.5 | 49.5 | 15892 | 15598 | 31490 | 6169 | 5633 | 11802 | 900 | 1185 | 9723 | 9965 | 19688 | 1205 | 1274 |
| 12/29/2018 | Sat | | | 50.2 | 49.8 | 14120 | 13998 | 28118 | 4718 | 5342 | 10060 | 858 | 1146 | 9402 | 8656 | 18058 | 1158 | 954 |
| 12/30/2018 | Sun | | | 50.1 | 49.9 | 13466 | 13407 | 26873 | 4623 | 4703 | 9326 | 905 | 1083 | 8843 | 8704 | 17547 | 1141 | 1062 |
| 12/31/2018 | Mon | | | 50.0 | 50.0 | 13341 | 13365 | 26706 | 5445 | 5109 | 10554 | 945 | 1170 | 7896 | 8256 | 16152 | 1011 | 1033 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR


030121 - P74003001213 - MAUI
LEGEND: Volume / Speed / Occupancy
TOTAL: (2776)
To Main St
E1
(2776) / 47.83 / 4.20%
(5) / 0.00 / 0.00%
W1
(3735) / 47.35 / 3.93%
W2
To Papanahoa
TOTAL: (3740)
Honoapiilani Hwy, Route 30, M.P. 12.135, Maui

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2020 - 2020
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 27898 | 28671 | 28740 | 29281 | 29800 | 27286 | 24962 | 28878 | 28091 | 0.62026 | 0.60336 |
| February | 28718 | 28514 | 29071 | 29558 | 30645 | 27749 | 23308 | 29301 | 28223 | 0.61736 | 0.59465 |
| March | 21890 | 21025 | 22466 | 26495 | 19531 | 18541 | 20517 | 22282 | 21495 | 0.81060 | 0.78199 |
| April | 9772 | 11540 | 10815 | 10309 | 10470 | 7602 | 6165 | 10581 | 9525 | 1.82932 | 1.64667 |
| May | 11930 | 12498 | 12855 | 13221 | 13469 | 11366 | 10042 | 12795 | 12197 | 1.42851 | 1.36181 |
| June | 14480 | 14861 | 15628 | 15175 | 15618 | 14377 | 12723 | 15152 | 14695 | 1.18573 | 1.14990 |
| July | 13823 | 14383 | 15183 | 15158 | 16074 | 13083 | 11953 | 14924 | 14237 | 1.22387 | 1.16750 |
| August | 13648 | 14003 | 14134 | 14047 | 14580 | 12991 | 11272 | 14082 | 13525 | 1.28828 | 1.23729 |
| September | 13767 | 13818 | 13844 | 14037 | 15362 | 13727 | 11758 | 14166 | 13759 | 1.26636 | 1.23001 |
| October | 15389 | 15638 | 16178 | 15652 | 16604 | 14905 | 12134 | 15892 | 15214 | 1.14523 | 1.09637 |
| November | 18083 | 18885 | 18649 | 18377 | 19664 | 18007 | 15097 | 18732 | 18109 | 0.96217 | 0.93018 |
| December | 20757 | 21080 | 21482 | 20173 | 20978 | 18388 | 17260 | 20894 | 20017 | 0.87047 | 0.83393 |
| AVERAGE | 17513 | 17910 | 18254 | 18457 | 18566 | 16502 | 14766 | AVERAGE 18140 | D1+D2 AADT 17424 | | |

K-FACTOR 13.56%
K-FACTOR PERIOD PM
D-FACTOR 51.93%

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2020 - 2020
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13984 | 14348 | 14448 | 14717 | 14926 | 13743 | 12454 | 14485 | 14089 | 0.61898 | 0.60206 |
| February | 14376 | 14305 | 14672 | 14908 | 15399 | 13943 | 11665 | 14732 | 14181 | 0.61494 | 0.59195 |
| March | 10936 | 10430 | 11109 | 13187 | 9517 | 9101 | 10072 | 11036 | 10622 | 0.82101 | 0.79020 |
| April | 4896 | 5775 | 5397 | 5139 | 5230 | 3819 | 3079 | 5287 | 4762 | 1.83121 | 1.64930 |
| May | 5960 | 6249 | 6421 | 6608 | 6760 | 5716 | 5001 | 6400 | 6102 | 1.42911 | 1.36267 |
| June | 7221 | 7427 | 7831 | 7575 | 7892 | 7252 | 6266 | 7589 | 7352 | 1.18616 | 1.14909 |
| July | 6884 | 7203 | 7583 | 7599 | 8130 | 6608 | 5766 | 7480 | 7110 | 1.22649 | 1.16593 |
| August | 6792 | 6999 | 7078 | 7018 | 7404 | 6542 | 5474 | 7058 | 6758 | 1.29039 | 1.23555 |
| September | 6837 | 6869 | 6911 | 7005 | 7811 | 6962 | 5732 | 7087 | 6875 | 1.26841 | 1.23057 |
| October | 7689 | 7827 | 8115 | 7880 | 8466 | 7584 | 5919 | 7995 | 7640 | 1.14143 | 1.09068 |
| November | 9060 | 9463 | 9368 | 9258 | 9972 | 9043 | 7437 | 9424 | 9086 | 0.95980 | 0.92535 |
| December | 10403 | 10557 | 10778 | 10169 | 10632 | 9213 | 8739 | 10507 | 10070 | 0.86600 | 0.82994 |
| AVERAGE | 8753 | 8954 | 9143 | 9255 | 9345 | 8294 | 7300 | AVERAGE 9090 | D1 AADT 8721 | | |

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2020 - 2020
LOC'N 20.7955 -156.583221

Maui
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 13914 | 14323 | 14292 | 14564 | 14874 | 13543 | 12508 | 14393 | 14002 | 0.62155 | 0.60467 |
| February | 14342 | 14209 | 14399 | 14650 | 15246 | 13806 | 11643 | 14569 | 14042 | 0.61980 | 0.59738 |
| March | 10954 | 10595 | 11357 | 13308 | 10014 | 9440 | 10445 | 11246 | 10873 | 0.80043 | 0.77392 |
| April | 4875 | 5765 | 5418 | 5170 | 5241 | 3783 | 3086 | 5294 | 4763 | 1.82743 | 1.64405 |
| May | 5969 | 6249 | 6434 | 6613 | 6709 | 5650 | 5041 | 6395 | 6095 | 1.42792 | 1.36095 |
| June | 7259 | 7435 | 7797 | 7600 | 7727 | 7125 | 6458 | 7563 | 7343 | 1.18529 | 1.15072 |
| July | 6940 | 7180 | 7600 | 7559 | 7945 | 6475 | 6188 | 7445 | 7126 | 1.22126 | 1.16907 |
| August | 6855 | 7004 | 7057 | 7029 | 7176 | 6449 | 5798 | 7024 | 6767 | 1.28617 | 1.23905 |
| September | 6930 | 6949 | 6933 | 7032 | 7551 | 6766 | 6026 | 7079 | 6884 | 1.26432 | 1.22945 |
| October | 7700 | 7812 | 8063 | 7772 | 8138 | 7321 | 6215 | 7897 | 7574 | 1.14905 | 1.10213 |
| November | 9023 | 9422 | 9281 | 9119 | 9693 | 8964 | 7660 | 9308 | 9023 | 0.96456 | 0.93507 |
| December | 10354 | 10523 | 10704 | 10004 | 10346 | 9174 | 8521 | 10386 | 9947 | 0.87500 | 0.83797 |
| AVERAGE | 8760 | 8955 | 9111 | 9202 | 9221 | 8208 | 7466 | AVERAGE 9050 | D2 AADT 8703 | | |

**January, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 1/1/2020 | Wed | * | | 50.0 | 50.0 | 11730 | 11721 | 23451 | 4295 | 3873 | 8168 | 815 | 879 | 7435 | 7848 | 15283 | 938 | 884 |
| 1/2/2020 | Thu | | | 50.2 | 49.8 | 15288 | 15140 | 30428 | 6430 | 5396 | 11826 | 926 | 1144 | 8858 | 9744 | 18602 | 1118 | 1208 |
| 1/3/2020 | Fri | | | 49.9 | 50.1 | 15700 | 15779 | 31479 | 6321 | 5585 | 11906 | 928 | 1201 | 9379 | 10194 | 19573 | 1173 | 1214 |
| 1/4/2020 | Sat | | | 50.3 | 49.7 | 14319 | 14150 | 28469 | 5044 | 5076 | 10120 | 890 | 1184 | 9275 | 9074 | 18349 | 1117 | 1096 |
| 1/5/2020 | Sun | | | 49.4 | 50.6 | 12768 | 13073 | 25841 | 4949 | 4207 | 9156 | 967 | 990 | 7819 | 8866 | 16685 | 948 | 1029 |
| 1/6/2020 | Mon | | | 50.0 | 50.0 | 14630 | 14639 | 29269 | 5914 | 5580 | 11494 | 866 | 1099 | 8716 | 9059 | 17775 | 1112 | 1206 |
| 1/7/2020 | Tue | | | 50.3 | 49.7 | 14527 | 14359 | 28886 | 5818 | 5634 | 11452 | 799 | 1176 | 8709 | 8725 | 17434 | 1162 | 1158 |
| 1/8/2020 | Wed | | | 50.3 | 49.7 | 14794 | 14643 | 29437 | 5852 | 5716 | 11568 | 817 | 1171 | 8942 | 8927 | 17869 | 1173 | 1218 |
| 1/9/2020 | Thu | | | 50.2 | 49.8 | 14415 | 14295 | 28710 | 5782 | 5451 | 11233 | 785 | 1121 | 8633 | 8844 | 17477 | 1194 | 1149 |
| 1/10/2020 | Fri | | | 50.0 | 50.0 | 14668 | 14678 | 29346 | 5723 | 5455 | 11178 | 803 | 1203 | 8945 | 9223 | 18168 | 1129 | 1214 |
| 1/11/2020 | Sat | | | 50.0 | 50.0 | 12758 | 12745 | 25503 | 4276 | 4994 | 9270 | 823 | 1184 | 8482 | 7751 | 16233 | 944 | 1072 |
| 1/12/2020 | Sun | | 1 | 50.1 | 49.9 | 11023 | 10998 | 22021 | 3683 | 3970 | 7653 | 749 | 1014 | 7340 | 7028 | 14368 | 1053 | 808 |
| 1/13/2020 | Mon | | | 50.2 | 49.8 | 13590 | 13492 | 27082 | 5633 | 5163 | 10796 | 812 | 1041 | 7957 | 8329 | 16286 | 1102 | 1222 |
| 1/14/2020 | Tue | | | 50.1 | 49.9 | 14156 | 14125 | 28281 | 5796 | 5541 | 11337 | 807 | 1162 | 8360 | 8584 | 16944 | 1084 | 1231 |
| 1/15/2020 | Wed | | | 50.4 | 49.6 | 14365 | 14128 | 28493 | 5869 | 5500 | 11369 | 836 | 1128 | 8496 | 8628 | 17124 | 1123 | 1211 |
| 1/16/2020 | Thu | | 1 | 50.7 | 49.3 | 14508 | 14103 | 28611 | 5799 | 5254 | 11053 | 771 | 1075 | 8709 | 8849 | 17558 | 1144 | 1237 |
| 1/17/2020 | Fri | | | 50.7 | 49.3 | 15023 | 14636 | 29659 | 5832 | 5497 | 11329 | 865 | 1208 | 9191 | 9139 | 18330 | 1178 | 1223 |
| 1/18/2020 | Sat | | | 50.5 | 49.5 | 14040 | 13741 | 27781 | 4501 | 5453 | 9954 | 740 | 1236 | 9539 | 8288 | 17827 | 1117 | 980 |
| 1/19/2020 | Sun | | | 50.4 | 49.6 | 12049 | 11847 | 23896 | 4362 | 4223 | 8585 | 706 | 974 | 7687 | 7624 | 15311 | 970 | 857 |
| 1/20/2020 | Mon | * | | 49.7 | 50.3 | 13838 | 13992 | 27830 | 5504 | 5262 | 10766 | 856 | 1168 | 8334 | 8730 | 17064 | 1105 | 1174 |
| 1/21/2020 | Tue | | | 49.8 | 50.2 | 14571 | 14672 | 29243 | 6104 | 5766 | 11870 | 824 | 1078 | 8467 | 8906 | 17373 | 1131 | 1283 |
| 1/22/2020 | Wed | | | 50.2 | 49.8 | 14626 | 14509 | 29135 | 5996 | 5490 | 11486 | 806 | 1065 | 8630 | 9019 | 17649 | 1140 | 1242 |
| 1/23/2020 | Thu | | | 50.5 | 49.5 | 14761 | 14494 | 29255 | 6060 | 5489 | 11549 | 829 | 1109 | 8701 | 9005 | 17706 | 1098 | 1265 |
| 1/24/2020 | Fri | | | 50.1 | 49.9 | 14495 | 14446 | 28941 | 5801 | 5503 | 11304 | 788 | 1129 | 8694 | 8943 | 17637 | 1140 | 1212 |
| 1/25/2020 | Sat | | | 50.6 | 49.4 | 13856 | 13534 | 27390 | 4440 | 5164 | 9604 | 810 | 1082 | 9416 | 8370 | 17786 | 1136 | 964 |
| 1/26/2020 | Sun | | | 49.9 | 50.1 | 12544 | 12604 | 25148 | 4331 | 4588 | 8919 | 790 | 1021 | 8213 | 8016 | 16229 | 987 | 1016 |
| 1/27/2020 | Mon | | | 50.2 | 49.8 | 13733 | 13610 | 27343 | 5752 | 5220 | 10972 | 817 | 1077 | 7981 | 8390 | 16371 | 1109 | 1221 |
| 1/28/2020 | Tue | | | 50.0 | 50.0 | 14136 | 14137 | 28273 | 5895 | 5473 | 11368 | 832 | 1115 | 8241 | 8664 | 16905 | 1136 | 1219 |
| 1/29/2020 | Wed | | | 50.2 | 49.8 | 14007 | 13888 | 27895 | 5759 | 5227 | 10986 | 740 | 1058 | 8248 | 8661 | 16909 | 1064 | 1264 |
| 1/30/2020 | Thu | | | 50.1 | 49.9 | 14403 | 14327 | 28730 | 5873 | 5381 | 11254 | 833 | 1102 | 8530 | 8946 | 17476 | 1112 | 1231 |
| 1/31/2020 | Fri | | | 49.9 | 50.1 | 14744 | 14829 | 29573 | 5853 | 5446 | 11299 | 839 | 1194 | 8891 | 9383 | 18274 | 1135 | 1254 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**February, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8

DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 2/1/2020 | Sat | | | 50.0 | 50.0 | 13688 | 13692 | 27380 | 4596 | 5339 | 9935 | 870 | 1213 | 9092 | 8353 | 17445 | 1120 | 1003 |
| 2/2/2020 | Sun | | | 50.1 | 49.9 | 10020 | 9990 | 20010 | 3772 | 3756 | 7528 | 696 | 879 | 6248 | 6234 | 12482 | 819 | 827 |
| 2/3/2020 | Mon | | 1 | 50.3 | 49.7 | 13920 | 13760 | 27680 | 5662 | 5500 | 11162 | 810 | 1061 | 8258 | 8260 | 16518 | 1115 | 1214 |
| 2/4/2020 | Tue | | | 50.2 | 49.8 | 14183 | 14043 | 28226 | 5915 | 5593 | 11508 | 717 | 1148 | 8268 | 8450 | 16718 | 1034 | 1237 |
| 2/5/2020 | Wed | | | 50.5 | 49.5 | 14533 | 14237 | 28770 | 5963 | 5553 | 11516 | 754 | 1096 | 8570 | 8684 | 17254 | 1121 | 1251 |
| 2/6/2020 | Thu | | | 50.6 | 49.4 | 14414 | 14051 | 28465 | 5828 | 5165 | 10993 | 881 | 1101 | 8586 | 8886 | 17472 | 1180 | 1105 |
| 2/7/2020 | Fri | | 1 | 50.2 | 49.8 | 14833 | 14695 | 29528 | 5780 | 5589 | 11369 | 839 | 1170 | 9053 | 9106 | 18159 | 1098 | 1208 |
| 2/8/2020 | Sat | | | 50.2 | 49.8 | 13393 | 13270 | 26663 | 4476 | 5410 | 9886 | 789 | 1182 | 8917 | 7860 | 16777 | 1055 | 814 |
| 2/9/2020 | Sun | | | 49.7 | 50.3 | 11735 | 11893 | 23628 | 4067 | 4353 | 8420 | 847 | 945 | 7668 | 7540 | 15208 | 904 | 978 |
| 2/10/2020 | Mon | | 1 | 50.3 | 49.7 | 13919 | 13749 | 27668 | 6046 | 5413 | 11459 | 801 | 1186 | 7873 | 8336 | 16209 | 1035 | 1023 |
| 2/11/2020 | Tue | | | 50.3 | 49.7 | 14336 | 14150 | 28486 | 5763 | 5609 | 11372 | 822 | 1164 | 8573 | 8541 | 17114 | 1152 | 1213 |
| 2/12/2020 | Wed | | | 50.4 | 49.6 | 14515 | 14279 | 28794 | 5974 | 5340 | 11314 | 793 | 1040 | 8541 | 8939 | 17480 | 1159 | 1136 |
| 2/13/2020 | Thu | | | 50.6 | 49.4 | 15078 | 14717 | 29795 | 6142 | 5568 | 11710 | 863 | 1091 | 8936 | 9149 | 18085 | 1049 | 1226 |
| 2/14/2020 | Fri | | | 50.6 | 49.4 | 15644 | 15268 | 30912 | 6080 | 5455 | 11535 | 868 | 1181 | 9564 | 9813 | 19377 | 1128 | 1267 |
| 2/15/2020 | Sat | | | 50.2 | 49.8 | 14403 | 14276 | 28679 | 4743 | 5311 | 10054 | 900 | 1179 | 9660 | 8965 | 18625 | 1083 | 1169 |
| 2/16/2020 | Sun | | | 50.4 | 49.6 | 13240 | 13045 | 26285 | 4491 | 4600 | 9091 | 893 | 1079 | 8749 | 8445 | 17194 | 1041 | 1031 |
| 2/17/2020 | Mon | * | | 50.0 | 50.0 | 14238 | 14246 | 28484 | 5683 | 5217 | 10900 | 965 | 1112 | 8555 | 9029 | 17584 | 1146 | 1158 |
| 2/18/2020 | Tue | | 1 | 50.0 | 50.0 | 14979 | 14988 | 29967 | 6230 | 5845 | 12075 | 783 | 1166 | 8749 | 9143 | 17892 | 1095 | 1253 |
| 2/19/2020 | Wed | | 1 | 50.3 | 49.7 | 14720 | 14541 | 29261 | 6071 | 5648 | 11719 | 841 | 1108 | 8649 | 8893 | 17542 | 1143 | 1145 |
| 2/20/2020 | Thu | | | 50.1 | 49.9 | 15000 | 14946 | 29946 | 6060 | 5666 | 11726 | 823 | 1129 | 8940 | 9280 | 18220 | 1147 | 1169 |
| 2/21/2020 | Fri | | 1 | 50.0 | 50.0 | 13819 | 13842 | 27661 | 4882 | 4877 | 9759 | 913 | 1067 | 8937 | 8965 | 17902 | 1059 | 1159 |
| 2/22/2020 | Sat | | | 50.5 | 49.5 | 14288 | 13987 | 28275 | 4877 | 5464 | 10341 | 920 | 1230 | 9411 | 8523 | 17934 | 1092 | 1021 |
| 2/23/2020 | Sun | | 1 | 50.0 | 50.0 | 12670 | 12671 | 25341 | 4215 | 4478 | 8693 | 853 | 1072 | 8455 | 8193 | 16648 | 1029 | 1013 |
| 2/24/2020 | Mon | | | 50.1 | 49.9 | 14376 | 14342 | 28718 | 6084 | 5548 | 11632 | 850 | 1109 | 8292 | 8794 | 17086 | 1015 | 1287 |
| 2/25/2020 | Tue | | | 49.9 | 50.1 | 14396 | 14434 | 28830 | 6074 | 5596 | 11670 | 1180 | 696 | 8322 | 8838 | 17160 | 1142 | 1259 |
| 2/26/2020 | Wed | | | 50.5 | 49.5 | 14967 | 14682 | 29649 | 6252 | 5692 | 11944 | 837 | 1173 | 8715 | 8990 | 17705 | 1069 | 1081 |
| 2/27/2020 | Thu | | | 50.4 | 49.6 | 15140 | 14884 | 30024 | 6096 | 5637 | 11733 | 820 | 1156 | 9044 | 9247 | 18291 | 1096 | 1254 |
| 2/28/2020 | Fri | | | 49.9 | 50.1 | 15154 | 15223 | 30377 | 6040 | 5797 | 11837 | 878 | 1218 | 9114 | 9426 | 18540 | 1081 | 1134 |
| 2/29/2020 | Sat | | 1 | 49.8 | 50.2 | 13816 | 13908 | 27724 | 4393 | 5505 | 9898 | 836 | 1122 | 9423 | 8403 | 17826 | 1142 | 1128 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**March, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 3/1/2020 | Sun | | | 49.8 | 50.2 | 12126 | 12233 | 24359 | 3897 | 4625 | 8522 | 776 | 1132 | 8229 | 7608 | 15837 | 1010 | 1023 |
| 3/2/2020 | Mon | | | 50.1 | 49.9 | 13843 | 13814 | 27657 | 5765 | 5196 | 10961 | 817 | 1045 | 8078 | 8618 | 16696 | 1013 | 1236 |
| 3/3/2020 | Tue | | | 50.2 | 49.8 | 14073 | 13966 | 28039 | 5950 | 5360 | 11310 | 1123 | 698 | 8123 | 8606 | 16729 | 1074 | 1231 |
| 3/4/2020 | Wed | | | 50.1 | 49.9 | 14188 | 14137 | 28325 | 5987 | 5465 | 11452 | 798 | 1020 | 8201 | 8672 | 16873 | 1128 | 1148 |
| 3/5/2020 | Thu | | | 50.5 | 49.5 | 14994 | 14719 | 29713 | 6088 | 5536 | 11624 | 746 | 1141 | 8906 | 9183 | 18089 | 1081 | 1171 |
| 3/6/2020 | Fri | | 1 | 50.1 | 49.9 | 14710 | 14645 | 29355 | 5823 | 5782 | 11605 | 776 | 1205 | 8887 | 8863 | 17750 | 1062 | 1017 |
| 3/7/2020 | Sat | | | 50.3 | 49.7 | 13511 | 13360 | 26871 | 4226 | 5128 | 9354 | 818 | 932 | 9285 | 8232 | 17517 | 1167 | 986 |
| 3/8/2020 | Sun | | | 49.7 | 50.3 | 12063 | 12195 | 24258 | 4075 | 4775 | 8850 | 742 | 1099 | 7988 | 7420 | 15408 | 1072 | 930 |
| 3/9/2020 | Mon | | | 50.0 | 50.0 | 14062 | 14046 | 28108 | 5819 | 5678 | 11497 | 812 | 1110 | 8243 | 8368 | 16611 | 1136 | 1230 |
| 3/10/2020 | Tue | | | 50.1 | 49.9 | 14286 | 14212 | 28498 | 6066 | 5605 | 11671 | 1145 | 720 | 8220 | 8607 | 16827 | 1042 | 1267 |
| 3/11/2020 | Wed | | | 50.2 | 49.8 | 14078 | 13989 | 28067 | 5837 | 5421 | 11258 | 842 | 948 | 8241 | 8568 | 16809 | 1035 | 1216 |
| 3/12/2020 | Thu | | | 50.3 | 49.7 | 14527 | 14373 | 28900 | 5861 | 5659 | 11520 | 723 | 1203 | 8666 | 8714 | 17380 | 1080 | 1208 |
| 3/13/2020 | Fri | | | 49.7 | 50.3 | 14541 | 14694 | 29235 | 5720 | 5653 | 11373 | 814 | 1115 | 8821 | 9041 | 17862 | 1093 | 1223 |
| 3/14/2020 | Sat | | | 49.6 | 50.4 | 12490 | 12696 | 25186 | 4480 | 5103 | 9583 | 717 | 1167 | 8010 | 7593 | 15603 | 1065 | 853 |
| 3/15/2020 | Sun | | | 49.2 | 50.8 | 10840 | 11184 | 22024 | 3813 | 4269 | 8082 | 812 | 856 | 7027 | 6915 | 13942 | 941 | 875 |
| 3/16/2020 | Mon | | 1 | 49.4 | 50.6 | 12330 | 12647 | 24977 | 5246 | 5101 | 10347 | 724 | 1010 | 7084 | 7546 | 14630 | 924 | 1120 |
| 3/17/2020 | Tue | | | 49.2 | 50.8 | 11407 | 11790 | 23197 | 5166 | 4961 | 10127 | 658 | 1038 | 6241 | 6829 | 13070 | 990 | 1069 |
| 3/18/2020 | Wed | | | 48.4 | 51.6 | 10546 | 11239 | 21785 | 4905 | 4232 | 9137 | 643 | 973 | 5641 | 7007 | 12648 | 723 | 1143 |
| 3/19/2020 | Thu | | | 48.1 | 51.9 | 10040 | 10831 | 20871 | 4889 | 4168 | 9057 | 660 | 888 | 5151 | 6663 | 11814 | 629 | 1057 |
| 3/20/2020 | Fri | | | 46.7 | 53.3 | 8693 | 9909 | 18602 | 4301 | 3704 | 8005 | 631 | 810 | 4392 | 6205 | 10597 | 560 | 973 |
| 3/21/2020 | Sat | | | 45.8 | 54.2 | 6649 | 7861 | 14510 | 2968 | 3042 | 6010 | 493 | 710 | 3681 | 4819 | 8500 | 570 | 598 |
| 3/22/2020 | Sun | | | 46.0 | 54.0 | 5260 | 6166 | 11426 | 2274 | 2186 | 4460 | 463 | 504 | 2986 | 3980 | 6966 | 510 | 500 |
| 3/23/2020 | Mon | | 1 | 47.9 | 52.1 | 7201 | 7821 | 15022 | 3745 | 2822 | 6567 | 719 | 351 | 3456 | 4999 | 8455 | 413 | 864 |
| 3/24/2020 | Tue | | | 48.3 | 51.7 | 7354 | 7884 | 15238 | 4031 | 2933 | 6964 | 692 | 420 | 3323 | 4951 | 8274 | 423 | 771 |
| 3/25/2020 | Wed | | | 48.1 | 51.9 | 5625 | 6062 | 11687 | 3308 | 2249 | 5557 | 700 | 256 | 2317 | 3813 | 6130 | 329 | 722 |
| 3/26/2020 | Thu | * | 1 | 49.1 | 50.9 | 4896 | 5079 | 9975 | 2801 | 1888 | 4689 | 548 | 260 | 2095 | 3191 | 5286 | 285 | 615 |
| 3/27/2020 | Fri | | | 49.4 | 50.6 | 5317 | 5440 | 10757 | 2942 | 1997 | 4939 | 577 | 252 | 2375 | 3443 | 5818 | 300 | 642 |
| 3/28/2020 | Sat | | | 49.4 | 50.6 | 3754 | 3844 | 7598 | 1793 | 1416 | 3209 | 325 | 308 | 1961 | 2428 | 4389 | 312 | 354 |
| 3/29/2020 | Sun | | 1 | 49.6 | 50.4 | 3182 | 3236 | 6418 | 1427 | 1157 | 2584 | 300 | 262 | 1755 | 2079 | 3834 | 310 | 295 |
| 3/30/2020 | Mon | | | 49.5 | 50.5 | 4904 | 5002 | 9906 | 2774 | 1839 | 4613 | 606 | 199 | 2130 | 3163 | 5293 | 273 | 645 |
| 3/31/2020 | Tue | | | 49.5 | 50.5 | 5029 | 5125 | 10154 | 2847 | 1892 | 4739 | 634 | 193 | 2182 | 3233 | 5415 | 319 | 694 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**April, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 4/1/2020 | Wed | | | 49.8 | 50.2 | 5494 | 5547 | 11041 | 3091 | 1992 | 5083 | 639 | 198 | 2403 | 3555 | 5958 | 338 | 727 |
| 4/2/2020 | Thu | | | 49.7 | 50.3 | 5455 | 5527 | 10982 | 3195 | 2048 | 5243 | 669 | 232 | 2260 | 3479 | 5739 | 294 | 733 |
| 4/3/2020 | Fri | | | 50.0 | 50.0 | 5315 | 5319 | 10634 | 2894 | 1998 | 4892 | 525 | 299 | 2421 | 3321 | 5742 | 324 | 694 |
| 4/4/2020 | Sat | | | 50.1 | 49.9 | 3919 | 3906 | 7825 | 1836 | 1441 | 3277 | 335 | 295 | 2083 | 2465 | 4548 | 322 | 368 |
| 4/5/2020 | Sun | | | 49.8 | 50.2 | 2895 | 2921 | 5816 | 1219 | 1118 | 2337 | 210 | 263 | 1676 | 1803 | 3479 | 270 | 266 |
| 4/6/2020 | Mon | | | 50.1 | 49.9 | 4723 | 4704 | 9427 | 2665 | 1769 | 4434 | 584 | 210 | 2058 | 2935 | 4993 | 320 | 634 |
| 4/7/2020 | Tue | | 1 | 50.1 | 49.9 | 4898 | 4881 | 9779 | 2709 | 1750 | 4459 | 522 | 263 | 2189 | 3131 | 5320 | 279 | 674 |
| 4/8/2020 | Wed | | | 49.9 | 50.1 | 4932 | 4961 | 9893 | 2805 | 1819 | 4624 | 645 | 209 | 2127 | 3142 | 5269 | 315 | 628 |
| 4/9/2020 | Thu | | | 49.9 | 50.1 | 4858 | 4886 | 9744 | 2759 | 1743 | 4502 | 638 | 196 | 2099 | 3143 | 5242 | 267 | 679 |
| 4/10/2020 | Fri | * | | 49.9 | 50.1 | 4735 | 4754 | 9489 | 2508 | 1763 | 4271 | 505 | 232 | 2227 | 2991 | 5218 | 296 | 532 |
| 4/11/2020 | Sat | | 1 | 49.5 | 50.5 | 2972 | 3029 | 6001 | 1350 | 1207 | 2557 | 218 | 227 | 1622 | 1822 | 3444 | 266 | 245 |
| 4/12/2020 | Sun | * | | 50.2 | 49.8 | 1921 | 1903 | 3824 | 873 | 725 | 1598 | 143 | 146 | 1048 | 1178 | 2226 | 154 | 167 |
| 4/13/2020 | Mon | | | 50.2 | 49.8 | 4621 | 4592 | 9213 | 2599 | 1745 | 4344 | 600 | 181 | 2022 | 2847 | 4869 | 272 | 649 |
| 4/14/2020 | Tue | | 1 | 48.3 | 51.7 | 4471 | 4781 | 9252 | 2631 | 1959 | 4590 | 594 | 274 | 1840 | 2822 | 4662 | 209 | 621 |
| 4/15/2020 | Wed | | 1 | 49.8 | 50.2 | 4638 | 4681 | 9319 | 2708 | 1710 | 4418 | 640 | 195 | 1930 | 2971 | 4901 | 266 | 706 |
| 4/16/2020 | Thu | | | 49.9 | 50.1 | 4826 | 4840 | 9666 | 2787 | 1758 | 4545 | 656 | 230 | 2039 | 3082 | 5121 | 308 | 695 |
| 4/17/2020 | Fri | | | 49.9 | 50.1 | 4971 | 4997 | 9968 | 2738 | 1854 | 4592 | 609 | 192 | 2233 | 3143 | 5376 | 306 | 650 |
| 4/18/2020 | Sat | | | 50.4 | 49.6 | 3651 | 3599 | 7250 | 1642 | 1441 | 3083 | 298 | 313 | 2009 | 2158 | 4167 | 330 | 293 |
| 4/19/2020 | Sun | | | 50.1 | 49.9 | 3254 | 3235 | 6489 | 1421 | 1167 | 2588 | 276 | 269 | 1833 | 2068 | 3901 | 305 | 296 |
| 4/20/2020 | Mon | | | 50.1 | 49.9 | 5345 | 5330 | 10675 | 3039 | 1943 | 4982 | 648 | 212 | 2306 | 3387 | 5693 | 334 | 737 |
| 4/21/2020 | Tue | | | 50.0 | 50.0 | 5775 | 5765 | 11540 | 3416 | 2147 | 5563 | 699 | 250 | 2359 | 3618 | 5977 | 354 | 737 |
| 4/22/2020 | Wed | | | 50.1 | 49.9 | 5765 | 5745 | 11510 | 3279 | 2092 | 5371 | 699 | 206 | 2486 | 3653 | 6139 | 362 | 773 |
| 4/23/2020 | Thu | | | 49.9 | 50.1 | 5198 | 5220 | 10418 | 3033 | 1944 | 4977 | 667 | 203 | 2165 | 3276 | 5441 | 305 | 767 |
| 4/24/2020 | Fri | | | 50.0 | 50.0 | 5403 | 5406 | 10809 | 2984 | 2073 | 5057 | 617 | 246 | 2419 | 3333 | 5752 | 297 | 741 |
| 4/25/2020 | Sat | | | 50.3 | 49.7 | 3888 | 3844 | 7732 | 1748 | 1503 | 3251 | 330 | 348 | 2140 | 2341 | 4481 | 316 | 327 |
| 4/26/2020 | Sun | | | 49.9 | 50.1 | 3087 | 3102 | 6189 | 1259 | 1131 | 2390 | 252 | 260 | 1828 | 1971 | 3799 | 293 | 275 |
| 4/27/2020 | Mon | | 1 | 49.7 | 50.3 | 5133 | 5192 | 10325 | 2819 | 1859 | 4678 | 631 | 190 | 2314 | 3333 | 5647 | 301 | 739 |
| 4/28/2020 | Tue | | 1 | 49.9 | 50.1 | 5322 | 5353 | 10675 | 3010 | 1933 | 4943 | 646 | 222 | 2312 | 3420 | 5732 | 317 | 802 |
| 4/29/2020 | Wed | | 1 | 50.0 | 50.0 | 5505 | 5509 | 11014 | 3023 | 2061 | 5084 | 699 | 212 | 2482 | 3448 | 5930 | 326 | 757 |
| 4/30/2020 | Thu | | | 49.9 | 50.1 | 5359 | 5378 | 10737 | 2912 | 1871 | 4783 | 622 | 230 | 2447 | 3507 | 5954 | 344 | 730 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
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3 - USER DEFINED ERROR

**May, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 5/1/2020 | Fri | | | 49.9 | 50.1 | 5666 | 5692 | 11358 | 2912 | 2013 | 4925 | 631 | 203 | 2754 | 3679 | 6433 | 342 | 799 |
| 5/2/2020 | Sat | | | 50.2 | 49.8 | 4190 | 4153 | 8343 | 1728 | 1559 | 3287 | 317 | 361 | 2462 | 2594 | 5056 | 420 | 346 |
| 5/3/2020 | Sun | | | 49.6 | 50.4 | 3493 | 3547 | 7040 | 1451 | 1249 | 2700 | 320 | 296 | 2042 | 2298 | 4340 | 273 | 340 |
| 5/4/2020 | Mon | | | 49.9 | 50.1 | 5465 | 5492 | 10957 | 2979 | 2009 | 4988 | 657 | 208 | 2486 | 3483 | 5969 | 334 | 770 |
| 5/5/2020 | Tue | | | 50.2 | 49.8 | 5653 | 5607 | 11260 | 3047 | 2070 | 5117 | 573 | 283 | 2606 | 3537 | 6143 | 340 | 775 |
| 5/6/2020 | Wed | | | 50.0 | 50.0 | 5850 | 5854 | 11704 | 3177 | 2078 | 5255 | 616 | 291 | 2673 | 3776 | 6449 | 381 | 820 |
| 5/7/2020 | Thu | | | 50.1 | 49.9 | 6287 | 6263 | 12550 | 3342 | 2238 | 5580 | 620 | 307 | 2945 | 4025 | 6970 | 416 | 823 |
| 5/8/2020 | Fri | | | 50.1 | 49.9 | 6180 | 6163 | 12343 | 3296 | 2254 | 5550 | 643 | 282 | 2884 | 3909 | 6793 | 362 | 830 |
| 5/9/2020 | Sat | | | 50.2 | 49.8 | 5359 | 5322 | 10681 | 2412 | 1940 | 4352 | 458 | 452 | 2947 | 3382 | 6329 | 460 | 492 |
| 5/10/2020 | Sun | | | 49.9 | 50.1 | 4672 | 4694 | 9366 | 1859 | 1556 | 3415 | 435 | 382 | 2813 | 3138 | 5951 | 505 | 400 |
| 5/11/2020 | Mon | | | 49.9 | 50.1 | 5885 | 5904 | 11789 | 3219 | 2171 | 5390 | 617 | 305 | 2666 | 3733 | 6399 | 362 | 817 |
| 5/12/2020 | Tue | | | 50.0 | 50.0 | 6003 | 5997 | 12000 | 3237 | 2169 | 5406 | 709 | 208 | 2766 | 3828 | 6594 | 400 | 832 |
| 5/13/2020 | Wed | | | 50.0 | 50.0 | 6268 | 6277 | 12545 | 3442 | 2212 | 5654 | 636 | 337 | 2826 | 4065 | 6891 | 397 | 856 |
| 5/14/2020 | Thu | | | 50.0 | 50.0 | 6618 | 6608 | 13226 | 3520 | 2381 | 5901 | 671 | 309 | 3098 | 4227 | 7325 | 405 | 908 |
| 5/15/2020 | Fri | | | 50.4 | 49.6 | 7590 | 7477 | 15067 | 3836 | 2687 | 6523 | 481 | 583 | 3754 | 4790 | 8544 | 471 | 893 |
| 5/16/2020 | Sat | | | 50.2 | 49.8 | 6880 | 6838 | 13718 | 3466 | 2379 | 5845 | 680 | 528 | 3414 | 4459 | 7873 | 556 | 651 |
| 5/17/2020 | Sun | | | 49.6 | 50.4 | 5460 | 5542 | 11002 | 2506 | 1766 | 4272 | 504 | 422 | 2954 | 3776 | 6730 | 394 | 535 |
| 5/18/2020 | Mon | | | 50.1 | 49.9 | 6531 | 6512 | 13043 | 3474 | 2388 | 5862 | 732 | 240 | 3057 | 4124 | 7181 | 420 | 890 |
| 5/19/2020 | Tue | | | 50.0 | 50.0 | 6625 | 6626 | 13251 | 3542 | 2345 | 5887 | 821 | 246 | 3083 | 4281 | 7364 | 412 | 883 |
| 5/20/2020 | Wed | | | 49.9 | 50.1 | 6756 | 6777 | 13533 | 3616 | 2461 | 6077 | 703 | 319 | 3140 | 4316 | 7456 | 406 | 884 |
| 5/21/2020 | Thu | | | 49.8 | 50.2 | 6706 | 6756 | 13462 | 3498 | 2396 | 5894 | 701 | 272 | 3208 | 4360 | 7568 | 405 | 872 |
| 5/22/2020 | Fri | | 1 | 50.3 | 49.7 | 6924 | 6851 | 13775 | 3478 | 2419 | 5897 | 625 | 333 | 3446 | 4432 | 7878 | 400 | 891 |
| 5/23/2020 | Sat | | | 50.6 | 49.4 | 6081 | 5942 | 12023 | 2630 | 2100 | 4730 | 533 | 432 | 3451 | 3842 | 7293 | 479 | 546 |
| 5/24/2020 | Sun | | | 50.1 | 49.9 | 5775 | 5756 | 11531 | 2554 | 1652 | 4206 | 542 | 404 | 3221 | 4104 | 7325 | 492 | 511 |
| 5/25/2020 | Mon | * | | 48.9 | 51.1 | 5203 | 5429 | 10632 | 2622 | 1845 | 4467 | 525 | 421 | 2581 | 3584 | 6165 | 316 | 577 |
| 5/26/2020 | Tue | | | 49.8 | 50.2 | 6716 | 6766 | 13482 | 3580 | 2478 | 6058 | 623 | 375 | 3136 | 4288 | 7424 | 447 | 879 |
| 5/27/2020 | Wed | | | 49.9 | 50.1 | 6810 | 6829 | 13639 | 3594 | 2399 | 5993 | 698 | 340 | 3216 | 4430 | 7646 | 407 | 914 |
| 5/28/2020 | Thu | | | 50.0 | 50.0 | 6821 | 6826 | 13647 | 3614 | 2453 | 6067 | 705 | 306 | 3207 | 4373 | 7580 | 436 | 931 |
| 5/29/2020 | Fri | | | 50.3 | 49.7 | 7602 | 7504 | 15106 | 3957 | 2774 | 6731 | 510 | 595 | 3645 | 4730 | 8375 | 419 | 839 |
| 5/30/2020 | Sat | | | 50.3 | 49.7 | 6070 | 5993 | 12063 | 2649 | 2084 | 4733 | 548 | 458 | 3421 | 3909 | 7330 | 518 | 507 |
| 5/31/2020 | Sun | | | 49.7 | 50.3 | 5603 | 5666 | 11269 | 2432 | 1730 | 4162 | 565 | 412 | 3171 | 3936 | 7107 | 419 | 534 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**June, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 6/1/2020 | Mon | | | 50.1 | 49.9 | 6898 | 6883 | 13781 | 3618 | 2499 | 6117 | 751 | 249 | 3280 | 4384 | 7664 | 458 | 903 |
| 6/2/2020 | Tue | | | 50.0 | 50.0 | 7715 | 7710 | 15425 | 4083 | 2732 | 6815 | 767 | 360 | 3632 | 4978 | 8610 | 518 | 915 |
| 6/3/2020 | Wed | | | 50.1 | 49.9 | 8179 | 8143 | 16322 | 4440 | 2938 | 7378 | 765 | 451 | 3739 | 5205 | 8944 | 485 | 962 |
| 6/4/2020 | Thu | | | 49.7 | 50.3 | 7752 | 7857 | 15609 | 4297 | 2821 | 7118 | 542 | 624 | 3455 | 5036 | 8491 | 462 | 955 |
| 6/5/2020 | Fri | | | 50.4 | 49.6 | 8037 | 7895 | 15932 | 4064 | 2844 | 6908 | 546 | 576 | 3973 | 5051 | 9024 | 519 | 907 |
| 6/6/2020 | Sat | | | 50.3 | 49.7 | 6506 | 6427 | 12933 | 2860 | 2266 | 5126 | 553 | 542 | 3646 | 4161 | 7807 | 550 | 554 |
| 6/7/2020 | Sun | | | 49.6 | 50.4 | 5758 | 5850 | 11608 | 2640 | 1829 | 4469 | 568 | 418 | 3118 | 4021 | 7139 | 493 | 512 |
| 6/8/2020 | Mon | | | 50.0 | 50.0 | 6872 | 6876 | 13748 | 3596 | 2546 | 6142 | 742 | 262 | 3276 | 4330 | 7606 | 431 | 904 |
| 6/9/2020 | Tue | | | 50.0 | 50.0 | 7033 | 7041 | 14074 | 3596 | 2611 | 6207 | 702 | 347 | 3437 | 4430 | 7867 | 463 | 887 |
| 6/10/2020 | Wed | | | 50.0 | 50.0 | 7320 | 7333 | 14653 | 3659 | 2656 | 6315 | 685 | 371 | 3661 | 4677 | 8338 | 478 | 898 |
| 6/11/2020 | Thu | * | | 49.9 | 50.1 | 6948 | 6967 | 13915 | 3622 | 2352 | 5974 | 505 | 510 | 3326 | 4615 | 7941 | 452 | 781 |
| 6/12/2020 | Fri | | | 50.5 | 49.5 | 7445 | 7288 | 14733 | 3497 | 2654 | 6151 | 473 | 527 | 3948 | 4634 | 8582 | 494 | 784 |
| 6/13/2020 | Sat | | 1 | 50.3 | 49.7 | 6433 | 6357 | 12790 | 2724 | 2193 | 4917 | 532 | 546 | 3709 | 4164 | 7873 | 532 | 539 |
| 6/14/2020 | Sun | | | 49.4 | 50.6 | 5833 | 5980 | 11813 | 2519 | 1840 | 4359 | 535 | 427 | 3314 | 4140 | 7454 | 562 | 473 |
| 6/15/2020 | Mon | | | 49.6 | 50.4 | 6991 | 7090 | 14081 | 3578 | 2513 | 6091 | 662 | 347 | 3413 | 4577 | 7990 | 457 | 858 |
| 6/16/2020 | Tue | | | 50.0 | 50.0 | 7246 | 7244 | 14490 | 3769 | 2734 | 6503 | 696 | 360 | 3477 | 4510 | 7987 | 422 | 883 |
| 6/17/2020 | Wed | | | 50.3 | 49.7 | 7994 | 7914 | 15908 | 4145 | 2865 | 7010 | 779 | 421 | 3849 | 5049 | 8898 | 570 | 835 |
| 6/18/2020 | Thu | | | 50.1 | 49.9 | 7601 | 7572 | 15173 | 3929 | 2791 | 6720 | 725 | 386 | 3672 | 4781 | 8453 | 524 | 857 |
| 6/19/2020 | Fri | | | 50.5 | 49.5 | 8039 | 7868 | 15907 | 3882 | 2890 | 6772 | 504 | 596 | 4157 | 4978 | 9135 | 501 | 833 |
| 6/20/2020 | Sat | | | 50.7 | 49.3 | 7714 | 7505 | 15219 | 3430 | 2719 | 6149 | 629 | 615 | 4284 | 4786 | 9070 | 578 | 635 |
| 6/21/2020 | Sun | | | 48.9 | 51.1 | 6554 | 6845 | 13399 | 3064 | 2139 | 5203 | 635 | 483 | 3490 | 4706 | 8196 | 560 | 551 |
| 6/22/2020 | Mon | | | 49.8 | 50.2 | 7472 | 7523 | 14995 | 3886 | 2734 | 6620 | 660 | 388 | 3586 | 4789 | 8375 | 425 | 893 |
| 6/23/2020 | Tue | | | 50.1 | 49.9 | 7288 | 7271 | 14559 | 3694 | 2578 | 6272 | 677 | 370 | 3594 | 4693 | 8287 | 460 | 915 |
| 6/24/2020 | Wed | | 1 | 49.9 | 50.1 | 7471 | 7506 | 14977 | 3879 | 2719 | 6598 | 719 | 383 | 3592 | 4787 | 8379 | 463 | 898 |
| 6/25/2020 | Thu | | | 50.0 | 50.0 | 7372 | 7370 | 14742 | 3686 | 2682 | 6368 | 713 | 358 | 3686 | 4688 | 8374 | 478 | 842 |
| 6/26/2020 | Fri | | | 50.6 | 49.4 | 8046 | 7855 | 15901 | 3796 | 2832 | 6628 | 491 | 605 | 4250 | 5023 | 9273 | 547 | 880 |
| 6/27/2020 | Sat | | | 50.3 | 49.7 | 7536 | 7442 | 14978 | 3261 | 2501 | 5762 | 623 | 541 | 4275 | 4941 | 9216 | 625 | 570 |
| 6/28/2020 | Sun | | | 49.2 | 50.8 | 6918 | 7155 | 14073 | 3237 | 2380 | 5617 | 606 | 590 | 3681 | 4775 | 8456 | 512 | 638 |
| 6/29/2020 | Mon | | | 49.8 | 50.2 | 7872 | 7924 | 15796 | 3979 | 2856 | 6835 | 653 | 467 | 3893 | 5068 | 8961 | 515 | 891 |
| 6/30/2020 | Tue | | | 49.8 | 50.2 | 7852 | 7907 | 15759 | 4085 | 2971 | 7056 | 745 | 384 | 3767 | 4936 | 8703 | 474 | 908 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**July, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 7/1/2020 | Wed | | | 49.8 | 50.2 | 7776 | 7846 | 15622 | 3872 | 2939 | 6811 | 681 | 439 | 3904 | 4907 | 8811 | 512 | 896 |
| 7/2/2020 | Thu | | | 50.4 | 49.6 | 8063 | 7943 | 16006 | 3971 | 2858 | 6829 | 734 | 368 | 4092 | 5085 | 9177 | 516 | 872 |
| 7/3/2020 | Fri | * | | 51.4 | 48.6 | 7603 | 7185 | 14788 | 3491 | 2636 | 6127 | 576 | 624 | 4112 | 4549 | 8661 | 570 | 791 |
| 7/4/2020 | Sat | | | 50.6 | 49.4 | 5719 | 5581 | 11300 | 2604 | 1835 | 4439 | 512 | 414 | 3115 | 3746 | 6861 | 440 | 478 |
| 7/5/2020 | Sun | | | 47.6 | 52.4 | 5431 | 5974 | 11405 | 2149 | 1843 | 3992 | 492 | 439 | 3282 | 4131 | 7413 | 453 | 612 |
| 7/6/2020 | Mon | | | 49.6 | 50.4 | 7206 | 7323 | 14529 | 3653 | 2727 | 6380 | 479 | 545 | 3553 | 4596 | 8149 | 469 | 898 |
| 7/7/2020 | Tue | | | 49.9 | 50.1 | 7320 | 7352 | 14672 | 3722 | 2713 | 6435 | 693 | 383 | 3598 | 4639 | 8237 | 470 | 924 |
| 7/8/2020 | Wed | | 1 | 50.0 | 50.0 | 7230 | 7229 | 14459 | 3723 | 2629 | 6352 | 686 | 379 | 3507 | 4600 | 8107 | 480 | 899 |
| 7/9/2020 | Thu | | | 50.1 | 49.9 | 7539 | 7510 | 15049 | 3799 | 2713 | 6512 | 760 | 349 | 3740 | 4797 | 8537 | 496 | 949 |
| 7/10/2020 | Fri | | | 50.2 | 49.8 | 8247 | 8183 | 16430 | 4060 | 2940 | 7000 | 514 | 600 | 4187 | 5243 | 9430 | 521 | 911 |
| 7/11/2020 | Sat | | | 50.2 | 49.8 | 6768 | 6720 | 13488 | 2790 | 2313 | 5103 | 573 | 512 | 3978 | 4407 | 8385 | 603 | 511 |
| 7/12/2020 | Sun | | 1 | 49.4 | 50.6 | 5634 | 5782 | 11416 | 2278 | 1766 | 4044 | 494 | 408 | 3356 | 4016 | 7372 | 463 | 507 |
| 7/13/2020 | Mon | | | 49.8 | 50.2 | 6978 | 7034 | 14012 | 3553 | 2601 | 6154 | 631 | 356 | 3425 | 4433 | 7858 | 459 | 823 |
| 7/14/2020 | Tue | | | 49.9 | 50.1 | 7111 | 7139 | 14250 | 3556 | 2563 | 6119 | 661 | 372 | 3555 | 4576 | 8131 | 474 | 899 |
| 7/15/2020 | Wed | | | 50.1 | 49.9 | 7373 | 7348 | 14721 | 3758 | 2674 | 6432 | 727 | 366 | 3615 | 4674 | 8289 | 461 | 909 |
| 7/16/2020 | Thu | | | 50.0 | 50.0 | 7550 | 7565 | 15115 | 3763 | 2648 | 6411 | 721 | 364 | 3787 | 4917 | 8704 | 484 | 901 |
| 7/17/2020 | Fri | | | 50.7 | 49.3 | 8159 | 7938 | 16097 | 3890 | 2788 | 6678 | 518 | 540 | 4269 | 5150 | 9419 | 534 | 949 |
| 7/18/2020 | Sat | | | 50.7 | 49.3 | 7338 | 7124 | 14462 | 3072 | 2408 | 5480 | 594 | 534 | 4266 | 4716 | 8982 | 612 | 585 |
| 7/19/2020 | Sun | | | 48.8 | 51.2 | 6100 | 6401 | 12501 | 2666 | 1996 | 4662 | 530 | 426 | 3434 | 4405 | 7839 | 474 | 584 |
| 7/20/2020 | Mon | | | 49.8 | 50.2 | 7323 | 7368 | 14691 | 3615 | 2733 | 6348 | 662 | 370 | 3708 | 4635 | 8343 | 497 | 843 |
| 7/21/2020 | Tue | | | 50.1 | 49.9 | 7362 | 7331 | 14693 | 3747 | 2718 | 6465 | 690 | 352 | 3615 | 4613 | 8228 | 458 | 859 |
| 7/22/2020 | Wed | | | 50.0 | 50.0 | 7599 | 7606 | 15205 | 3769 | 2825 | 6594 | 705 | 395 | 3830 | 4781 | 8611 | 484 | 864 |
| 7/23/2020 | Thu | | | 50.2 | 49.8 | 7641 | 7583 | 15224 | 3710 | 2725 | 6435 | 707 | 369 | 3931 | 4858 | 8789 | 512 | 891 |
| 7/24/2020 | Fri | | | 50.7 | 49.3 | 8192 | 7967 | 16159 | 3789 | 2909 | 6698 | 691 | 403 | 4403 | 5058 | 9461 | 548 | 794 |
| 7/25/2020 | Sat | | 1 | 49.1 | 50.9 | 5306 | 5494 | 10800 | 2310 | 2051 | 4361 | 413 | 460 | 2996 | 3443 | 6439 | 385 | 475 |
| 7/26/2020 | Sun | | 1 | 47.3 | 52.7 | 1252 | 1397 | 2649 | 491 | 585 | 1076 | 63 | 100 | 761 | 812 | 1573 | 100 | 125 |
| 7/27/2020 | Mon | | | 50.0 | 50.0 | 6027 | 6033 | 12060 | 2843 | 2040 | 4883 | 579 | 239 | 3184 | 3993 | 7177 | 397 | 747 |
| 7/28/2020 | Tue | | | 50.4 | 49.6 | 7017 | 6898 | 13915 | 3500 | 2581 | 6081 | 637 | 364 | 3517 | 4317 | 7834 | 467 | 804 |
| 7/29/2020 | Wed | | 1 | 50.0 | 50.0 | 7124 | 7112 | 14236 | 3550 | 2565 | 6115 | 704 | 377 | 3574 | 4547 | 8121 | 470 | 857 |
| 7/30/2020 | Thu | | | 50.0 | 50.0 | 7204 | 7193 | 14397 | 3575 | 2599 | 6174 | 693 | 370 | 3629 | 4594 | 8223 | 480 | 806 |
| 7/31/2020 | Fri | | | 50.7 | 49.3 | 7920 | 7690 | 15610 | 3775 | 2810 | 6585 | 743 | 374 | 4145 | 4880 | 9025 | 428 | 859 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**August, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 8/1/2020 | Sat | | | 50.5 | 49.5 | 6833 | 6701 | 13534 | 2820 | 2373 | 5193 | 589 | 491 | 4013 | 4328 | 8341 | 585 | 533 |
| 8/2/2020 | Sun | | | 48.8 | 51.2 | 5510 | 5789 | 11299 | 2264 | 1872 | 4136 | 506 | 415 | 3246 | 3917 | 7163 | 456 | 514 |
| 8/3/2020 | Mon | | | 49.6 | 50.4 | 6820 | 6918 | 13738 | 3398 | 2608 | 6006 | 664 | 328 | 3422 | 4310 | 7732 | 406 | 875 |
| 8/4/2020 | Tue | | | 50.0 | 50.0 | 7061 | 7053 | 14114 | 3558 | 2670 | 6228 | 664 | 385 | 3503 | 4383 | 7886 | 408 | 822 |
| 8/5/2020 | Wed | | | 50.0 | 50.0 | 7335 | 7324 | 14659 | 3651 | 2737 | 6388 | 710 | 353 | 3684 | 4587 | 8271 | 460 | 876 |
| 8/6/2020 | Thu | | | 49.9 | 50.1 | 7327 | 7357 | 14684 | 3709 | 2692 | 6401 | 753 | 364 | 3618 | 4665 | 8283 | 478 | 899 |
| 8/7/2020 | Fri | | | 51.0 | 49.0 | 7744 | 7455 | 15199 | 3597 | 2736 | 6333 | 670 | 394 | 4147 | 4719 | 8866 | 569 | 816 |
| 8/8/2020 | Sat | | | 50.2 | 49.8 | 6393 | 6338 | 12731 | 2512 | 2248 | 4760 | 487 | 515 | 3881 | 4090 | 7971 | 546 | 512 |
| 8/9/2020 | Sun | | | 48.2 | 51.8 | 5155 | 5531 | 10686 | 2115 | 1764 | 3879 | 505 | 433 | 3040 | 3767 | 6807 | 340 | 542 |
| 8/10/2020 | Mon | | 1 | 49.8 | 50.2 | 6912 | 6955 | 13867 | 3453 | 2553 | 6006 | 666 | 334 | 3459 | 4402 | 7861 | 443 | 843 |
| 8/11/2020 | Tue | | 1 | 49.8 | 50.2 | 6814 | 6863 | 13677 | 3359 | 2500 | 5859 | 644 | 366 | 3455 | 4363 | 7818 | 446 | 827 |
| 8/12/2020 | Wed | | | 50.1 | 49.9 | 6904 | 6878 | 13782 | 3424 | 2556 | 5980 | 661 | 371 | 3480 | 4322 | 7802 | 467 | 824 |
| 8/13/2020 | Thu | | | 49.9 | 50.1 | 6918 | 6949 | 13867 | 3478 | 2526 | 6004 | 672 | 388 | 3440 | 4423 | 7863 | 456 | 834 |
| 8/14/2020 | Fri | | | 50.5 | 49.5 | 7252 | 7101 | 14353 | 3381 | 2638 | 6019 | 651 | 369 | 3871 | 4463 | 8334 | 479 | 780 |
| 8/15/2020 | Sat | | | 50.7 | 49.3 | 6464 | 6290 | 12754 | 2556 | 2196 | 4752 | 485 | 457 | 3908 | 4094 | 8002 | 542 | 561 |
| 8/16/2020 | Sun | | | 48.8 | 51.2 | 5862 | 6157 | 12019 | 2524 | 1979 | 4503 | 506 | 512 | 3338 | 4178 | 7516 | 529 | 532 |
| 8/17/2020 | Mon | | | 49.7 | 50.3 | 6997 | 7072 | 14069 | 3625 | 2714 | 6339 | 711 | 339 | 3372 | 4358 | 7730 | 416 | 860 |
| 8/18/2020 | Tue | | | 50.0 | 50.0 | 7046 | 7055 | 14101 | 3686 | 2652 | 6338 | 726 | 326 | 3360 | 4403 | 7763 | 451 | 835 |
| 8/19/2020 | Wed | | | 50.1 | 49.9 | 7355 | 7327 | 14682 | 3842 | 2758 | 6600 | 777 | 368 | 3513 | 4569 | 8082 | 464 | 864 |
| 8/20/2020 | Thu | | | 50.2 | 49.8 | 7085 | 7024 | 14109 | 3604 | 2620 | 6224 | 691 | 393 | 3481 | 4404 | 7885 | 451 | 812 |
| 8/21/2020 | Fri | * | | 51.0 | 49.0 | 7639 | 7346 | 14985 | 3559 | 2578 | 6137 | 569 | 544 | 4080 | 4768 | 8848 | 533 | 800 |
| 8/22/2020 | Sat | | | 50.2 | 49.8 | 6795 | 6729 | 13524 | 2792 | 2267 | 5059 | 513 | 532 | 4003 | 4462 | 8465 | 576 | 555 |
| 8/23/2020 | Sun | | | 48.4 | 51.6 | 5940 | 6322 | 12262 | 2633 | 1975 | 4608 | 532 | 464 | 3307 | 4347 | 7654 | 527 | 531 |
| 8/24/2020 | Mon | | | 49.9 | 50.1 | 6921 | 6954 | 13875 | 3598 | 2550 | 6148 | 688 | 371 | 3323 | 4404 | 7727 | 474 | 817 |
| 8/25/2020 | Tue | | | 49.9 | 50.1 | 6889 | 6905 | 13794 | 3567 | 2567 | 6134 | 661 | 392 | 3322 | 4338 | 7660 | 490 | 811 |
| 8/26/2020 | Wed | | | 50.1 | 49.9 | 6717 | 6697 | 13414 | 3399 | 2472 | 5871 | 718 | 322 | 3318 | 4225 | 7543 | 432 | 811 |
| 8/27/2020 | Thu | | | 49.8 | 50.2 | 6740 | 6786 | 13526 | 3382 | 2438 | 5820 | 699 | 343 | 3358 | 4348 | 7706 | 415 | 891 |
| 8/28/2020 | Fri | | | 50.9 | 49.1 | 7216 | 6971 | 14187 | 3328 | 2465 | 5793 | 640 | 332 | 3888 | 4506 | 8394 | 478 | 836 |
| 8/29/2020 | Sat | | | 50.1 | 49.9 | 6225 | 6188 | 12413 | 2565 | 2084 | 4649 | 566 | 435 | 3660 | 4104 | 7764 | 493 | 538 |
| 8/30/2020 | Sun | | | 48.6 | 51.4 | 4905 | 5189 | 10094 | 1963 | 1680 | 3643 | 428 | 375 | 2942 | 3509 | 6451 | 448 | 454 |
| 8/31/2020 | Mon | | | 49.8 | 50.2 | 6431 | 6477 | 12908 | 3175 | 2422 | 5597 | 645 | 359 | 3256 | 4055 | 7311 | 429 | 778 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**September, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 9/1/2020 | Tue | | | 49.6 | 50.4 | 6704 | 6800 | 13504 | 3400 | 2607 | 6007 | 656 | 396 | 3304 | 4193 | 7497 | 457 | 819 |
| 9/2/2020 | Wed | | | 49.8 | 50.2 | 6689 | 6734 | 13423 | 3320 | 2512 | 5832 | 680 | 352 | 3369 | 4222 | 7591 | 478 | 810 |
| 9/3/2020 | Thu | | | 49.9 | 50.1 | 6917 | 6954 | 13871 | 3439 | 2553 | 5992 | 688 | 399 | 3478 | 4401 | 7879 | 465 | 861 |
| 9/4/2020 | Fri | | | 50.8 | 49.2 | 7602 | 7373 | 14975 | 3574 | 2740 | 6314 | 660 | 358 | 4028 | 4633 | 8661 | 558 | 821 |
| 9/5/2020 | Sat | | | 51.2 | 48.8 | 7170 | 6839 | 14009 | 3173 | 2514 | 5687 | 623 | 527 | 3997 | 4325 | 8322 | 675 | 565 |
| 9/6/2020 | Sun | | | 49.5 | 50.5 | 6025 | 6137 | 12162 | 2682 | 2019 | 4701 | 548 | 443 | 3343 | 4118 | 7461 | 543 | 542 |
| 9/7/2020 | Mon | * | | 48.2 | 51.8 | 5755 | 6186 | 11941 | 2731 | 2029 | 4760 | 535 | 485 | 3024 | 4157 | 7181 | 518 | 521 |
| 9/8/2020 | Tue | | | 49.7 | 50.3 | 6816 | 6894 | 13710 | 3422 | 2585 | 6007 | 665 | 403 | 3394 | 4309 | 7703 | 481 | 845 |
| 9/9/2020 | Wed | | | 49.9 | 50.1 | 6847 | 6888 | 13735 | 3431 | 2509 | 5940 | 719 | 339 | 3416 | 4379 | 7795 | 460 | 838 |
| 9/10/2020 | Thu | | | 49.9 | 50.1 | 7053 | 7081 | 14134 | 3578 | 2673 | 6251 | 711 | 385 | 3475 | 4408 | 7883 | 457 | 883 |
| 9/11/2020 | Fri | | | 50.9 | 49.1 | 7797 | 7536 | 15333 | 3726 | 2735 | 6461 | 736 | 367 | 4071 | 4801 | 8872 | 506 | 882 |
| 9/12/2020 | Sat | | | 50.6 | 49.4 | 6774 | 6617 | 13391 | 2990 | 2406 | 5396 | 582 | 558 | 3784 | 4211 | 7995 | 575 | 565 |
| 9/13/2020 | Sun | | | 48.6 | 51.4 | 5375 | 5691 | 11066 | 2322 | 1757 | 4079 | 472 | 369 | 3053 | 3934 | 6987 | 413 | 522 |
| 9/14/2020 | Mon | | | 49.7 | 50.3 | 6573 | 6648 | 13221 | 3360 | 2499 | 5859 | 703 | 331 | 3213 | 4149 | 7362 | 448 | 826 |
| 9/15/2020 | Tue | | | 49.7 | 50.3 | 6767 | 6860 | 13627 | 3501 | 2621 | 6122 | 692 | 397 | 3266 | 4239 | 7505 | 447 | 855 |
| 9/16/2020 | Wed | | | 50.0 | 50.0 | 6961 | 6958 | 13919 | 3449 | 2536 | 5985 | 690 | 359 | 3512 | 4422 | 7934 | 482 | 864 |
| 9/17/2020 | Thu | | | 50.0 | 50.0 | 6919 | 6914 | 13833 | 3520 | 2527 | 6047 | 745 | 352 | 3399 | 4387 | 7786 | 475 | 821 |
| 9/18/2020 | Fri | | | 50.7 | 49.3 | 7732 | 7509 | 15241 | 3570 | 2657 | 6227 | 662 | 344 | 4162 | 4852 | 9014 | 546 | 904 |
| 9/19/2020 | Sat | | | 50.5 | 49.5 | 6964 | 6826 | 13790 | 3089 | 2425 | 5514 | 583 | 543 | 3875 | 4401 | 8276 | 554 | 582 |
| 9/20/2020 | Sun | | | 48.6 | 51.4 | 5629 | 5959 | 11588 | 2518 | 1993 | 4511 | 535 | 480 | 3111 | 3966 | 7077 | 477 | 510 |
| 9/21/2020 | Mon | | | 49.6 | 50.4 | 6797 | 6897 | 13694 | 3537 | 2611 | 6148 | 732 | 370 | 3260 | 4286 | 7546 | 409 | 814 |
| 9/22/2020 | Tue | | | 49.8 | 50.2 | 6900 | 6945 | 13845 | 3492 | 2587 | 6079 | 722 | 384 | 3408 | 4358 | 7766 | 452 | 837 |
| 9/23/2020 | Wed | | | 50.0 | 50.0 | 7085 | 7079 | 14164 | 3586 | 2620 | 6206 | 721 | 390 | 3499 | 4459 | 7958 | 462 | 851 |
| 9/24/2020 | Thu | | | 49.8 | 50.2 | 7131 | 7179 | 14310 | 3705 | 2658 | 6363 | 742 | 380 | 3426 | 4521 | 7947 | 466 | 907 |
| 9/25/2020 | Fri | | | 51.0 | 49.0 | 8113 | 7785 | 15898 | 3762 | 2819 | 6581 | 718 | 375 | 4351 | 4966 | 9317 | 607 | 866 |
| 9/26/2020 | Sat | | | 50.6 | 49.4 | 6938 | 6780 | 13718 | 3054 | 2549 | 5603 | 551 | 593 | 3884 | 4231 | 8115 | 540 | 571 |
| 9/27/2020 | Sun | | | 48.3 | 51.7 | 5898 | 6317 | 12215 | 2723 | 2051 | 4774 | 517 | 484 | 3175 | 4266 | 7441 | 447 | 583 |
| 9/28/2020 | Mon | | | 49.6 | 50.4 | 7142 | 7244 | 14386 | 3676 | 2742 | 6418 | 731 | 424 | 3466 | 4502 | 7968 | 475 | 865 |
| 9/29/2020 | Tue | | | 49.7 | 50.3 | 7157 | 7247 | 14404 | 3755 | 2789 | 6544 | 759 | 405 | 3402 | 4458 | 7860 | 441 | 917 |
| 9/30/2020 | Wed | | | 49.9 | 50.1 | 6972 | 7007 | 13979 | 3532 | 2582 | 6114 | 744 | 333 | 3440 | 4425 | 7865 | 479 | 787 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**October, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 10/1/2020 | Thu | | | 50.0 | 50.0 | 7162 | 7160 | 14322 | 3650 | 2525 | 6175 | 768 | 375 | 3512 | 4635 | 8147 | 494 | 900 |
| 10/2/2020 | Fri | | | 50.8 | 49.2 | 7652 | 7403 | 15055 | 3436 | 2556 | 5992 | 699 | 328 | 4216 | 4847 | 9063 | 542 | 818 |
| 10/3/2020 | Sat | | 1 | 51.1 | 48.9 | 6814 | 6518 | 13332 | 2593 | 2252 | 4845 | 558 | 492 | 4221 | 4266 | 8487 | 674 | 442 |
| 10/4/2020 | Sun | | | 48.3 | 51.7 | 5213 | 5571 | 10784 | 2121 | 1808 | 3929 | 459 | 416 | 3092 | 3763 | 6855 | 426 | 497 |
| 10/5/2020 | Mon | | 1 | 50.1 | 49.9 | 7077 | 7053 | 14130 | 3474 | 2688 | 6162 | 662 | 375 | 3603 | 4365 | 7968 | 472 | 841 |
| 10/6/2020 | Tue | | | 50.0 | 50.0 | 7772 | 7759 | 15531 | 3936 | 2896 | 6832 | 749 | 425 | 3836 | 4863 | 8699 | 541 | 905 |
| 10/7/2020 | Wed | | | 50.0 | 50.0 | 7951 | 7956 | 15907 | 4125 | 3051 | 7176 | 746 | 461 | 3826 | 4905 | 8731 | 526 | 841 |
| 10/8/2020 | Thu | | | 50.1 | 49.9 | 7796 | 7757 | 15553 | 3930 | 2903 | 6833 | 740 | 405 | 3866 | 4854 | 8720 | 512 | 873 |
| 10/9/2020 | Fri | | | 50.6 | 49.4 | 8234 | 8031 | 16265 | 3837 | 2930 | 6767 | 523 | 577 | 4397 | 5101 | 9498 | 639 | 824 |
| 10/10/2020 | Sat | | | 50.4 | 49.6 | 6970 | 6872 | 13842 | 2798 | 2492 | 5290 | 546 | 528 | 4172 | 4380 | 8552 | 577 | 529 |
| 10/11/2020 | Sun | | | 48.1 | 51.9 | 5397 | 5823 | 11220 | 2336 | 1949 | 4285 | 452 | 479 | 3061 | 3874 | 6935 | 449 | 496 |
| 10/12/2020 | Mon | | | 49.4 | 50.6 | 6700 | 6876 | 13576 | 3526 | 2553 | 6079 | 655 | 385 | 3174 | 4323 | 7497 | 422 | 797 |
| 10/13/2020 | Tue | | | 49.9 | 50.1 | 7193 | 7234 | 14427 | 3841 | 2628 | 6469 | 835 | 367 | 3352 | 4606 | 7958 | 475 | 871 |
| 10/14/2020 | Wed | | | 50.3 | 49.7 | 7450 | 7367 | 14817 | 3824 | 2553 | 6377 | 816 | 372 | 3626 | 4814 | 8440 | 520 | 923 |
| 10/15/2020 | Thu | | | 50.9 | 49.1 | 7712 | 7446 | 15158 | 3739 | 2561 | 6300 | 809 | 370 | 3973 | 4885 | 8858 | 593 | 906 |
| 10/16/2020 | Fri | | | 51.8 | 48.2 | 8770 | 8154 | 16924 | 3818 | 2752 | 6570 | 802 | 373 | 4952 | 5402 | 10354 | 671 | 873 |
| 10/17/2020 | Sat | | | 51.5 | 48.5 | 7644 | 7185 | 14829 | 2796 | 2480 | 5276 | 539 | 532 | 4848 | 4705 | 9553 | 627 | 583 |
| 10/18/2020 | Sun | | | 49.8 | 50.2 | 6270 | 6316 | 12586 | 2333 | 2087 | 4420 | 454 | 468 | 3937 | 4229 | 8166 | 549 | 541 |
| 10/19/2020 | Mon | | | 50.6 | 49.4 | 8182 | 7995 | 16177 | 3991 | 2939 | 6930 | 778 | 428 | 4191 | 5056 | 9247 | 566 | 865 |
| 10/20/2020 | Tue | | | 50.4 | 49.6 | 8239 | 8094 | 16333 | 3932 | 2932 | 6864 | 743 | 434 | 4307 | 5162 | 9469 | 601 | 949 |
| 10/21/2020 | Wed | | | 50.3 | 49.7 | 8600 | 8487 | 17087 | 3973 | 3016 | 6989 | 802 | 397 | 4627 | 5471 | 10098 | 632 | 969 |
| 10/22/2020 | Thu | | | 50.4 | 49.6 | 8378 | 8233 | 16611 | 3984 | 3001 | 6985 | 774 | 423 | 4394 | 5232 | 9626 | 632 | 913 |
| 10/23/2020 | Fri | | 1 | | | | | | | | | | | | | | | |
| 10/24/2020 | Sat | | | 50.6 | 49.4 | 8415 | 8224 | 16639 | 3091 | 3070 | 6161 | 548 | 650 | 5324 | 5154 | 10478 | 800 | 616 |
| 10/25/2020 | Sun | | | 48.7 | 51.3 | 6795 | 7150 | 13945 | 2558 | 2386 | 4944 | 535 | 556 | 4237 | 4764 | 9001 | 554 | 620 |
| 10/26/2020 | Mon | | | 49.9 | 50.1 | 8186 | 8228 | 16414 | 3810 | 3186 | 6996 | 778 | 440 | 4376 | 5042 | 9418 | 615 | 924 |
| 10/27/2020 | Tue | | | 49.8 | 50.2 | 8102 | 8159 | 16261 | 3829 | 3072 | 6901 | 829 | 460 | 4273 | 5087 | 9360 | 608 | 927 |
| 10/28/2020 | Wed | | | 50.1 | 49.9 | 8460 | 8440 | 16900 | 3919 | 3093 | 7012 | 836 | 415 | 4541 | 5347 | 9888 | 585 | 959 |
| 10/29/2020 | Thu | | | 50.3 | 49.7 | 8354 | 8264 | 16618 | 3848 | 3035 | 6883 | 813 | 392 | 4506 | 5229 | 9735 | 611 | 1034 |
| 10/30/2020 | Fri | | | 50.7 | 49.3 | 9208 | 8964 | 18172 | 3885 | 3207 | 7092 | 757 | 425 | 5323 | 5757 | 11080 | 644 | 965 |
| 10/31/2020 | Sat | | | 51.1 | 48.9 | 7306 | 7004 | 14310 | 2590 | 2706 | 5296 | 535 | 538 | 4716 | 4298 | 9014 | 666 | 491 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**November, 2020**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 11/1/2020 | Sun | | 1 | 48.7 | 51.3 | 6373 | 6702 | 13075 | 2258 | 2365 | 4623 | 460 | 479 | 4115 | 4337 | 8452 | 474 | 583 |
| 11/2/2020 | Mon | | | 50.3 | 49.7 | 8425 | 8328 | 16753 | 3907 | 3091 | 6998 | 757 | 484 | 4518 | 5237 | 9755 | 639 | 960 |
| 11/3/2020 | Tue | * | | 50.2 | 49.8 | 8519 | 8451 | 16970 | 3927 | 3127 | 7054 | 794 | 411 | 4592 | 5324 | 9916 | 611 | 969 |
| 11/4/2020 | Wed | | | 50.4 | 49.6 | 8699 | 8563 | 17262 | 3990 | 3151 | 7141 | 840 | 433 | 4709 | 5412 | 10121 | 635 | 967 |
| 11/5/2020 | Thu | | | 50.5 | 49.5 | 9025 | 8863 | 17888 | 4179 | 3194 | 7373 | 854 | 452 | 4846 | 5669 | 10515 | 683 | 952 |
| 11/6/2020 | Fri | | | 51.1 | 48.9 | 9733 | 9315 | 19048 | 4096 | 3331 | 7427 | 761 | 464 | 5637 | 5984 | 11621 | 774 | 936 |
| 11/7/2020 | Sat | | | 50.8 | 49.2 | 9026 | 8730 | 17756 | 3346 | 3181 | 6527 | 671 | 670 | 5680 | 5549 | 11229 | 796 | 616 |
| 11/8/2020 | Sun | | | 49.6 | 50.4 | 7361 | 7473 | 14834 | 2675 | 2597 | 5272 | 506 | 577 | 4686 | 4876 | 9562 | 607 | 642 |
| 11/9/2020 | Mon | | | 50.5 | 49.5 | 8930 | 8759 | 17689 | 4056 | 3250 | 7306 | 791 | 508 | 4874 | 5509 | 10383 | 664 | 973 |
| 11/10/2020 | Tue | | | 50.1 | 49.9 | 9278 | 9224 | 18502 | 4177 | 3471 | 7648 | 797 | 504 | 5101 | 5753 | 10854 | 641 | 1039 |
| 11/11/2020 | Wed | * | | 50.4 | 49.6 | 9283 | 9136 | 18419 | 3971 | 3349 | 7320 | 587 | 675 | 5312 | 5787 | 11099 | 656 | 873 |
| 11/12/2020 | Thu | | | 50.2 | 49.8 | 9168 | 9093 | 18261 | 4087 | 3461 | 7548 | 859 | 478 | 5081 | 5632 | 10713 | 652 | 938 |
| 11/13/2020 | Fri | | | 50.7 | 49.3 | 9846 | 9559 | 19405 | 4155 | 3501 | 7656 | 818 | 452 | 5691 | 6058 | 11749 | 773 | 902 |
| 11/14/2020 | Sat | | | 50.1 | 49.9 | 8998 | 8957 | 17955 | 3262 | 3453 | 6715 | 663 | 733 | 5736 | 5504 | 11240 | 773 | 635 |
| 11/15/2020 | Sun | | | 49.0 | 51.0 | 7416 | 7712 | 15128 | 2716 | 2632 | 5348 | 532 | 583 | 4700 | 5080 | 9780 | 626 | 641 |
| 11/16/2020 | Mon | | | 49.7 | 50.3 | 9051 | 9167 | 18218 | 4138 | 3450 | 7588 | 806 | 557 | 4913 | 5717 | 10630 | 633 | 965 |
| 11/17/2020 | Tue | | | 50.2 | 49.8 | 9191 | 9132 | 18323 | 4172 | 3400 | 7572 | 815 | 527 | 5019 | 5732 | 10751 | 675 | 987 |
| 11/18/2020 | Wed | | | 50.1 | 49.9 | 9207 | 9178 | 18385 | 4095 | 3455 | 7550 | 830 | 447 | 5112 | 5723 | 10835 | 685 | 1115 |
| 11/19/2020 | Thu | | | 50.5 | 49.5 | 9580 | 9401 | 18981 | 4262 | 3425 | 7687 | 939 | 476 | 5318 | 5976 | 11294 | 690 | 979 |
| 11/20/2020 | Fri | | | 50.7 | 49.3 | 10106 | 9816 | 19922 | 4134 | 3542 | 7676 | 818 | 476 | 5972 | 6274 | 12246 | 780 | 871 |
| 11/21/2020 | Sat | | | 50.4 | 49.6 | 9106 | 8958 | 18064 | 3189 | 3418 | 6607 | 657 | 720 | 5917 | 5540 | 11457 | 728 | 704 |
| 11/22/2020 | Sun | | | 50.2 | 49.8 | 7518 | 7461 | 14979 | 2554 | 2570 | 5124 | 488 | 609 | 4964 | 4891 | 9855 | 681 | 618 |
| 11/23/2020 | Mon | | | 50.3 | 49.7 | 9576 | 9450 | 19026 | 4189 | 3561 | 7750 | 828 | 500 | 5387 | 5889 | 11276 | 702 | 984 |
| 11/24/2020 | Tue | | | 50.0 | 50.0 | 9920 | 9910 | 19830 | 4354 | 3631 | 7985 | 839 | 519 | 5566 | 6279 | 11845 | 701 | 1085 |
| 11/25/2020 | Wed | | | 50.2 | 49.8 | 10198 | 10102 | 20300 | 4357 | 3665 | 8022 | 629 | 680 | 5841 | 6437 | 12278 | 752 | 915 |
| 11/26/2020 | Thu | * | | 50.6 | 49.4 | 6461 | 6304 | 12765 | 2294 | 2127 | 4421 | 459 | 453 | 4167 | 4177 | 8344 | 517 | 477 |
| 11/27/2020 | Fri | | | 50.3 | 49.7 | 10201 | 10081 | 20282 | 3832 | 3726 | 7558 | 699 | 760 | 6369 | 6355 | 12724 | 863 | 852 |
| 11/28/2020 | Sat | | | 49.5 | 50.5 | 9043 | 9209 | 18252 | 3132 | 3356 | 6488 | 702 | 695 | 5911 | 5853 | 11764 | 849 | 691 |
| 11/29/2020 | Sun | | | 48.3 | 51.7 | 7453 | 7993 | 15446 | 2575 | 2751 | 5326 | 547 | 609 | 4878 | 5242 | 10120 | 605 | 722 |
| 11/30/2020 | Mon | | | 49.8 | 50.2 | 9319 | 9412 | 18731 | 4102 | 3452 | 7554 | 786 | 523 | 5217 | 5960 | 11177 | 711 | 967 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**December, 2020**

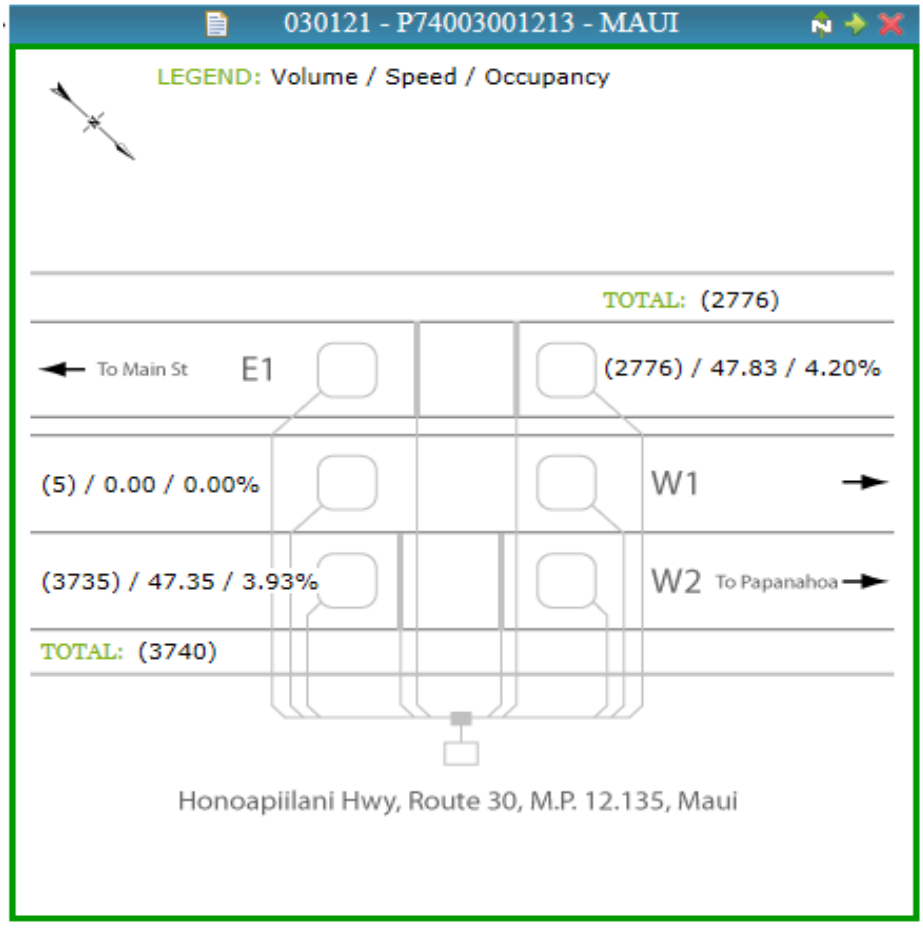
STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 12/1/2020 | Tue | | | 50.0 | 50.0 | 9416 | 9422 | 18838 | 4226 | 3370 | 7596 | 858 | 498 | 5190 | 6052 | 11242 | 662 | 1023 |
| 12/2/2020 | Wed | | | 50.2 | 49.8 | 9755 | 9661 | 19416 | 4349 | 3444 | 7793 | 906 | 460 | 5406 | 6217 | 11623 | 703 | 982 |
| 12/3/2020 | Thu | | | 50.6 | 49.4 | 9678 | 9451 | 19129 | 4235 | 3359 | 7594 | 948 | 482 | 5443 | 6092 | 11535 | 688 | 1011 |
| 12/4/2020 | Fri | | | 50.8 | 49.2 | 10360 | 10025 | 20385 | 4202 | 3638 | 7840 | 892 | 495 | 6158 | 6387 | 12545 | 734 | 925 |
| 12/5/2020 | Sat | | | 50.9 | 49.1 | 9420 | 9085 | 18505 | 3237 | 3372 | 6609 | 609 | 743 | 6183 | 5713 | 11896 | 752 | 712 |
| 12/6/2020 | Sun | | | 49.3 | 50.7 | 7917 | 8129 | 16046 | 2805 | 2761 | 5566 | 586 | 598 | 5112 | 5368 | 10480 | 672 | 692 |
| 12/7/2020 | Mon | | | 50.0 | 50.0 | 9556 | 9564 | 19120 | 4240 | 3574 | 7814 | 864 | 522 | 5316 | 5990 | 11306 | 700 | 938 |
| 12/8/2020 | Tue | | 1 | 49.7 | 50.3 | 9531 | 9648 | 19179 | 4272 | 3601 | 7873 | 944 | 493 | 5259 | 6047 | 11306 | 691 | 960 |
| 12/9/2020 | Wed | | | 50.1 | 49.9 | 9836 | 9801 | 19637 | 4348 | 3653 | 8001 | 907 | 459 | 5488 | 6148 | 11636 | 687 | 937 |
| 12/10/2020 | Thu | | | 50.3 | 49.7 | 9902 | 9800 | 19702 | 4277 | 3606 | 7883 | 871 | 533 | 5625 | 6194 | 11819 | 732 | 950 |
| 12/11/2020 | Fri | | 1 | 50.2 | 49.8 | 10507 | 10409 | 20916 | 4355 | 3792 | 8147 | 895 | 517 | 6152 | 6617 | 12769 | 778 | 920 |
| 12/12/2020 | Sat | | | 50.3 | 49.7 | 9592 | 9464 | 19056 | 3334 | 3636 | 6970 | 619 | 758 | 6258 | 5828 | 12086 | 831 | 687 |
| 12/13/2020 | Sun | | | 49.6 | 50.4 | 7806 | 7936 | 15742 | 2750 | 2743 | 5493 | 581 | 610 | 5056 | 5193 | 10249 | 660 | 660 |
| 12/14/2020 | Mon | | | 49.9 | 50.1 | 9574 | 9607 | 19181 | 4147 | 3596 | 7743 | 847 | 505 | 5427 | 6011 | 11438 | 705 | 937 |
| 12/15/2020 | Tue | | | 49.8 | 50.2 | 9750 | 9830 | 19580 | 4331 | 3693 | 8024 | 913 | 496 | 5419 | 6137 | 11556 | 728 | 904 |
| 12/16/2020 | Wed | | | 50.3 | 49.7 | 10064 | 9947 | 20011 | 4391 | 3566 | 7957 | 566 | 812 | 5673 | 6381 | 12054 | 786 | 915 |
| 12/17/2020 | Thu | | | 50.2 | 49.8 | 10127 | 10045 | 20172 | 4292 | 3641 | 7933 | 867 | 489 | 5835 | 6404 | 12239 | 732 | 994 |
| 12/18/2020 | Fri | | | 50.5 | 49.5 | 10903 | 10667 | 21570 | 4387 | 3854 | 8241 | 627 | 771 | 6516 | 6813 | 13329 | 838 | 928 |
| 12/19/2020 | Sat | | 1 | 50.6 | 49.4 | 10012 | 9774 | 19786 | 3232 | 3631 | 6863 | 632 | 815 | 6780 | 6143 | 12923 | 840 | 733 |
| 12/20/2020 | Sun | | | 49.9 | 50.1 | 8987 | 9006 | 17993 | 3120 | 2916 | 6036 | 665 | 680 | 5867 | 6090 | 11957 | 766 | 732 |
| 12/21/2020 | Mon | | | 50.3 | 49.7 | 11177 | 11051 | 22228 | 4600 | 3977 | 8577 | 683 | 786 | 6577 | 7074 | 13651 | 855 | 978 |
| 12/22/2020 | Tue | | | 50.1 | 49.9 | 11393 | 11345 | 22738 | 4749 | 4182 | 8931 | 666 | 852 | 6644 | 7163 | 13807 | 873 | 1000 |
| 12/23/2020 | Wed | | | 50.2 | 49.8 | 12167 | 12087 | 24254 | 5164 | 4454 | 9618 | 748 | 953 | 7003 | 7633 | 14636 | 849 | 1069 |
| 12/24/2020 | Thu | | | 50.8 | 49.2 | 10794 | 10474 | 21268 | 4467 | 3934 | 8401 | 695 | 846 | 6327 | 6540 | 12867 | 853 | 823 |
| 12/25/2020 | Fri | * | | 51.4 | 48.6 | 7555 | 7143 | 14698 | 2515 | 2284 | 4799 | 460 | 520 | 5040 | 4859 | 9899 | 563 | 652 |
| 12/26/2020 | Sat | | | 49.0 | 51.0 | 8628 | 8974 | 17602 | 3670 | 3632 | 7302 | 756 | 849 | 4958 | 5342 | 10300 | 932 | 1048 |
| 12/27/2020 | Sun | | | 53.2 | 46.8 | 10244 | 9014 | 19258 | 4273 | 3186 | 7459 | 647 | 629 | 5971 | 5828 | 11799 | 791 | 698 |
| 12/28/2020 | Mon | | | 50.2 | 49.8 | 11303 | 11194 | 22497 | 4589 | 4223 | 8812 | 717 | 796 | 6714 | 6971 | 13685 | 819 | 1008 |
| 12/29/2020 | Tue | | | 50.4 | 49.6 | 11669 | 11493 | 23162 | 4674 | 4335 | 9009 | 738 | 899 | 6995 | 7158 | 14153 | 927 | 1049 |
| 12/30/2020 | Wed | | | 50.1 | 49.9 | 12067 | 12023 | 24090 | 4727 | 4473 | 9200 | 772 | 875 | 7340 | 7550 | 14890 | 906 | 1057 |
| 12/31/2020 | Thu | | | 50.2 | 49.8 | 10342 | 10252 | 20594 | 4091 | 3963 | 8054 | 715 | 853 | 6251 | 6289 | 12540 | 816 | 841 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR


030121 - P74003001213 - MAUI
LEGEND: Volume / Speed / Occupancy
TOTAL: (2776)
To Main St
E1
(2776) / 47.83 / 4.20%
(5) / 0.00 / 0.00%
W1
(3735) / 47.35 / 3.93%
W2
To Papanahoa
TOTAL: (3740)
Honoapiilani Hwy, Route 30, M.P. 12.135, Maui

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2021 - 2021
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 19589 | 18918 | 19818 | 19803 | 20898 | 19530 | 16545 | 19805 | 19300 | 1.34980 | 1.31538 |
| February | 20392 | 21301 | 20986 | 22055 | 23259 | 22177 | 18547 | 21599 | 21245 | 1.22623 | 1.20616 |
| March | 25173 | 26399 | 25524 | 25741 | 25112 | 23963 | 22561 | 25590 | 24925 | 1.04521 | 1.01804 |
| April | 26582 | 26654 | 27049 | 27357 | 28529 | 26774 | 24048 | 27234 | 26713 | 0.97522 | 0.95657 |
| May | 27271 | 27498 | 28529 | 28910 | 29818 | 27784 | 24931 | 28405 | 27820 | 0.93643 | 0.91714 |
| June | 29174 | 29611 | 30025 | 30096 | 31377 | 29317 | 26318 | 30057 | 29417 | 0.88559 | 0.86674 |
| July | 28385 | 30080 | 30361 | 30357 | 30999 | 29131 | 25326 | 30036 | 29234 | 0.89113 | 0.86733 |
| August | 27945 | 27580 | 29248 | 28756 | 29724 | 28228 | 25261 | 28651 | 28106 | 0.92690 | 0.90928 |
| September | 25770 | 26488 | 26646 | 26935 | 28357 | 25893 | 23085 | 26839 | 26167 | 0.99557 | 0.97066 |
| October | 25928 | 26567 | 27141 | 27163 | 28004 | 26051 | 22622 | 26961 | 26211 | 0.99391 | 0.96628 |
| November | 26331 | 26855 | 27678 | 26644 | 28456 | 26557 | 22521 | 27193 | 26434 | 0.98551 | 0.95802 |
| December | 28245 | 28242 | 27867 | 28396 | 28719 | 24997 | 22841 | 28294 | 27044 | 0.96331 | 0.92075 |
| AVERAGE | 25899 | 26349 | 26739 | 26851 | 27771 | 25867 | 22884 | AVERAGE 26722 | D1+D2 AADT 26051 | | |

K-FACTOR 9.15%
K-FACTOR PERIOD PM
D-FACTOR 50.59%

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2021 - 2021
LOC'N 20.7955 -156.583221

Maui
DIRECTION 01 (D1): To Papanahoa, MOV 8

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 9745 | 9429 | 9955 | 9994 | 10531 | 9788 | 8118 | 9931 | 9651 | 1.35444 | 1.31634 |
| February | 10233 | 10631 | 10557 | 11147 | 11787 | 11198 | 9177 | 10871 | 10676 | 1.22448 | 1.20248 |
| March | 12635 | 13245 | 12881 | 12988 | 12740 | 12077 | 11262 | 12898 | 12547 | 1.04186 | 1.01351 |
| April | 13269 | 13327 | 13604 | 13782 | 14317 | 13438 | 11880 | 13660 | 13374 | 0.97744 | 0.95698 |
| May | 13726 | 13808 | 14386 | 14559 | 15021 | 13921 | 12392 | 14300 | 13973 | 0.93551 | 0.91413 |
| June | 14671 | 14870 | 15082 | 15142 | 15709 | 14695 | 13124 | 15095 | 14756 | 0.88589 | 0.86601 |
| July | 14373 | 15077 | 15244 | 15248 | 15527 | 14614 | 12653 | 15094 | 14676 | 0.89069 | 0.86607 |
| August | 14019 | 13764 | 14692 | 14478 | 14878 | 14133 | 12533 | 14366 | 14071 | 0.92900 | 0.90992 |
| September | 12959 | 13257 | 13429 | 13586 | 14332 | 12983 | 11443 | 13512 | 13141 | 0.99475 | 0.96742 |
| October | 13072 | 13338 | 13657 | 13684 | 14061 | 13078 | 11211 | 13562 | 13157 | 0.99353 | 0.96385 |
| November | 13198 | 13465 | 13944 | 13472 | 14258 | 13305 | 11091 | 13667 | 13247 | 0.98676 | 0.95645 |
| December | 14276 | 14200 | 13985 | 14268 | 14442 | 12537 | 11460 | 14234 | 13595 | 0.96152 | 0.91837 |
| AVERAGE | 13015 | 13201 | 13451 | 13529 | 13967 | 12980 | 11362 | AVERAGE 13432 | D1 AADT 13072 | | |

STATION: ####
STATION DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
YEAR: 2021 - 2021
LOC'N 20.7955 -156.583221

Maui
DIRECTION 02 (D2): To Main St, MOV 4

| MONTH | MON | TUE | WED | THU | FRI | SAT | SUN | WEEKDAY AVERAGE | MONTHLY AVERAGE | AADT MON AVE | AADT AVE WKDY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 9844 | 9489 | 9864 | 9809 | 10368 | 9742 | 8427 | 9875 | 9649 | 1.34516 | 1.31441 |
| February | 10159 | 10670 | 10429 | 10908 | 11472 | 10979 | 9370 | 10728 | 10570 | 1.22800 | 1.20990 |
| March | 12538 | 13154 | 12643 | 12753 | 12372 | 11886 | 11299 | 12692 | 12378 | 1.04860 | 1.02264 |
| April | 13313 | 13327 | 13445 | 13575 | 14213 | 13337 | 12168 | 13575 | 13340 | 0.97299 | 0.95615 |
| May | 13545 | 13690 | 14143 | 14351 | 14796 | 13863 | 12538 | 14105 | 13847 | 0.93736 | 0.92018 |
| June | 14504 | 14742 | 14943 | 14954 | 15668 | 14622 | 13194 | 14962 | 14661 | 0.88530 | 0.86748 |
| July | 14012 | 15003 | 15117 | 15109 | 15472 | 14517 | 12674 | 14943 | 14558 | 0.89157 | 0.86861 |
| August | 13926 | 13816 | 14555 | 14278 | 14847 | 14095 | 12728 | 14284 | 14035 | 0.92479 | 0.90863 |
| September | 12811 | 13231 | 13217 | 13349 | 14025 | 12910 | 11642 | 13327 | 13026 | 0.99639 | 0.97394 |
| October | 12856 | 13230 | 13484 | 13478 | 13943 | 12974 | 11411 | 13398 | 13054 | 0.99429 | 0.96873 |
| November | 13133 | 13390 | 13734 | 13173 | 14198 | 13252 | 11430 | 13525 | 13187 | 0.98425 | 0.95962 |
| December | 13969 | 14042 | 13882 | 14128 | 14277 | 12460 | 11382 | 14060 | 13449 | 0.96511 | 0.92316 |
| AVERAGE | 12884 | 13149 | 13288 | 13322 | 13804 | 12886 | 11522 | AVERAGE 13289 | D2 AADT 12979 | | |

**January, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 1/1/2021 | Fri | * | | 49.5 | 50.5 | 8357 | 8522 | 16879 | 2603 | 2862 | 5465 | 536 | 691 | 5754 | 5660 | 11414 | 723 | 671 |
| 1/2/2021 | Sat | | | 49.3 | 50.7 | 10285 | 10594 | 20879 | 3357 | 3793 | 7150 | 703 | 913 | 6928 | 6801 | 13729 | 883 | 814 |
| 1/3/2021 | Sun | | | 48.5 | 51.5 | 8430 | 8953 | 17383 | 2923 | 3024 | 5947 | 584 | 686 | 5507 | 5929 | 11436 | 681 | 780 |
| 1/4/2021 | Mon | | | 49.6 | 50.4 | 10108 | 10262 | 20370 | 4325 | 3841 | 8166 | 826 | 529 | 5783 | 6421 | 12204 | 786 | 902 |
| 1/5/2021 | Tue | | | 49.8 | 50.2 | 9982 | 10049 | 20031 | 4225 | 3746 | 7971 | 559 | 777 | 5757 | 6303 | 12060 | 804 | 970 |
| 1/6/2021 | Wed | | | 50.1 | 49.9 | 10051 | 10030 | 20081 | 4404 | 3619 | 8023 | 857 | 454 | 5647 | 6411 | 12058 | 776 | 963 |
| 1/7/2021 | Thu | | | 50.5 | 49.5 | 10165 | 9952 | 20117 | 4416 | 3511 | 7927 | 929 | 476 | 5749 | 6441 | 12190 | 724 | 955 |
| 1/8/2021 | Fri | | | 50.2 | 49.8 | 10376 | 10311 | 20687 | 4295 | 3704 | 7999 | 840 | 502 | 6081 | 6607 | 12688 | 842 | 927 |
| 1/9/2021 | Sat | | | 49.9 | 50.1 | 9154 | 9202 | 18356 | 3352 | 3415 | 6767 | 677 | 716 | 5802 | 5787 | 11589 | 730 | 779 |
| 1/10/2021 | Sun | | 1 | 49.3 | 50.7 | 8556 | 8808 | 17364 | 3167 | 2798 | 5965 | 639 | 711 | 5389 | 6010 | 11399 | 734 | 751 |
| 1/11/2021 | Mon | | | 49.6 | 50.4 | 9670 | 9831 | 19501 | 4324 | 3831 | 8155 | 878 | 513 | 5346 | 6000 | 11346 | 755 | 917 |
| 1/12/2021 | Tue | | 1 | 49.9 | 50.1 | 9451 | 9498 | 18949 | 4248 | 3516 | 7764 | 880 | 462 | 5203 | 5982 | 11185 | 743 | 937 |
| 1/13/2021 | Wed | | | 50.2 | 49.8 | 9815 | 9754 | 19569 | 4245 | 3660 | 7905 | 822 | 533 | 5570 | 6094 | 11664 | 743 | 916 |
| 1/14/2021 | Thu | | | 50.6 | 49.4 | 10155 | 9933 | 20088 | 4412 | 3531 | 7943 | 945 | 449 | 5743 | 6402 | 12145 | 773 | 945 |
| 1/15/2021 | Fri | | | 50.6 | 49.4 | 10773 | 10516 | 21289 | 4348 | 3726 | 8074 | 923 | 498 | 6425 | 6790 | 13215 | 834 | 909 |
| 1/16/2021 | Sat | | | 50.9 | 49.1 | 10242 | 9876 | 20118 | 3651 | 3654 | 7305 | 747 | 720 | 6591 | 6222 | 12813 | 856 | 719 |
| 1/17/2021 | Sun | | | 49.4 | 50.6 | 8194 | 8377 | 16571 | 3080 | 2999 | 6079 | 631 | 695 | 5114 | 5378 | 10492 | 671 | 790 |
| 1/18/2021 | Mon | * | | 49.4 | 50.6 | 7901 | 8091 | 15992 | 3436 | 3367 | 6803 | 609 | 781 | 4465 | 4724 | 9189 | 731 | 705 |
| 1/19/2021 | Tue | | | 49.9 | 50.1 | 8738 | 8773 | 17511 | 3790 | 3143 | 6933 | 792 | 399 | 4948 | 5630 | 10578 | 645 | 842 |
| 1/20/2021 | Wed | | | 50.3 | 49.7 | 9722 | 9615 | 19337 | 4210 | 3601 | 7811 | 855 | 458 | 5512 | 6014 | 11526 | 744 | 952 |
| 1/21/2021 | Thu | | | 50.5 | 49.5 | 9812 | 9618 | 19430 | 4195 | 3505 | 7700 | 888 | 477 | 5617 | 6113 | 11730 | 793 | 902 |
| 1/22/2021 | Fri | | | 50.3 | 49.7 | 10501 | 10366 | 20867 | 4178 | 3752 | 7930 | 891 | 440 | 6323 | 6614 | 12937 | 865 | 908 |
| 1/23/2021 | Sat | | | 50.3 | 49.7 | 9672 | 9556 | 19228 | 3305 | 3566 | 6871 | 647 | 813 | 6367 | 5990 | 12357 | 883 | 737 |
| 1/24/2021 | Sun | | | 49.1 | 50.9 | 7529 | 7791 | 15320 | 2688 | 2632 | 5320 | 518 | 567 | 4841 | 5159 | 10000 | 642 | 602 |
| 1/25/2021 | Mon | | | 50.1 | 49.9 | 9458 | 9439 | 18897 | 4212 | 3545 | 7757 | 899 | 472 | 5246 | 5894 | 11140 | 716 | 967 |
| 1/26/2021 | Tue | | | 49.8 | 50.2 | 9566 | 9645 | 19211 | 4259 | 3633 | 7892 | 898 | 496 | 5307 | 6012 | 11319 | 779 | 960 |
| 1/27/2021 | Wed | | | 50.4 | 49.6 | 10230 | 10056 | 20286 | 4481 | 3732 | 8213 | 905 | 522 | 5749 | 6324 | 12073 | 813 | 950 |
| 1/28/2021 | Thu | | | 50.3 | 49.7 | 9844 | 9732 | 19576 | 4144 | 3685 | 7829 | 919 | 528 | 5700 | 6047 | 11747 | 730 | 982 |
| 1/29/2021 | Fri | | | 50.5 | 49.5 | 10473 | 10277 | 20750 | 4177 | 3733 | 7910 | 581 | 766 | 6296 | 6544 | 12840 | 837 | 975 |
| 1/30/2021 | Sat | | | 50.3 | 49.7 | 9587 | 9483 | 19070 | 3230 | 3543 | 6773 | 640 | 746 | 6357 | 5940 | 12297 | 821 | 714 |
| 1/31/2021 | Sun | | | 49.2 | 50.8 | 8318 | 8588 | 16906 | 2951 | 2810 | 5761 | 609 | 669 | 5367 | 5778 | 11145 | 735 | 740 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**February, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 2/1/2021 | Mon | | | 50.5 | 49.5 | 9607 | 9401 | 19008 | 4216 | 3576 | 7792 | 866 | 519 | 5391 | 5825 | 11216 | 717 | 902 |
| 2/2/2021 | Tue | | | 50.0 | 50.0 | 9615 | 9628 | 19243 | 4190 | 3556 | 7746 | 894 | 491 | 5425 | 6072 | 11497 | 821 | 921 |
| 2/3/2021 | Wed | | | 50.4 | 49.6 | 8715 | 8584 | 17299 | 3940 | 3665 | 7605 | 833 | 515 | 4775 | 4919 | 9694 | 821 | 737 |
| 2/4/2021 | Thu | | 1 | 50.7 | 49.3 | 9988 | 9719 | 19707 | 4235 | 3548 | 7783 | 898 | 489 | 5753 | 6171 | 11924 | 788 | 935 |
| 2/5/2021 | Fri | | | 50.7 | 49.3 | 10931 | 10626 | 21557 | 4384 | 3821 | 8205 | 876 | 513 | 6547 | 6805 | 13352 | 865 | 1032 |
| 2/6/2021 | Sat | | | 50.3 | 49.7 | 10264 | 10128 | 20392 | 3427 | 3886 | 7313 | 683 | 871 | 6837 | 6242 | 13079 | 863 | 736 |
| 2/7/2021 | Sun | | | 49.4 | 50.6 | 7154 | 7317 | 14471 | 2634 | 2630 | 5264 | 518 | 559 | 4520 | 4687 | 9207 | 689 | 585 |
| 2/8/2021 | Mon | | | 50.3 | 49.7 | 10106 | 9983 | 20089 | 4303 | 3862 | 8165 | 863 | 556 | 5803 | 6121 | 11924 | 770 | 998 |
| 2/9/2021 | Tue | | 1 | 50.2 | 49.8 | 10304 | 10209 | 20513 | 4388 | 3878 | 8266 | 916 | 505 | 5916 | 6331 | 12247 | 844 | 911 |
| 2/10/2021 | Wed | | | 50.8 | 49.2 | 10808 | 10475 | 21283 | 4467 | 3826 | 8293 | 843 | 555 | 6341 | 6649 | 12990 | 849 | 993 |
| 2/11/2021 | Thu | | | 50.9 | 49.1 | 10801 | 10414 | 21215 | 4454 | 3831 | 8285 | 977 | 507 | 6347 | 6583 | 12930 | 832 | 1048 |
| 2/12/2021 | Fri | | | 51.5 | 48.5 | 12078 | 11387 | 23465 | 4541 | 4126 | 8667 | 657 | 796 | 7537 | 7261 | 14798 | 1013 | 1079 |
| 2/13/2021 | Sat | | | 51.4 | 48.6 | 11963 | 11321 | 23284 | 3926 | 4214 | 8140 | 748 | 986 | 8037 | 7107 | 15144 | 988 | 910 |
| 2/14/2021 | Sun | | | 50.1 | 49.9 | 10302 | 10269 | 20571 | 3518 | 3404 | 6922 | 729 | 753 | 6784 | 6865 | 13649 | 804 | 910 |
| 2/15/2021 | Mon | * | | 49.4 | 50.6 | 11179 | 11465 | 22644 | 4314 | 4241 | 8555 | 795 | 889 | 6865 | 7224 | 14089 | 844 | 1061 |
| 2/16/2021 | Tue | | | 49.8 | 50.2 | 11314 | 11414 | 22728 | 4785 | 4395 | 9180 | 1019 | 574 | 6529 | 7019 | 13548 | 838 | 1041 |
| 2/17/2021 | Wed | | | 49.9 | 50.1 | 11431 | 11467 | 22898 | 4735 | 4444 | 9179 | 1003 | 598 | 6696 | 7023 | 13719 | 863 | 1096 |
| 2/18/2021 | Thu | | | 50.3 | 49.7 | 11259 | 11141 | 22400 | 4654 | 4358 | 9012 | 973 | 616 | 6605 | 6783 | 13388 | 942 | 945 |
| 2/19/2021 | Fri | | | 50.1 | 49.9 | 11905 | 11857 | 23762 | 4686 | 4294 | 8980 | 635 | 911 | 7219 | 7563 | 14782 | 981 | 1018 |
| 2/20/2021 | Sat | | | 50.1 | 49.9 | 11108 | 11076 | 22184 | 3659 | 4212 | 7871 | 744 | 962 | 7449 | 6864 | 14313 | 975 | 791 |
| 2/21/2021 | Sun | | | 49.3 | 50.7 | 9522 | 9773 | 19295 | 3288 | 3334 | 6622 | 695 | 737 | 6234 | 6439 | 12673 | 820 | 738 |
| 2/22/2021 | Mon | | | 49.8 | 50.2 | 10985 | 11094 | 22079 | 4624 | 4177 | 8801 | 939 | 576 | 6361 | 6917 | 13278 | 846 | 1107 |
| 2/23/2021 | Tue | | | 50.0 | 50.0 | 10965 | 10968 | 21933 | 4671 | 4252 | 8923 | 965 | 566 | 6294 | 6716 | 13010 | 869 | 982 |
| 2/24/2021 | Wed | | | 50.2 | 49.8 | 11273 | 11191 | 22464 | 4645 | 4351 | 8996 | 938 | 594 | 6628 | 6840 | 13468 | 892 | 1023 |
| 2/25/2021 | Thu | | | 50.5 | 49.5 | 11381 | 11168 | 22549 | 4611 | 4160 | 8771 | 970 | 558 | 6770 | 7008 | 13778 | 934 | 1018 |
| 2/26/2021 | Fri | | | 50.4 | 49.6 | 12234 | 12017 | 24251 | 4881 | 4487 | 9368 | 675 | 914 | 7353 | 7530 | 14883 | 939 | 1023 |
| 2/27/2021 | Sat | | | 50.1 | 49.9 | 11455 | 11391 | 22846 | 4011 | 4452 | 8463 | 771 | 985 | 7444 | 6939 | 14383 | 1024 | 808 |
| 2/28/2021 | Sun | | | 49.0 | 51.0 | 9730 | 10119 | 19849 | 3347 | 3437 | 6784 | 697 | 893 | 6383 | 6682 | 13065 | 839 | 822 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**March, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 3/1/2021 | Mon | | 1 | 50.5 | 49.5 | 10902 | 10707 | 21609 | 4502 | 4223 | 8725 | 602 | 857 | 6400 | 6484 | 12884 | 875 | 981 |
| 3/2/2021 | Tue | | 1 | 50.0 | 50.0 | 10767 | 10763 | 21530 | 4470 | 4262 | 8732 | 606 | 900 | 6297 | 6501 | 12798 | 823 | 954 |
| 3/3/2021 | Wed | | | 50.6 | 49.4 | 11458 | 11187 | 22645 | 4673 | 4269 | 8942 | 965 | 586 | 6785 | 6918 | 13703 | 927 | 1038 |
| 3/4/2021 | Thu | | 1 | 50.7 | 49.3 | 11473 | 11163 | 22636 | 4712 | 4278 | 8990 | 1002 | 600 | 6761 | 6885 | 13646 | 885 | 1033 |
| 3/5/2021 | Fri | | | 50.9 | 49.1 | 12603 | 12165 | 24768 | 4832 | 4482 | 9314 | 664 | 898 | 7771 | 7683 | 15454 | 1011 | 1118 |
| 3/6/2021 | Sat | | | 50.6 | 49.4 | 11895 | 11634 | 23529 | 4075 | 4356 | 8431 | 797 | 1028 | 7820 | 7278 | 15098 | 1009 | 863 |
| 3/7/2021 | Sun | | | 49.8 | 50.2 | 10228 | 10303 | 20531 | 3697 | 3697 | 7394 | 732 | 889 | 6531 | 6606 | 13137 | 818 | 867 |
| 3/8/2021 | Mon | | | 50.1 | 49.9 | 11276 | 11226 | 22502 | 4830 | 4635 | 9465 | 645 | 954 | 6446 | 6591 | 13037 | 840 | 1050 |
| 3/9/2021 | Tue | | 1 | 50.0 | 50.0 | 10792 | 10786 | 21578 | 4455 | 4103 | 8558 | 665 | 836 | 6337 | 6683 | 13020 | 920 | 914 |
| 3/10/2021 | Wed | | | 50.3 | 49.7 | 11828 | 11670 | 23498 | 4761 | 4267 | 9028 | 958 | 600 | 7067 | 7403 | 14470 | 928 | 1062 |
| 3/11/2021 | Thu | | | 50.6 | 49.4 | 12159 | 11860 | 24019 | 4819 | 4424 | 9243 | 1044 | 587 | 7340 | 7436 | 14776 | 1045 | 1158 |
| 3/12/2021 | Fri | | | 50.6 | 49.4 | 12877 | 12579 | 25456 | 4839 | 4742 | 9581 | 696 | 1019 | 8038 | 7837 | 15875 | 1040 | 1137 |
| 3/13/2021 | Sat | | | 51.1 | 48.9 | 9898 | 9461 | 19359 | 2958 | 3422 | 6380 | 621 | 898 | 6940 | 6039 | 12979 | 904 | 709 |
| 3/14/2021 | Sun | | | 50.2 | 49.8 | 11365 | 11265 | 22630 | 3883 | 3924 | 7807 | 875 | 900 | 7482 | 7341 | 14823 | 996 | 948 |
| 3/15/2021 | Mon | | | 50.3 | 49.7 | 13080 | 12945 | 26025 | 5297 | 5089 | 10386 | 768 | 1061 | 7783 | 7856 | 15639 | 988 | 1119 |
| 3/16/2021 | Tue | | | 50.2 | 49.8 | 12786 | 12707 | 25493 | 5134 | 4966 | 10100 | 803 | 986 | 7652 | 7741 | 15393 | 1048 | 1127 |
| 3/17/2021 | Wed | | | 50.5 | 49.5 | 13247 | 12961 | 26208 | 5083 | 5205 | 10288 | 839 | 1041 | 8164 | 7756 | 15920 | 1099 | 1107 |
| 3/18/2021 | Thu | | 1 | 50.3 | 49.7 | 13197 | 13033 | 26230 | 5174 | 5160 | 10334 | 795 | 1164 | 8023 | 7873 | 15896 | 1073 | 1165 |
| 3/19/2021 | Fri | | 1 | 50.1 | 49.9 | 13633 | 13594 | 27227 | 5077 | 4966 | 10043 | 749 | 1063 | 8556 | 8628 | 17184 | 1087 | 1141 |
| 3/20/2021 | Sat | | | 50.1 | 49.9 | 12895 | 12846 | 25741 | 4294 | 5171 | 9465 | 977 | 1114 | 8601 | 7675 | 16276 | 1166 | 843 |
| 3/21/2021 | Sun | | | 49.7 | 50.3 | 11655 | 11797 | 23452 | 3739 | 4413 | 8152 | 814 | 1053 | 7916 | 7384 | 15300 | 1032 | 908 |
| 3/22/2021 | Mon | | | 50.3 | 49.7 | 12925 | 12757 | 25682 | 5438 | 4828 | 10266 | 749 | 964 | 7487 | 7929 | 15416 | 956 | 1236 |
| 3/23/2021 | Tue | | | 50.2 | 49.8 | 13182 | 13078 | 26260 | 5388 | 5189 | 10577 | 1067 | 721 | 7794 | 7889 | 15683 | 1017 | 1146 |
| 3/24/2021 | Wed | | | 50.6 | 49.4 | 13624 | 13325 | 26949 | 5419 | 5339 | 10758 | 831 | 956 | 8205 | 7986 | 16191 | 1095 | 1152 |
| 3/25/2021 | Thu | | | 50.3 | 49.7 | 13817 | 13645 | 27462 | 5541 | 5352 | 10893 | 800 | 1049 | 8276 | 8293 | 16569 | 1046 | 1161 |
| 3/26/2021 | Fri | * | | 50.1 | 49.9 | 14693 | 14638 | 29331 | 5833 | 5405 | 11238 | 961 | 1081 | 8860 | 9233 | 18093 | 1157 | 1231 |
| 3/27/2021 | Sat | | | 50.0 | 50.0 | 13620 | 13601 | 27221 | 4894 | 5317 | 10211 | 994 | 1089 | 8726 | 8284 | 17010 | 1170 | 903 |
| 3/28/2021 | Sun | | | 49.9 | 50.1 | 11800 | 11830 | 23630 | 4273 | 4344 | 8617 | 894 | 907 | 7527 | 7486 | 15013 | 1032 | 926 |
| 3/29/2021 | Mon | | | 50.1 | 49.9 | 13259 | 13224 | 26483 | 5509 | 5216 | 10725 | 812 | 1006 | 7750 | 8008 | 15758 | 1041 | 1143 |
| 3/30/2021 | Tue | | | 50.2 | 49.8 | 13767 | 13678 | 27445 | 5797 | 5470 | 11267 | 1074 | 820 | 7970 | 8208 | 16178 | 1084 | 1151 |
| 3/31/2021 | Wed | | | 50.3 | 49.7 | 14250 | 14072 | 28322 | 5837 | 5475 | 11312 | 1091 | 791 | 8413 | 8597 | 17010 | 1139 | 1179 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**April, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 4/1/2021 | Thu | | | 50.5 | 49.5 | 14218 | 13949 | 28167 | 5801 | 5371 | 11172 | 805 | 1044 | 8417 | 8578 | 16995 | 1105 | 1176 |
| 4/2/2021 | Fri | * | | 50.2 | 49.8 | 14432 | 14295 | 28727 | 5700 | 5415 | 11115 | 896 | 1128 | 8732 | 8880 | 17612 | 1139 | 1140 |
| 4/3/2021 | Sat | | | 50.1 | 49.9 | 13234 | 13207 | 26441 | 4727 | 5164 | 9891 | 950 | 1073 | 8507 | 8043 | 16550 | 1067 | 950 |
| 4/4/2021 | Sun | * | | 49.9 | 50.1 | 11017 | 11056 | 22073 | 3944 | 4003 | 7947 | 820 | 923 | 7073 | 7053 | 14126 | 874 | 875 |
| 4/5/2021 | Mon | | 3 | 50.3 | 49.7 | 13191 | 13032 | 26223 | 5485 | 5253 | 10738 | 769 | 1028 | 7706 | 7779 | 15485 | 981 | 1008 |
| 4/6/2021 | Tue | | | 50.3 | 49.7 | 13755 | 13594 | 27349 | 5567 | 5472 | 11039 | 757 | 1076 | 8188 | 8122 | 16310 | 1098 | 1207 |
| 4/7/2021 | Wed | | | 50.0 | 50.0 | 13588 | 13598 | 27186 | 5505 | 5448 | 10953 | 1067 | 722 | 8083 | 8150 | 16233 | 1093 | 1173 |
| 4/8/2021 | Thu | | | 50.2 | 49.8 | 13686 | 13598 | 27284 | 5511 | 5316 | 10827 | 740 | 1050 | 8175 | 8282 | 16457 | 1054 | 1233 |
| 4/9/2021 | Fri | | | 49.6 | 50.4 | 14127 | 14360 | 28487 | 5592 | 5602 | 11194 | 829 | 1038 | 8535 | 8758 | 17293 | 1144 | 1191 |
| 4/10/2021 | Sat | | | 50.2 | 49.8 | 13316 | 13230 | 26546 | 4522 | 5315 | 9837 | 857 | 1114 | 8794 | 7915 | 16709 | 1156 | 926 |
| 4/11/2021 | Sun | | | 49.6 | 50.4 | 12050 | 12256 | 24306 | 4305 | 4559 | 8864 | 913 | 952 | 7745 | 7697 | 15442 | 1108 | 906 |
| 4/12/2021 | Mon | | | 49.9 | 50.1 | 13595 | 13652 | 27247 | 5738 | 5404 | 11142 | 811 | 1018 | 7857 | 8248 | 16105 | 1026 | 1191 |
| 4/13/2021 | Tue | | | 49.8 | 50.2 | 13484 | 13617 | 27101 | 5677 | 5627 | 11304 | 774 | 1115 | 7807 | 7990 | 15797 | 979 | 1102 |
| 4/14/2021 | Wed | | | 50.4 | 49.6 | 13889 | 13666 | 27555 | 5679 | 5404 | 11083 | 804 | 1024 | 8210 | 8262 | 16472 | 996 | 1184 |
| 4/15/2021 | Thu | | | 50.5 | 49.5 | 13875 | 13576 | 27451 | 5589 | 5312 | 10901 | 1081 | 712 | 8286 | 8264 | 16550 | 1018 | 1229 |
| 4/16/2021 | Fri | | | 50.7 | 49.3 | 14548 | 14169 | 28717 | 5665 | 5443 | 11108 | 959 | 917 | 8883 | 8726 | 17609 | 1120 | 1251 |
| 4/17/2021 | Sat | | | 50.2 | 49.8 | 13828 | 13722 | 27550 | 5078 | 5339 | 10417 | 1051 | 1033 | 8750 | 8383 | 17133 | 1100 | 1054 |
| 4/18/2021 | Sun | | | 49.3 | 50.7 | 11996 | 12314 | 24310 | 4320 | 4679 | 8999 | 837 | 1076 | 7676 | 7635 | 15311 | 1015 | 933 |
| 4/19/2021 | Mon | | | 50.0 | 50.0 | 13012 | 13003 | 26015 | 5357 | 5347 | 10704 | 1034 | 726 | 7655 | 7656 | 15311 | 943 | 1077 |
| 4/20/2021 | Tue | | | 50.1 | 49.9 | 13042 | 13000 | 26042 | 5380 | 5275 | 10655 | 739 | 1013 | 7662 | 7725 | 15387 | 980 | 1147 |
| 4/21/2021 | Wed | | | 50.5 | 49.5 | 13427 | 13145 | 26572 | 5354 | 5225 | 10579 | 999 | 740 | 8073 | 7920 | 15993 | 1044 | 1127 |
| 4/22/2021 | Thu | | | 50.5 | 49.5 | 13623 | 13354 | 26977 | 5458 | 5219 | 10677 | 1080 | 702 | 8165 | 8135 | 16300 | 1030 | 1226 |
| 4/23/2021 | Fri | | | 50.2 | 49.8 | 14122 | 14034 | 28156 | 5506 | 5567 | 11073 | 842 | 1059 | 8616 | 8467 | 17083 | 1117 | 1124 |
| 4/24/2021 | Sat | | | 50.4 | 49.6 | 13373 | 13187 | 26560 | 4654 | 5352 | 10006 | 924 | 1152 | 8719 | 7835 | 16554 | 1176 | 898 |
| 4/25/2021 | Sun | | | 49.3 | 50.7 | 11594 | 11935 | 23529 | 4005 | 4481 | 8486 | 793 | 929 | 7589 | 7454 | 15043 | 972 | 973 |
| 4/26/2021 | Mon | | | 49.8 | 50.2 | 13201 | 13284 | 26485 | 5472 | 5441 | 10913 | 991 | 796 | 7729 | 7843 | 15572 | 942 | 1177 |
| 4/27/2021 | Tue | | | 49.9 | 50.1 | 13028 | 13096 | 26124 | 5475 | 5201 | 10676 | 1036 | 724 | 7553 | 7895 | 15448 | 923 | 1162 |
| 4/28/2021 | Wed | | | 50.3 | 49.7 | 13511 | 13372 | 26883 | 5475 | 5272 | 10747 | 1024 | 745 | 8036 | 8100 | 16136 | 996 | 1248 |
| 4/29/2021 | Thu | | | 50.2 | 49.8 | 13508 | 13397 | 26905 | 5609 | 5216 | 10825 | 831 | 960 | 7899 | 8181 | 16080 | 1058 | 1166 |
| 4/30/2021 | Fri | | | 50.3 | 49.7 | 14469 | 14288 | 28757 | 5690 | 5488 | 11178 | 826 | 1069 | 8779 | 8800 | 17579 | 1169 | 1125 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**May, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 5/1/2021 | Sat | | | 50.5 | 49.5 | 13291 | 13038 | 26329 | 4628 | 5216 | 9844 | 918 | 1003 | 8663 | 7822 | 16485 | 1164 | 908 |
| 5/2/2021 | Sun | | | 49.7 | 50.3 | 11598 | 11741 | 23339 | 4174 | 4515 | 8689 | 849 | 983 | 7424 | 7226 | 14650 | 989 | 926 |
| 5/3/2021 | Mon | | | 50.4 | 49.6 | 13008 | 12802 | 25810 | 5370 | 5186 | 10556 | 935 | 801 | 7638 | 7616 | 15254 | 945 | 1219 |
| 5/4/2021 | Tue | | | 50.3 | 49.7 | 12903 | 12730 | 25633 | 5356 | 4973 | 10329 | 993 | 779 | 7547 | 7757 | 15304 | 953 | 1161 |
| 5/5/2021 | Wed | | | 50.6 | 49.4 | 13409 | 13116 | 26525 | 5442 | 5286 | 10728 | 1057 | 744 | 7967 | 7830 | 15797 | 976 | 1152 |
| 5/6/2021 | Thu | | 1 | 50.6 | 49.4 | 13395 | 13079 | 26474 | 5289 | 5260 | 10549 | 705 | 1063 | 8106 | 7819 | 15925 | 1058 | 1184 |
| 5/7/2021 | Fri | | | 50.3 | 49.7 | 14040 | 13845 | 27885 | 5432 | 5294 | 10726 | 741 | 1023 | 8608 | 8551 | 17159 | 1122 | 1182 |
| 5/8/2021 | Sat | | | 50.0 | 50.0 | 13628 | 13626 | 27254 | 4652 | 5555 | 10207 | 916 | 1105 | 8976 | 8071 | 17047 | 1074 | 1015 |
| 5/9/2021 | Sun | | | 49.5 | 50.5 | 12145 | 12369 | 24514 | 4488 | 4543 | 9031 | 953 | 964 | 7657 | 7826 | 15483 | 1046 | 906 |
| 5/10/2021 | Mon | | | 50.6 | 49.4 | 13677 | 13370 | 27047 | 5703 | 5291 | 10994 | 964 | 839 | 7974 | 8079 | 16053 | 1006 | 1231 |
| 5/11/2021 | Tue | | | 50.3 | 49.7 | 13801 | 13654 | 27455 | 5552 | 5545 | 11097 | 1087 | 831 | 8249 | 8109 | 16358 | 1074 | 1198 |
| 5/12/2021 | Wed | | | 50.6 | 49.4 | 14223 | 13908 | 28131 | 5735 | 5596 | 11331 | 1081 | 805 | 8488 | 8312 | 16800 | 1114 | 1265 |
| 5/13/2021 | Thu | | | 50.4 | 49.6 | 14303 | 14098 | 28401 | 5702 | 5614 | 11316 | 1120 | 782 | 8601 | 8484 | 17085 | 1111 | 1233 |
| 5/14/2021 | Fri | | | 50.4 | 49.6 | 15377 | 15149 | 30526 | 5973 | 5969 | 11942 | 856 | 1152 | 9404 | 9180 | 18584 | 1240 | 1157 |
| 5/15/2021 | Sat | | | 50.1 | 49.9 | 14268 | 14232 | 28500 | 5063 | 5896 | 10959 | 975 | 1112 | 9205 | 8336 | 17541 | 1175 | 945 |
| 5/16/2021 | Sun | | | 49.8 | 50.2 | 12360 | 12472 | 24832 | 4277 | 4705 | 8982 | 845 | 972 | 8083 | 7767 | 15850 | 1043 | 1018 |
| 5/17/2021 | Mon | | | 50.4 | 49.6 | 13790 | 13583 | 27373 | 5448 | 5594 | 11042 | 729 | 1068 | 8342 | 7989 | 16331 | 1005 | 1132 |
| 5/18/2021 | Tue | | | 50.2 | 49.8 | 13862 | 13728 | 27590 | 5516 | 5607 | 11123 | 1080 | 822 | 8346 | 8121 | 16467 | 1016 | 1220 |
| 5/19/2021 | Wed | | | 50.3 | 49.7 | 14421 | 14238 | 28659 | 5691 | 5667 | 11358 | 1067 | 852 | 8730 | 8571 | 17301 | 1117 | 1206 |
| 5/20/2021 | Thu | | | 50.4 | 49.6 | 14540 | 14309 | 28849 | 5712 | 5699 | 11411 | 1098 | 748 | 8828 | 8610 | 17438 | 1141 | 1182 |
| 5/21/2021 | Fri | | | 50.2 | 49.8 | 15031 | 14897 | 29928 | 5685 | 5722 | 11407 | 810 | 1136 | 9346 | 9175 | 18521 | 1153 | 1250 |
| 5/22/2021 | Sat | | | 50.0 | 50.0 | 14021 | 14027 | 28048 | 4841 | 5727 | 10568 | 831 | 1211 | 9180 | 8300 | 17480 | 1088 | 1025 |
| 5/23/2021 | Sun | | | 49.9 | 50.1 | 12572 | 12646 | 25218 | 4297 | 4670 | 8967 | 852 | 916 | 8275 | 7976 | 16251 | 1034 | 935 |
| 5/24/2021 | Mon | | | 50.0 | 50.0 | 14429 | 14425 | 28854 | 5725 | 5901 | 11626 | 772 | 1094 | 8704 | 8524 | 17228 | 1055 | 1238 |
| 5/25/2021 | Tue | | | 50.0 | 50.0 | 14665 | 14649 | 29314 | 5946 | 5958 | 11904 | 1127 | 821 | 8719 | 8691 | 17410 | 1114 | 1186 |
| 5/26/2021 | Wed | | | 50.3 | 49.7 | 15492 | 15310 | 30802 | 6261 | 6006 | 12267 | 1152 | 847 | 9231 | 9304 | 18535 | 1167 | 1082 |
| 5/27/2021 | Thu | | | 50.3 | 49.7 | 14833 | 14646 | 29479 | 5900 | 5900 | 11800 | 1144 | 811 | 8933 | 8746 | 17679 | 1091 | 1193 |
| 5/28/2021 | Fri | | | 50.6 | 49.4 | 15637 | 15294 | 30931 | 6054 | 6023 | 12077 | 807 | 1204 | 9583 | 9271 | 18854 | 1167 | 1141 |
| 5/29/2021 | Sat | | | 50.0 | 50.0 | 14397 | 14390 | 28787 | 5016 | 5743 | 10759 | 884 | 1124 | 9381 | 8647 | 18028 | 1072 | 1057 |
| 5/30/2021 | Sun | | | 49.7 | 50.3 | 13286 | 13464 | 26750 | 4721 | 5100 | 9821 | 905 | 1103 | 8565 | 8364 | 16929 | 1029 | 990 |
| 5/31/2021 | Mon | * | | 49.7 | 50.3 | 13345 | 13482 | 26827 | 5210 | 5071 | 10281 | 936 | 991 | 8135 | 8411 | 16546 | 940 | 1127 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**June, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui
Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 6/1/2021 | Tue | | | 50.2 | 49.8 | 14890 | 14767 | 29657 | 5939 | 6043 | 11982 | 872 | 1130 | 8951 | 8724 | 17675 | 1117 | 1279 |
| 6/2/2021 | Wed | | | 50.2 | 49.8 | 14820 | 14720 | 29540 | 5796 | 5921 | 11717 | 830 | 1114 | 9024 | 8799 | 17823 | 1107 | 1271 |
| 6/3/2021 | Thu | | | 50.5 | 49.5 | 14988 | 14702 | 29690 | 5981 | 5822 | 11803 | 1110 | 846 | 9007 | 8880 | 17887 | 1062 | 1287 |
| 6/4/2021 | Fri | | | 50.2 | 49.8 | 15465 | 15336 | 30801 | 6052 | 6085 | 12137 | 921 | 1123 | 9413 | 9251 | 18664 | 1136 | 1247 |
| 6/5/2021 | Sat | | | 50.1 | 49.9 | 14641 | 14581 | 29222 | 5436 | 5892 | 11328 | 1026 | 1105 | 9205 | 8689 | 17894 | 1191 | 995 |
| 6/6/2021 | Sun | | | 49.9 | 50.1 | 13152 | 13203 | 26355 | 4787 | 5240 | 10027 | 882 | 1058 | 8365 | 7963 | 16328 | 970 | 1039 |
| 6/7/2021 | Mon | | | 50.5 | 49.5 | 14645 | 14375 | 29020 | 5912 | 5814 | 11726 | 855 | 1112 | 8733 | 8561 | 17294 | 1208 | 1244 |
| 6/8/2021 | Tue | | 3 | 50.3 | 49.7 | 14676 | 14524 | 29200 | 5913 | 5808 | 11721 | 1091 | 828 | 8763 | 8716 | 17479 | 1103 | 1092 |
| 6/9/2021 | Wed | | 3 | 50.1 | 49.9 | 14751 | 14694 | 29445 | 5898 | 5830 | 11728 | 869 | 1098 | 8853 | 8864 | 17717 | 1117 | 1158 |
| 6/10/2021 | Thu | | | 50.2 | 49.8 | 14935 | 14804 | 29739 | 5903 | 5841 | 11744 | 810 | 1105 | 9032 | 8963 | 17995 | 1212 | 1226 |
| 6/11/2021 | Fri | * | | 50.4 | 49.6 | 15108 | 14884 | 29992 | 5815 | 5719 | 11534 | 877 | 1098 | 9293 | 9165 | 18458 | 1101 | 1177 |
| 6/12/2021 | Sat | | | 50.1 | 49.9 | 14468 | 14382 | 28850 | 5128 | 5853 | 10981 | 991 | 1144 | 9340 | 8529 | 17869 | 1060 | 1059 |
| 6/13/2021 | Sun | | | 49.9 | 50.1 | 12587 | 12645 | 25232 | 4398 | 4747 | 9145 | 880 | 912 | 8189 | 7898 | 16087 | 1054 | 941 |
| 6/14/2021 | Mon | | | 50.3 | 49.7 | 14483 | 14330 | 28813 | 5864 | 5802 | 11666 | 823 | 1091 | 8619 | 8528 | 17147 | 1061 | 1193 |
| 6/15/2021 | Tue | | | 50.3 | 49.7 | 14631 | 14453 | 29084 | 5845 | 5782 | 11627 | 900 | 975 | 8786 | 8671 | 17457 | 1052 | 1258 |
| 6/16/2021 | Wed | | | 50.2 | 49.8 | 14939 | 14799 | 29738 | 6046 | 5848 | 11894 | 874 | 1049 | 8893 | 8951 | 17844 | 1161 | 1188 |
| 6/17/2021 | Thu | | | 50.2 | 49.8 | 15359 | 15209 | 30568 | 6179 | 6032 | 12211 | 874 | 1145 | 9180 | 9177 | 18357 | 1230 | 1222 |
| 6/18/2021 | Fri | | | 50.0 | 50.0 | 15894 | 15893 | 31787 | 6473 | 6110 | 12583 | 1013 | 1129 | 9421 | 9783 | 19204 | 1200 | 1132 |
| 6/19/2021 | Sat | | | 50.2 | 49.8 | 14990 | 14897 | 29887 | 5574 | 5819 | 11393 | 1014 | 1098 | 9416 | 9078 | 18494 | 1201 | 1014 |
| 6/20/2021 | Sun | | | 49.9 | 50.1 | 13596 | 13674 | 27270 | 5205 | 5043 | 10248 | 938 | 1016 | 8391 | 8631 | 17022 | 1039 | 1042 |
| 6/21/2021 | Mon | | | 50.3 | 49.7 | 14999 | 14807 | 29806 | 6215 | 5860 | 12075 | 882 | 1120 | 8784 | 8947 | 17731 | 1104 | 1237 |
| 6/22/2021 | Tue | | | 50.4 | 49.6 | 14962 | 14738 | 29700 | 6086 | 5801 | 11887 | 1151 | 807 | 8876 | 8937 | 17813 | 1089 | 1103 |
| 6/23/2021 | Wed | | | 50.2 | 49.8 | 15040 | 14923 | 29963 | 6044 | 5937 | 11981 | 879 | 1076 | 8996 | 8986 | 17982 | 1115 | 1076 |
| 6/24/2021 | Thu | | | 50.3 | 49.7 | 15285 | 15101 | 30386 | 6231 | 5953 | 12184 | 915 | 1137 | 9054 | 9148 | 18202 | 1152 | 1072 |
| 6/25/2021 | Fri | | | 50.0 | 50.0 | 15769 | 15775 | 31544 | 6299 | 6129 | 12428 | 905 | 1176 | 9470 | 9646 | 19116 | 1157 | 1162 |
| 6/26/2021 | Sat | | | 50.1 | 49.9 | 14680 | 14628 | 29308 | 5352 | 6055 | 11407 | 958 | 1127 | 9328 | 8573 | 17901 | 1156 | 1055 |
| 6/27/2021 | Sun | | | 49.8 | 50.2 | 13159 | 13254 | 26413 | 4698 | 5096 | 9794 | 934 | 973 | 8461 | 8158 | 16619 | 1046 | 922 |
| 6/28/2021 | Mon | | | 50.1 | 49.9 | 14555 | 14503 | 29058 | 5862 | 5813 | 11675 | 1057 | 833 | 8693 | 8690 | 17383 | 1107 | 1223 |
| 6/29/2021 | Tue | | | 50.0 | 50.0 | 14995 | 15009 | 30004 | 6040 | 5938 | 11978 | 908 | 1004 | 8955 | 9071 | 18026 | 1145 | 1283 |
| 6/30/2021 | Wed | | | 50.3 | 49.7 | 15530 | 15330 | 30860 | 6253 | 6082 | 12335 | 873 | 1140 | 9277 | 9248 | 18525 | 1143 | 1108 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**July, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 7/1/2021 | Thu | | | 50.4 | 49.6 | 15633 | 15361 | 30994 | 6322 | 6126 | 12448 | 872 | 1159 | 9311 | 9235 | 18546 | 1104 | 1138 |
| 7/2/2021 | Fri | | | 50.2 | 49.8 | 15736 | 15608 | 31344 | 6238 | 6209 | 12447 | 927 | 1153 | 9498 | 9399 | 18897 | 1157 | 1191 |
| 7/3/2021 | Sat | | | 50.4 | 49.6 | 14869 | 14630 | 29499 | 5202 | 6233 | 11435 | 1047 | 1148 | 9667 | 8397 | 18064 | 1031 | 1037 |
| 7/4/2021 | Sun | | | 50.0 | 50.0 | 11788 | 11766 | 23554 | 4583 | 4299 | 8882 | 876 | 789 | 7205 | 7467 | 14672 | 998 | 795 |
| 7/5/2021 | Mon | * | | 49.9 | 50.1 | 14739 | 14815 | 29554 | 5936 | 5903 | 11839 | 1056 | 1086 | 8803 | 8912 | 17715 | 1179 | 1034 |
| 7/6/2021 | Tue | | | 50.1 | 49.9 | 15877 | 15808 | 31685 | 6532 | 6397 | 12929 | 929 | 1146 | 9345 | 9411 | 18756 | 1202 | 1085 |
| 7/7/2021 | Wed | | | 50.2 | 49.8 | 15792 | 15659 | 31451 | 6483 | 6287 | 12770 | 927 | 1122 | 9309 | 9372 | 18681 | 1155 | 1154 |
| 7/8/2021 | Thu | | | 50.1 | 49.9 | 15400 | 15336 | 30736 | 6225 | 6224 | 12449 | 906 | 1105 | 9175 | 9112 | 18287 | 1095 | 1103 |
| 7/9/2021 | Fri | | | 50.2 | 49.8 | 15687 | 15577 | 31264 | 6295 | 6088 | 12383 | 950 | 1182 | 9392 | 9489 | 18881 | 1192 | 1200 |
| 7/10/2021 | Sat | | | 50.0 | 50.0 | 14283 | 14278 | 28561 | 5176 | 5801 | 10977 | 915 | 1136 | 9107 | 8477 | 17584 | 1088 | 1025 |
| 7/11/2021 | Sun | | | 49.8 | 50.2 | 12591 | 12672 | 25263 | 4393 | 4755 | 9148 | 883 | 886 | 8198 | 7917 | 16115 | 1054 | 906 |
| 7/12/2021 | Mon | | | 50.5 | 49.5 | 14571 | 14305 | 28876 | 5865 | 5666 | 11531 | 953 | 915 | 8706 | 8639 | 17345 | 1089 | 1255 |
| 7/13/2021 | Tue | | | 50.2 | 49.8 | 14784 | 14654 | 29438 | 5927 | 5841 | 11768 | 799 | 1108 | 8857 | 8813 | 17670 | 1139 | 1281 |
| 7/14/2021 | Wed | | | 50.2 | 49.8 | 14884 | 14740 | 29624 | 5805 | 5754 | 11559 | 885 | 1012 | 9079 | 8986 | 18065 | 1123 | 1229 |
| 7/15/2021 | Thu | | 1 | 50.2 | 49.8 | 14905 | 14793 | 29698 | 6027 | 5767 | 11794 | 861 | 1074 | 8878 | 9026 | 17904 | 1092 | 1191 |
| 7/16/2021 | Fri | | | 50.2 | 49.8 | 15544 | 15444 | 30988 | 6047 | 6011 | 12058 | 933 | 1076 | 9497 | 9433 | 18930 | 1138 | 1196 |
| 7/17/2021 | Sat | | | 50.3 | 49.7 | 14841 | 14682 | 29523 | 5412 | 6052 | 11464 | 841 | 1251 | 9429 | 8630 | 18059 | 1021 | 1042 |
| 7/18/2021 | Sun | | | 49.8 | 50.2 | 13233 | 13335 | 26568 | 5027 | 5040 | 10067 | 980 | 957 | 8206 | 8295 | 16501 | 994 | 1061 |
| 7/19/2021 | Mon | | | 50.4 | 49.6 | 14845 | 14625 | 29470 | 6025 | 5868 | 11893 | 869 | 1192 | 8820 | 8757 | 17577 | 1096 | 1222 |
| 7/20/2021 | Tue | | | 50.0 | 50.0 | 14805 | 14779 | 29584 | 5961 | 5971 | 11932 | 930 | 1035 | 8844 | 8808 | 17652 | 1137 | 1210 |
| 7/21/2021 | Wed | | 1 | 50.4 | 49.6 | 15085 | 14874 | 29959 | 5933 | 5859 | 11792 | 896 | 1097 | 9152 | 9015 | 18167 | 1133 | 1210 |
| 7/22/2021 | Thu | | | 50.3 | 49.7 | 15128 | 14968 | 30096 | 5982 | 5729 | 11711 | 836 | 1102 | 9146 | 9239 | 18385 | 1203 | 1161 |
| 7/23/2021 | Fri | | | 49.9 | 50.1 | 15399 | 15431 | 30830 | 6005 | 5965 | 11970 | 833 | 1179 | 9394 | 9466 | 18860 | 1104 | 1203 |
| 7/24/2021 | Sat | | | 50.0 | 50.0 | 14506 | 14506 | 29012 | 4977 | 5977 | 10954 | 969 | 1079 | 9529 | 8529 | 18058 | 1167 | 944 |
| 7/25/2021 | Sun | | | 50.2 | 49.8 | 12999 | 12921 | 25920 | 4568 | 4746 | 9314 | 872 | 945 | 8431 | 8175 | 16606 | 967 | 1076 |
| 7/26/2021 | Mon | | | 51.1 | 48.9 | 13703 | 13107 | 26810 | 5975 | 5650 | 11625 | 913 | 987 | 7728 | 7457 | 15185 | 1127 | 974 |
| 7/27/2021 | Tue | | | 50.1 | 49.9 | 14840 | 14771 | 29611 | 5917 | 5973 | 11890 | 844 | 1152 | 8923 | 8798 | 17721 | 1154 | 1214 |
| 7/28/2021 | Wed | | | 50.2 | 49.8 | 15056 | 14952 | 30008 | 6035 | 5794 | 11829 | 900 | 1010 | 9021 | 9158 | 18179 | 1144 | 1275 |
| 7/29/2021 | Thu | | | 50.1 | 49.9 | 14829 | 14772 | 29601 | 5971 | 5785 | 11756 | 780 | 1140 | 8858 | 8987 | 17845 | 1132 | 1209 |
| 7/30/2021 | Fri | | | 50.0 | 50.0 | 15270 | 15299 | 30569 | 6006 | 5996 | 12002 | 870 | 1150 | 9264 | 9303 | 18567 | 1142 | 1263 |
| 7/31/2021 | Sat | | | 50.1 | 49.9 | 14570 | 14491 | 29061 | 5250 | 5840 | 11090 | 993 | 1029 | 9320 | 8651 | 17971 | 1084 | 1107 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**August, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 8/1/2021 | Sun | | | 50.2 | 49.8 | 13086 | 12992 | 26078 | 4771 | 4896 | 9667 | 963 | 915 | 8315 | 8096 | 16411 | 964 | 1038 |
| 8/2/2021 | Mon | | | 50.4 | 49.6 | 14456 | 14214 | 28670 | 5762 | 5642 | 11404 | 865 | 971 | 8694 | 8572 | 17266 | 1115 | 1203 |
| 8/3/2021 | Tue | | | 50.1 | 49.9 | 14631 | 14579 | 29210 | 5952 | 5753 | 11705 | 900 | 1025 | 8679 | 8826 | 17505 | 1099 | 1256 |
| 8/4/2021 | Wed | | | 50.3 | 49.7 | 14475 | 14274 | 28749 | 5885 | 5693 | 11578 | 823 | 1054 | 8590 | 8581 | 17171 | 1173 | 1216 |
| 8/5/2021 | Thu | | | 50.0 | 50.0 | 14691 | 14666 | 29357 | 6093 | 5789 | 11882 | 902 | 1010 | 8598 | 8877 | 17475 | 1091 | 1246 |
| 8/6/2021 | Fri | | | 50.1 | 49.9 | 15173 | 15124 | 30297 | 6021 | 5980 | 12001 | 874 | 1126 | 9152 | 9144 | 18296 | 1192 | 1110 |
| 8/7/2021 | Sat | | | 50.4 | 49.6 | 14480 | 14247 | 28727 | 5050 | 5889 | 10939 | 911 | 1114 | 9430 | 8358 | 17788 | 1146 | 949 |
| 8/8/2021 | Sun | | | 49.5 | 50.5 | 12905 | 13152 | 26057 | 4632 | 4995 | 9627 | 791 | 970 | 8273 | 8157 | 16430 | 940 | 1095 |
| 8/9/2021 | Mon | | | 50.3 | 49.7 | 14450 | 14282 | 28732 | 5934 | 5738 | 11672 | 993 | 896 | 8516 | 8544 | 17060 | 1122 | 1173 |
| 8/10/2021 | Tue | | 3 | 50.2 | 49.8 | 15320 | 15174 | 30494 | 6521 | 5977 | 12498 | 912 | 1068 | 8799 | 9197 | 17996 | 1179 | 1106 |
| 8/11/2021 | Wed | | | 50.2 | 49.8 | 15508 | 15369 | 30877 | 6548 | 6157 | 12705 | 1146 | 916 | 8960 | 9212 | 18172 | 1160 | 1121 |
| 8/12/2021 | Thu | | | 50.2 | 49.8 | 15077 | 14954 | 30031 | 6265 | 6022 | 12287 | 1103 | 867 | 8812 | 8932 | 17744 | 1095 | 1100 |
| 8/13/2021 | Fri | | | 49.9 | 50.1 | 14982 | 15026 | 30008 | 5995 | 6039 | 12034 | 828 | 1141 | 8987 | 8987 | 17974 | 1081 | 1109 |
| 8/14/2021 | Sat | | | 50.2 | 49.8 | 14556 | 14432 | 28988 | 5151 | 6003 | 11154 | 892 | 1143 | 9405 | 8429 | 17834 | 1156 | 983 |
| 8/15/2021 | Sun | | | 49.6 | 50.4 | 13202 | 13407 | 26609 | 4774 | 5126 | 9900 | 926 | 1019 | 8428 | 8281 | 16709 | 1139 | 974 |
| 8/16/2021 | Mon | | | 50.3 | 49.7 | 15124 | 14972 | 30096 | 6304 | 6114 | 12418 | 879 | 1124 | 8820 | 8858 | 17678 | 1138 | 1085 |
| 8/17/2021 | Tue | | 3 | 50.2 | 49.8 | 14806 | 14695 | 29501 | 6445 | 6152 | 12597 | 953 | 1019 | 8361 | 8543 | 16904 | 1020 | 1101 |
| 8/18/2021 | Wed | | 3 | 50.3 | 49.7 | 14892 | 14720 | 29612 | 6320 | 5865 | 12185 | 1128 | 810 | 8572 | 8855 | 17427 | 1099 | 1022 |
| 8/19/2021 | Thu | | | 50.7 | 49.3 | 14597 | 14189 | 28786 | 6294 | 6066 | 12360 | 1184 | 850 | 8303 | 8123 | 16426 | 964 | 1121 |
| 8/20/2021 | Fri | * | 3 | 50.1 | 49.9 | 15021 | 14941 | 29962 | 6119 | 5845 | 11964 | 909 | 1114 | 8902 | 9096 | 17998 | 1183 | 1010 |
| 8/21/2021 | Sat | | | 49.8 | 50.2 | 14011 | 14151 | 28162 | 5109 | 6023 | 11132 | 979 | 1083 | 8902 | 8128 | 17030 | 1204 | 909 |
| 8/22/2021 | Sun | | | 49.5 | 50.5 | 11637 | 11862 | 23499 | 4154 | 4552 | 8706 | 864 | 786 | 7483 | 7310 | 14793 | 1032 | 929 |
| 8/23/2021 | Mon | | | 50.2 | 49.8 | 13008 | 12923 | 25931 | 5336 | 5399 | 10735 | 849 | 1035 | 7672 | 7524 | 15196 | 1052 | 1086 |
| 8/24/2021 | Tue | | | 50.0 | 50.0 | 13823 | 13842 | 27665 | 5703 | 5740 | 11443 | 1021 | 858 | 8120 | 8102 | 16222 | 1020 | 1179 |
| 8/25/2021 | Wed | | | 50.1 | 49.9 | 14094 | 14023 | 28117 | 5841 | 5761 | 11602 | 1110 | 823 | 8253 | 8262 | 16515 | 1056 | 1184 |
| 8/26/2021 | Thu | | | 50.5 | 49.5 | 13547 | 13304 | 26851 | 5782 | 5579 | 11361 | 1088 | 780 | 7765 | 7725 | 15490 | 1034 | 1111 |
| 8/27/2021 | Fri | | | 50.2 | 49.8 | 14478 | 14390 | 28868 | 5695 | 5877 | 11572 | 827 | 1158 | 8783 | 8513 | 17296 | 1193 | 1155 |
| 8/28/2021 | Sat | | | 49.9 | 50.1 | 13486 | 13548 | 27034 | 4803 | 5752 | 10555 | 840 | 1103 | 8683 | 7796 | 16479 | 1205 | 860 |
| 8/29/2021 | Sun | | | 49.2 | 50.8 | 11836 | 12225 | 24061 | 4468 | 4700 | 9168 | 824 | 920 | 7368 | 7525 | 14893 | 1030 | 835 |
| 8/30/2021 | Mon | | | 49.7 | 50.3 | 13058 | 13239 | 26297 | 5519 | 5479 | 10998 | 1009 | 820 | 7539 | 7760 | 15299 | 973 | 1160 |
| 8/31/2021 | Tue | | | 49.6 | 50.4 | 12838 | 13027 | 25865 | 5459 | 5348 | 10807 | 1055 | 785 | 7379 | 7679 | 15058 | 933 | 1178 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**September, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 9/1/2021 | Wed | | | 50.9 | 49.1 | 13492 | 13037 | 26529 | 5489 | 5318 | 10807 | 1037 | 719 | 8003 | 7719 | 15722 | 1139 | 1182 |
| 9/2/2021 | Thu | | | 50.8 | 49.2 | 13744 | 13304 | 27048 | 5684 | 5424 | 11108 | 1054 | 757 | 8060 | 7880 | 15940 | 1036 | 1195 |
| 9/3/2021 | Fri | | | 50.8 | 49.2 | 14709 | 14219 | 28928 | 5732 | 5833 | 11565 | 766 | 1129 | 8977 | 8386 | 17363 | 1119 | 1159 |
| 9/4/2021 | Sat | | | 50.6 | 49.4 | 13461 | 13157 | 26618 | 4838 | 5612 | 10450 | 891 | 1158 | 8623 | 7545 | 16168 | 1163 | 895 |
| 9/5/2021 | Sun | | | 49.9 | 50.1 | 12463 | 12526 | 24989 | 4504 | 4808 | 9312 | 897 | 907 | 7959 | 7718 | 15677 | 1105 | 851 |
| 9/6/2021 | Mon | * | | 48.9 | 51.1 | 12132 | 12685 | 24817 | 4798 | 5081 | 9879 | 820 | 1024 | 7334 | 7604 | 14938 | 1041 | 929 |
| 9/7/2021 | Tue | | | 49.9 | 50.1 | 13603 | 13681 | 27284 | 5716 | 5852 | 11568 | 1097 | 839 | 7887 | 7829 | 15716 | 964 | 1140 |
| 9/8/2021 | Wed | | | 50.2 | 49.8 | 13501 | 13419 | 26920 | 5582 | 5522 | 11104 | 1107 | 799 | 7919 | 7897 | 15816 | 1040 | 1148 |
| 9/9/2021 | Thu | | | 50.2 | 49.8 | 13289 | 13160 | 26449 | 5663 | 5392 | 11055 | 1077 | 764 | 7626 | 7768 | 15394 | 1000 | 1096 |
| 9/10/2021 | Fri | | | 50.3 | 49.7 | 14223 | 14058 | 28281 | 5662 | 5663 | 11325 | 769 | 1109 | 8561 | 8395 | 16956 | 1108 | 1148 |
| 9/11/2021 | Sat | | | 50.0 | 50.0 | 12789 | 12791 | 25580 | 4726 | 5290 | 10016 | 794 | 1067 | 8063 | 7501 | 15564 | 1202 | 830 |
| 9/12/2021 | Sun | | | 49.2 | 50.8 | 11040 | 11389 | 22429 | 4151 | 4453 | 8604 | 813 | 841 | 6889 | 6936 | 13825 | 844 | 883 |
| 9/13/2021 | Mon | | | 50.3 | 49.7 | 12960 | 12812 | 25772 | 5578 | 5275 | 10853 | 1077 | 712 | 7382 | 7537 | 14919 | 916 | 1191 |
| 9/14/2021 | Tue | | | 50.3 | 49.7 | 13489 | 13345 | 26834 | 5775 | 5511 | 11286 | 756 | 1055 | 7714 | 7834 | 15548 | 1001 | 1186 |
| 9/15/2021 | Wed | | | 50.3 | 49.7 | 13814 | 13654 | 27468 | 5927 | 5577 | 11504 | 1126 | 769 | 7887 | 8077 | 15964 | 1036 | 1203 |
| 9/16/2021 | Thu | | 1 | 50.4 | 49.6 | 13484 | 13272 | 26756 | 5772 | 5367 | 11139 | 1076 | 762 | 7712 | 7905 | 15617 | 943 | 1200 |
| 9/17/2021 | Fri | | | 50.6 | 49.4 | 14135 | 13800 | 27935 | 5691 | 5500 | 11191 | 711 | 1126 | 8444 | 8300 | 16744 | 1075 | 1159 |
| 9/18/2021 | Sat | | | 50.0 | 50.0 | 12732 | 12746 | 25478 | 4527 | 5532 | 10059 | 790 | 1139 | 8205 | 7214 | 15419 | 1186 | 856 |
| 9/19/2021 | Sun | | | 49.8 | 50.2 | 11156 | 11257 | 22413 | 4090 | 4130 | 8220 | 737 | 843 | 7066 | 7127 | 14193 | 1009 | 817 |
| 9/20/2021 | Mon | | | 50.5 | 49.5 | 13176 | 12899 | 26075 | 5527 | 5386 | 10913 | 1005 | 778 | 7649 | 7513 | 15162 | 1010 | 1153 |
| 9/21/2021 | Tue | | | 50.1 | 49.9 | 13199 | 13123 | 26322 | 5527 | 5505 | 11032 | 1032 | 742 | 7672 | 7618 | 15290 | 1055 | 1099 |
| 9/22/2021 | Wed | | 1 | 50.2 | 49.8 | 13815 | 13689 | 27504 | 5775 | 5479 | 11254 | 1102 | 769 | 8040 | 8210 | 16250 | 1139 | 1098 |
| 9/23/2021 | Thu | | | 50.3 | 49.7 | 13724 | 13583 | 27307 | 5780 | 5544 | 11324 | 1079 | 767 | 7944 | 8039 | 15983 | 975 | 1222 |
| 9/24/2021 | Fri | | | 50.4 | 49.6 | 14259 | 14023 | 28282 | 5815 | 5655 | 11470 | 779 | 1112 | 8444 | 8368 | 16812 | 1144 | 1166 |
| 9/25/2021 | Sat | | | 50.0 | 50.0 | 12949 | 12945 | 25894 | 4713 | 5472 | 10185 | 810 | 1147 | 8236 | 7473 | 15709 | 1206 | 825 |
| 9/26/2021 | Sun | | | 49.4 | 50.6 | 11114 | 11395 | 22509 | 4088 | 4359 | 8447 | 816 | 815 | 7026 | 7036 | 14062 | 940 | 884 |
| 9/27/2021 | Mon | | | 50.0 | 50.0 | 12742 | 12721 | 25463 | 5462 | 5320 | 10782 | 989 | 777 | 7280 | 7401 | 14681 | 947 | 1111 |
| 9/28/2021 | Tue | | | 49.9 | 50.1 | 12736 | 12775 | 25511 | 5404 | 5284 | 10688 | 812 | 941 | 7332 | 7491 | 14823 | 924 | 1137 |
| 9/29/2021 | Wed | | | 50.3 | 49.7 | 12907 | 12758 | 25665 | 5473 | 5298 | 10771 | 1068 | 768 | 7434 | 7460 | 14894 | 1053 | 1121 |
| 9/30/2021 | Thu | | 1 | 50.1 | 49.9 | 13208 | 13156 | 26364 | 5641 | 5317 | 10958 | 1057 | 758 | 7567 | 7839 | 15406 | 984 | 1225 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**October, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 10/1/2021 | Fri | | | 50.3 | 49.7 | 13602 | 13445 | 27047 | 5521 | 5397 | 10918 | 1065 | 745 | 8081 | 8048 | 16129 | 1090 | 1083 |
| 10/2/2021 | Sat | | | 50.5 | 49.5 | 12728 | 12497 | 25225 | 4550 | 5212 | 9762 | 846 | 1013 | 8178 | 7285 | 15463 | 1193 | 782 |
| 10/3/2021 | Sun | | | 49.5 | 50.5 | 10854 | 11055 | 21909 | 4025 | 4281 | 8306 | 696 | 837 | 6829 | 6774 | 13603 | 940 | 800 |
| 10/4/2021 | Mon | | | 50.6 | 49.4 | 12768 | 12488 | 25256 | 5426 | 5054 | 10480 | 1033 | 674 | 7342 | 7434 | 14776 | 975 | 1066 |
| 10/5/2021 | Tue | | | 50.3 | 49.7 | 12982 | 12823 | 25805 | 5458 | 5256 | 10714 | 1087 | 739 | 7524 | 7567 | 15091 | 993 | 1151 |
| 10/6/2021 | Wed | | | 50.4 | 49.6 | 13264 | 13065 | 26329 | 5405 | 5393 | 10798 | 1110 | 720 | 7859 | 7672 | 15531 | 1090 | 1176 |
| 10/7/2021 | Thu | | | 50.6 | 49.4 | 13513 | 13204 | 26717 | 5656 | 5298 | 10954 | 1063 | 772 | 7857 | 7906 | 15763 | 1055 | 1124 |
| 10/8/2021 | Fri | | | 50.3 | 49.7 | 14277 | 14122 | 28399 | 5739 | 5675 | 11414 | 831 | 1079 | 8538 | 8447 | 16985 | 1130 | 1159 |
| 10/9/2021 | Sat | | | 50.4 | 49.6 | 13029 | 12802 | 25831 | 4996 | 5291 | 10287 | 1002 | 988 | 8033 | 7511 | 15544 | 1062 | 1011 |
| 10/10/2021 | Sun | | | 49.8 | 50.2 | 11761 | 11845 | 23606 | 4439 | 4552 | 8991 | 796 | 978 | 7322 | 7293 | 14615 | 1034 | 895 |
| 10/11/2021 | Mon | | | 50.3 | 49.7 | 13287 | 13116 | 26403 | 5655 | 5327 | 10982 | 791 | 1049 | 7632 | 7789 | 15421 | 1127 | 1119 |
| 10/12/2021 | Tue | | | 50.2 | 49.8 | 13641 | 13534 | 27175 | 5656 | 5488 | 11144 | 880 | 980 | 7985 | 8046 | 16031 | 1135 | 1181 |
| 10/13/2021 | Wed | | | 50.3 | 49.7 | 13709 | 13569 | 27278 | 5546 | 5493 | 11039 | 859 | 1006 | 8163 | 8076 | 16239 | 1089 | 1144 |
| 10/14/2021 | Thu | | | 50.3 | 49.7 | 13619 | 13439 | 27058 | 5592 | 5433 | 11025 | 799 | 1030 | 8027 | 8006 | 16033 | 1084 | 1150 |
| 10/15/2021 | Fri | | | 50.2 | 49.8 | 14267 | 14128 | 28395 | 5681 | 5597 | 11278 | 831 | 1082 | 8586 | 8531 | 17117 | 1140 | 1299 |
| 10/16/2021 | Sat | | | 50.2 | 49.8 | 13277 | 13185 | 26462 | 4672 | 5648 | 10320 | 794 | 1134 | 8605 | 7537 | 16142 | 1190 | 876 |
| 10/17/2021 | Sun | | | 49.4 | 50.6 | 11558 | 11831 | 23389 | 4159 | 4524 | 8683 | 805 | 889 | 7399 | 7307 | 14706 | 989 | 929 |
| 10/18/2021 | Mon | | | 50.6 | 49.4 | 13021 | 12698 | 25719 | 5260 | 5368 | 10628 | 979 | 738 | 7761 | 7330 | 15091 | 1023 | 1191 |
| 10/19/2021 | Tue | | | 50.3 | 49.7 | 13380 | 13215 | 26595 | 5431 | 5593 | 11024 | 1043 | 773 | 7949 | 7622 | 15571 | 1073 | 1178 |
| 10/20/2021 | Wed | | | 50.4 | 49.6 | 13884 | 13657 | 27541 | 5796 | 5598 | 11394 | 1124 | 727 | 8088 | 8059 | 16147 | 1091 | 1256 |
| 10/21/2021 | Thu | | | 50.4 | 49.6 | 13760 | 13553 | 27313 | 5750 | 5606 | 11356 | 831 | 1045 | 8010 | 7947 | 15957 | 1007 | 1152 |
| 10/22/2021 | Fri | | | 50.4 | 49.6 | 14474 | 14260 | 28734 | 5687 | 5681 | 11368 | 802 | 1033 | 8787 | 8579 | 17366 | 1206 | 1199 |
| 10/23/2021 | Sat | | | 50.1 | 49.9 | 13543 | 13476 | 27019 | 4685 | 5759 | 10444 | 831 | 1160 | 8858 | 7717 | 16575 | 1219 | 820 |
| 10/24/2021 | Sun | | | 49.3 | 50.7 | 11457 | 11804 | 23261 | 4058 | 4667 | 8725 | 845 | 903 | 7399 | 7137 | 14536 | 1033 | 848 |
| 10/25/2021 | Mon | | | 50.2 | 49.8 | 13212 | 13123 | 26335 | 5549 | 5517 | 11066 | 719 | 1054 | 7663 | 7606 | 15269 | 1035 | 1159 |
| 10/26/2021 | Tue | | | 50.0 | 50.0 | 13348 | 13346 | 26694 | 5787 | 5621 | 11408 | 837 | 1009 | 7561 | 7725 | 15286 | 985 | 1205 |
| 10/27/2021 | Wed | | | 50.2 | 49.8 | 13771 | 13646 | 27417 | 5598 | 5592 | 11190 | 1054 | 788 | 8173 | 8054 | 16227 | 1105 | 1156 |
| 10/28/2021 | Thu | | | 50.2 | 49.8 | 13845 | 13717 | 27562 | 5742 | 5527 | 11269 | 1031 | 781 | 8103 | 8190 | 16293 | 1042 | 1216 |
| 10/29/2021 | Fri | | | 49.9 | 50.1 | 13683 | 13761 | 27444 | 5437 | 5659 | 11096 | 714 | 1163 | 8246 | 8102 | 16348 | 1054 | 1166 |
| 10/30/2021 | Sat | | | 49.8 | 50.2 | 12811 | 12909 | 25720 | 4403 | 5629 | 10032 | 731 | 1158 | 8408 | 7280 | 15688 | 1151 | 870 |
| 10/31/2021 | Sun | | | 49.8 | 50.2 | 10425 | 10521 | 20946 | 3708 | 4051 | 7759 | 643 | 845 | 6717 | 6470 | 13187 | 886 | 801 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**November, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 11/1/2021 | Mon | | | 49.9 | 50.1 | 12759 | 12806 | 25565 | 5334 | 5385 | 10719 | 753 | 959 | 7425 | 7421 | 14846 | 1012 | 1071 |
| 11/2/2021 | Tue | | | 50.4 | 49.6 | 12970 | 12787 | 25757 | 5397 | 5291 | 10688 | 1008 | 767 | 7573 | 7496 | 15069 | 1056 | 1070 |
| 11/3/2021 | Wed | | | 50.5 | 49.5 | 13282 | 13009 | 26291 | 5568 | 5202 | 10770 | 1028 | 746 | 7714 | 7807 | 15521 | 1125 | 1108 |
| 11/4/2021 | Thu | | | 50.6 | 49.4 | 13488 | 13145 | 26633 | 5503 | 5290 | 10793 | 1034 | 702 | 7985 | 7855 | 15840 | 1047 | 1208 |
| 11/5/2021 | Fri | | | 50.5 | 49.5 | 13889 | 13609 | 27498 | 5364 | 5366 | 10730 | 712 | 1093 | 8525 | 8243 | 16768 | 1222 | 1184 |
| 11/6/2021 | Sat | | | 50.4 | 49.6 | 13325 | 13089 | 26414 | 4559 | 5493 | 10052 | 796 | 1145 | 8766 | 7596 | 16362 | 1247 | 816 |
| 11/7/2021 | Sun | | | 49.8 | 50.2 | 11509 | 11586 | 23095 | 3935 | 4341 | 8276 | 741 | 937 | 7574 | 7245 | 14819 | 954 | 937 |
| 11/8/2021 | Mon | | | 50.0 | 50.0 | 13207 | 13196 | 26403 | 5447 | 5305 | 10752 | 688 | 1050 | 7760 | 7891 | 15651 | 1027 | 1165 |
| 11/9/2021 | Tue | | | 50.4 | 49.6 | 13762 | 13535 | 27297 | 5635 | 5372 | 11007 | 1056 | 765 | 8127 | 8163 | 16290 | 1137 | 1170 |
| 11/10/2021 | Wed | | | 50.5 | 49.5 | 14456 | 14167 | 28623 | 5953 | 5557 | 11510 | 770 | 1088 | 8503 | 8610 | 17113 | 1161 | 1148 |
| 11/11/2021 | Thu | * | | 50.7 | 49.3 | 14591 | 14167 | 28758 | 5840 | 5582 | 11422 | 833 | 1158 | 8751 | 8585 | 17336 | 1212 | 1246 |
| 11/12/2021 | Fri | | | 49.8 | 50.2 | 14442 | 14550 | 28992 | 5764 | 5565 | 11329 | 791 | 1108 | 8678 | 8985 | 17663 | 1180 | 1239 |
| 11/13/2021 | Sat | | | 50.1 | 49.9 | 13214 | 13176 | 26390 | 4453 | 5512 | 9965 | 842 | 1093 | 8761 | 7664 | 16425 | 1163 | 879 |
| 11/14/2021 | Sun | | | 48.9 | 51.1 | 10459 | 10937 | 21396 | 3423 | 4242 | 7665 | 676 | 990 | 7036 | 6695 | 13731 | 985 | 832 |
| 11/15/2021 | Mon | | | 50.0 | 50.0 | 13131 | 13138 | 26269 | 5473 | 5226 | 10699 | 703 | 1030 | 7658 | 7912 | 15570 | 1053 | 1163 |
| 11/16/2021 | Tue | | | 49.7 | 50.3 | 13103 | 13253 | 26356 | 5406 | 5371 | 10777 | 1032 | 764 | 7697 | 7882 | 15579 | 1030 | 1183 |
| 11/17/2021 | Wed | | | 50.2 | 49.8 | 13574 | 13479 | 27053 | 5484 | 5249 | 10733 | 1072 | 737 | 8090 | 8230 | 16320 | 1080 | 1220 |
| 11/18/2021 | Thu | | | 50.5 | 49.5 | 13455 | 13200 | 26655 | 5459 | 5122 | 10581 | 1071 | 691 | 7996 | 8078 | 16074 | 1037 | 1295 |
| 11/19/2021 | Fri | | | 50.3 | 49.7 | 14156 | 13990 | 28146 | 5433 | 5380 | 10813 | 686 | 1043 | 8723 | 8610 | 17333 | 1173 | 1212 |
| 11/20/2021 | Sat | | | 50.5 | 49.5 | 13311 | 13053 | 26364 | 4442 | 5401 | 9843 | 838 | 1146 | 8869 | 7652 | 16521 | 1111 | 903 |
| 11/21/2021 | Sun | | 1 | 50.4 | 49.6 | 11401 | 11225 | 22626 | 3795 | 4300 | 8095 | 745 | 938 | 7606 | 6925 | 14531 | 960 | 814 |
| 11/22/2021 | Mon | | | 50.9 | 49.1 | 13654 | 13159 | 26813 | 5579 | 5197 | 10776 | 812 | 944 | 8075 | 7962 | 16037 | 1049 | 1140 |
| 11/23/2021 | Tue | | | 50.3 | 49.7 | 14314 | 14140 | 28454 | 5859 | 5663 | 11522 | 1149 | 815 | 8455 | 8477 | 16932 | 1157 | 1191 |
| 11/24/2021 | Wed | | | 50.3 | 49.7 | 14465 | 14279 | 28744 | 5691 | 5517 | 11208 | 735 | 1065 | 8774 | 8762 | 17536 | 1179 | 1146 |
| 11/25/2021 | Thu | * | | 50.2 | 49.8 | 10112 | 10040 | 20152 | 3572 | 3766 | 7338 | 623 | 775 | 6540 | 6274 | 12814 | 869 | 710 |
| 11/26/2021 | Fri | | | 49.8 | 50.2 | 14544 | 14644 | 29188 | 5399 | 5758 | 11157 | 955 | 1186 | 9145 | 8886 | 18031 | 1196 | 1044 |
| 11/27/2021 | Sat | | | 49.4 | 50.6 | 13370 | 13688 | 27058 | 4533 | 5399 | 9932 | 898 | 1050 | 8837 | 8289 | 17126 | 1070 | 1048 |
| 11/28/2021 | Sun | | | 49.0 | 51.0 | 11304 | 11767 | 23071 | 3853 | 4532 | 8385 | 740 | 936 | 7451 | 7235 | 14686 | 987 | 938 |
| 11/29/2021 | Mon | | | 49.8 | 50.2 | 13238 | 13368 | 26606 | 5401 | 5459 | 10860 | 748 | 1055 | 7837 | 7909 | 15746 | 1102 | 1139 |
| 11/30/2021 | Tue | | | 49.9 | 50.1 | 13178 | 13234 | 26412 | 5438 | 5131 | 10569 | 733 | 1009 | 7740 | 8103 | 15843 | 1036 | 1201 |
| | | | | | | | | | | | | | | | | | | |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**December, 2021**

STATION NO 30121 STATION DESCRIPTION 030121 Honoapiilani Hwy, Route 30, M.P. 12.14, Maui

DIRECTION 01 To Papanahoa, MOV 8
DIRECTION 02 To Main St, MOV 4

Maui

| Date | Day of Week | H / WD | Unsuccessful Polling | 24-HOUR TOTAL | | | | | A.M. TOTAL | | | | | P.M. TOTAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | | Volume | | | 00:00 - 12:00 | | | PEAK HOUR | | 12:00-24:00 | | | PEAK HOUR | |
| | | | | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 | 1+2 | D-01 | D-02 | D-01 | D-02 | 1+2 | D-01 | D-02 |
| 12/1/2021 | Wed | | | 50.7 | 49.3 | 13550 | 13164 | 26714 | 5527 | 4960 | 10487 | 1092 | 623 | 8023 | 8204 | 16227 | 1035 | 1207 |
| 12/2/2021 | Thu | | | 50.8 | 49.2 | 13609 | 13176 | 26785 | 5494 | 5064 | 10558 | 1065 | 659 | 8115 | 8112 | 16227 | 1061 | 1144 |
| 12/3/2021 | Fri | | | 50.8 | 49.2 | 13749 | 13328 | 27077 | 5387 | 5255 | 10642 | 797 | 1111 | 8362 | 8073 | 16435 | 1105 | 1092 |
| 12/4/2021 | Sat | | | 50.4 | 49.6 | 12849 | 12662 | 25511 | 4183 | 5052 | 9235 | 735 | 1169 | 8666 | 7610 | 16276 | 1207 | 864 |
| 12/5/2021 | Sun | | | 50.0 | 50.0 | 9396 | 9379 | 18775 | 3369 | 3938 | 7307 | 629 | 971 | 6027 | 5441 | 11468 | 757 | 913 |
| 12/6/2021 | Mon | | 1 | 50.6 | 49.4 | 10222 | 9982 | 20204 | 3723 | 3620 | 7343 | 657 | 944 | 6499 | 6362 | 12861 | 875 | 858 |
| 12/7/2021 | Tue | | | 50.1 | 49.9 | 13208 | 13172 | 26380 | 5323 | 5170 | 10493 | 832 | 1110 | 7885 | 8002 | 15887 | 1117 | 1106 |
| 12/8/2021 | Wed | | 1 | 50.3 | 49.7 | 13874 | 13703 | 27577 | 5546 | 5271 | 10817 | 835 | 1004 | 8328 | 8432 | 16760 | 1080 | 1184 |
| 12/9/2021 | Thu | | | 50.4 | 49.6 | 14225 | 13994 | 28219 | 5723 | 5491 | 11214 | 830 | 1052 | 8502 | 8503 | 17005 | 1118 | 1209 |
| 12/10/2021 | Fri | | | 49.8 | 50.2 | 14718 | 14810 | 29528 | 5738 | 5731 | 11469 | 866 | 1182 | 8980 | 9079 | 18059 | 1158 | 1212 |
| 12/11/2021 | Sat | | | 50.0 | 50.0 | 13661 | 13680 | 27341 | 4536 | 5602 | 10138 | 843 | 1180 | 9125 | 8078 | 17203 | 1219 | 976 |
| 12/12/2021 | Sun | | | 49.4 | 50.6 | 11439 | 11729 | 23168 | 3897 | 4351 | 8248 | 805 | 913 | 7542 | 7378 | 14920 | 968 | 922 |
| 12/13/2021 | Mon | | 1 | 50.1 | 49.9 | 13357 | 13326 | 26683 | 5478 | 5173 | 10651 | 774 | 997 | 7879 | 8153 | 16032 | 1080 | 1187 |
| 12/14/2021 | Tue | | 1 | 49.7 | 50.3 | 13717 | 13872 | 27589 | 5574 | 5346 | 10920 | 754 | 1048 | 8143 | 8526 | 16669 | 1073 | 1192 |
| 12/15/2021 | Wed | | | 49.9 | 50.1 | 14009 | 14065 | 28074 | 5661 | 5344 | 11005 | 834 | 1005 | 8348 | 8721 | 17069 | 1117 | 1179 |
| 12/16/2021 | Thu | | | 50.5 | 49.5 | 14168 | 13874 | 28042 | 5633 | 5352 | 10985 | 995 | 785 | 8535 | 8522 | 17057 | 1117 | 1216 |
| 12/17/2021 | Fri | | | 50.3 | 49.7 | 14858 | 14694 | 29552 | 5552 | 5574 | 11126 | 760 | 1131 | 9306 | 9120 | 18426 | 1177 | 1218 |
| 12/18/2021 | Sat | | | 49.7 | 50.3 | 13770 | 13964 | 27734 | 4500 | 5405 | 9905 | 790 | 1137 | 9270 | 8559 | 17829 | 1077 | 1028 |
| 12/19/2021 | Sun | | | 50.5 | 49.5 | 12315 | 12073 | 24388 | 4014 | 4366 | 8380 | 799 | 1015 | 8301 | 7707 | 16008 | 1035 | 961 |
| 12/20/2021 | Mon | | | 50.5 | 49.5 | 14231 | 13975 | 28206 | 5388 | 5317 | 10705 | 828 | 1062 | 8843 | 8658 | 17501 | 1114 | 1216 |
| 12/21/2021 | Tue | | | 50.3 | 49.7 | 14733 | 14546 | 29279 | 5651 | 5568 | 11219 | 838 | 1134 | 9082 | 8978 | 18060 | 1162 | 1215 |
| 12/22/2021 | Wed | | | 50.1 | 49.9 | 13930 | 13882 | 27812 | 5093 | 5064 | 10157 | 874 | 1114 | 8837 | 8818 | 17655 | 1221 | 1177 |
| 12/23/2021 | Thu | | | 49.9 | 50.1 | 14840 | 14882 | 29722 | 5591 | 5657 | 11248 | 871 | 1181 | 9249 | 9225 | 18474 | 1148 | 1181 |
| 12/24/2021 | Fri | * | | 50.3 | 49.7 | 12392 | 12242 | 24634 | 4510 | 4591 | 9101 | 766 | 993 | 7882 | 7651 | 15533 | 994 | 936 |
| 12/25/2021 | Sat | | | 50.9 | 49.1 | 9868 | 9533 | 19401 | 3054 | 3227 | 6281 | 545 | 747 | 6814 | 6306 | 13120 | 847 | 799 |
| 12/26/2021 | Sun | | | 50.7 | 49.3 | 12688 | 12346 | 25034 | 4061 | 4473 | 8534 | 897 | 952 | 8627 | 7873 | 16500 | 1077 | 1025 |
| 12/27/2021 | Mon | | | 50.6 | 49.4 | 14320 | 13963 | 28283 | 5538 | 5277 | 10815 | 941 | 1054 | 8782 | 8686 | 17468 | 1161 | 1172 |
| 12/28/2021 | Tue | | | 50.4 | 49.6 | 14659 | 14407 | 29066 | 5671 | 5493 | 11164 | 948 | 1093 | 8988 | 8914 | 17902 | 1174 | 1200 |
| 12/29/2021 | Wed | | | 50.1 | 49.9 | 14451 | 14418 | 28869 | 5603 | 5353 | 10956 | 892 | 1113 | 8848 | 9065 | 17913 | 1150 | 1170 |
| 12/30/2021 | Thu | | | 49.6 | 50.4 | 14497 | 14713 | 29210 | 5589 | 5474 | 11063 | 950 | 1126 | 8908 | 9239 | 18147 | 1129 | 1154 |
| 12/31/2021 | Fri | * | 1 | 49.5 | 50.5 | 11648 | 11900 | 23548 | 4609 | 4629 | 9238 | 835 | 1030 | 7039 | 7271 | 14310 | 988 | 1044 |

1 - INCOMPLETE FILE
2 - DIRECTIONAL SPLIT
3 - USER DEFINED ERROR

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/01/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 7 | 11 | 18 | 6:00 - 6:15 | 139 | 98 | 237 | 12:00 - 12:15 | 232 | 171 | 403 | 6:00 - 6:15 | 151 | 182 | 333 |
| 12:15 - 12:30 | 10 | 17 | 27 | 6:15 - 6:30 | 228 | 132 | 360 | 12:15 - 12:30 | 250 | 216 | 466 | 6:15 - 6:30 | 144 | 151 | 295 |
| 12:30 - 12:45 | 8 | 11 | 19 | 6:30 - 6:45 | 201 | 158 | 359 | 12:30 - 12:45 | 257 | 216 | 473 | 6:30 - 6:45 | 160 | 151 | 311 |
| 12:45 - 1:00 | 9 | 6 | 15 | 6:45 - 7:00 | 239 | 181 | 420 | 12:45 - 1:00 | 228 | 200 | 428 | 6:45 - 7:00 | 122 | 139 | 261 |
| 1:00 - 1:15 | 6 | 4 | 10 | 7:00 - 7:15 | 240 | 194 | 434 | 1:00 - 1:15 | 263 | 184 | 447 | 7:00 - 7:15 | 107 | 106 | 213 |
| 1:15 - 1:30 | 3 | 6 | 9 | 7:15 - 7:30 | 316 | 184 | 500 | 1:15 - 1:30 | 216 | 196 | 412 | 7:15 - 7:30 | 124 | 146 | 270 |
| 1:30 - 1:45 | 3 | 9 | 12 | 7:30 - 7:45 | 242 | 177 | 419 | 1:30 - 1:45 | 263 | 196 | 459 | 7:30 - 7:45 | 124 | 123 | 247 |
| 1:45 - 2:00 | 8 | 12 | 20 | 7:45 - 8:00 | 258 | 201 | 459 | 1:45 - 2:00 | 231 | 198 | 429 | 7:45 - 8:00 | 101 | 125 | 226 |
| 2:00 - 2:15 | 7 | 7 | 14 | 8:00 - 8:15 | 222 | 204 | 426 | 2:00 - 2:15 | 262 | 220 | 482 | 8:00 - 8:15 | 92 | 80 | 172 |
| 2:15 - 2:30 | 3 | 13 | 16 | 8:15 - 8:30 | 251 | 221 | 472 | 2:15 - 2:30 | 232 | 243 | 475 | 8:15 - 8:30 | 120 | 119 | 239 |
| 2:30 - 2:45 | 6 | 13 | 19 | 8:30 - 8:45 | 241 | 233 | 474 | 2:30 - 2:45 | 265 | 254 | 519 | 8:30 - 8:45 | 114 | 94 | 208 |
| 2:45 - 3:00 | 10 | 13 | 23 | 8:45 - 9:00 | 239 | 210 | 449 | 2:45 - 3:00 | 260 | 247 | 507 | 8:45 - 9:00 | 128 | 79 | 207 |
| 3:00 - 3:15 | 6 | 4 | 10 | 9:00 - 9:15 | 227 | 227 | 454 | 3:00 - 3:15 | 274 | 264 | 538 | 9:00 - 9:15 | 101 | 93 | 194 |
| 3:15 - 3:30 | 16 | 15 | 31 | 9:15 - 9:30 | 179 | 280 | 459 | 3:15 - 3:30 | 259 | 256 | 515 | 9:15 - 9:30 | 120 | 99 | 219 |
| 3:30 - 3:45 | 18 | 17 | 35 | 9:30 - 9:45 | 204 | 302 | 506 | 3:30 - 3:45 | 267 | 264 | 531 | 9:30 - 9:45 | 55 | 86 | 141 |
| 3:45 - 4:00 | 19 | 10 | 29 | 9:45 - 10:00 | 186 | 242 | 428 | 3:45 - 4:00 | 245 | 306 | 551 | 9:45 - 10:00 | 69 | 84 | 153 |
| 4:00 - 4:15 | 30 | 13 | 43 | 10:00 - 10:15 | 207 | 231 | 438 | 4:00 - 4:15 | 288 | 307 | 595 | 10:00 - 10:15 | 63 | 49 | 112 |
| 4:15 - 4:30 | 38 | 17 | 55 | 10:15 - 10:30 | 193 | 257 | 450 | 4:15 - 4:30 | 225 | 297 | 522 | 10:15 - 10:30 | 39 | 93 | 132 |
| 4:30 - 4:45 | 45 | 13 | 58 | 10:30 - 10:45 | 185 | 270 | 455 | 4:30 - 4:45 | 246 | 288 | 534 | 10:30 - 10:45 | 49 | 58 | 107 |
| 4:45 - 5:00 | 53 | 28 | 81 | 10:45 - 11:00 | 181 | 248 | 429 | 4:45 - 5:00 | 247 | 252 | 499 | 10:45 - 11:00 | 38 | 39 | 77 |
| 5:00 - 5:15 | 55 | 46 | 101 | 11:00 - 11:15 | 193 | 234 | 427 | 5:00 - 5:15 | 223 | 289 | 512 | 11:00 - 11:15 | 19 | 50 | 69 |
| 5:15 - 5:30 | 105 | 69 | 174 | 11:15 - 11:30 | 213 | 258 | 471 | 5:15 - 5:30 | 209 | 243 | 452 | 11:15 - 11:30 | 25 | 60 | 85 |
| 5:30 - 5:45 | 122 | 61 | 183 | 11:30 - 11:45 | 194 | 232 | 426 | 5:30 - 5:45 | 200 | 240 | 440 | 11:30 - 11:45 | 18 | 28 | 46 |
| 5:45 - 6:00 | 121 | 78 | 199 | 11:45 - 12:00 | 196 | 206 | 402 | 5:45 - 6:00 | 195 | 206 | 401 | 11:45 - 12:00 | 9 | 13 | 22 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:45 AM to 8:45 AM | | |
| AM - PEAK HR VOLUME | 972 | 859 | 1,831 |
| AM - K FACTOR (%) | | | 6.66% |
| AM - D (%) | 53.09% | 46.91% | 100.00% |
| DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:00 AM to 8:00 AM | 8:00 AM to 9:00 AM | |
| AM - PEAK HR VOLUME | 1,056 | 868 | |

| AM PERIOD (00:00 - 12:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 8:45 AM to 9:45 AM | | |
| AM - PEAK HR VOLUME | 849 | 1,019 | 1,868 |
| AM - K FACTOR (%) | | | 6.80% |
| AM - D (%) | 45.45% | 54.55% | 100.00% |

| NON COMMUTER PERIOD (09:00-15:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | |
| PEAK HR VOLUME | 1,019 | 964 | 1,983 |
| DIRECTIONAL PEAK | | | |
| PEAK HR TIME | 2:00 PM to 3:00 PM | 9:15 AM to 10:15 AM | |
| PEAK HR VOLUME | 1,019 | 1,055 | |

| PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:45 PM to 4:45 PM | | |
| PM - PEAK HR VOLUME | 1,004 | 1,198 | 2,202 |
| PM - K FACTOR (%) | | | 8.01% |
| PM - D (%) | 45.59% | 54.41% | 100.00% |
| DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:15 PM to 4:15 PM | 3:45 PM to 4:45 PM | |
| PM - PEAK HR VOLUME | 1,059 | 1,198 | |

| PM PERIOD (12:00 - 24:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:45 PM to 4:45 PM | | |
| PM - PEAK HR VOLUME | 1,004 | 1,198 | 2,202 |
| PM - K FACTOR (%) | | | 8.01% |
| PM - D (%) | 45.59% | 54.41% | 100.00% |

| 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| AM 6-HR PERIOD (06:00-12:00) | 5,174 | 5,180 | 10,354 |
| AM 12-HR PERIOD (00:00-12:00) | 5,882 | 5,673 | 11,555 |
| PM 6-HR PERIOD (12:00-18:00) | 5,837 | 5,753 | 11,590 |
| PM 12-HR PERIOD (12:00-24:00) | 7,929 | 8,000 | 15,929 |
| 24 HOUR PERIOD | 13,811 | 13,673 | 27,484 |
| D (%) | 50.25% | 49.75% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 20 | 7,721 | 5,454 | 79 | 382 | 62 | 7 | 28 | 32 | 3 | 1 | 1 | 0 | 2 | 19 | 13,811 |
| D1 % | 0.14% | 55.90% | 39.49% | 0.57% | 2.77% | 0.45% | 0.05% | 0.20% | 0.23% | 0.02% | 0.01% | 0.01% | 0.00% | 0.01% | 0.14% | 100.00% |
| D2 24 Hr Subtotal | 16 | 7,023 | 5,895 | 90 | 473 | 90 | 3 | 21 | 13 | 4 | 0 | 0 | 1 | 10 | 34 | 13,673 |
| D2 % | 0.12% | 51.36% | 43.11% | 0.66% | 3.46% | 0.66% | 0.02% | 0.15% | 0.10% | 0.03% | 0.00% | 0.00% | 0.01% | 0.07% | 0.25% | 100.00% |
| Total | 36 | 14,744 | 11,349 | 169 | 855 | 152 | 10 | 49 | 45 | 7 | 1 | 1 | 1 | 12 | 53 | 27,484 |
| % | 0.13% | 53.65% | 41.29% | 0.61% | 3.11% | 0.55% | 0.04% | 0.18% | 0.16% | 0.03% | 0.00% | 0.00% | 0.00% | 0.04% | 0.19% | 100.00% |
| | | | | | | | | | | | | | | | T% | 4.69% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/02/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 13 | 17 | 30 | 6:00 - 6:15 | 150 | 102 | 252 | 12:00 - 12:15 | 237 | 209 | 446 | 6:00 - 6:15 | 142 | 171 | 313 |
| 12:15 - 12:30 | 5 | 14 | 19 | 6:15 - 6:30 | 188 | 129 | 317 | 12:15 - 12:30 | 222 | 198 | 420 | 6:15 - 6:30 | 187 | 150 | 337 |
| 12:30 - 12:45 | 5 | 20 | 25 | 6:30 - 6:45 | 224 | 137 | 361 | 12:30 - 12:45 | 234 | 229 | 463 | 6:30 - 6:45 | 140 | 160 | 300 |
| 12:45 - 1:00 | 6 | 10 | 16 | 6:45 - 7:00 | 261 | 164 | 425 | 12:45 - 1:00 | 257 | 219 | 476 | 6:45 - 7:00 | 158 | 103 | 261 |
| 1:00 - 1:15 | 6 | 6 | 12 | 7:00 - 7:15 | 287 | 150 | 437 | 1:00 - 1:15 | 243 | 247 | 490 | 7:00 - 7:15 | 125 | 131 | 256 |
| 1:15 - 1:30 | 3 | 3 | 6 | 7:15 - 7:30 | 305 | 158 | 463 | 1:15 - 1:30 | 269 | 211 | 480 | 7:15 - 7:30 | 105 | 136 | 241 |
| 1:30 - 1:45 | 6 | 7 | 13 | 7:30 - 7:45 | 301 | 230 | 531 | 1:30 - 1:45 | 269 | 243 | 512 | 7:30 - 7:45 | 124 | 111 | 235 |
| 1:45 - 2:00 | 13 | 12 | 25 | 7:45 - 8:00 | 249 | 172 | 421 | 1:45 - 2:00 | 212 | 183 | 395 | 7:45 - 8:00 | 105 | 87 | 192 |
| 2:00 - 2:15 | 5 | 15 | 20 | 8:00 - 8:15 | 261 | 227 | 488 | 2:00 - 2:15 | 274 | 212 | 486 | 8:00 - 8:15 | 122 | 106 | 228 |
| 2:15 - 2:30 | 5 | 10 | 15 | 8:15 - 8:30 | 247 | 236 | 483 | 2:15 - 2:30 | 253 | 239 | 492 | 8:15 - 8:30 | 139 | 129 | 268 |
| 2:30 - 2:45 | 5 | 8 | 13 | 8:30 - 8:45 | 237 | 230 | 467 | 2:30 - 2:45 | 247 | 303 | 550 | 8:30 - 8:45 | 93 | 103 | 196 |
| 2:45 - 3:00 | 9 | 11 | 20 | 8:45 - 9:00 | 227 | 243 | 470 | 2:45 - 3:00 | 253 | 272 | 525 | 8:45 - 9:00 | 99 | 85 | 184 |
| 3:00 - 3:15 | 9 | 15 | 24 | 9:00 - 9:15 | 208 | 223 | 431 | 3:00 - 3:15 | 267 | 260 | 527 | 9:00 - 9:15 | 95 | 91 | 186 |
| 3:15 - 3:30 | 11 | 10 | 21 | 9:15 - 9:30 | 201 | 269 | 470 | 3:15 - 3:30 | 244 | 279 | 523 | 9:15 - 9:30 | 89 | 109 | 198 |
| 3:30 - 3:45 | 22 | 10 | 32 | 9:30 - 9:45 | 198 | 270 | 468 | 3:30 - 3:45 | 281 | 310 | 591 | 9:30 - 9:45 | 88 | 88 | 176 |
| 3:45 - 4:00 | 21 | 18 | 39 | 9:45 - 10:00 | 189 | 258 | 447 | 3:45 - 4:00 | 264 | 299 | 563 | 9:45 - 10:00 | 80 | 82 | 162 |
| 4:00 - 4:15 | 20 | 8 | 28 | 10:00 - 10:15 | 182 | 270 | 452 | 4:00 - 4:15 | 236 | 330 | 566 | 10:00 - 10:15 | 106 | 69 | 175 |
| 4:15 - 4:30 | 39 | 13 | 52 | 10:15 - 10:30 | 188 | 246 | 434 | 4:15 - 4:30 | 254 | 292 | 546 | 10:15 - 10:30 | 172 | 61 | 233 |
| 4:30 - 4:45 | 46 | 16 | 62 | 10:30 - 10:45 | 201 | 291 | 492 | 4:30 - 4:45 | 257 | 306 | 563 | 10:30 - 10:45 | 96 | 46 | 142 |
| 4:45 - 5:00 | 49 | 23 | 72 | 10:45 - 11:00 | 202 | 269 | 471 | 4:45 - 5:00 | 237 | 313 | 550 | 10:45 - 11:00 | 40 | 36 | 76 |
| 5:00 - 5:15 | 66 | 32 | 98 | 11:00 - 11:15 | 206 | 253 | 459 | 5:00 - 5:15 | 230 | 291 | 521 | 11:00 - 11:15 | 35 | 36 | 71 |
| 5:15 - 5:30 | 105 | 59 | 164 | 11:15 - 11:30 | 185 | 211 | 396 | 5:15 - 5:30 | 201 | 292 | 493 | 11:15 - 11:30 | 19 | 57 | 76 |
| 5:30 - 5:45 | 134 | 61 | 195 | 11:30 - 11:45 | 208 | 247 | 455 | 5:30 - 5:45 | 187 | 248 | 435 | 11:30 - 11:45 | 14 | 22 | 36 |
| 5:45 - 6:00 | 137 | 86 | 223 | 11:45 - 12:00 | 198 | 215 | 413 | 5:45 - 6:00 | 185 | 214 | 399 | 11:45 - 12:00 | 13 | 24 | 37 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:30 AM to 8:30 AM | | | PM - PEAK HR TIME | 3:30 PM to 4:30 PM | | |
| AM - PEAK HR VOLUME | 1,058 | 865 | 1,923 | PM - PEAK HR VOLUME | 1,035 | 1,231 | 2,266 |
| AM - K FACTOR (%) | | | 6.79% | PM - K FACTOR (%) | | | 8.00% |
| AM - D (%) | 55.02% | 44.98% | 100.00% | PM - D (%) | 45.68% | 54.32% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 6:45 AM to 7:45 AM | 8:00 AM to 9:00 AM | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | 4:00 PM to 5:00 PM | |
| AM - PEAK HR VOLUME | 1,154 | 936 | | PM - PEAK HR VOLUME | 1,056 | 1,241 | |

| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:30 AM to 8:30 AM | | | PM - PEAK HR TIME | 3:30 PM to 4:30 PM | | |
| AM - PEAK HR VOLUME | 1,058 | 865 | 1,923 | PM - PEAK HR VOLUME | 1,035 | 1,231 | 2,266 |
| AM - K FACTOR (%) | | | 6.79% | PM - K FACTOR (%) | | | 8.00% |
| AM - D (%) | 55.02% | 44.98% | 100.00% | PM - D (%) | 45.68% | 54.32% | 100.00% |

| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 5,303 | 5,200 | 10,503 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 6,043 | 5,684 | 11,727 |
| PEAK HR VOLUME | 1,027 | 1,026 | 2,053 | PM 6-HR PERIOD (12:00-18:00) | 5,813 | 6,199 | 12,012 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 8,199 | 8,392 | 16,591 |
| PEAK HR TIME | 12:45 PM to 1:45 PM | 10:00 AM to 11:00 AM | | 24 HOUR PERIOD | 14,242 | 14,076 | 28,318 |
| PEAK HR VOLUME | 1,038 | 1,076 | | D (%) | 50.29% | 49.71% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 22 | 7,923 | 5,637 | 82 | 420 | 51 | 11 | 28 | 35 | 5 | 2 | 1 | 0 | 1 | 24 | 14,242 |
| D1 % | 0.15% | 55.63% | 39.58% | 0.58% | 2.95% | 0.36% | 0.08% | 0.20% | 0.25% | 0.04% | 0.01% | 0.01% | 0.00% | 0.01% | 0.17% | 100.00% |
| D2 24 Hr Subtotal | 16 | 7,279 | 6,048 | 102 | 458 | 74 | 2 | 32 | 25 | 5 | 0 | 0 | 0 | 7 | 28 | 14,076 |
| D2 % | 0.11% | 51.71% | 42.97% | 0.72% | 3.25% | 0.53% | 0.01% | 0.23% | 0.18% | 0.04% | 0.00% | 0.00% | 0.00% | 0.05% | 0.20% | 100.00% |
| Total | 38 | 15,202 | 11,685 | 184 | 878 | 125 | 13 | 60 | 60 | 10 | 2 | 1 | 0 | 8 | 52 | 28,318 |
| % | 0.13% | 53.68% | 41.26% | 0.65% | 3.10% | 0.44% | 0.05% | 0.21% | 0.21% | 0.04% | 0.01% | 0.00% | 0.00% | 0.03% | 0.18% | 100.00% |
| | | | | | | | | | | | | | | | T% | 4.71% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/03/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 14 | 21 | 35 | 6:00 - 6:15 | 172 | 114 | 286 | 12:00 - 12:15 | 235 | 218 | 453 | 6:00 - 6:15 | 207 | 182 | 389 |
| 12:15 - 12:30 | 9 | 14 | 23 | 6:15 - 6:30 | 244 | 133 | 377 | 12:15 - 12:30 | 235 | 236 | 471 | 6:15 - 6:30 | 191 | 158 | 349 |
| 12:30 - 12:45 | 13 | 18 | 31 | 6:30 - 6:45 | 230 | 153 | 383 | 12:30 - 12:45 | 248 | 260 | 508 | 6:30 - 6:45 | 156 | 170 | 326 |
| 12:45 - 1:00 | 4 | 11 | 15 | 6:45 - 7:00 | 230 | 150 | 380 | 12:45 - 1:00 | 227 | 221 | 448 | 6:45 - 7:00 | 123 | 156 | 279 |
| 1:00 - 1:15 | 3 | 11 | 14 | 7:00 - 7:15 | 295 | 191 | 486 | 1:00 - 1:15 | 246 | 229 | 475 | 7:00 - 7:15 | 134 | 138 | 272 |
| 1:15 - 1:30 | 5 | 5 | 10 | 7:15 - 7:30 | 314 | 185 | 499 | 1:15 - 1:30 | 271 | 201 | 472 | 7:15 - 7:30 | 111 | 159 | 270 |
| 1:30 - 1:45 | 6 | 6 | 12 | 7:30 - 7:45 | 301 | 191 | 492 | 1:30 - 1:45 | 263 | 228 | 491 | 7:30 - 7:45 | 114 | 150 | 264 |
| 1:45 - 2:00 | 12 | 8 | 20 | 7:45 - 8:00 | 265 | 217 | 482 | 1:45 - 2:00 | 238 | 208 | 446 | 7:45 - 8:00 | 147 | 123 | 270 |
| 2:00 - 2:15 | 7 | 7 | 14 | 8:00 - 8:15 | 246 | 195 | 441 | 2:00 - 2:15 | 280 | 214 | 494 | 8:00 - 8:15 | 109 | 115 | 224 |
| 2:15 - 2:30 | 5 | 7 | 12 | 8:15 - 8:30 | 245 | 265 | 510 | 2:15 - 2:30 | 282 | 256 | 538 | 8:15 - 8:30 | 97 | 102 | 199 |
| 2:30 - 2:45 | 7 | 14 | 21 | 8:30 - 8:45 | 292 | 238 | 530 | 2:30 - 2:45 | 277 | 286 | 563 | 8:30 - 8:45 | 135 | 125 | 260 |
| 2:45 - 3:00 | 11 | 11 | 22 | 8:45 - 9:00 | 268 | 222 | 490 | 2:45 - 3:00 | 257 | 259 | 516 | 8:45 - 9:00 | 127 | 94 | 221 |
| 3:00 - 3:15 | 5 | 12 | 17 | 9:00 - 9:15 | 201 | 225 | 426 | 3:00 - 3:15 | 284 | 248 | 532 | 9:00 - 9:15 | 100 | 75 | 175 |
| 3:15 - 3:30 | 10 | 12 | 22 | 9:15 - 9:30 | 233 | 269 | 502 | 3:15 - 3:30 | 266 | 281 | 547 | 9:15 - 9:30 | 86 | 101 | 187 |
| 3:30 - 3:45 | 21 | 12 | 33 | 9:30 - 9:45 | 238 | 287 | 525 | 3:30 - 3:45 | 296 | 285 | 581 | 9:30 - 9:45 | 79 | 101 | 180 |
| 3:45 - 4:00 | 18 | 13 | 31 | 9:45 - 10:00 | 188 | 287 | 475 | 3:45 - 4:00 | 317 | 281 | 598 | 9:45 - 10:00 | 102 | 62 | 164 |
| 4:00 - 4:15 | 25 | 17 | 42 | 10:00 - 10:15 | 258 | 271 | 529 | 4:00 - 4:15 | 293 | 275 | 568 | 10:00 - 10:15 | 65 | 80 | 145 |
| 4:15 - 4:30 | 38 | 25 | 63 | 10:15 - 10:30 | 201 | 263 | 464 | 4:15 - 4:30 | 238 | 287 | 525 | 10:15 - 10:30 | 47 | 71 | 118 |
| 4:30 - 4:45 | 41 | 27 | 68 | 10:30 - 10:45 | 184 | 280 | 464 | 4:30 - 4:45 | 273 | 303 | 576 | 10:30 - 10:45 | 44 | 73 | 117 |
| 4:45 - 5:00 | 59 | 21 | 80 | 10:45 - 11:00 | 189 | 276 | 465 | 4:45 - 5:00 | 262 | 296 | 558 | 10:45 - 11:00 | 28 | 55 | 83 |
| 5:00 - 5:15 | 68 | 46 | 114 | 11:00 - 11:15 | 200 | 297 | 497 | 5:00 - 5:15 | 275 | 318 | 593 | 11:00 - 11:15 | 24 | 44 | 68 |
| 5:15 - 5:30 | 124 | 52 | 176 | 11:15 - 11:30 | 217 | 268 | 485 | 5:15 - 5:30 | 224 | 296 | 520 | 11:15 - 11:30 | 24 | 53 | 77 |
| 5:30 - 5:45 | 150 | 61 | 211 | 11:30 - 11:45 | 212 | 281 | 493 | 5:30 - 5:45 | 207 | 283 | 490 | 11:30 - 11:45 | 13 | 37 | 50 |
| 5:45 - 6:00 | 135 | 80 | 215 | 11:45 - 12:00 | 214 | 215 | 429 | 5:45 - 6:00 | 173 | 195 | 368 | 11:45 - 12:00 | 10 | 22 | 32 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 8:00 AM to 9:00 AM | | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | | |
| AM - PEAK HR VOLUME | 1,051 | 920 | 1,971 | PM - PEAK HR VOLUME | 1,172 | 1,122 | 2,294 |
| AM - K FACTOR (%) | | | 6.69% | PM - K FACTOR (%) | | | 7.79% |
| AM - D (%) | 53.32% | 46.68% | 100.00% | PM - D (%) | 51.09% | 48.91% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:00 AM to 8:00 AM | 8:00 AM to 9:00 AM | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | 4:30 PM to 5:30 PM | |
| AM - PEAK HR VOLUME | 1,175 | 920 | | PM - PEAK HR VOLUME | 1,172 | 1,213 | |
| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 9:15 AM to 10:15 AM | | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | | |
| AM - PEAK HR VOLUME | 917 | 1,114 | 2,031 | PM - PEAK HR VOLUME | 1,172 | 1,122 | 2,294 |
| AM - K FACTOR (%) | | | 6.89% | PM - K FACTOR (%) | | | 7.79% |
| AM - D (%) | 45.15% | 54.85% | 100.00% | PM - D (%) | 51.09% | 48.91% | 100.00% |
| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 5,637 | 5,473 | 11,110 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 6,427 | 5,984 | 12,411 |
| PEAK HR VOLUME | 1,096 | 1,015 | 2,111 | PM 6-HR PERIOD (12:00-18:00) | 6,167 | 6,164 | 12,331 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 8,440 | 8,610 | 17,050 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | 10:45 AM to 11:45 AM | | 24 HOUR PERIOD | 14,867 | 14,594 | 29,461 |
| PEAK HR VOLUME | 1,096 | 1,122 | | D (%) | 50.46% | 49.54% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 44 | 8,189 | 5,935 | 80 | 464 | 63 | 13 | 22 | 35 | 2 | 2 | 0 | 1 | 0 | 17 | 14,867 |
| D1 % | 0.30% | 55.08% | 39.92% | 0.54% | 3.12% | 0.42% | 0.09% | 0.15% | 0.24% | 0.01% | 0.01% | 0.00% | 0.01% | 0.00% | 0.11% | 100.00% |
| D2 24 Hr Subtotal | 26 | 7,498 | 6,278 | 104 | 505 | 88 | 4 | 26 | 16 | 1 | 0 | 0 | 1 | 8 | 39 | 14,594 |
| D2 % | 0.18% | 51.38% | 43.02% | 0.71% | 3.46% | 0.60% | 0.03% | 0.18% | 0.11% | 0.01% | 0.00% | 0.00% | 0.01% | 0.05% | 0.27% | 100.00% |
| Total | 70 | 15,687 | 12,213 | 184 | 969 | 151 | 17 | 48 | 51 | 3 | 2 | 0 | 2 | 8 | 56 | 29,461 |
| % | 0.24% | 53.25% | 41.45% | 0.62% | 3.29% | 0.51% | 0.06% | 0.16% | 0.17% | 0.01% | 0.01% | 0.00% | 0.01% | 0.03% | 0.19% | 100.00% |
| | | | | | | | | | | | | | | | T% | 4.84% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/04/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 6 | 21 | 27 | 6:00 - 6:15 | 157 | 110 | 267 | 12:00 - 12:15 | 219 | 203 | 422 | 6:00 - 6:15 | 183 | 257 | 440 |
| 12:15 - 12:30 | 11 | 18 | 29 | 6:15 - 6:30 | 220 | 128 | 348 | 12:15 - 12:30 | 248 | 257 | 505 | 6:15 - 6:30 | 149 | 265 | 414 |
| 12:30 - 12:45 | 6 | 10 | 16 | 6:30 - 6:45 | 238 | 153 | 391 | 12:30 - 12:45 | 257 | 253 | 510 | 6:30 - 6:45 | 161 | 245 | 406 |
| 12:45 - 1:00 | 2 | 12 | 14 | 6:45 - 7:00 | 230 | 165 | 395 | 12:45 - 1:00 | 250 | 222 | 472 | 6:45 - 7:00 | 128 | 259 | 387 |
| 1:00 - 1:15 | 3 | 8 | 11 | 7:00 - 7:15 | 268 | 162 | 430 | 1:00 - 1:15 | 274 | 207 | 481 | 7:00 - 7:15 | 105 | 230 | 335 |
| 1:15 - 1:30 | 8 | 5 | 13 | 7:15 - 7:30 | 325 | 176 | 501 | 1:15 - 1:30 | 231 | 238 | 469 | 7:15 - 7:30 | 130 | 160 | 290 |
| 1:30 - 1:45 | 10 | 3 | 13 | 7:30 - 7:45 | 260 | 222 | 482 | 1:30 - 1:45 | 286 | 241 | 527 | 7:30 - 7:45 | 135 | 163 | 298 |
| 1:45 - 2:00 | 8 | 10 | 18 | 7:45 - 8:00 | 295 | 264 | 559 | 1:45 - 2:00 | 257 | 173 | 430 | 7:45 - 8:00 | 100 | 130 | 230 |
| 2:00 - 2:15 | 4 | 9 | 13 | 8:00 - 8:15 | 261 | 235 | 496 | 2:00 - 2:15 | 284 | 271 | 555 | 8:00 - 8:15 | 92 | 112 | 204 |
| 2:15 - 2:30 | 5 | 14 | 19 | 8:15 - 8:30 | 289 | 272 | 561 | 2:15 - 2:30 | 294 | 237 | 531 | 8:15 - 8:30 | 145 | 113 | 258 |
| 2:30 - 2:45 | 8 | 16 | 24 | 8:30 - 8:45 | 248 | 265 | 513 | 2:30 - 2:45 | 271 | 301 | 572 | 8:30 - 8:45 | 127 | 121 | 248 |
| 2:45 - 3:00 | 7 | 13 | 20 | 8:45 - 9:00 | 205 | 231 | 436 | 2:45 - 3:00 | 276 | 255 | 531 | 8:45 - 9:00 | 116 | 108 | 224 |
| 3:00 - 3:15 | 6 | 13 | 19 | 9:00 - 9:15 | 228 | 222 | 450 | 3:00 - 3:15 | 289 | 248 | 537 | 9:00 - 9:15 | 112 | 127 | 239 |
| 3:15 - 3:30 | 8 | 10 | 18 | 9:15 - 9:30 | 220 | 250 | 470 | 3:15 - 3:30 | 277 | 262 | 539 | 9:15 - 9:30 | 97 | 110 | 207 |
| 3:30 - 3:45 | 18 | 17 | 35 | 9:30 - 9:45 | 217 | 298 | 515 | 3:30 - 3:45 | 288 | 282 | 570 | 9:30 - 9:45 | 72 | 115 | 187 |
| 3:45 - 4:00 | 17 | 21 | 38 | 9:45 - 10:00 | 167 | 218 | 385 | 3:45 - 4:00 | 272 | 274 | 546 | 9:45 - 10:00 | 65 | 82 | 147 |
| 4:00 - 4:15 | 28 | 21 | 49 | 10:00 - 10:15 | 217 | 261 | 478 | 4:00 - 4:15 | 280 | 252 | 532 | 10:00 - 10:15 | 56 | 73 | 129 |
| 4:15 - 4:30 | 32 | 16 | 48 | 10:15 - 10:30 | 196 | 283 | 479 | 4:15 - 4:30 | 266 | 237 | 503 | 10:15 - 10:30 | 60 | 82 | 142 |
| 4:30 - 4:45 | 43 | 22 | 65 | 10:30 - 10:45 | 208 | 290 | 498 | 4:30 - 4:45 | 260 | 259 | 519 | 10:30 - 10:45 | 48 | 69 | 117 |
| 4:45 - 5:00 | 61 | 29 | 90 | 10:45 - 11:00 | 214 | 225 | 439 | 4:45 - 5:00 | 250 | 137 | 387 | 10:45 - 11:00 | 20 | 55 | 75 |
| 5:00 - 5:15 | 76 | 43 | 119 | 11:00 - 11:15 | 207 | 234 | 441 | 5:00 - 5:15 | 245 | 91 | 336 | 11:00 - 11:15 | 40 | 43 | 83 |
| 5:15 - 5:30 | 128 | 45 | 173 | 11:15 - 11:30 | 236 | 260 | 496 | 5:15 - 5:30 | 227 | 193 | 420 | 11:15 - 11:30 | 24 | 56 | 80 |
| 5:30 - 5:45 | 149 | 66 | 215 | 11:30 - 11:45 | 206 | 262 | 468 | 5:30 - 5:45 | 248 | 222 | 470 | 11:30 - 11:45 | 17 | 31 | 48 |
| 5:45 - 6:00 | 156 | 83 | 239 | 11:45 - 12:00 | 218 | 223 | 441 | 5:45 - 6:00 | 246 | 256 | 502 | 11:45 - 12:00 | 14 | 28 | 42 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:45 AM to 8:45 AM | | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | | |
| AM - PEAK HR VOLUME | 1,093 | 1,036 | 2,129 | PM - PEAK HR VOLUME | 1,126 | 1,066 | 2,192 |
| AM - K FACTOR (%) | | | 7.25% | PM - K FACTOR (%) | | | 7.47% |
| AM - D (%) | 51.34% | 48.66% | 100.00% | PM - D (%) | 51.37% | 48.63% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:00 AM to 8:00 AM | 7:45 AM to 8:45 AM | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | 3:15 PM to 4:15 PM | |
| AM - PEAK HR VOLUME | 1,148 | 1,036 | | PM - PEAK HR VOLUME | 1,126 | 1,070 | |
| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:45 AM to 8:45 AM | | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | | |
| AM - PEAK HR VOLUME | 1,093 | 1,036 | 2,129 | PM - PEAK HR VOLUME | 1,126 | 1,066 | 2,192 |
| AM - K FACTOR (%) | | | 7.25% | PM - K FACTOR (%) | | | 7.47% |
| AM - D (%) | 51.34% | 48.66% | 100.00% | PM - D (%) | 51.37% | 48.63% | 100.00% |
| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 5,530 | 5,409 | 10,939 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 6,330 | 5,934 | 12,264 |
| PEAK HR VOLUME | 1,125 | 1,064 | 2,189 | PM 6-HR PERIOD (12:00-18:00) | 6,295 | 5,571 | 11,866 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 8,491 | 8,605 | 17,096 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | 2:00 PM to 3:00 PM | | 24 HOUR PERIOD | 14,821 | 14,539 | 29,360 |
| PEAK HR VOLUME | 1,125 | 1,064 | | D (%) | 50.48% | 49.52% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 83 | 8,210 | 5,859 | 66 | 430 | 54 | 7 | 31 | 31 | 2 | 3 | 3 | 0 | 9 | 33 | 14,821 |
| D1 % | 0.56% | 55.39% | 39.53% | 0.45% | 2.90% | 0.36% | 0.05% | 0.21% | 0.21% | 0.01% | 0.02% | 0.02% | 0.00% | 0.06% | 0.22% | 100.00% |
| D2 24 Hr Subtotal | 21 | 7,482 | 6,263 | 88 | 484 | 86 | 3 | 33 | 17 | 3 | 0 | 0 | 0 | 16 | 43 | 14,539 |
| D2 % | 0.14% | 51.46% | 43.08% | 0.61% | 3.33% | 0.59% | 0.02% | 0.23% | 0.12% | 0.02% | 0.00% | 0.00% | 0.00% | 0.11% | 0.30% | 100.00% |
| Total | 104 | 15,692 | 12,122 | 154 | 914 | 140 | 10 | 64 | 48 | 5 | 3 | 3 | 0 | 25 | 76 | 29,360 |
| % | 0.35% | 53.45% | 41.29% | 0.52% | 3.11% | 0.48% | 0.03% | 0.22% | 0.16% | 0.02% | 0.01% | 0.01% | 0.00% | 0.09% | 0.26% | 100.00% |
| | | | | | | | | | | | | | | | T% | 4.57% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/05/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 6 | 23 | 29 | 6:00 - 6:15 | 138 | 102 | 240 | 12:00 - 12:15 | 232 | 215 | 447 | 6:00 - 6:15 | 162 | 158 | 320 |
| 12:15 - 12:30 | 10 | 20 | 30 | 6:15 - 6:30 | 196 | 140 | 336 | 12:15 - 12:30 | 225 | 231 | 456 | 6:15 - 6:30 | 143 | 146 | 289 |
| 12:30 - 12:45 | 7 | 17 | 24 | 6:30 - 6:45 | 180 | 146 | 326 | 12:30 - 12:45 | 265 | 253 | 518 | 6:30 - 6:45 | 128 | 190 | 318 |
| 12:45 - 1:00 | 10 | 11 | 21 | 6:45 - 7:00 | 236 | 160 | 396 | 12:45 - 1:00 | 240 | 232 | 472 | 6:45 - 7:00 | 140 | 136 | 276 |
| 1:00 - 1:15 | 11 | 4 | 15 | 7:00 - 7:15 | 281 | 175 | 456 | 1:00 - 1:15 | 286 | 217 | 503 | 7:00 - 7:15 | 145 | 124 | 269 |
| 1:15 - 1:30 | 7 | 9 | 16 | 7:15 - 7:30 | 268 | 185 | 453 | 1:15 - 1:30 | 247 | 242 | 489 | 7:15 - 7:30 | 137 | 150 | 287 |
| 1:30 - 1:45 | 8 | 7 | 15 | 7:30 - 7:45 | 289 | 173 | 462 | 1:30 - 1:45 | 275 | 213 | 488 | 7:30 - 7:45 | 107 | 145 | 252 |
| 1:45 - 2:00 | 8 | 13 | 21 | 7:45 - 8:00 | 211 | 195 | 406 | 1:45 - 2:00 | 280 | 236 | 516 | 7:45 - 8:00 | 126 | 119 | 245 |
| 2:00 - 2:15 | 6 | 10 | 16 | 8:00 - 8:15 | 232 | 228 | 460 | 2:00 - 2:15 | 259 | 252 | 511 | 8:00 - 8:15 | 131 | 131 | 262 |
| 2:15 - 2:30 | 6 | 15 | 21 | 8:15 - 8:30 | 248 | 212 | 460 | 2:15 - 2:30 | 254 | 250 | 504 | 8:15 - 8:30 | 144 | 133 | 277 |
| 2:30 - 2:45 | 9 | 9 | 18 | 8:30 - 8:45 | 241 | 229 | 470 | 2:30 - 2:45 | 301 | 267 | 568 | 8:30 - 8:45 | 149 | 130 | 279 |
| 2:45 - 3:00 | 3 | 11 | 14 | 8:45 - 9:00 | 163 | 237 | 400 | 2:45 - 3:00 | 240 | 281 | 521 | 8:45 - 9:00 | 139 | 105 | 244 |
| 3:00 - 3:15 | 6 | 10 | 16 | 9:00 - 9:15 | 238 | 221 | 459 | 3:00 - 3:15 | 259 | 241 | 500 | 9:00 - 9:15 | 121 | 108 | 229 |
| 3:15 - 3:30 | 14 | 8 | 22 | 9:15 - 9:30 | 245 | 239 | 484 | 3:15 - 3:30 | 294 | 259 | 553 | 9:15 - 9:30 | 100 | 108 | 208 |
| 3:30 - 3:45 | 18 | 12 | 30 | 9:30 - 9:45 | 193 | 294 | 487 | 3:30 - 3:45 | 295 | 305 | 600 | 9:30 - 9:45 | 104 | 92 | 196 |
| 3:45 - 4:00 | 21 | 17 | 38 | 9:45 - 10:00 | 214 | 253 | 467 | 3:45 - 4:00 | 300 | 265 | 565 | 9:45 - 10:00 | 72 | 96 | 168 |
| 4:00 - 4:15 | 21 | 18 | 39 | 10:00 - 10:15 | 191 | 265 | 456 | 4:00 - 4:15 | 289 | 283 | 572 | 10:00 - 10:15 | 83 | 93 | 176 |
| 4:15 - 4:30 | 32 | 17 | 49 | 10:15 - 10:30 | 202 | 261 | 463 | 4:15 - 4:30 | 260 | 281 | 541 | 10:15 - 10:30 | 81 | 95 | 176 |
| 4:30 - 4:45 | 43 | 19 | 62 | 10:30 - 10:45 | 188 | 291 | 479 | 4:30 - 4:45 | 287 | 270 | 557 | 10:30 - 10:45 | 69 | 84 | 153 |
| 4:45 - 5:00 | 47 | 30 | 77 | 10:45 - 11:00 | 221 | 261 | 482 | 4:45 - 5:00 | 270 | 278 | 548 | 10:45 - 11:00 | 44 | 81 | 125 |
| 5:00 - 5:15 | 68 | 32 | 100 | 11:00 - 11:15 | 205 | 301 | 506 | 5:00 - 5:15 | 278 | 303 | 581 | 11:00 - 11:15 | 55 | 52 | 107 |
| 5:15 - 5:30 | 107 | 52 | 159 | 11:15 - 11:30 | 180 | 270 | 450 | 5:15 - 5:30 | 284 | 288 | 572 | 11:15 - 11:30 | 43 | 47 | 90 |
| 5:30 - 5:45 | 113 | 72 | 185 | 11:30 - 11:45 | 221 | 218 | 439 | 5:30 - 5:45 | 251 | 257 | 508 | 11:30 - 11:45 | 17 | 39 | 56 |
| 5:45 - 6:00 | 130 | 76 | 206 | 11:45 - 12:00 | 202 | 210 | 412 | 5:45 - 6:00 | 221 | 252 | 473 | 11:45 - 12:00 | 16 | 27 | 43 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:45 AM to 8:45 AM | | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | | |
| AM - PEAK HR VOLUME | 932 | 864 | 1,796 | PM - PEAK HR VOLUME | 1,178 | 1,112 | 2,290 |
| AM - K FACTOR (%) | | | 6.13% | PM - K FACTOR (%) | | | 7.82% |
| AM - D (%) | 51.89% | 48.11% | 100.00% | PM - D (%) | 51.44% | 48.56% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 6:45 AM to 7:45 AM | 8:00 AM to 9:00 AM | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | 4:30 PM to 5:30 PM | |
| AM - PEAK HR VOLUME | 1,074 | 906 | | PM - PEAK HR VOLUME | 1,178 | 1,139 | |
| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 10:15 AM to 11:15 AM | | | PM - PEAK HR TIME | 3:15 PM to 4:15 PM | | |
| AM - PEAK HR VOLUME | 816 | 1,114 | 1,930 | PM - PEAK HR VOLUME | 1,178 | 1,112 | 2,290 |
| AM - K FACTOR (%) | | | 6.59% | PM - K FACTOR (%) | | | 7.82% |
| AM - D (%) | 42.28% | 57.72% | 100.00% | PM - D (%) | 51.44% | 48.56% | 100.00% |
| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 5,183 | 5,266 | 10,449 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 5,894 | 5,778 | 11,672 |
| PEAK HR VOLUME | 1,054 | 1,050 | 2,104 | PM 6-HR PERIOD (12:00-18:00) | 6,392 | 6,171 | 12,563 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 8,848 | 8,760 | 17,608 |
| PEAK HR TIME | 1:45 PM to 2:45 PM | 10:30 AM to 11:30 AM | | 24 HOUR PERIOD | 14,742 | 14,538 | 29,280 |
| PEAK HR VOLUME | 1,094 | 1,123 | | D (%) | 50.35% | 49.65% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 32 | 8,169 | 5,868 | 67 | 438 | 58 | 17 | 22 | 40 | 4 | 2 | 1 | 1 | 2 | 21 | 14,742 |
| D1 % | 0.22% | 55.41% | 39.80% | 0.45% | 2.97% | 0.39% | 0.12% | 0.15% | 0.27% | 0.03% | 0.01% | 0.01% | 0.01% | 0.01% | 0.14% | 100.00% |
| D2 24 Hr Subtotal | 17 | 7,512 | 6,273 | 85 | 475 | 81 | 4 | 24 | 23 | 5 | 0 | 0 | 1 | 10 | 28 | 14,538 |
| D2 % | 0.12% | 51.67% | 43.15% | 0.58% | 3.27% | 0.56% | 0.03% | 0.17% | 0.16% | 0.03% | 0.00% | 0.00% | 0.01% | 0.07% | 0.19% | 100.00% |
| Total | 49 | 15,681 | 12,141 | 152 | 913 | 139 | 21 | 46 | 63 | 9 | 2 | 1 | 2 | 12 | 49 | 29,280 |
| % | 0.17% | 53.56% | 41.47% | 0.52% | 3.12% | 0.47% | 0.07% | 0.16% | 0.22% | 0.03% | 0.01% | 0.00% | 0.01% | 0.04% | 0.17% | 100.00% |
| | | | | | | | | | | | | | | | T% | 4.60% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/06/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 14 | 19 | 33 | 6:00 - 6:15 | 121 | 118 | 239 | 12:00 - 12:15 | 223 | 180 | 403 | 6:00 - 6:15 | 138 | 166 | 304 |
| 12:15 - 12:30 | 15 | 26 | 41 | 6:15 - 6:30 | 141 | 118 | 259 | 12:15 - 12:30 | 274 | 192 | 466 | 6:15 - 6:30 | 154 | 171 | 325 |
| 12:30 - 12:45 | 18 | 16 | 34 | 6:30 - 6:45 | 152 | 153 | 305 | 12:30 - 12:45 | 290 | 234 | 524 | 6:30 - 6:45 | 135 | 169 | 304 |
| 12:45 - 1:00 | 12 | 13 | 25 | 6:45 - 7:00 | 169 | 167 | 336 | 12:45 - 1:00 | 277 | 197 | 474 | 6:45 - 7:00 | 139 | 159 | 298 |
| 1:00 - 1:15 | 4 | 9 | 13 | 7:00 - 7:15 | 187 | 131 | 318 | 1:00 - 1:15 | 275 | 187 | 462 | 7:00 - 7:15 | 126 | 140 | 266 |
| 1:15 - 1:30 | 10 | 8 | 18 | 7:15 - 7:30 | 202 | 180 | 382 | 1:15 - 1:30 | 294 | 208 | 502 | 7:15 - 7:30 | 114 | 154 | 268 |
| 1:30 - 1:45 | 11 | 13 | 24 | 7:30 - 7:45 | 227 | 190 | 417 | 1:30 - 1:45 | 281 | 217 | 498 | 7:30 - 7:45 | 108 | 173 | 281 |
| 1:45 - 2:00 | 13 | 13 | 26 | 7:45 - 8:00 | 140 | 198 | 338 | 1:45 - 2:00 | 247 | 183 | 430 | 7:45 - 8:00 | 119 | 135 | 254 |
| 2:00 - 2:15 | 4 | 19 | 23 | 8:00 - 8:15 | 176 | 215 | 391 | 2:00 - 2:15 | 293 | 210 | 503 | 8:00 - 8:15 | 99 | 128 | 227 |
| 2:15 - 2:30 | 8 | 15 | 23 | 8:15 - 8:30 | 173 | 238 | 411 | 2:15 - 2:30 | 293 | 228 | 521 | 8:15 - 8:30 | 136 | 130 | 266 |
| 2:30 - 2:45 | 8 | 16 | 24 | 8:30 - 8:45 | 180 | 257 | 437 | 2:30 - 2:45 | 278 | 205 | 483 | 8:30 - 8:45 | 119 | 150 | 269 |
| 2:45 - 3:00 | 7 | 20 | 27 | 8:45 - 9:00 | 171 | 234 | 405 | 2:45 - 3:00 | 256 | 211 | 467 | 8:45 - 9:00 | 135 | 124 | 259 |
| 3:00 - 3:15 | 5 | 19 | 24 | 9:00 - 9:15 | 201 | 239 | 440 | 3:00 - 3:15 | 286 | 211 | 497 | 9:00 - 9:15 | 109 | 99 | 208 |
| 3:15 - 3:30 | 12 | 16 | 28 | 9:15 - 9:30 | 178 | 284 | 462 | 3:15 - 3:30 | 265 | 219 | 484 | 9:15 - 9:30 | 89 | 97 | 186 |
| 3:30 - 3:45 | 22 | 23 | 45 | 9:30 - 9:45 | 189 | 271 | 460 | 3:30 - 3:45 | 257 | 231 | 488 | 9:30 - 9:45 | 90 | 76 | 166 |
| 3:45 - 4:00 | 11 | 20 | 31 | 9:45 - 10:00 | 180 | 245 | 425 | 3:45 - 4:00 | 277 | 221 | 498 | 9:45 - 10:00 | 85 | 87 | 172 |
| 4:00 - 4:15 | 17 | 23 | 40 | 10:00 - 10:15 | 194 | 255 | 449 | 4:00 - 4:15 | 264 | 193 | 457 | 10:00 - 10:15 | 66 | 87 | 153 |
| 4:15 - 4:30 | 18 | 22 | 40 | 10:15 - 10:30 | 195 | 268 | 463 | 4:15 - 4:30 | 290 | 257 | 547 | 10:15 - 10:30 | 57 | 90 | 147 |
| 4:30 - 4:45 | 30 | 29 | 59 | 10:30 - 10:45 | 250 | 285 | 535 | 4:30 - 4:45 | 237 | 263 | 500 | 10:30 - 10:45 | 61 | 71 | 132 |
| 4:45 - 5:00 | 34 | 41 | 75 | 10:45 - 11:00 | 211 | 251 | 462 | 4:45 - 5:00 | 238 | 246 | 484 | 10:45 - 11:00 | 43 | 67 | 110 |
| 5:00 - 5:15 | 58 | 36 | 94 | 11:00 - 11:15 | 261 | 220 | 481 | 5:00 - 5:15 | 224 | 244 | 468 | 11:00 - 11:15 | 38 | 46 | 84 |
| 5:15 - 5:30 | 83 | 53 | 136 | 11:15 - 11:30 | 220 | 256 | 476 | 5:15 - 5:30 | 231 | 274 | 505 | 11:15 - 11:30 | 39 | 61 | 100 |
| 5:30 - 5:45 | 78 | 67 | 145 | 11:30 - 11:45 | 221 | 196 | 417 | 5:30 - 5:45 | 186 | 243 | 429 | 11:30 - 11:45 | 35 | 37 | 72 |
| 5:45 - 6:00 | 79 | 83 | 162 | 11:45 - 12:00 | 266 | 192 | 458 | 5:45 - 6:00 | 157 | 218 | 375 | 11:45 - 12:00 | 27 | 31 | 58 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 8:00 AM to 9:00 AM | | |
| AM - PEAK HR VOLUME | 700 | 944 | 1,644 |
| AM - K FACTOR (%) | | | 6.02% |
| AM - D (%) | 42.58% | 57.42% | 100.00% |
| DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 6:45 AM to 7:45 AM | 8:00 AM to 9:00 AM | |
| AM - PEAK HR VOLUME | 785 | 944 | |

| AM PERIOD (00:00 - 12:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 10:30 AM to 11:30 AM | | |
| AM - PEAK HR VOLUME | 942 | 1,012 | 1,954 |
| AM - K FACTOR (%) | | | 7.15% |
| AM - D (%) | 48.21% | 51.79% | 100.00% |

| NON COMMUTER PERIOD (09:00-15:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | |
| PEAK HR VOLUME | 1,120 | 854 | 1,974 |
| DIRECTIONAL PEAK | | | |
| PEAK HR TIME | 12:30 PM to 1:30 PM | 10:00 AM to 11:00 AM | |
| PEAK HR VOLUME | 1,136 | 1,059 | |

| PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:45 PM to 4:45 PM | | |
| PM - PEAK HR VOLUME | 1,068 | 934 | 2,002 |
| PM - K FACTOR (%) | | | 7.33% |
| PM - D (%) | 53.35% | 46.65% | 100.00% |
| DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:30 PM to 4:30 PM | 4:30 PM to 5:30 PM | |
| PM - PEAK HR VOLUME | 1,088 | 1,027 | |

| PM PERIOD (12:00 - 24:00) | | | |
|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | |
| PM - PEAK HR TIME | 3:45 PM to 4:45 PM | | |
| PM - PEAK HR VOLUME | 1,068 | 934 | 2,002 |
| PM - K FACTOR (%) | | | 7.33% |
| PM - D (%) | 53.35% | 46.65% | 100.00% |

| 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|
| AM 6-HR PERIOD (06:00-12:00) | 4,605 | 5,161 | 9,766 |
| AM 12-HR PERIOD (00:00-12:00) | 5,176 | 5,780 | 10,956 |
| PM 6-HR PERIOD (12:00-18:00) | 6,193 | 5,272 | 11,465 |
| PM 12-HR PERIOD (12:00-24:00) | 8,454 | 7,920 | 16,374 |
| 24 HOUR PERIOD | 13,630 | 13,700 | 27,330 |
| D (%) | 49.87% | 50.13% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 34 | 7,878 | 5,314 | 60 | 260 | 33 | 3 | 10 | 7 | 0 | 3 | 0 | 0 | 2 | 26 | 13,630 |
| D1 % | 0.25% | 57.80% | 38.99% | 0.44% | 1.91% | 0.24% | 0.02% | 0.07% | 0.05% | 0.00% | 0.02% | 0.00% | 0.00% | 0.01% | 0.19% | 100.00% |
| D2 24 Hr Subtotal | 28 | 7,405 | 5,834 | 68 | 282 | 29 | 3 | 13 | 5 | 0 | 0 | 0 | 0 | 6 | 27 | 13,700 |
| D2 % | 0.20% | 54.05% | 42.58% | 0.50% | 2.06% | 0.21% | 0.02% | 0.09% | 0.04% | 0.00% | 0.00% | 0.00% | 0.00% | 0.04% | 0.20% | 100.00% |
| Total | 62 | 15,283 | 11,148 | 128 | 542 | 62 | 6 | 23 | 12 | 0 | 3 | 0 | 0 | 8 | 53 | 27,330 |
| % | 0.23% | 55.92% | 40.79% | 0.47% | 1.98% | 0.23% | 0.02% | 0.08% | 0.04% | 0.00% | 0.01% | 0.00% | 0.00% | 0.03% | 0.19% | 100.00% |
| | | | | | | | | | | | | | | | T% | 2.84% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/07/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 19 | 26 | 45 | 6:00 - 6:15 | 76 | 72 | 148 | 12:00 - 12:15 | 247 | 188 | 435 | 6:00 - 6:15 | 161 | 147 | 308 |
| 12:15 - 12:30 | 20 | 20 | 40 | 6:15 - 6:30 | 103 | 100 | 203 | 12:15 - 12:30 | 247 | 203 | 450 | 6:15 - 6:30 | 159 | 148 | 307 |
| 12:30 - 12:45 | 14 | 16 | 30 | 6:30 - 6:45 | 105 | 103 | 208 | 12:30 - 12:45 | 265 | 193 | 458 | 6:30 - 6:45 | 112 | 137 | 249 |
| 12:45 - 1:00 | 10 | 11 | 21 | 6:45 - 7:00 | 109 | 100 | 209 | 12:45 - 1:00 | 280 | 186 | 466 | 6:45 - 7:00 | 129 | 138 | 267 |
| 1:00 - 1:15 | 9 | 19 | 28 | 7:00 - 7:15 | 119 | 131 | 250 | 1:00 - 1:15 | 256 | 200 | 456 | 7:00 - 7:15 | 107 | 171 | 278 |
| 1:15 - 1:30 | 4 | 10 | 14 | 7:15 - 7:30 | 159 | 121 | 280 | 1:15 - 1:30 | 265 | 232 | 497 | 7:15 - 7:30 | 100 | 140 | 240 |
| 1:30 - 1:45 | 5 | 14 | 19 | 7:30 - 7:45 | 160 | 128 | 288 | 1:30 - 1:45 | 241 | 199 | 440 | 7:30 - 7:45 | 107 | 198 | 305 |
| 1:45 - 2:00 | 9 | 17 | 26 | 7:45 - 8:00 | 125 | 152 | 277 | 1:45 - 2:00 | 231 | 221 | 452 | 7:45 - 8:00 | 124 | 172 | 296 |
| 2:00 - 2:15 | 6 | 13 | 19 | 8:00 - 8:15 | 152 | 135 | 287 | 2:00 - 2:15 | 230 | 234 | 464 | 8:00 - 8:15 | 118 | 110 | 228 |
| 2:15 - 2:30 | 9 | 11 | 20 | 8:15 - 8:30 | 144 | 139 | 283 | 2:15 - 2:30 | 288 | 221 | 509 | 8:15 - 8:30 | 112 | 109 | 221 |
| 2:30 - 2:45 | 5 | 16 | 21 | 8:30 - 8:45 | 167 | 160 | 327 | 2:30 - 2:45 | 261 | 210 | 471 | 8:30 - 8:45 | 122 | 130 | 252 |
| 2:45 - 3:00 | 13 | 9 | 22 | 8:45 - 9:00 | 169 | 184 | 353 | 2:45 - 3:00 | 258 | 214 | 472 | 8:45 - 9:00 | 123 | 86 | 209 |
| 3:00 - 3:15 | 7 | 13 | 20 | 9:00 - 9:15 | 166 | 219 | 385 | 3:00 - 3:15 | 301 | 214 | 515 | 9:00 - 9:15 | 81 | 131 | 212 |
| 3:15 - 3:30 | 14 | 28 | 42 | 9:15 - 9:30 | 178 | 228 | 406 | 3:15 - 3:30 | 277 | 244 | 521 | 9:15 - 9:30 | 86 | 95 | 181 |
| 3:30 - 3:45 | 12 | 26 | 38 | 9:30 - 9:45 | 198 | 254 | 452 | 3:30 - 3:45 | 284 | 247 | 531 | 9:30 - 9:45 | 57 | 109 | 166 |
| 3:45 - 4:00 | 13 | 17 | 30 | 9:45 - 10:00 | 154 | 208 | 362 | 3:45 - 4:00 | 251 | 228 | 479 | 9:45 - 10:00 | 73 | 85 | 158 |
| 4:00 - 4:15 | 14 | 12 | 26 | 10:00 - 10:15 | 201 | 258 | 459 | 4:00 - 4:15 | 244 | 210 | 454 | 10:00 - 10:15 | 60 | 70 | 130 |
| 4:15 - 4:30 | 27 | 20 | 47 | 10:15 - 10:30 | 203 | 220 | 423 | 4:15 - 4:30 | 244 | 240 | 484 | 10:15 - 10:30 | 55 | 83 | 138 |
| 4:30 - 4:45 | 25 | 23 | 48 | 10:30 - 10:45 | 216 | 273 | 489 | 4:30 - 4:45 | 193 | 260 | 453 | 10:30 - 10:45 | 37 | 56 | 93 |
| 4:45 - 5:00 | 27 | 20 | 47 | 10:45 - 11:00 | 192 | 227 | 419 | 4:45 - 5:00 | 200 | 261 | 461 | 10:45 - 11:00 | 32 | 44 | 76 |
| 5:00 - 5:15 | 40 | 29 | 69 | 11:00 - 11:15 | 228 | 245 | 473 | 5:00 - 5:15 | 211 | 204 | 415 | 11:00 - 11:15 | 24 | 33 | 57 |
| 5:15 - 5:30 | 68 | 30 | 98 | 11:15 - 11:30 | 211 | 226 | 437 | 5:15 - 5:30 | 197 | 255 | 452 | 11:15 - 11:30 | 20 | 37 | 57 |
| 5:30 - 5:45 | 64 | 49 | 113 | 11:30 - 11:45 | 221 | 190 | 411 | 5:30 - 5:45 | 189 | 229 | 418 | 11:30 - 11:45 | 10 | 16 | 26 |
| 5:45 - 6:00 | 78 | 83 | 161 | 11:45 - 12:00 | 256 | 193 | 449 | 5:45 - 6:00 | 147 | 177 | 324 | 11:45 - 12:00 | 10 | 20 | 30 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 8:00 AM to 9:00 AM | | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | | |
| AM - PEAK HR VOLUME | 632 | 618 | 1,250 | PM - PEAK HR VOLUME | 1,113 | 933 | 2,046 |
| AM - K FACTOR (%) | | | 5.02% | PM - K FACTOR (%) | | | 8.22% |
| AM - D (%) | 50.56% | 49.44% | 100.00% | PM - D (%) | 54.40% | 45.60% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 8:00 AM to 9:00 AM | 8:00 AM to 9:00 AM | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | 4:30 PM to 5:30 PM | |
| AM - PEAK HR VOLUME | 632 | 618 | | PM - PEAK HR VOLUME | 1,113 | 980 | |
| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 10:30 AM to 11:30 AM | | | PM - PEAK HR TIME | 3:00 PM to 4:00 PM | | |
| AM - PEAK HR VOLUME | 847 | 971 | 1,818 | PM - PEAK HR VOLUME | 1,113 | 933 | 2,046 |
| AM - K FACTOR (%) | | | 7.31% | PM - K FACTOR (%) | | | 8.22% |
| AM - D (%) | 46.59% | 53.41% | 100.00% | PM - D (%) | 54.40% | 45.60% | 100.00% |
| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 4,012 | 4,266 | 8,278 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 4,524 | 4,798 | 9,322 |
| PEAK HR VOLUME | 1,037 | 879 | 1,916 | PM 6-HR PERIOD (12:00-18:00) | 5,807 | 5,270 | 11,077 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 7,826 | 7,735 | 15,561 |
| PEAK HR TIME | 12:30 PM to 1:30 PM | 10:00 AM to 11:00 AM | | 24 HOUR PERIOD | 12,350 | 12,533 | 24,883 |
| PEAK HR VOLUME | 1,066 | 978 | | D (%) | 49.63% | 50.37% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 23 | 7,212 | 4,839 | 48 | 193 | 3 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 1 | 23 | 12,350 |
| D1 % | 0.19% | 58.40% | 39.18% | 0.39% | 1.56% | 0.02% | 0.00% | 0.04% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% | 0.19% | 100.00% |
| D2 24 Hr Subtotal | 15 | 6,869 | 5,309 | 51 | 239 | 5 | 0 | 7 | 1 | 0 | 0 | 0 | 0 | 9 | 28 | 12,533 |
| D2 % | 0.12% | 54.81% | 42.36% | 0.41% | 1.91% | 0.04% | 0.00% | 0.06% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.07% | 0.22% | 100.00% |
| Total | 38 | 14,081 | 10,148 | 99 | 432 | 8 | 0 | 12 | 4 | 0 | 0 | 0 | 0 | 10 | 51 | 24,883 |
| % | 0.15% | 56.59% | 40.78% | 0.40% | 1.74% | 0.03% | 0.00% | 0.05% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% | 0.04% | 0.20% | 100.00% |
| | | | | | | | | | | | | | | | T% | 2.23% |

**State of Hawaii, Department of Transportation, Highways Division**

15 Minute Volume Report

ISLAND: Maui
SITE DESCRIPTION: 030121 Honoapiilani Hwy, Route 30, M.P. 12.14
ID NO:
AUX NO:
FUND SYSTEM:
FILE NO:
COUNT GROUP NO:
CORRIDOR ID:
ASSIGNED DATE:
COUNTY:
ROUTE NO:
SURVEY DATE(S): 05/08/2023
LOC'N: 20.7954349 -156.583097
HWY ST NAME:
SURVEY TIME:
DIR 1: To Papanahoa, MOV 8
DIR 2: To Main St, MOV 4

| TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - AM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL | TIME - PM | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 - 12:15 | 10 | 15 | 25 | 6:00 - 6:15 | 164 | 115 | 279 | 12:00 - 12:15 | 208 | 198 | 406 | 6:00 - 6:15 | 165 | 173 | 338 |
| 12:15 - 12:30 | 7 | 18 | 25 | 6:15 - 6:30 | 197 | 141 | 338 | 12:15 - 12:30 | 238 | 188 | 426 | 6:15 - 6:30 | 199 | 167 | 366 |
| 12:30 - 12:45 | 10 | 11 | 21 | 6:30 - 6:45 | 207 | 162 | 369 | 12:30 - 12:45 | 260 | 211 | 471 | 6:30 - 6:45 | 145 | 161 | 306 |
| 12:45 - 1:00 | 8 | 8 | 16 | 6:45 - 7:00 | 249 | 145 | 394 | 12:45 - 1:00 | 240 | 221 | 461 | 6:45 - 7:00 | 132 | 142 | 274 |
| 1:00 - 1:15 | 5 | 6 | 11 | 7:00 - 7:15 | 269 | 154 | 423 | 1:00 - 1:15 | 251 | 204 | 455 | 7:00 - 7:15 | 159 | 139 | 298 |
| 1:15 - 1:30 | 5 | 6 | 11 | 7:15 - 7:30 | 300 | 189 | 489 | 1:15 - 1:30 | 272 | 233 | 505 | 7:15 - 7:30 | 135 | 139 | 274 |
| 1:30 - 1:45 | 5 | 4 | 9 | 7:30 - 7:45 | 295 | 191 | 486 | 1:30 - 1:45 | 248 | 243 | 491 | 7:30 - 7:45 | 165 | 127 | 292 |
| 1:45 - 2:00 | 6 | 5 | 11 | 7:45 - 8:00 | 253 | 200 | 453 | 1:45 - 2:00 | 232 | 224 | 456 | 7:45 - 8:00 | 113 | 126 | 239 |
| 2:00 - 2:15 | 10 | 6 | 16 | 8:00 - 8:15 | 246 | 191 | 437 | 2:00 - 2:15 | 231 | 205 | 436 | 8:00 - 8:15 | 109 | 118 | 227 |
| 2:15 - 2:30 | 4 | 12 | 16 | 8:15 - 8:30 | 265 | 233 | 498 | 2:15 - 2:30 | 256 | 290 | 546 | 8:15 - 8:30 | 103 | 89 | 192 |
| 2:30 - 2:45 | 8 | 9 | 17 | 8:30 - 8:45 | 225 | 218 | 443 | 2:30 - 2:45 | 246 | 274 | 520 | 8:30 - 8:45 | 119 | 129 | 248 |
| 2:45 - 3:00 | 10 | 14 | 24 | 8:45 - 9:00 | 203 | 203 | 406 | 2:45 - 3:00 | 255 | 278 | 533 | 8:45 - 9:00 | 92 | 97 | 189 |
| 3:00 - 3:15 | 12 | 5 | 17 | 9:00 - 9:15 | 222 | 232 | 454 | 3:00 - 3:15 | 269 | 262 | 531 | 9:00 - 9:15 | 104 | 101 | 205 |
| 3:15 - 3:30 | 12 | 12 | 24 | 9:15 - 9:30 | 183 | 240 | 423 | 3:15 - 3:30 | 296 | 284 | 580 | 9:15 - 9:30 | 107 | 101 | 208 |
| 3:30 - 3:45 | 27 | 16 | 43 | 9:30 - 9:45 | 246 | 288 | 534 | 3:30 - 3:45 | 277 | 274 | 551 | 9:30 - 9:45 | 89 | 70 | 159 |
| 3:45 - 4:00 | 22 | 22 | 44 | 9:45 - 10:00 | 182 | 263 | 445 | 3:45 - 4:00 | 249 | 317 | 566 | 9:45 - 10:00 | 76 | 73 | 149 |
| 4:00 - 4:15 | 26 | 12 | 38 | 10:00 - 10:15 | 198 | 281 | 479 | 4:00 - 4:15 | 260 | 309 | 569 | 10:00 - 10:15 | 63 | 71 | 134 |
| 4:15 - 4:30 | 40 | 12 | 52 | 10:15 - 10:30 | 200 | 261 | 461 | 4:15 - 4:30 | 308 | 275 | 583 | 10:15 - 10:30 | 54 | 81 | 135 |
| 4:30 - 4:45 | 62 | 26 | 88 | 10:30 - 10:45 | 225 | 318 | 543 | 4:30 - 4:45 | 243 | 289 | 532 | 10:30 - 10:45 | 41 | 70 | 111 |
| 4:45 - 5:00 | 55 | 41 | 96 | 10:45 - 11:00 | 167 | 256 | 423 | 4:45 - 5:00 | 264 | 286 | 550 | 10:45 - 11:00 | 27 | 58 | 85 |
| 5:00 - 5:15 | 67 | 39 | 106 | 11:00 - 11:15 | 205 | 258 | 463 | 5:00 - 5:15 | 221 | 284 | 505 | 11:00 - 11:15 | 20 | 52 | 72 |
| 5:15 - 5:30 | 122 | 52 | 174 | 11:15 - 11:30 | 235 | 252 | 487 | 5:15 - 5:30 | 190 | 256 | 446 | 11:15 - 11:30 | 23 | 49 | 72 |
| 5:30 - 5:45 | 125 | 66 | 191 | 11:30 - 11:45 | 195 | 234 | 429 | 5:30 - 5:45 | 185 | 207 | 392 | 11:30 - 11:45 | 16 | 30 | 46 |
| 5:45 - 6:00 | 124 | 84 | 208 | 11:45 - 12:00 | 213 | 201 | 414 | 5:45 - 6:00 | 192 | 256 | 448 | 11:45 - 12:00 | 17 | 26 | 43 |

| AM COMMUTER PERIOD (05:00 - 09:00) | DIR 1 | DIR 2 | TOTAL | PM COMMUTER PERIOD (15:00 - 19:00) | DIR 1 | DIR 2 | TOTAL |
|---|---|---|---|---|---|---|---|
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:30 AM to 8:30 AM | | | PM - PEAK HR TIME | 3:30 PM to 4:30 PM | | |
| AM - PEAK HR VOLUME | 1,059 | 815 | 1,874 | PM - PEAK HR VOLUME | 1,094 | 1,175 | 2,269 |
| AM - K FACTOR (%) | | | 6.58% | PM - K FACTOR (%) | | | 7.97% |
| AM - D (%) | 56.51% | 43.49% | 100.00% | PM - D (%) | 48.22% | 51.78% | 100.00% |
| DIRECTIONAL PEAK | | | | DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 7:00 AM to 8:00 AM | 8:00 AM to 9:00 AM | | PM - PEAK HR TIME | 3:30 PM to 4:30 PM | 3:45 PM to 4:45 PM | |
| AM - PEAK HR VOLUME | 1,117 | 845 | | PM - PEAK HR VOLUME | 1,094 | 1,190 | |
| AM PERIOD (00:00 - 12:00) | | | | PM PERIOD (12:00 - 24:00) | | | |
| TWO DIRECTIONAL PEAK | | | | TWO DIRECTIONAL PEAK | | | |
| AM - PEAK HR TIME | 9:45 AM to 10:45 AM | | | PM - PEAK HR TIME | 3:30 PM to 4:30 PM | | |
| AM - PEAK HR VOLUME | 805 | 1,123 | 1,928 | PM - PEAK HR VOLUME | 1,094 | 1,175 | 2,269 |
| AM - K FACTOR (%) | | | 6.77% | PM - K FACTOR (%) | | | 7.97% |
| AM - D (%) | 41.75% | 58.25% | 100.00% | PM - D (%) | 48.22% | 51.78% | 100.00% |
| NON COMMUTER PERIOD (09:00-15:00) | | | | 6-HR, 12-HR, 24-HR PERIODS | DIR 1 | DIR 2 | TOTAL |
| TWO DIRECTIONAL PEAK | | | | AM 6-HR PERIOD (06:00-12:00) | 5,344 | 5,226 | 10,570 |
| PEAK HR TIME | 2:00 PM to 3:00 PM | | | AM 12-HR PERIOD (00:00-12:00) | 6,126 | 5,727 | 11,853 |
| PEAK HR VOLUME | 988 | 1,047 | 2,035 | PM 6-HR PERIOD (12:00-18:00) | 5,891 | 6,068 | 11,959 |
| DIRECTIONAL PEAK | | | | PM 12-HR PERIOD (12:00-24:00) | 8,164 | 8,457 | 16,621 |
| PEAK HR TIME | 12:30 PM to 1:30 PM | 9:45 AM to 10:45 AM | | 24 HOUR PERIOD | 14,290 | 14,184 | 28,474 |
| PEAK HR VOLUME | 1,023 | 1,123 | | D (%) | 50.19% | 49.81% | 100.00% |

| | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 | Class 10 | Class 11 | Class 12 | Class 13 | Class 14 | Class 15 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 24 Hr Subtotal | 25 | 7,816 | 5,732 | 76 | 440 | 65 | 30 | 33 | 41 | 2 | 2 | 1 | 0 | 2 | 25 | 14,290 |
| D1 % | 0.17% | 54.70% | 40.11% | 0.53% | 3.08% | 0.45% | 0.21% | 0.23% | 0.29% | 0.01% | 0.01% | 0.01% | 0.00% | 0.01% | 0.17% | 100.00% |
| D2 24 Hr Subtotal | 18 | 7,233 | 6,132 | 95 | 486 | 110 | 4 | 26 | 30 | 2 | 2 | 0 | 0 | 15 | 31 | 14,184 |
| D2 % | 0.13% | 50.99% | 43.23% | 0.67% | 3.43% | 0.78% | 0.03% | 0.18% | 0.21% | 0.01% | 0.01% | 0.00% | 0.00% | 0.11% | 0.22% | 100.00% |
| Total | 43 | 15,049 | 11,864 | 171 | 926 | 175 | 34 | 59 | 71 | 4 | 4 | 1 | 0 | 17 | 56 | 28,474 |
| % | 0.15% | 52.85% | 41.67% | 0.60% | 3.25% | 0.61% | 0.12% | 0.21% | 0.25% | 0.01% | 0.01% | 0.00% | 0.00% | 0.06% | 0.20% | 100.00% |
| | | | | | | | | | | | | | | | T% | 5.07% |

# Appendix E
# Soil Assessment Report

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**Myounghee Noh & Associates LLC, dba MNA Environmental**
Design, Studies, and Consulting Services

August 18, 2023

RMA Architects, Inc.
1150 King Street, 8th Floor
Honolulu, Hawaii 96814

**Subject: Soil Screening Survey for Recapitalize Station Facilities USCG Station Maui, Wailuku, HI**

Myounghee Noh & Associates, L.L.C. dba MNA Environmental (MNA), was retained by RMA Architects, Inc. to conduct a soil screening survey in support of the Recapitalize Station Facilities project at USCG Station Maui, at 233 Maalaea Road, Wailuku, Maui (Attachment I. Figure 1). The purpose of the screening survey was to identify any presence of potentially hazardous soil contaminants that may be encountered during soil disturbance and construction.

## 1.0 Soil Sampling and Analysis

### 1.1 Sampling Areas

On 15 May 2023, MNA conducted a soil screening survey at the proposed new construction site at Alternative #5 at TMK (2) 3-8-014:028 and 030. The subject area is currently used as an open parking lot; the entire lot was designated as one decision unit (DU). Soil samples were collected from DU-01 using a multi-increment (MI) sampling method.

### 1.2 Chemicals of Potential Concern (COPC)

**Pesticides:** Chlorinated pesticides are synthetic compounds that were historically used as insecticides on food crops and as termiticides in and around buildings. From the mid-to late 1980s, the use and commercial production of certain chlorinated pesticides (e.g., chlordane, heptachlor, aldrin, dieldrin, and endrin) have been prohibited in the U.S. and many other countries. However, residues from these and other chlorinated pesticides may still be present beneath and around structures that were treated prior to their prohibition. There is the potential that chlorinated pesticides were applied near the apartment complex next to the subject property or beneath foundation, which may have been previously present in the area.

**Heavy metals**: Lead, cadmium, and chromium are occasionally found in the surface soil due to paint release and metal leaching from the exterior heavy metal-containing paints. Arsenic can be found due to the potential past use of herbicides.

**Petroleum contaminants and polychlorinated biphenyls (PCB)**: Petroleum compounds such as total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAH) are common contaminants at military installations due to fuel leaks/releases. PCB can be found in the military operation areas due to oil leaks from electrical equipment (e.g. transformers, electrical cables).

### 1.3 DU-01 Sampling Activities

Utility clearance was confirmed by Hawaii One Call on 12 April 2023 prior to MNA's mobilization. On 14 May 2023, MNA marked 30 boring holes with white spray paint within the project area at Alternative #5 [TMK (2) 3-8-014:028 and 030].

On 15 June 2023, MNA collected five MI soil samples from 30 borings along DU-01 using a mini excavator (Figure 2). The sampling depths were 0-0.5 ft, 0.5-1.5 ft, and 1.5-3 ft below ground

surface (bgs). MNA collected a set of triplicate samples from 0-0.5 ft bgs. The collected samples were analyzed for the following COPC:

- TPH as diesel/residual range organics (DRO/RRO) by the Environmental Protection Agency (EPA) Method 8015M
- 18 priority pollutant PAH by EPA Method 8270C-SIM
- Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Method 6010B/7471A (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
- Organochlorine pesticides by EPA Method 8081A
- Chlorinated herbicides (EPA 8151A)

Table 1 provides a summary of the soil sampling and analyses. No signs of soil contamination were observed during soil sampling, such as stained soil or petroleum odors. The samples were submitted to Enthalpy Analytical, Orange, California, with a chain-of-custody, security seals, and a soil import permit.

**Table 1. DU-01: Summary of Soil Sampling and Analysis**

| Sampling Location | Sample Type (No. of Increments) | Sample ID | Sample Depth (ft bgs) | Analytes | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | TPH – DRO/ RRO | PAH | Total – RCRA 8 Metals | Chlorinated Herbicides | Organochlorine Pesticides |
| DU-01: Alternative #5 at TMK (2) 3-8-014:028 TMK (2) 3-8-014:030 | MI (30) | DU-01-A | 0-0.5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | DU-01-A-D | 0-0.5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | DU-01-A-T | 0-0.5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | DU-01-B | 0.5-1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | DU-01-C | 1-3 | ✓ | ✓ | ✓ | ✓ | ✓ |

DU Decision Unit ft bgs feet below ground surface MI Multi increments
PAH Polyaromatic Hydrocarbons
RCRA Resource Conservation and Recovery Act
TPH-DRO/RRO Total Petroleum Hydrocarbons as Diesel Range Organics /Residual Range Organics

## 2.0 DU-01 Analytical Results

The analytical results were compared to the Hawaii Department of Health (HDOH) Tier 1 Environmental Action Levels (EAL) for soil with unrestricted (residential) and restricted (commercial/industrial) land uses below a non-drinking water resource, and located less than 150 meters from surface water (Hawaii Department of Health, 2022).

Measurable levels of PAH (phenanthrene, fluoranthene, pyrene, chrysene, and benzo(b)fluoranthene) were found on primary sample collected at 0-0.5 ft bgs and heavy metals (arsenic, barium, chromium, lead, and selenium) were found in all samples, but the concentrations were below the EAL for the unrestricted land use. No measurable levels of TPH-DRO/RRO, chlorinated herbicides, or pesticides were found in the samples. A summary of analytical results and laboratory analytical report are presented in Attachments II and III, respectively.

## 3.0 Conclusion and Recommendations

No soil contaminants measured exceeding the EAL for unrestricted land use. No signs of contamination were observed from the collected soil samples. However, since soil samples were collected at a maximum depth of 3 ft bgs, there is potential to encounter contaminated soil during earthwork below 3 ft bgs. The Contractor must conduct excavation monitoring for signs of contamination during soil disturbance. The excavated soil can be reused within the project site

under the pavement if the soil meets the geotechnical requirements. All excess soil must be characterized, including sampling and analysis, and disposed of in accordance with the federal, state, and local regulations. In addition, the Contractor must follow the installation requirements for excess soil characterization and disposal. Dust and runoff controls must be implemented during the entire construction period until the site is stabilized.

Please contact me at 808-495-5237 or vgabriel@mnaenvironmental.com if you have any questions.

Sincerely,

Vanessa Gabriel
Environmental Scientist

**Attachments**

| | |
|---|---|
| Attachment I | Project and Survey Boring Locations |
| Figure 1. | Project Location |
| Figure 2. | Survey Boring Locations |
| Attachment II. | Summary of Analytical Results |
| Table A | DU1 Soil Analytical Results |
| Attachment III. | Laboratory Analytical Report |

# Attachment I. Figures

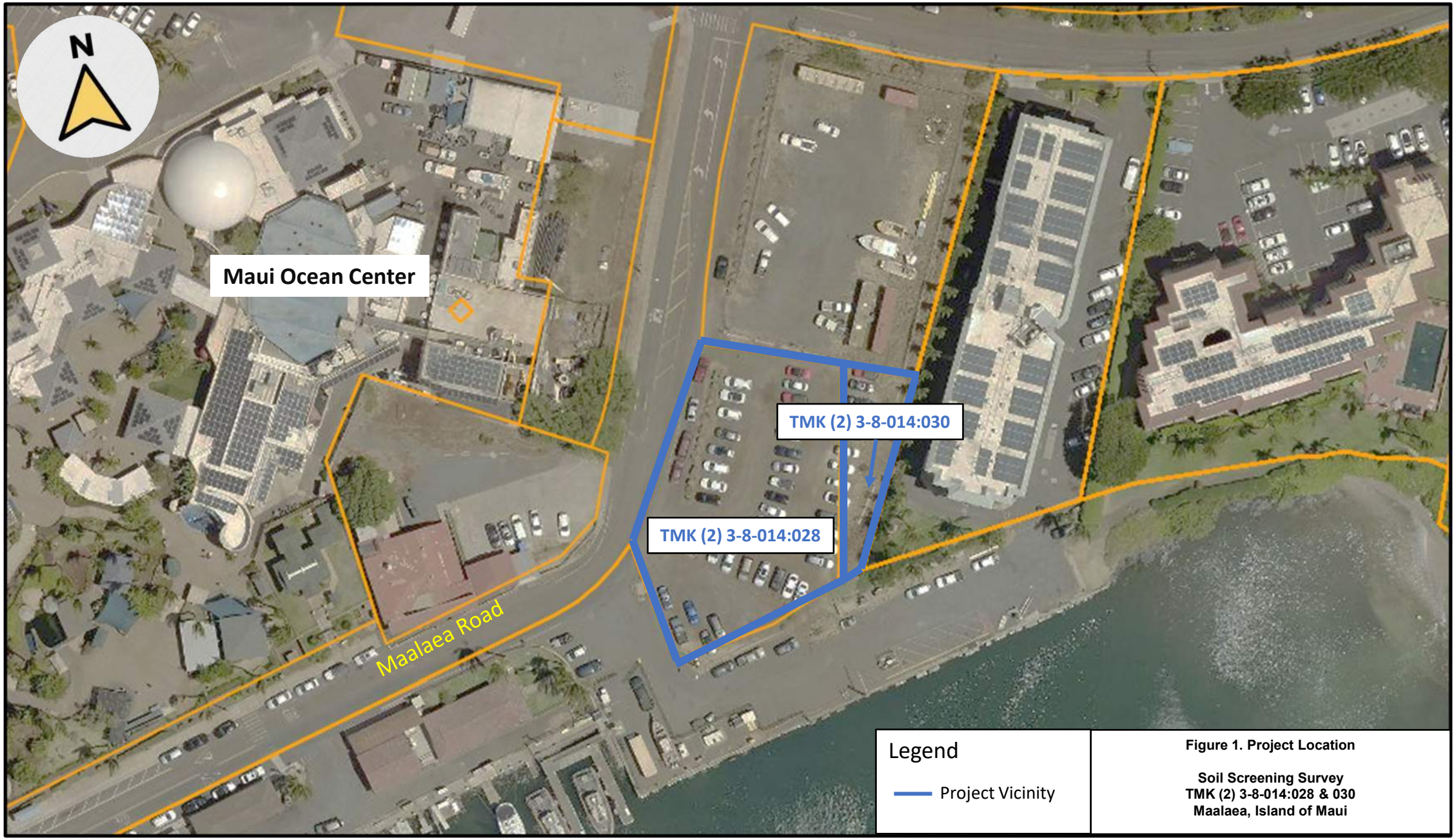



**Figure 1. Project Location**

**Soil Screening Survey**
**TMK (2) 3-8-014:028 & 030**
**Maalaea, Island of Maui**


**Figure 2. Survey Boring Locations**

**Soil Screening Survey**
**TMK (2) 3-8-014:028 & 030**
**Maalaea, Island of Maui**

# Attachment II. Summary of Analytical Results

## Table A. DU-01 Soil Analytical Results

| Analyte / Sample ID / Depth | Analytical Results (mg/kg) | | | | | Tier 1 EALs (mg/kg) | |
|---|---|---|---|---|---|---|---|
| | DU-01-A | DU-01-A-D | DU-01-A-T | DU-01-B | DU-01-C | | |
| | 0-0.5 ft bgs Primary | 0-0.5 ft bgs Duplicate | 0-0.5 ft bgs Triplicate | 0.5-1.5ft bgs Primary | 1.5-3 ft bgs Primary | Unrestricted | Restricted |
| **Extractable Carbon Chain (8015M)** | | | | | | | |
| Diesel | ND (23) | ND (23) | ND (23) | ND (24) | ND (25) | 220 | 680 |
| Oil | ND (45) | ND (45) | ND (46) | ND (48) | ND (49) | 500 | 1,000 |
| **Polynuclear Aromatic Hydrocarbons (EPA 8270C-SIM)** | | | | | | | |
| Naphthalene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 4.4 | 4.4 |
| 2-Methylnaphthalene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 4.1 | 4.1 |
| 1-Methylnaphthalene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 4.2 | 4.2 |
| Acenaphthylene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 100 | 100 |
| Acenaphthene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 120 | 120 |
| Fluorene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 93 | 93 |
| Phenanthrene | 24 | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 460 | 500 |
| Anthracene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 4.2 | 4.2 |
| Fluoranthene | 39 | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 120 | 120 |
| Pyrene | 46 | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 44 | 44 |
| Benzo(a)anthracene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 10 | 10 |
| Chrysene | 27 | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 30 | 30 |
| Benzo(b)fluoranthene | 22 | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 11 | 21 |
| Benzo(k)fluoranthene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 39 | 39 |
| Benzo(a)pyrene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 3.6 | 15 |
| Indeno(1,2,3-cd)pyrene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 11 | 31 |
| Dibenz(a,h)anthracene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 1.1 | 18 |
| Benzo(g,h,i)perylene | ND (0.015) | ND (0.030) | ND (0.030) | ND (0.032) | ND (0.033) | 35 | 35 |
| **Resource Conservation and Recovery Act 8 Metals (6010B/7471A)** | | | | | | | |
| Arsenic | 1.3 | 1.1 | 1.1 | 0.50 | 0.76 | 24 | 95 |
| Barium | 51 | 54 | 51 | 54 | 51 | 1,000 | 2,500 |
| Cadmium | ND (0.25) | ND (0.25) | ND (0.25) | 0.33 | ND (0.25) | 14 | 72 |
| Chromium | 120 | 120 | 130 | 130 | 130 | 1,100 | 1,100 |
| Lead | 6.1 | 10 | 7.8 | 8.1 | 4.7 | 200 | 800 |
| Selenium | 1.7 | 1.8 | 1.8 | 1.9 | ND (1.5) | 78 | 1,000 |
| Silver | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | ND (0.25) | 78 | 1,000 |
| Mercury | ND (0.0018) | ND (0.18) | ND (0.18) | ND (0.19) | ND (0.19) | 4.7 | 61 |
| **Organochlorine Pesticides (EPA 8081A)** | | | | | | | |
| alpha-BHC | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 0.075[1] | 0.075[1] |

| Sample ID/ Depth / Analyte | Analytical Results (mg/kg) | | | | | Tier 1 EALs (mg/kg) | |
|---|---|---|---|---|---|---|---|
| | DU-01-A | DU-01-A-D | DU-01-A-T | DU-01-B | DU-01-C | | |
| | 0-0.5 ft bgs Primary | 0-0.5 ft bgs Duplicate | 0-0.5 ft bgs Triplicate | 0.5-1.5ft bgs Primary | 1.5-3 ft bgs Primary | Unrestricted | Restricted |
| gamma-BHC (Lindane) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| beta-BHC | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| delta-BHC | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| Heptachlor | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 1.3 | 5.6 |
| 4,4'-DDD | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 2.2 | 8.4 |
| 4,4'-DDE | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 1.9 | 8.2 |
| 4,4'-DDT | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 1.8 | 5.6 |
| Aldrin | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 3.9 | 8.4 |
| Heptachlor Epoxide | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 0.2 | 2.7 |
| Endosulfan I | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| Endosulfan II | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 13[2] | 13[2] |
| Endosulfan Sulfate | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| Endrin Aldehyde | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| Endrin Ketone | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 3.8[3] | 30[3] |
| Endrin | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | | |
| Dieldrin | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | ND (0.0017) | 2.2 | 24 |
| Methoxychlor | ND (0.0033) | ND (0.0033) | ND (0.0033) | ND (0.0033) | ND (0.0033) | 16 | 16 |
| Technical Chlordane | ND (0.017) | ND (0.017) | ND (0.017) | ND (0.017) | ND (0.017) | 17 | 23 |
| Toxaphene | ND (0.033) | ND (0.033) | ND (0.033) | ND (0.033) | ND (0.033) | 0.48 | 1.8 |
| **Chlorinated Herbicides (EPA 8151A)** | | | | | | | |
| Acifluorfen | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Bentazon | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Chloramben | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| 2,4-D (Dichlorophenoxyacetic acid) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | 0.34 | 0.34 |
| 2,4-DB | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Dalapon | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | 0.16 | 0.16 |
| DCPA (mono & diacid) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Dicamba | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| 3,5-Dichlorobenzoic Acid | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Dichloroprop | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Dinoseb (DNBP) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| MCPA | ND (10) | ND (10) | ND (10) | ND (10) | ND (10) | -- | -- |
| MCPP | ND (10) | ND (10) | ND (10) | ND (10) | ND (10) | -- | -- |
| 4-Nitrophenol | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| Pentachlorophenol (PCP) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | 0.78 | 0.78 |

| Sample ID/ Depth / Analyte | Analytical Results (mg/kg) | | | | | Tier 1 EALs (mg/kg) | |
|---|---|---|---|---|---|---|---|
| | DU-01-A | DU-01-A-D | DU-01-A-T | DU-01-B | DU-01-C | | |
| | 0-0.5 ft bgs Primary | 0-0.5 ft bgs Duplicate | 0-0.5 ft bgs Triplicate | 0.5-1.5ft bgs Primary | 1.5-3 ft bgs Primary | Unrestricted | Restricted |
| Picloram | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | -- | -- |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | 0.12 | 0.12 |
| 2,4,5-TP (Silvex) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | ND (0.10) | 0.87 | 0.87 |

Criteria: Hawaii Department of Health, Tier 1 Soil EAL with unrestricted (residential) and restricted (industrial/commercial) land uses at a non-drinking water resource and located less than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).
Notes:
1 EAL is for Hexachlorocyclohexane ("BHC" as Lindane) = Alpha- + Beta- + Gamma- + Delta-BHC
2 EAL is for Endosulfan = Endosulfan I + Endosulfan II + Endosulfan sulfate
3 EAL is for Endrin = Endrin + Endrin aldehyde + Endrin ketone

Abbreviations/Acronyms:

| | | | |
|---|---|---|---|
| bgs | below ground surface | ID | Identification |
| DU | Decision Unit | mg/kg | milligrams per kilogram |
| EAL | Environmental Action Level | ND (00) | not detected (laboratory reporting limit) |

# Attachment III. Laboratory Analytical Report

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

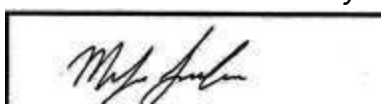
Lab Job Number: 487152
Report Level: II
Report Date: 07/06/2023

**Analytical Report** *prepared for:*

Vanessa Gabriel
MNA Environmental
98-025 Hekaha Street, Bldg. 2
Suite 215A
Aiea, HI 96701

Project: 3211_1 - Site Investigation Station Facilities, USCG Station Maui, Wailuku, HI

*Authorized for release by:*



Miguel Gamboa, Project Coordinator
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

# Sample Summary

Vanessa Gabriel
MNA Environmental
98-025 Hekaha Street, Bldg. 2
Suite 215A
Aiea, HI 96701

| | |
|---|---|
| Lab Job #: | 487152 |
| Project No: | 3211_1 |
| Location: | Site Investigation Station Facilities, USCG Station Maui, Wailuku, HI |
| Date Received: | 06/20/23 |

| Sample ID | Lab ID | Collected | Matrix |
|---|---|---|---|
| DU-01-A | 487152-001 | 06/15/23 10:00 | Soil |
| DU-01-A-D | 487152-002 | 06/15/23 10:00 | Soil |
| DU-01-A-T | 487152-003 | 06/15/23 10:00 | Soil |
| DU-01-B | 487152-004 | 06/15/23 10:00 | Soil |
| DU-01-C | 487152-005 | 06/15/23 10:00 | Soil |

ENTHALPY ANALYTICAL

# Case Narrative

| | | |
|---|---|---|
| MNA Environmental<br>98-025 Hekaha Street,<br>Bldg. 2<br>Suite 215A<br>Aiea, HI 96701<br>Vanessa Gabriel | Lab Job Number: | 487152 |
| | Project No: | 3211_1 |
| | Location: | Site Investigation Station Facilities, USCG Station Maui, Wailuku, HI |
| | Date Received: | 06/20/23 |

This data package contains sample and QC results for five soil samples, requested for the above referenced project on 06/20/23. The samples were received cold and intact. Multi-Increment Sampling (ISM) was performed on all samples in accordance with HDOH specifications.

**TPH-Extractables by GC (EPA 8015M):**

- Low surrogate recovery was observed for n-triacontane in DU-01-A-D (lab # 487152-002).
- No other analytical problems were encountered.

**Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):**

- High response was observed for acenaphthylene in the CCV analyzed 06/27/23 17:27; affected data was qualified with "b".
- A number of samples were diluted due to the dark color of the sample extracts.
- No other analytical problems were encountered.

**Pesticides (EPA 8081A):**

- High RPD was observed for endrin aldehyde in the BS/BSD for batch 317063; this analyte was not detected at or above the RL in the associated samples.
- No other analytical problems were encountered.

**Metals (EPA 6010B and EPA 7471A):**
No analytical problems were encountered.

**Moisture (ASTM D2216):**
No analytical problems were encountered.

**8151A Chlorinated Herbicides (EPA 8151A):**
McCampbell Analytical, Inc. in Pittsburg, CA performed the analysis (NELAP certified). Please see the McCampbell Analytical, Inc. case narrative.

# ENTHALPY ANALYTICAL

## Chain of Custody Record

Lab No: 87152

Page: 1 of 1

**Turn Around Time (rush by advanced notice only)**

| Standard: | X | 5 Day: | | 3 Day: | |
|---|---|---|---|---|---|
| 2 Day: | | 1 Day: | | Custom TAT: | |


**Enthalpy Analytical - Orange**
931 W Barkley Avenue, Orange, CA 92868
Phone 714-771-6900


**Matrix:** A = Air S = Soil/Solid W = Water OW = Drinking Wate SD = Sediment PP = Pure Product SEA = Sea Water SW = Swab T = Tissue WP = Wipe O = Other

**Preservatives:** 1 = $Na_2S_2O_3$ 2 = HCl 3 = $HNO_3$ 4 = $H_2SO_4$ 5 = NaOH 6 = Other

**Sample Receipt Temp:** 3.4/3.8 ice packs (lab use only)

| CUSTOMER INFORMATION | | PROJECT INFORMATION | |
|---|---|---|---|
| Company: | MNA Environmental | Name: | Site Investigation Station Facilities USCG Station Maui, Wailuku, HI |
| Report To: | Vanessa Gabriel/Gordon Lewis | Number: | 3211_1 |
| Email: | vgabriel@mnaenvironmental.com | P.O. #: | |
| | glewis@mnaenvironmental.com | Address: | |
| Address: | 98-025 Hekaha St., Suite. 215 A | | |
| Phone: | 808484-9214 | Global ID: | |
| Fax: | | Sampled By: | VG, GL, KA, DF |

| | Sample ID | Sampling Date | Sampling Time | Matrix | Container No. / Size | Pres. | TPH Extractable Diesel/Oil (EPA 8015M) | PAH (8270C SIM) | MIS prep | Organochlorine Pesticides, 8082 | RCRA 8 Metals (EPA 6010B/7470A) | Chlorinated Herbicides (EPA 8151A) | Test Instructions / Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | DU-01-A | 06/15/23 | 10:00 AM | Soil | Plastic Bag | none | x | x | x | x | x | x | |
| 2 | DU-01-A-O | 06/15/23 | 10:00 AM | Soil | Plastic Bag | none | x | x | x | x | x | x | |
| 3 | DU-01-A-T | 06/15/23 | 10:00 AM | Soil | Plastic Bag | none | x | x | x | x | x | x | |
| 4 | DU-01-B | 06/15/23 | 10:00 AM | Soil | Plastic Bag | none | x | x | x | x | x | x | |
| 5 | DU-01-C | 06/15/23 | 10:00 AM | Soil | Plastic Bag | none | x | x | x | x | x | x | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |

| | Signature | Print Name | Company / Title | Date / Time |
|---|---|---|---|---|
| 1 Relinquished By: | | Vanessa Gabriel | MNA Environmnetal | 6/19/2023 |
| 1 Received By: | | | EA | ~~6/19/23~~ 6/20/23 ~~1823~~ 1000 |
| 2 Relinquished By: | | | | |
| 2 Received By: | | EPPA Sylvestri | E.A. | 6/27/23 10:26 |
| 3 Relinquished By: | | | | |
| 3 Received By: | | | | |

ENTHALPY ANALYTICAL

# SAMPLE ACCEPTANCE CHECKLIST

**Section 1**

Client: MNA Environmental

Project: Site Investigation Station Facilities, USCG Station Maui, Wailuku, HI

Date Received: 06/27/23

Sampler's Name Present: ☑ Yes ☐ No

**Section 2**

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)

Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 6.0 #2: _____ #3: _____ #4: _____

*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*

Shipping Information: Southwest Airlines

**Section 3**

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 2.2 #2: _____ #3: _____ #4: _____

| **Section 4** | YES | NO | N/A |
|---|---|---|---|
| Was a COC received? | ✔ | | |
| Are sample IDs present? | ✔ | | |
| Are sampling dates & times present? | ✔ | | |
| Is a relinquished signature present? | ✔ | | |
| Are the tests required clearly indicated on the COC? | ✔ | | |
| Are custody seals present? | ✔ | | |
| If custody seals are present, were they intact? | ✔ | | |
| Are all samples sealed in plastic bags? (Recommended for Microbiology samples) | | | ✔ |
| Did all samples arrive intact? If no, indicate in Section 4 below. | ✔ | | |
| Did all bottle labels agree with COC? (ID, dates and times) | ✔ | | |
| Were the samples collected in the correct containers for the required tests? | ✔ | | |
| Are the containers labeled with the correct preservatives? | | | ✔ |
| Is there headspace in the VOA vials greater than 5-6 mm in diameter? | | | ✔ |
| Was a sufficient amount of sample submitted for the requested tests? | ✔ | | |

**Section 5** Explanations/Comments

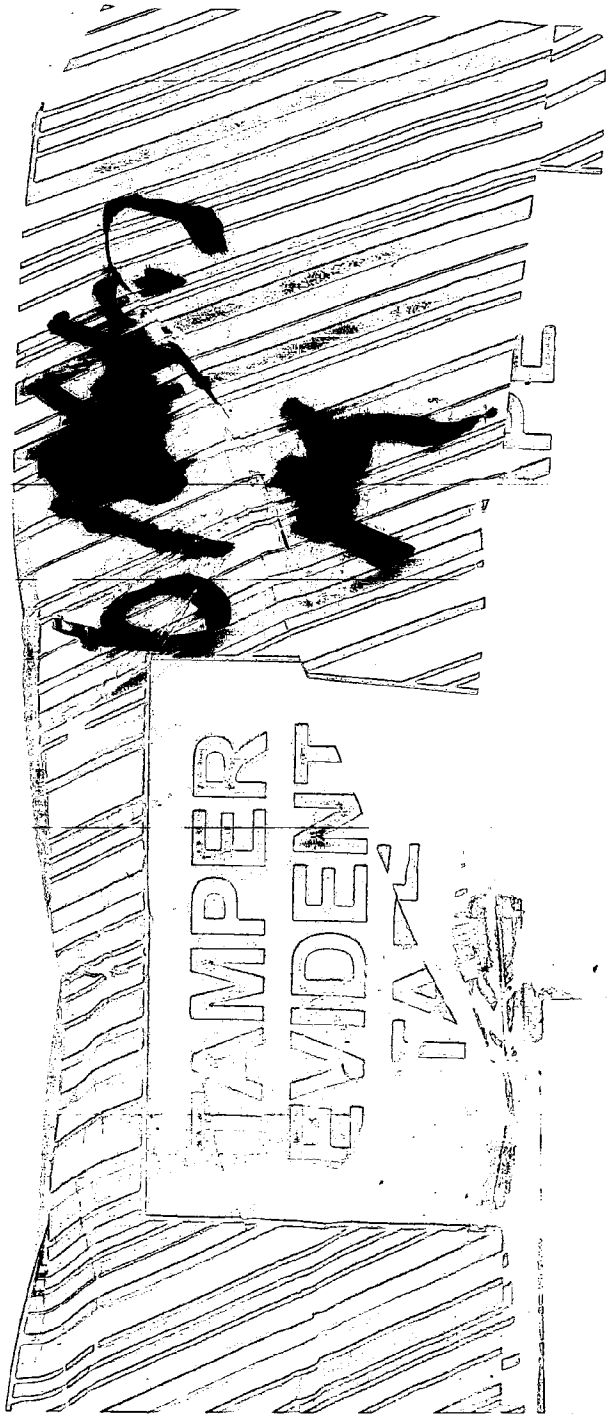
**Section 6**

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 6/27/23




SOUTHWEST AIRLINES

Printed on:
26 JUN 19:01

526 OAK 9002 9693

2.2/6.0

SNA

PC# 5 OF 6 | DG G | LOT WT 195 LB (88.4 KG)

| STN | FLT | DATE | ETD |
|---|---|---|---|
| LAS | WN 3163 | 27 JUN | 07:25 |
| OAK | WN 3727 | 26 JUN | 22:40 |

LOT 01

PC ID: 0005
PC WT: 32LB

526 90029693 0005

S

[redacted]

COOLER

ENTHALPY ANALYTICAL

# Extractable Carbon Chain

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A | **Moisture:** | 11% | **Prepared:** | 06/28/23 |
| **Type:** | SAMPLE | **Diln Fac:** | 1.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-001 | **Batch#:** | 317202 | **Prep:** | EPA 3580M |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8015M |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | SME |

| 487152-001 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 23 | mg/Kg |
| RRO C28-C44 | ND | 45 | mg/Kg |

| 487152-001 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 82 | 70-130 |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-D | **Moisture:** | 11% | **Prepared:** | 06/28/23 |
| **Type:** | SAMPLE | **Diln Fac:** | 1.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-002 | **Batch#:** | 317202 | **Prep:** | EPA 3580M |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8015M |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | BJG |

| 487152-002 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 23 | mg/Kg |
| RRO C28-C44 | ND | 45 | mg/Kg |

| 487152-002 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 66 * | 70-130 |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-T | **Moisture:** | 12% | **Prepared:** | 06/28/23 |
| **Type:** | SAMPLE | **Diln Fac:** | 1.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-003 | **Batch#:** | 317202 | **Prep:** | EPA 3580M |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8015M |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | SME |

| 487152-003 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 23 | mg/Kg |
| RRO C28-C44 | ND | 46 | mg/Kg |

| 487152-003 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 80 | 70-130 |

ENTHALPY ANALYTICAL

# Extractable Carbon Chain

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-B | **Moisture:** | 17% | **Prepared:** | 06/28/23 |
| **Type:** | SAMPLE | **Diln Fac:** | 1.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-004 | **Batch#:** | 317202 | **Prep:** | EPA 3580M |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8015M |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | SME |

| 487152-004 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 24 | mg/Kg |
| RRO C28-C44 | ND | 48 | mg/Kg |

| 487152-004 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 96 | 70-130 |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-C | **Moisture:** | 18% | **Prepared:** | 06/28/23 |
| **Type:** | SAMPLE | **Diln Fac:** | 1.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-005 | **Batch#:** | 317202 | **Prep:** | EPA 3580M |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8015M |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | SME |

| 487152-005 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 25 | mg/Kg |
| RRO C28-C44 | ND | 49 | mg/Kg |

| 487152-005 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 99 | 70-130 |

| | | | | | |
|---|---|---|---|---|---|
| **Type:** | BLANK | **Batch#:** | 317202 | **Analysis:** | EPA 8015M |
| **Lab ID:** | QC1076727 | **Prepared:** | 06/28/23 | **Analyst:** | SME |
| **Matrix:** | Soil | **Analyzed:** | 06/29/23 | | |
| **Diln Fac:** | 1.000 | **Prep:** | EPA 3580M | | |

| QC1076727 Analyte | Result | RL | Units |
|---|---|---|---|
| DRO C10-C28 | ND | 20 | mg/Kg |
| RRO C28-C44 | ND | 40 | mg/Kg |

| QC1076727 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 92 | 70-130 |

Legend

***:** Value is outside QC limits

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Extractable Carbon Chain: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BS **Batch#:** 317202 **Analysis:** EPA 8015M

**Lab ID:** QC1076728 **Prepared:** 06/28/23 **Analyst:** SME

**Matrix:** Soil **Analyzed:** 06/29/23

**Diln Fac:** 1.000 **Prep:** EPA 3580M

| QC1076728 Analyte | Spiked | Result | %REC | Limits | Units |
|---|---|---|---|---|---|
| DRO C10-C28 | 500.2 | 482.6 | 96 | 76-122 | mg/Kg |

| QC1076728 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 84 | 70-130 |

**Type:** BSD **Batch#:** 317202 **Analysis:** EPA 8015M

**Lab ID:** QC1076729 **Prepared:** 06/28/23 **Analyst:** SME

**Matrix:** Soil **Analyzed:** 06/29/23

**Diln Fac:** 1.000 **Prep:** EPA 3580M

| QC1076729 Analyte | Spiked | Result | %REC | Limits | Units | RPD | Lim |
|---|---|---|---|---|---|---|---|
| DRO C10-C28 | 496.9 | 493.0 | 99 | 76-122 | mg/Kg | 3 | 20 |

| QC1076729 Surrogate | %REC | Limits |
|---|---|---|
| n-Triacontane | 85 | 70-130 |

Legend

**RPD:** Relative Percent Difference

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A | **DilN Fac:** | 2.000 | **Analyzed:** | 06/28/23 |
| **Lab ID:** | 487152-001 | **Batch#:** | 317002 | **Prep:** | EPA 3546 |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8270C-SIM |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | TJW |
| **Moisture:** | 11% | **Prepared:** | 06/27/23 | | |

| 487152-001 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 15 | ug/Kg |
| 2-Methylnaphthalene | ND | 15 | ug/Kg |
| Naphthalene | ND | 15 | ug/Kg |
| Acenaphthylene | ND | 15 | ug/Kg |
| Acenaphthene | ND | 15 | ug/Kg |
| Fluorene | ND | 15 | ug/Kg |
| **Phenanthrene** | **24** | 15 | ug/Kg |
| Anthracene | ND | 15 | ug/Kg |
| **Fluoranthene** | **39** | 15 | ug/Kg |
| **Pyrene** | **46** | 15 | ug/Kg |
| Benzo(a)anthracene | ND | 15 | ug/Kg |
| **Chrysene** | **27** | 15 | ug/Kg |
| **Benzo(b)fluoranthene** | **22** | 15 | ug/Kg |
| Benzo(k)fluoranthene | ND | 15 | ug/Kg |
| Benzo(a)pyrene | ND | 15 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 15 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 15 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 15 | ug/Kg |

| 487152-001 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 110 | 27-125 |
| 2-Fluorobiphenyl | 87 | 30-120 |
| Terphenyl-d14 | 74 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-D | **DilN Fac:** | 4.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-002 | **Batch#:** | 317002 | **Prep:** | EPA 3546 |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8270C-SIM |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | TJW |
| **Moisture:** | 11% | **Prepared:** | 06/27/23 | | |

| 487152-002 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 30 | ug/Kg |
| 2-Methylnaphthalene | ND | 30 | ug/Kg |
| Naphthalene | ND | 30 | ug/Kg |
| Acenaphthylene | ND | 30 | ug/Kg |
| Acenaphthene | ND | 30 | ug/Kg |
| Fluorene | ND | 30 | ug/Kg |
| Phenanthrene | ND | 30 | ug/Kg |
| Anthracene | ND | 30 | ug/Kg |
| Fluoranthene | ND | 30 | ug/Kg |
| Pyrene | ND | 30 | ug/Kg |
| Benzo(a)anthracene | ND | 30 | ug/Kg |
| Chrysene | ND | 30 | ug/Kg |
| Benzo(b)fluoranthene | ND | 30 | ug/Kg |
| Benzo(k)fluoranthene | ND | 30 | ug/Kg |
| Benzo(a)pyrene | ND | 30 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 30 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 30 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 30 | ug/Kg |

| 487152-002 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 76 | 27-125 |
| 2-Fluorobiphenyl | 79 | 30-120 |
| Terphenyl-d14 | 95 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-T | **Diln Fac:** | 4.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-003 | **Batch#:** | 317002 | **Prep:** | EPA 3546 |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8270C-SIM |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | TJW |
| **Moisture:** | 12% | **Prepared:** | 06/27/23 | | |

| 487152-003 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 30 | ug/Kg |
| 2-Methylnaphthalene | ND | 30 | ug/Kg |
| Naphthalene | ND | 30 | ug/Kg |
| Acenaphthylene | ND | 30 | ug/Kg |
| Acenaphthene | ND | 30 | ug/Kg |
| Fluorene | ND | 30 | ug/Kg |
| Phenanthrene | ND | 30 | ug/Kg |
| Anthracene | ND | 30 | ug/Kg |
| Fluoranthene | ND | 30 | ug/Kg |
| Pyrene | ND | 30 | ug/Kg |
| Benzo(a)anthracene | ND | 30 | ug/Kg |
| Chrysene | ND | 30 | ug/Kg |
| Benzo(b)fluoranthene | ND | 30 | ug/Kg |
| Benzo(k)fluoranthene | ND | 30 | ug/Kg |
| Benzo(a)pyrene | ND | 30 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 30 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 30 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 30 | ug/Kg |

| 487152-003 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 90 | 27-125 |
| 2-Fluorobiphenyl | 92 | 30-120 |
| Terphenyl-d14 | 96 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-B | **DilN Fac:** | 4.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-004 | **Batch#:** | 317002 | **Prep:** | EPA 3546 |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8270C-SIM |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | TJW |
| **Moisture:** | 17% | **Prepared:** | 06/27/23 | | |

| 487152-004 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 32 | ug/Kg |
| 2-Methylnaphthalene | ND | 32 | ug/Kg |
| Naphthalene | ND | 32 | ug/Kg |
| Acenaphthylene | ND | 32 | ug/Kg |
| Acenaphthene | ND | 32 | ug/Kg |
| Fluorene | ND | 32 | ug/Kg |
| Phenanthrene | ND | 32 | ug/Kg |
| Anthracene | ND | 32 | ug/Kg |
| Fluoranthene | ND | 32 | ug/Kg |
| Pyrene | ND | 32 | ug/Kg |
| Benzo(a)anthracene | ND | 32 | ug/Kg |
| Chrysene | ND | 32 | ug/Kg |
| Benzo(b)fluoranthene | ND | 32 | ug/Kg |
| Benzo(k)fluoranthene | ND | 32 | ug/Kg |
| Benzo(a)pyrene | ND | 32 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 32 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 32 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 32 | ug/Kg |

| 487152-004 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 78 | 27-125 |
| 2-Fluorobiphenyl | 80 | 30-120 |
| Terphenyl-d14 | 85 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-C | **DilN Fac:** | 4.000 | **Analyzed:** | 06/29/23 |
| **Lab ID:** | 487152-005 | **Batch#:** | 317002 | **Prep:** | EPA 3546 |
| **Matrix:** | Soil | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8270C-SIM |
| **Basis:** | dry | **Received:** | 06/20/23 | **Analyst:** | TJW |
| **Moisture:** | 18% | **Prepared:** | 06/27/23 | | |

| 487152-005 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 33 | ug/Kg |
| 2-Methylnaphthalene | ND | 33 | ug/Kg |
| Naphthalene | ND | 33 | ug/Kg |
| Acenaphthylene | ND | 33 | ug/Kg |
| Acenaphthene | ND | 33 | ug/Kg |
| Fluorene | ND | 33 | ug/Kg |
| Phenanthrene | ND | 33 | ug/Kg |
| Anthracene | ND | 33 | ug/Kg |
| Fluoranthene | ND | 33 | ug/Kg |
| Pyrene | ND | 33 | ug/Kg |
| Benzo(a)anthracene | ND | 33 | ug/Kg |
| Chrysene | ND | 33 | ug/Kg |
| Benzo(b)fluoranthene | ND | 33 | ug/Kg |
| Benzo(k)fluoranthene | ND | 33 | ug/Kg |
| Benzo(a)pyrene | ND | 33 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 33 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 33 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 33 | ug/Kg |

| 487152-005 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 88 | 27-125 |
| 2-Fluorobiphenyl | 88 | 30-120 |
| Terphenyl-d14 | 90 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BLANK **Batch#:** 317002 **Analysis:** EPA 8270C-SIM

**Lab ID:** QC1076118 **Prepared:** 06/27/23 **Analyst:** TJW

**Matrix:** Soil **Analyzed:** 06/27/23

**DilIn Fac:** 1.000 **Prep:** EPA 3546

| QC1076118 Analyte | Result | RL | Units |
|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.6 | ug/Kg |
| 2-Methylnaphthalene | ND | 6.6 | ug/Kg |
| Naphthalene | ND | 6.6 | ug/Kg |
| Acenaphthylene | ND | 6.6 | ug/Kg |
| Acenaphthene | ND | 6.6 | ug/Kg |
| Fluorene | ND | 6.6 | ug/Kg |
| Phenanthrene | ND | 6.6 | ug/Kg |
| Anthracene | ND | 6.6 | ug/Kg |
| Fluoranthene | ND | 6.6 | ug/Kg |
| Pyrene | ND | 6.6 | ug/Kg |
| Benzo(a)anthracene | ND | 6.6 | ug/Kg |
| Chrysene | ND | 6.6 | ug/Kg |
| Benzo(b)fluoranthene | ND | 6.6 | ug/Kg |
| Benzo(k)fluoranthene | ND | 6.6 | ug/Kg |
| Benzo(a)pyrene | ND | 6.6 | ug/Kg |
| Indeno(1,2,3-cd)pyrene | ND | 6.6 | ug/Kg |
| Dibenz(a,h)anthracene | ND | 6.6 | ug/Kg |
| Benzo(g,h,i)perylene | ND | 6.6 | ug/Kg |

| QC1076118 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 104 | 27-125 |
| 2-Fluorobiphenyl | 109 | 30-120 |
| Terphenyl-d14 | 84 | 33-155 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BS **Batch#:** 317002 **Analysis:** EPA 8270C-SIM

**Lab ID:** QC1076119 **Prepared:** 06/27/23 **Analyst:** TJW

**Matrix:** Soil **Analyzed:** 06/27/23

**DilN Fac:** 1.000 **Prep:** EPA 3546

| QC1076119 Analyte | Spiked | Result | %REC | Limits | Units | Qual |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 133.8 | 148.0 | 111 | 28-130 | ug/Kg | |
| 2-Methylnaphthalene | 133.8 | 152.4 | 114 | 33-130 | ug/Kg | |
| Naphthalene | 133.8 | 151.0 | 113 | 25-130 | ug/Kg | |
| Acenaphthylene | 133.8 | 165.1 | 123 | 28-130 | ug/Kg | b |
| Acenaphthene | 133.8 | 136.4 | 102 | 32-130 | ug/Kg | |
| Fluorene | 133.8 | 141.9 | 106 | 35-130 | ug/Kg | |
| Phenanthrene | 133.8 | 128.3 | 96 | 35-132 | ug/Kg | |
| Anthracene | 133.8 | 133.6 | 100 | 34-136 | ug/Kg | |
| Fluoranthene | 133.8 | 128.7 | 96 | 34-139 | ug/Kg | |
| Pyrene | 133.8 | 129.5 | 97 | 35-134 | ug/Kg | |
| Benzo(a)anthracene | 133.8 | 120.9 | 90 | 30-132 | ug/Kg | |
| Chrysene | 133.8 | 122.8 | 92 | 29-130 | ug/Kg | |
| Benzo(b)fluoranthene | 133.8 | 117.9 | 88 | 32-137 | ug/Kg | |
| Benzo(k)fluoranthene | 133.8 | 124.0 | 93 | 32-130 | ug/Kg | |
| Benzo(a)pyrene | 133.8 | 119.3 | 89 | 10-138 | ug/Kg | |
| Indeno(1,2,3-cd)pyrene | 133.8 | 141.2 | 106 | 34-132 | ug/Kg | |
| Dibenz(a,h)anthracene | 133.8 | 137.7 | 103 | 32-130 | ug/Kg | |
| Benzo(g,h,i)perylene | 133.8 | 141.0 | 105 | 27-130 | ug/Kg | |

| QC1076119 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 109 | 27-125 |
| 2-Fluorobiphenyl | 114 | 30-120 |
| Terphenyl-d14 | 81 | 33-155 |

ENTHALPY ANALYTICAL

# Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BSD **Batch#:** 317002 **Analysis:** EPA 8270C-SIM

**Lab ID:** QC1076120 **Prepared:** 06/27/23 **Analyst:** TJW

**Matrix:** Soil **Analyzed:** 06/27/23

**DilN Fac:** 1.000 **Prep:** EPA 3546

| QC1076120 Analyte | Spiked | Result | %REC | Limits | Units | RPD | Lim | Qual |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 132.5 | 130.6 | 99 | 28-130 | ug/Kg | 12 | 35 | |
| 2-Methylnaphthalene | 132.5 | 135.5 | 102 | 33-130 | ug/Kg | 11 | 35 | |
| Naphthalene | 132.5 | 131.9 | 100 | 25-130 | ug/Kg | 13 | 35 | |
| Acenaphthylene | 132.5 | 145.7 | 110 | 28-130 | ug/Kg | 11 | 35 | b |
| Acenaphthene | 132.5 | 124.7 | 94 | 32-130 | ug/Kg | 8 | 35 | |
| Fluorene | 132.5 | 129.2 | 98 | 35-130 | ug/Kg | 8 | 35 | |
| Phenanthrene | 132.5 | 122.7 | 93 | 35-132 | ug/Kg | 3 | 35 | |
| Anthracene | 132.5 | 128.3 | 97 | 34-136 | ug/Kg | 3 | 35 | |
| Fluoranthene | 132.5 | 124.2 | 94 | 34-139 | ug/Kg | 3 | 35 | |
| Pyrene | 132.5 | 126.5 | 96 | 35-134 | ug/Kg | 1 | 35 | |
| Benzo(a)anthracene | 132.5 | 115.2 | 87 | 30-132 | ug/Kg | 4 | 35 | |
| Chrysene | 132.5 | 118.1 | 89 | 29-130 | ug/Kg | 3 | 35 | |
| Benzo(b)fluoranthene | 132.5 | 112.0 | 85 | 32-137 | ug/Kg | 4 | 35 | |
| Benzo(k)fluoranthene | 132.5 | 115.3 | 87 | 32-130 | ug/Kg | 6 | 35 | |
| Benzo(a)pyrene | 132.5 | 111.3 | 84 | 10-138 | ug/Kg | 6 | 35 | |
| Indeno(1,2,3-cd)pyrene | 132.5 | 134.6 | 102 | 34-132 | ug/Kg | 4 | 35 | |
| Dibenz(a,h)anthracene | 132.5 | 131.5 | 99 | 32-130 | ug/Kg | 4 | 35 | |
| Benzo(g,h,i)perylene | 132.5 | 134.7 | 102 | 27-130 | ug/Kg | 4 | 35 | |

| QC1076120 Surrogate | %REC | Limits |
|---|---|---|
| Nitrobenzene-d5 | 98 | 27-125 |
| 2-Fluorobiphenyl | 101 | 30-120 |
| Terphenyl-d14 | 80 | 33-155 |

Legend

**RPD:** Relative Percent Difference

**b:** See narrative

ENTHALPY ANALYTICAL

# Organochlorine Pesticides

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A | **Batch#:** | 317063 | **Prep:** | EPA 3546 |
| **Lab ID:** | 487152-001 | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8081A |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | TRN |
| **Basis:** | air dried | **Prepared:** | 06/27/23 | | |
| **Dil Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-001 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| 487152-001 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 50 | 23-120 |
| Decachlorobiphenyl | 46 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-D | **Batch#:** | 317063 | **Prep:** | EPA 3546 |
| **Lab ID:** | 487152-002 | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8081A |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | TRN |
| **Basis:** | air dried | **Prepared:** | 06/27/23 | | |
| **Diln Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-002 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| 487152-002 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 42 | 23-120 |
| Decachlorobiphenyl | 36 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-T | **Batch#:** | 317063 | **Prep:** | EPA 3546 |
| **Lab ID:** | 487152-003 | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8081A |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | TRN |
| **Basis:** | air dried | **Prepared:** | 06/27/23 | | |
| **Diln Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-003 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| 487152-003 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 54 | 23-120 |
| Decachlorobiphenyl | 53 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-B | **Batch#:** | 317063 | **Prep:** | EPA 3546 |
| **Lab ID:** | 487152-004 | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8081A |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | TRN |
| **Basis:** | air dried | **Prepared:** | 06/27/23 | | |
| **Dil Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-004 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| 487152-004 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 67 | 23-120 |
| Decachlorobiphenyl | 64 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-C | **Batch#:** | 317063 | **Prep:** | EPA 3546 |
| **Lab ID:** | 487152-005 | **Sampled:** | 06/15/23 | **Analysis:** | EPA 8081A |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | TRN |
| **Basis:** | air dried | **Prepared:** | 06/27/23 | | |
| **Dil Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-005 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| 487152-005 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 77 | 23-120 |
| Decachlorobiphenyl | 76 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BLANK **Batch#:** 317063 **Analysis:** EPA 8081A

**Lab ID:** QC1076280 **Prepared:** 06/27/23 **Analyst:** TRN

**Matrix:** Soil **Analyzed:** 06/28/23

**DiIn Fac:** 1.000 **Prep:** EPA 3546

| QC1076280 Analyte | Result | RL | Units |
|---|---|---|---|
| alpha-BHC | ND | 1.7 | ug/Kg |
| beta-BHC | ND | 1.7 | ug/Kg |
| gamma-BHC | ND | 1.7 | ug/Kg |
| delta-BHC | ND | 1.7 | ug/Kg |
| Heptachlor | ND | 1.7 | ug/Kg |
| Aldrin | ND | 1.7 | ug/Kg |
| Heptachlor epoxide | ND | 1.7 | ug/Kg |
| Endosulfan I | ND | 1.7 | ug/Kg |
| Dieldrin | ND | 1.7 | ug/Kg |
| 4,4'-DDE | ND | 1.7 | ug/Kg |
| Endrin | ND | 1.7 | ug/Kg |
| Endosulfan II | ND | 1.7 | ug/Kg |
| Endosulfan sulfate | ND | 1.7 | ug/Kg |
| 4,4'-DDD | ND | 1.7 | ug/Kg |
| Endrin aldehyde | ND | 1.7 | ug/Kg |
| Endrin ketone | ND | 1.7 | ug/Kg |
| 4,4'-DDT | ND | 1.7 | ug/Kg |
| Methoxychlor | ND | 3.3 | ug/Kg |
| Toxaphene | ND | 33 | ug/Kg |
| Chlordane (Technical) | ND | 17 | ug/Kg |

| QC1076280 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 82 | 23-120 |
| Decachlorobiphenyl | 78 | 24-120 |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Organochlorine Pesticides: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BS **Batch#:** 317063 **Analysis:** EPA 8081A

**Lab ID:** QC1076281 **Prepared:** 06/27/23 **Analyst:** TRN

**Matrix:** Soil **Analyzed:** 06/28/23

**DilN Fac:** 1.000 **Prep:** EPA 3546

| QC1076281 Analyte | Spiked | Result | %REC | Limits | Units | Qual |
|---|---|---|---|---|---|---|
| alpha-BHC | 16.63 | 16.63 | 100 | 22-129 | ug/Kg | |
| beta-BHC | 16.63 | 16.85 | 101 | 28-125 | ug/Kg | |
| gamma-BHC | 16.63 | 16.29 | 98 | 22-128 | ug/Kg | |
| delta-BHC | 16.63 | 16.52 | 99 | 24-131 | ug/Kg | |
| Heptachlor | 16.63 | 16.12 | 97 | 18-124 | ug/Kg | |
| Aldrin | 16.63 | 13.64 | 82 | 23-120 | ug/Kg | # |
| Heptachlor epoxide | 16.63 | 16.03 | 96 | 26-120 | ug/Kg | |
| Endosulfan I | 16.63 | 15.99 | 96 | 25-126 | ug/Kg | |
| Dieldrin | 16.63 | 16.84 | 101 | 23-124 | ug/Kg | |
| 4,4'-DDE | 16.63 | 16.78 | 101 | 28-121 | ug/Kg | |
| Endrin | 16.63 | 19.15 | 115 | 25-127 | ug/Kg | |
| Endosulfan II | 16.63 | 18.58 | 112 | 29-121 | ug/Kg | |
| Endosulfan sulfate | 16.63 | 17.96 | 108 | 30-121 | ug/Kg | |
| 4,4'-DDD | 16.63 | 18.43 | 111 | 26-120 | ug/Kg | |
| Endrin aldehyde | 16.63 | 8.652 | 52 | 10-120 | ug/Kg | |
| Endrin ketone | 16.63 | 18.23 | 110 | 28-125 | ug/Kg | |
| 4,4'-DDT | 16.63 | 19.32 | 116 | 22-125 | ug/Kg | |
| Methoxychlor | 16.63 | 19.92 | 120 | 28-130 | ug/Kg | |

| QC1076281 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 86 | 23-120 |
| Decachlorobiphenyl | 81 | 24-120 |

ENTHALPY ANALYTICAL

# Organochlorine Pesticides: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BSD **Batch#:** 317063 **Analysis:** EPA 8081A

**Lab ID:** QC1076282 **Prepared:** 06/27/23 **Analyst:** TRN

**Matrix:** Soil **Analyzed:** 06/28/23

**DilN Fac:** 1.000 **Prep:** EPA 3546

| QC1076282 Analyte | Spiked | Result | %REC | Limits | Units | RPD | Lim | Qual |
|---|---|---|---|---|---|---|---|---|
| alpha-BHC | 16.65 | 16.00 | 96 | 22-129 | ug/Kg | 4 | 20 | |
| beta-BHC | 16.65 | 16.62 | 100 | 28-125 | ug/Kg | 2 | 20 | |
| gamma-BHC | 16.65 | 15.81 | 95 | 22-128 | ug/Kg | 3 | 20 | |
| delta-BHC | 16.65 | 16.02 | 96 | 24-131 | ug/Kg | 3 | 20 | |
| Heptachlor | 16.65 | 15.56 | 93 | 18-124 | ug/Kg | 4 | 20 | |
| Aldrin | 16.65 | 13.18 | 79 | 23-120 | ug/Kg | 3 | 20 | # |
| Heptachlor epoxide | 16.65 | 15.41 | 93 | 26-120 | ug/Kg | 4 | 20 | |
| Endosulfan I | 16.65 | 15.60 | 94 | 25-126 | ug/Kg | 3 | 20 | |
| Dieldrin | 16.65 | 16.12 | 97 | 23-124 | ug/Kg | 4 | 20 | |
| 4,4'-DDE | 16.65 | 16.21 | 97 | 28-121 | ug/Kg | 4 | 20 | |
| Endrin | 16.65 | 18.29 | 110 | 25-127 | ug/Kg | 5 | 20 | |
| Endosulfan II | 16.65 | 17.91 | 108 | 29-121 | ug/Kg | 4 | 20 | |
| Endosulfan sulfate | 16.65 | 17.20 | 103 | 30-121 | ug/Kg | 4 | 20 | |
| 4,4'-DDD | 16.65 | 17.87 | 107 | 26-120 | ug/Kg | 3 | 20 | |
| Endrin aldehyde | 16.65 | 6.118 | 37 | 10-120 | ug/Kg | 34 * | 20 | |
| Endrin ketone | 16.65 | 17.77 | 107 | 28-125 | ug/Kg | 3 | 20 | |
| 4,4'-DDT | 16.65 | 18.56 | 111 | 22-125 | ug/Kg | 4 | 20 | |
| Methoxychlor | 16.65 | 19.13 | 115 | 28-130 | ug/Kg | 4 | 20 | |

| QC1076282 Surrogate | %REC | Limits |
|---|---|---|
| TCMX | 83 | 23-120 |
| Decachlorobiphenyl | 81 | 24-120 |

Legend

**#:** CCV drift outside limits; average CCV drift within limits per method requirements

***:** Value is outside QC limits

**RPD:** Relative Percent Difference

ENTHALPY ANALYTICAL

# Metals Analytical Report

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Field ID:** DU-01-A **Matrix:** Soil **Received:** 06/20/23

**Type:** SAMPLE **Diln Fac:** 1.000

**Lab ID:** 487152-001 **Sampled:** 06/15/23

| 487152-001 Analyte | Result | RL | Units | Basis | Moisture | Batch# | Prepared | Analyzed | Prep | Analysis | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.3** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Barium** | **51** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Cadmium | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Chromium** | **120** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Lead** | **6.1** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Mercury | ND | 0.0018 | mg/Kg | dry | 11% | 317540 | 07/06/23 | 07/06/23 | METHOD | EPA 7471A | KAM |
| **Selenium** | **1.7** | 1.5 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Silver | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |

**Field ID:** DU-01-A-D **Matrix:** Soil **Received:** 06/20/23

**Type:** SAMPLE **Diln Fac:** 1.000

**Lab ID:** 487152-002 **Sampled:** 06/15/23

| 487152-002 Analyte | Result | RL | Units | Basis | Moisture | Batch# | Prepared | Analyzed | Prep | Analysis | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.1** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Barium** | **54** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Cadmium | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Chromium** | **120** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Lead** | **10** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Mercury | ND | 0.18 | mg/Kg | dry | 11% | 317540 | 07/06/23 | 07/06/23 | METHOD | EPA 7471A | KAM |
| **Selenium** | **1.8** | 1.5 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Silver | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |

**Field ID:** DU-01-A-T **Matrix:** Soil **Received:** 06/20/23

**Type:** SAMPLE **Diln Fac:** 1.000

**Lab ID:** 487152-003 **Sampled:** 06/15/23

| 487152-003 Analyte | Result | RL | Units | Basis | Moisture | Batch# | Prepared | Analyzed | Prep | Analysis | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **1.1** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Barium** | **51** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Cadmium | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Chromium** | **130** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Lead** | **7.8** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Mercury | ND | 0.18 | mg/Kg | dry | 12% | 317540 | 07/06/23 | 07/06/23 | METHOD | EPA 7471A | KAM |
| **Selenium** | **1.8** | 1.5 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Silver | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |

ENTHALPY ANALYTICAL

# Metals Analytical Report

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Field ID:** DU-01-B **Matrix:** Soil **Received:** 06/20/23

**Type:** SAMPLE **Diln Fac:** 1.000

**Lab ID:** 487152-004 **Sampled:** 06/15/23

| 487152-004 Analyte | Result | RL | Units | Basis | Moisture | Batch# | Prepared | Analyzed | Prep | Analysis | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **0.50** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Barium** | **54** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Cadmium** | **0.33** | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Chromium** | **130** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Lead** | **8.1** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Mercury | ND | 0.19 | mg/Kg | dry | 17% | 317540 | 07/06/23 | 07/06/23 | METHOD | EPA 7471A | KAM |
| **Selenium** | **1.9** | 1.5 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Silver | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |

**Field ID:** DU-01-C **Matrix:** Soil **Received:** 06/20/23

**Type:** SAMPLE **Diln Fac:** 1.000

**Lab ID:** 487152-005 **Sampled:** 06/15/23

| 487152-005 Analyte | Result | RL | Units | Basis | Moisture | Batch# | Prepared | Analyzed | Prep | Analysis | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arsenic** | **0.76** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Barium** | **51** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Cadmium | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Chromium** | **130** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| **Lead** | **4.7** | 0.50 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Mercury | ND | 0.19 | mg/Kg | dry | 18% | 317540 | 07/06/23 | 07/06/23 | METHOD | EPA 7471A | KAM |
| Selenium | ND | 1.5 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |
| Silver | ND | 0.25 | mg/Kg | air dried | | 317158 | 06/28/23 | 06/29/23 | EPA 3050B | EPA 6010B | SBW |

**Type:** BLANK **Batch#:** 317158 **Analysis:** EPA 6010B

**Lab ID:** QC1076574 **Prepared:** 06/28/23 **Analyst:** SBW

**Matrix:** Soil **Analyzed:** 06/29/23

**Diln Fac:** 1.000 **Prep:** EPA 3050B

| QC1076574 Analyte | Result | RL | Units |
|---|---|---|---|
| Arsenic | ND | 0.50 | mg/Kg |
| Barium | ND | 0.50 | mg/Kg |
| Cadmium | ND | 0.25 | mg/Kg |
| Chromium | ND | 0.50 | mg/Kg |
| Lead | ND | 0.50 | mg/Kg |
| Selenium | ND | 1.5 | mg/Kg |
| Silver | ND | 0.25 | mg/Kg |

ENTHALPY ANALYTICAL

# Metals Analytical Report

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Type:** | BLANK | **Batch#:** | 317540 | **Analysis:** | EPA 7471A |
| **Lab ID:** | QC1077829 | **Prepared:** | 07/06/23 | **Analyst:** | KAM |
| **Matrix:** | Soil | **Analyzed:** | 07/06/23 | | |
| **DiIn Fac:** | 1.000 | **Prep:** | METHOD | | |

| QC1077829 Analyte | Result | RL | Units |
|---|---|---|---|
| Mercury | ND | 0.14 | mg/Kg |

Legend

**ND:** Not Detected

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Metals Analytical Report: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** BS **Dil'n Fac:** 1.000 **Prep:** EPA 3050B

**Lab ID:** QC1076575 **Batch#:** 317158 **Analysis:** EPA 6010B

**Matrix:** Soil **Prepared:** 06/28/23 **Analyst:** SBW

| QC1076575 Analyte | Spiked | Result | %REC | Limits | Units | Analyzed |
|---|---|---|---|---|---|---|
| Arsenic | 50.00 | 41.42 | 83 | 80-120 | mg/Kg | 06/29/23 |
| Barium | 50.00 | 44.94 | 90 | 80-120 | mg/Kg | 06/29/23 |
| Cadmium | 50.00 | 43.86 | 88 | 80-120 | mg/Kg | 06/29/23 |
| Chromium | 50.00 | 42.57 | 85 | 80-120 | mg/Kg | 06/29/23 |
| Lead | 50.00 | 45.69 | 91 | 80-120 | mg/Kg | 06/29/23 |
| Selenium | 50.00 | 40.41 | 81 | 80-120 | mg/Kg | 06/30/23 |
| Silver | 25.00 | 21.39 | 86 | 80-120 | mg/Kg | 06/30/23 |

**Type:** BSD **Dil'n Fac:** 1.000 **Prep:** EPA 3050B

**Lab ID:** QC1076576 **Batch#:** 317158 **Analysis:** EPA 6010B

**Matrix:** Soil **Prepared:** 06/28/23 **Analyst:** SBW

| QC1076576 Analyte | Spiked | Result | %REC | Limits | Units | RPD | Lim | Analyzed |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 50.00 | 40.17 | 80 | 80-120 | mg/Kg | 3 | 20 | 06/29/23 |
| Barium | 50.00 | 43.91 | 88 | 80-120 | mg/Kg | 2 | 20 | 06/29/23 |
| Cadmium | 50.00 | 42.75 | 86 | 80-120 | mg/Kg | 3 | 20 | 06/29/23 |
| Chromium | 50.00 | 41.54 | 83 | 80-120 | mg/Kg | 2 | 20 | 06/29/23 |
| Lead | 50.00 | 44.52 | 89 | 80-120 | mg/Kg | 3 | 20 | 06/29/23 |
| Selenium | 50.00 | 45.31 | 91 | 80-120 | mg/Kg | 11 | 20 | 06/30/23 |
| Silver | 25.00 | 24.19 | 97 | 80-120 | mg/Kg | 12 | 20 | 06/30/23 |

Legend

**RPD:** Relative Percent Difference

ENTHALPY ANALYTICAL

# Metals Analytical Report: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

**Type:** LCS **Batch#:** 317540 **Analysis:** EPA 7471A

**Lab ID:** QC1077830 **Prepared:** 07/06/23 **Analyst:** KAM

**Matrix:** Soil **Analyzed:** 07/06/23

**DiIn Fac:** 1.000 **Prep:** METHOD

| QC1077830 Analyte | Spiked | Result | %REC | Limits | Units |
|---|---|---|---|---|---|
| Mercury | 0.8333 | 0.8281 | 99 | 80-120 | mg/Kg |

ENTHALPY ANALYTICAL

# Metals Analytical Report: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | ZZZZZZZZZZ | **Basis:** | as received | **Prepared:** | 07/06/23 |
| **Type:** | MS | **Diln Fac:** | 1.000 | **Analyzed:** | 07/06/23 |
| **MSS Lab ID:** | 487629-001 | **Batch#:** | 317540 | **Prep:** | METHOD |
| **Lab ID:** | QC1077838 | **Sampled:** | 05/17/23 | **Analysis:** | EPA 7471A |
| **Matrix:** | Soil | **Received:** | 06/28/23 | **Analyst:** | KAM |

| QC1077838 Analyte | MSS Result | Spiked | Result | %REC | Limits | Units |
|---|---|---|---|---|---|---|
| Mercury | 0.01131 | 0.8475 | 0.8520 | 99 | 75-125 | mg/Kg |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | ZZZZZZZZZZ | **Basis:** | as received | **Prepared:** | 07/06/23 |
| **Type:** | MSD | **Diln Fac:** | 1.000 | **Analyzed:** | 07/06/23 |
| **MSS Lab ID:** | 487629-001 | **Batch#:** | 317540 | **Prep:** | METHOD |
| **Lab ID:** | QC1077839 | **Sampled:** | 05/17/23 | **Analysis:** | EPA 7471A |
| **Matrix:** | Soil | **Received:** | 06/28/23 | **Analyst:** | KAM |

| QC1077839 Analyte | Spiked | Result | %REC | Limits | Units | RPD | Lim |
|---|---|---|---|---|---|---|---|
| Mercury | 0.8929 | 0.8781 | 97 | 75-125 | mg/Kg | 2 | 20 |

Legend

**RPD:** Relative Percent Difference

ENTHALPY ANALYTICAL

# Moisture

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A | **Batch#:** | 317159 | **Prep:** | METHOD |
| **Lab ID:** | 487152-001 | **Sampled:** | 06/15/23 | **Analysis:** | ASTM D2216 |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | EWT |
| **Dil n Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-001 Analyte | Result | RL | Units |
|---|---|---|---|
| **Moisture, Percent** | **11** | 1 | % |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-D | **Batch#:** | 317159 | **Prep:** | METHOD |
| **Lab ID:** | 487152-002 | **Sampled:** | 06/15/23 | **Analysis:** | ASTM D2216 |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | EWT |
| **Dil n Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-002 Analyte | Result | RL | Units |
|---|---|---|---|
| **Moisture, Percent** | **11** | 1 | % |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-A-T | **Batch#:** | 317159 | **Prep:** | METHOD |
| **Lab ID:** | 487152-003 | **Sampled:** | 06/15/23 | **Analysis:** | ASTM D2216 |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | EWT |
| **Dil n Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-003 Analyte | Result | RL | Units |
|---|---|---|---|
| **Moisture, Percent** | **12** | 1 | % |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-B | **Batch#:** | 317159 | **Prep:** | METHOD |
| **Lab ID:** | 487152-004 | **Sampled:** | 06/15/23 | **Analysis:** | ASTM D2216 |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | EWT |
| **Dil n Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-004 Analyte | Result | RL | Units |
|---|---|---|---|
| **Moisture, Percent** | **17** | 1 | % |

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | DU-01-C | **Batch#:** | 317159 | **Prep:** | METHOD |
| **Lab ID:** | 487152-005 | **Sampled:** | 06/15/23 | **Analysis:** | ASTM D2216 |
| **Matrix:** | Soil | **Received:** | 06/20/23 | **Analyst:** | EWT |
| **Dil n Fac:** | 1.000 | **Analyzed:** | 06/28/23 | | |

| 487152-005 Analyte | Result | RL | Units |
|---|---|---|---|
| **Moisture, Percent** | **18** | 1 | % |

Legend

**RL:** Reporting Limit

ENTHALPY ANALYTICAL

# Moisture: Batch QC

**Lab #:** 487152 **Project#:** 3211_1

**Client:** MNA Environmental **Location:** Site Investigation Station Facilit...

| | | | | | |
|---|---|---|---|---|---|
| **Field ID:** | ZZZZZZZZZZ | **DiIn Fac:** | 1.000 | **Prep:** | METHOD |
| **Type:** | SDUP | **Batch#:** | 317159 | **Analysis:** | ASTM D2216 |
| **MSS Lab ID:** | 486943-011 | **Sampled:** | 05/22/23 | **Analyst:** | EWT |
| **Lab ID:** | QC1076579 | **Received:** | 05/24/23 | | |
| **Matrix:** | Soil | **Analyzed:** | 06/28/23 | | |

| QC1076579 Analyte | MSS Result | Result | RL | Units | RPD | Lim |
|---|---|---|---|---|---|---|
| **Moisture, Percent** | 21.23 | **21.08** | 1.000 | % | 1 | 20 |

Legend

**RL:** Reporting Limit

**RPD:** Relative Percent Difference

**Laboratory Job Number 487152**

**Subcontracted Products**

**McCampbell Analytical, Inc.**

# McCampbell Analytical, Inc.

*"When Quality Counts"*

# Analytical Report

**WorkOrder:** 2306M45

**Report Created for:** Enthalpy Analytical

931 West Barkley Avenue
Orange, CA 92868

**Project Contact:** Miguel Gamboa
**Project P.O.:** 048367
**Project:** EO-487152

**Project Received:** 06/27/2023

Analytical Report reviewed & approved for release on 07/06/2023 by:

Yen Cao
Project Manager

***The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.***

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

McCampbell Analytical, Inc.
*"When Quality Counts"*

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

# Glossary of Terms & Qualifier Definitions

**Client:** Enthalpy Analytical **WorkOrder:** 2306M45

**Project:** EO-487152

## Glossary Abbreviation

| | |
|---|---|
| %D | Serial Dilution Percent Difference |
| 95% Interval | 95% Confident Interval |
| CPT | Consumer Product Testing not NELAP Accredited |
| DF | Dilution Factor |
| DI WET | (DISTLC) Waste Extraction Test using DI water |
| DISS | Dissolved (direct analysis of 0.45 µm filtered and acidified water sample) |
| DLT | Dilution Test (Serial Dilution) |
| DUP | Duplicate |
| EDL | Estimated Detection Limit |
| ERS | External reference sample. Second source calibration verification. |
| ITEF | International Toxicity Equivalence Factor |
| LCS | Laboratory Control Sample |
| LQL | Lowest Quantitation Level |
| MB | Method Blank |
| MB % Rec | % Recovery of Surrogate in Method Blank, if applicable |
| MDL | Method Detection Limit [1] |
| ML | Minimum Level of Quantitation |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| NA | Not Applicable |
| ND | Not detected at or above the indicated MDL or RL |
| NR | Data Not Reported due to matrix interference or insufficient sample amount. |
| PDS | Post Digestion Spike |
| PDSD | Post Digestion Spike Duplicate |
| PF | Prep Factor |
| RD | Relative Difference |
| RL | Reporting limit [2] |
| RPD | Relative Percent Difference |
| RRT | Relative Retention Time |
| RSD | Relative Standard Deviation |
| SPK Val | Spike Value |
| SPKRef Val | Spike Reference Value |
| SPLP | Synthetic Precipitation Leachate Procedure |
| ST | Sorbent Tube |
| TCLP | Toxicity Characteristic Leachate Procedure |

[1] MDL is the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. Definition and Procedure for the Determination of the Method Detection Limit, Revision 2, 40CFR, Part 136, Appendix B, EPA 821-R-16-006, December 2016.

[2] RL is the lowest level that can be reliably determined within specified limits of precision and accuracy during routine laboratory operating conditions. (The RL cannot be lower than the lowest calibration standard used in the initial calibration of the instrument and must be greater than the MDL.)

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

# Glossary of Terms & Qualifier Definitions

**Client:** Enthalpy Analytical **WorkOrder:** 2306M45

**Project:** EO-487152

| | |
|---|---|
| TEQ | Toxicity Equivalents |
| TZA | TimeZone Net Adjustment for sample collected outside of MAI's UTC. |
| WET (STLC) | Waste Extraction Test (Soluble Threshold Limit Concentration) |

## Analytical Qualifiers

| | |
|---|---|
| a3 | Sample diluted due to high organic content interfering with quantitative/or qualitative analysis. |

## Quality Control Qualifiers

| | |
|---|---|
| F2 | LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria. |

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

# Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Received:** | 06/27/2023 14:05 | **Extraction Method:** | SW8151A |
| **Date Prepared:** | 06/28/2023 | **Analytical Method:** | SW8151A |
| **Project:** | EO-487152 | **Unit:** | mg/kg |

## Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID | Matrix | Date Collected | Instrument | Batch ID |
|---|---|---|---|---|---|
| DU-01-A | 2306M45-001A | Soil | 06/15/2023 10:00 | GC15A 06302317.D | 272644 |

| Analytes | Result | RL | DF | Date Analyzed |
|---|---|---|---|---|
| Acifluorfen | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Bentazon | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Chloramben | ND | 0.10 | 10 | 06/30/2023 16:41 |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.10 | 10 | 06/30/2023 16:41 |
| 2,4-DB | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Dalapon | ND | 0.10 | 10 | 06/30/2023 16:41 |
| DCPA (mono & diacid) | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Dicamba | ND | 0.10 | 10 | 06/30/2023 16:41 |
| 3,5-Dichlorobenzoic Acid | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Dichloroprop | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Dinoseb (DNBP) | ND | 0.10 | 10 | 06/30/2023 16:41 |
| MCPA | ND | 10 | 10 | 06/30/2023 16:41 |
| MCPP | ND | 10 | 10 | 06/30/2023 16:41 |
| 4-Nitrophenol | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Pentachlorophenol (PCP) | ND | 0.10 | 10 | 06/30/2023 16:41 |
| Picloram | ND | 0.10 | 10 | 06/30/2023 16:41 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.10 | 10 | 06/30/2023 16:41 |
| 2,4,5-TP (Silvex) | ND | 0.10 | 10 | 06/30/2023 16:41 |

| Surrogates | REC (%) | Limits | |
|---|---|---|---|
| DCAA | 78 | 60-140 | 06/30/2023 16:41 |

Analyst(s): DP  Analytical Comments: a3

*(Cont.)*

CA ELAP 1644 • NELAP 4033ORELAP


38 of 48

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http://www.mccampbell.com / E-mail: main@mccampbell.com

# Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Received:** | 06/27/2023 14:05 | **Extraction Method:** | SW8151A |
| **Date Prepared:** | 06/28/2023 | **Analytical Method:** | SW8151A |
| **Project:** | EO-487152 | **Unit:** | mg/kg |

## Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID | Matrix | Date Collected | Instrument | Batch ID |
|---|---|---|---|---|---|
| DU-01-A-D | 2306M45-002A | Soil | 06/15/2023 10:00 | GC15A 06302318.D | 272644 |

| Analytes | Result | RL | DF | Date Analyzed |
|---|---|---|---|---|
| Acifluorfen | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Bentazon | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Chloramben | ND | 0.10 | 10 | 06/30/2023 17:07 |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.10 | 10 | 06/30/2023 17:07 |
| 2,4-DB | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Dalapon | ND | 0.10 | 10 | 06/30/2023 17:07 |
| DCPA (mono & diacid) | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Dicamba | ND | 0.10 | 10 | 06/30/2023 17:07 |
| 3,5-Dichlorobenzoic Acid | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Dichloroprop | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Dinoseb (DNBP) | ND | 0.10 | 10 | 06/30/2023 17:07 |
| MCPA | ND | 10 | 10 | 06/30/2023 17:07 |
| MCPP | ND | 10 | 10 | 06/30/2023 17:07 |
| 4-Nitrophenol | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Pentachlorophenol (PCP) | ND | 0.10 | 10 | 06/30/2023 17:07 |
| Picloram | ND | 0.10 | 10 | 06/30/2023 17:07 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.10 | 10 | 06/30/2023 17:07 |
| 2,4,5-TP (Silvex) | ND | 0.10 | 10 | 06/30/2023 17:07 |

| Surrogates | REC (%) | Limits | |
|---|---|---|---|
| DCAA | 82 | 60-140 | 06/30/2023 17:07 |

Analyst(s): DP  Analytical Comments: a3

*(Cont.)*

CA ELAP 1644 • NELAP 4033ORELAP

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http://www.mccampbell.com / E-mail: main@mccampbell.com

# Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Received:** | 06/27/2023 14:05 | **Extraction Method:** | SW8151A |
| **Date Prepared:** | 06/28/2023 | **Analytical Method:** | SW8151A |
| **Project:** | EO-487152 | **Unit:** | mg/kg |

## Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID | Matrix | Date Collected | Instrument | Batch ID |
|---|---|---|---|---|---|
| DU-01-A-T | 2306M45-003A | Soil | 06/15/2023 10:00 | GC15A 07052325.D | 272644 |

| Analytes | Result | RL | DF | Date Analyzed |
|---|---|---|---|---|
| Acifluorfen | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Bentazon | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Chloramben | ND | 0.10 | 10 | 07/05/2023 23:32 |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.10 | 10 | 07/05/2023 23:32 |
| 2,4-DB | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Dalapon | ND | 0.10 | 10 | 07/05/2023 23:32 |
| DCPA (mono & diacid) | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Dicamba | ND | 0.10 | 10 | 07/05/2023 23:32 |
| 3,5-Dichlorobenzoic Acid | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Dichloroprop | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Dinoseb (DNBP) | ND | 0.10 | 10 | 07/05/2023 23:32 |
| MCPA | ND | 10 | 10 | 07/05/2023 23:32 |
| MCPP | ND | 10 | 10 | 07/05/2023 23:32 |
| 4-Nitrophenol | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Pentachlorophenol (PCP) | ND | 0.10 | 10 | 07/05/2023 23:32 |
| Picloram | ND | 0.10 | 10 | 07/05/2023 23:32 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.10 | 10 | 07/05/2023 23:32 |
| 2,4,5-TP (Silvex) | ND | 0.10 | 10 | 07/05/2023 23:32 |

| Surrogates | REC (%) | Limits | |
|---|---|---|---|
| DCAA | 106 | 63-121 | 07/05/2023 23:32 |

Analyst(s): DP  Analytical Comments: a3

*(Cont.)*

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# Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Received:** | 06/27/2023 14:05 | **Extraction Method:** | SW8151A |
| **Date Prepared:** | 06/28/2023 | **Analytical Method:** | SW8151A |
| **Project:** | EO-487152 | **Unit:** | mg/kg |

## Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID | Matrix | Date Collected | Instrument | Batch ID |
|---|---|---|---|---|---|
| DU-01-B | 2306M45-004A | Soil | 06/15/2023 10:00 | GC15A 06302320.D | 272644 |

| Analytes | Result | RL | DF | Date Analyzed |
|---|---|---|---|---|
| Acifluorfen | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Bentazon | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Chloramben | ND | 0.10 | 10 | 06/30/2023 17:59 |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.10 | 10 | 06/30/2023 17:59 |
| 2,4-DB | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Dalapon | ND | 0.10 | 10 | 06/30/2023 17:59 |
| DCPA (mono & diacid) | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Dicamba | ND | 0.10 | 10 | 06/30/2023 17:59 |
| 3,5-Dichlorobenzoic Acid | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Dichloroprop | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Dinoseb (DNBP) | ND | 0.10 | 10 | 06/30/2023 17:59 |
| MCPA | ND | 10 | 10 | 06/30/2023 17:59 |
| MCPP | ND | 10 | 10 | 06/30/2023 17:59 |
| 4-Nitrophenol | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Pentachlorophenol (PCP) | ND | 0.10 | 10 | 06/30/2023 17:59 |
| Picloram | ND | 0.10 | 10 | 06/30/2023 17:59 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.10 | 10 | 06/30/2023 17:59 |
| 2,4,5-TP (Silvex) | ND | 0.10 | 10 | 06/30/2023 17:59 |

| Surrogates | REC (%) | Limits | |
|---|---|---|---|
| DCAA | 83 | 60-140 | 06/30/2023 17:59 |

Analyst(s): DP

Analytical Comments: a3

*(Cont.)*

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# Analytical Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Received:** | 06/27/2023 14:05 | **Extraction Method:** | SW8151A |
| **Date Prepared:** | 06/28/2023 | **Analytical Method:** | SW8151A |
| **Project:** | EO-487152 | **Unit:** | mg/kg |

## Chlorinated Herbicides by GC-ECD

| Client ID | Lab ID | Matrix | Date Collected | Instrument | Batch ID |
|---|---|---|---|---|---|
| DU-01-C | 2306M45-005A | Soil | 06/15/2023 10:00 | GC15A 06302321.D | 272644 |

| Analytes | Result | RL | DF | Date Analyzed |
|---|---|---|---|---|
| Acifluorfen | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Bentazon | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Chloramben | ND | 0.10 | 10 | 06/30/2023 18:25 |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.10 | 10 | 06/30/2023 18:25 |
| 2,4-DB | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Dalapon | ND | 0.10 | 10 | 06/30/2023 18:25 |
| DCPA (mono & diacid) | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Dicamba | ND | 0.10 | 10 | 06/30/2023 18:25 |
| 3,5-Dichlorobenzoic Acid | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Dichloroprop | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Dinoseb (DNBP) | ND | 0.10 | 10 | 06/30/2023 18:25 |
| MCPA | ND | 10 | 10 | 06/30/2023 18:25 |
| MCPP | ND | 10 | 10 | 06/30/2023 18:25 |
| 4-Nitrophenol | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Pentachlorophenol (PCP) | ND | 0.10 | 10 | 06/30/2023 18:25 |
| Picloram | ND | 0.10 | 10 | 06/30/2023 18:25 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.10 | 10 | 06/30/2023 18:25 |
| 2,4,5-TP (Silvex) | ND | 0.10 | 10 | 06/30/2023 18:25 |

| Surrogates | REC (%) | Limits | |
|---|---|---|---|
| DCAA | 75 | 60-140 | 06/30/2023 18:25 |

Analyst(s): DP  Analytical Comments: a3

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# Quality Control Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Prepared:** | 06/28/2023 | **BatchID:** | 272644 |
| **Date Analyzed:** | 06/30/2023 | **Extraction Method:** | SW8151A |
| **Instrument:** | GC15A | **Analytical Method:** | SW8151A |
| **Matrix:** | Soil | **Unit:** | mg/kg |
| **Project:** | EO-487152 | **Sample ID:** | MB/LCS/LCSD-272644 |

## QC Summary Report for SW8151A

| Analyte | MB Result | MDL | RL | SPK Val | MB SS %REC | MB SS Limits |
|---|---|---|---|---|---|---|
| Acifluorfen | ND | 0.0048 | 0.010 | - | - | - |
| Bentazon | ND | 0.0033 | 0.010 | - | - | - |
| Chloramben | ND | 0.0056 | 0.010 | - | - | - |
| 2,4-D (Dichlorophenoxyacetic acid) | ND | 0.0046 | 0.010 | - | - | - |
| 2,4-DB | ND | 0.0045 | 0.010 | - | - | - |
| Dalapon | ND | 0.0069 | 0.010 | - | - | - |
| DCPA (mono & diacid) | ND | 0.0043 | 0.010 | - | - | - |
| Dicamba | ND | 0.0035 | 0.010 | - | - | - |
| 3,5-Dichlorobenzoic Acid | ND | 0.0038 | 0.010 | - | - | - |
| Dichloroprop | ND | 0.0036 | 0.010 | - | - | - |
| Dinoseb (DNBP) | ND | 0.0036 | 0.010 | - | - | - |
| MCPA | ND | 0.48 | 1.0 | - | - | - |
| MCPP | ND | 0.36 | 1.0 | - | - | - |
| 4-Nitrophenol | ND | 0.0071 | 0.010 | - | - | - |
| Pentachlorophenol (PCP) | ND | 0.0028 | 0.010 | - | - | - |
| Picloram | ND | 0.0043 | 0.010 | - | - | - |
| 2,4,5-T (Trichlorophenoxy acetic acid) | ND | 0.0030 | 0.010 | - | - | - |
| 2,4,5-TP (Silvex) | ND | 0.0027 | 0.010 | - | - | - |
| **Surrogate Recovery** | | | | | | |
| DCAA | 0.098 | | | 0.1 | 98 | 63-129 |

*(Cont.)*

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# Quality Control Report

| | | | |
|---|---|---|---|
| **Client:** | Enthalpy Analytical | **WorkOrder:** | 2306M45 |
| **Date Prepared:** | 06/28/2023 | **BatchID:** | 272644 |
| **Date Analyzed:** | 06/30/2023 | **Extraction Method:** | SW8151A |
| **Instrument:** | GC15A | **Analytical Method:** | SW8151A |
| **Matrix:** | Soil | **Unit:** | mg/kg |
| **Project:** | EO-487152 | **Sample ID:** | MB/LCS/LCSD-272644 |

## QC Summary Report for SW8151A

| Analyte | LCS Result | LCSD Result | SPK Val | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Acifluorfen | 0.065 | 0.068 | 0.10 | 65 | 68 | 60-140 | 4.14 | 30 |
| Bentazon | 0.078 | 0.080 | 0.10 | 78 | 80 | 60-140 | 2.82 | 30 |
| Chloramben | 0.081 | 0.083 | 0.10 | 81 | 83 | 60-140 | 2.89 | 30 |
| 2,4-D (Dichlorophenoxyacetic acid) | 0.085 | 0.087 | 0.10 | 85 | 87 | 67-147 | 3.07 | 30 |
| 2,4-DB | 0.087 | 0.090 | 0.10 | 87 | 90 | 61-152 | 2.71 | 30 |
| Dalapon | 0.086 | 0.086 | 0.10 | 86 | 86 | 54-153 | 0.0821 | 30 |
| DCPA (mono & diacid) | 0.084 | 0.087 | 0.10 | 84 | 87 | 60-140 | 3.53 | 30 |
| Dicamba | 0.085 | 0.088 | 0.10 | 85 | 88 | 60-146 | 2.55 | 30 |
| 3,5-Dichlorobenzoic Acid | 0.087 | 0.089 | 0.10 | 87 | 89 | 60-140 | 2.51 | 30 |
| Dichloroprop | 0.085 | 0.088 | 0.10 | 85 | 88 | 60-140 | 3.09 | 30 |
| Dinoseb (DNBP) | 0.077 | 0.080 | 0.10 | 77 | 80 | 60-140 | 4.01 | 30 |
| MCPA | 7.8 | 8.1 | 10 | 78 | 81 | 60-140 | 3.34 | 30 |
| MCPP | 7.6 | 7.9 | 10 | 76 | 79 | 60-140 | 3.51 | 30 |
| 4-Nitrophenol | 0.17 | 0.17 | 0.10 | 168,F2 | 173,F2 | 60-140 | 2.89 | 30 |
| Pentachlorophenol (PCP) | 0.089 | 0.092 | 0.10 | 89 | 92 | 60-140 | 3.10 | 30 |
| Picloram | 0.076 | 0.078 | 0.10 | 76 | 78 | 60-140 | 2.90 | 30 |
| 2,4,5-T (Trichlorophenoxy acetic acid) | 0.090 | 0.093 | 0.10 | 90 | 93 | 60-140 | 3.28 | 30 |
| 2,4,5-TP (Silvex) | 0.088 | 0.091 | 0.10 | 88 | 91 | 63-145 | 2.89 | 30 |
| **Surrogate Recovery** | | | | | | | | |
| DCAA | 0.10 | 0.10 | 0.10 | 101 | 105 | 63-129 | 3.33 | 30 |

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Pittsburg, CA 94565-1701
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD



**WorkOrder: 2306M45** **ClientCode: ENO** **QuoteID: 223972**

☐ WaterTrax ☐ CLIP ☐ EDF ☑ EQuIS ☑ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

☑ Detection Summary ☑ Excel [A1_w/QC_noMDL (Hist)]

**Report to:**
Miguel Gamboa
Enthalpy Analytical
931 West Barkley Avenue
Orange, CA 92868
(657) 581-4710 FAX:

Email: miguel.gamboa@enthalpy.com
cc/3rd Party: incomingreports@enthalpy.com;
PO:
Project: EO-487152

**Bill to:**
Accounts Payable/Enthalpy SoCal
Montrose Environmental Group
931 West Barkley Avenue
Orange, CA 92868
003EL_ap@montrose-env.com

**Requested TAT:** **5 days;**

*Date Received:* **06/27/2023**
*Date Logged:* **06/27/2023**

| Lab ID | ClientSampID | Matrix | Collection Date | Hold | Requested Tests (See legend below) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2306M45-001 | DU-01-A | Soil | 6/15/2023 10:00 | ☐ | A | A | A | | | | | | | | | |
| 2306M45-002 | DU-01-A-D | Soil | 6/15/2023 10:00 | ☐ | A | A | | | | | | | | | | |
| 2306M45-003 | DU-01-A-T | Soil | 6/15/2023 10:00 | ☐ | A | A | | | | | | | | | | |
| 2306M45-004 | DU-01-B | Soil | 6/15/2023 10:00 | ☐ | A | A | | | | | | | | | | |
| 2306M45-005 | DU-01-C | Soil | 6/15/2023 10:00 | ☐ | A | A | | | | | | | | | | |

**Test Legend:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 8151_S | 2 | PRDisposal Fee | 3 | PRForeignSoilDisposal Fee | 4 | |
| 5 | | 6 | | 7 | | 8 | |
| 9 | | 10 | | 11 | | 12 | |

**Project Manager: Yen Cao**

**Prepared by: Adrianna Cardoza**

**Comments:**

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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# WORK ORDER SUMMARY

**Client Name:** ENTHALPY ANALYTICAL **Project:** EO-487152 **Work Order:** 2306M45
**Client Contact:** Miguel Gamboa **QC Level:** LEVEL 2
**Contact's Email:** miguel.gamboa@enthalpy.com **Comments:** **Date Logged:** 6/27/2023

☐ WaterTrax ☐ CLIP ☐ EDF ☑ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

| LabID | ClientSampID | Matrix | Test Name | Containers /Composites | Bottle & Preservative | U** | Head Space | Dry-Weight | Collection Date & Time | TAT | Test Due Date | Sediment Content | Hold | Sub Out |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001A | DU-01-A | Soil | SW8151A (Chlorinated Herbicides) | 1 | 2OZ GJ, Unpres | ☐ | ☐ | ☐ | 6/15/2023 10:00 | 5 days | 7/5/2023 | | ☐ | ☐ |
| 002A | DU-01-A-D | Soil | SW8151A (Chlorinated Herbicides) | 1 | 2OZ GJ, Unpres | ☐ | ☐ | ☐ | 6/15/2023 10:00 | 5 days | 7/5/2023 | | ☐ | ☐ |
| 003A | DU-01-A-T | Soil | SW8151A (Chlorinated Herbicides) | 1 | 2OZ GJ, Unpres | ☐ | ☐ | ☐ | 6/15/2023 10:00 | 5 days | 7/5/2023 | | ☐ | ☐ |
| 004A | DU-01-B | Soil | SW8151A (Chlorinated Herbicides) | 1 | 2OZ GJ, Unpres | ☐ | ☐ | ☐ | 6/15/2023 10:00 | 5 days | 7/5/2023 | | ☐ | ☐ |
| 005A | DU-01-C | Soil | SW8151A (Chlorinated Herbicides) | 1 | 2OZ GJ, Unpres | ☐ | ☐ | ☐ | 6/15/2023 10:00 | 5 days | 7/5/2023 | | ☐ | ☐ |

**NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).**

**- Organic extracts are held for 40 days before disposal; Inorganic extract are held for 30 days.**

**- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.**

**U** = An unpreserved container was received for a method that suggests a preservation in order to extend hold time for analysis.**

2306M145

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange
Orange, CA 92868
(714) 771-6900 / Fax: (510) 486-0532

Subcontract Laboratory:
McCampbell Analytical, Inc.
1534 Willow Pass Rd.
Pittsburg, CA 94565
ATTN: Quote ID: 223972
PO #: Required, to be sent via email

Enthalpy Order: EO-487152
PM: Miguel Gamboa
Email: miguel.gamboa@enthalpy.com
CC: incomingreports@enthalpy.com
Phone: (714) 771-6900

Results Due: 7/6
Report Level: II
Report To: RL
EDDs: Standard Excel EDD

Notes:

| Sample ID | Collected | Lab ID | # Cont. | Matrix | Analysis Requested | Comment |
|---|---|---|---|---|---|---|
| DU-01-A | 15-JUN-2023 10:00 | 487152-001 | 1 | Soil | EPA 8151A Chlorinated Herbicides | MIS-DRY |
| DU-01-A-D | 15-JUN-2023 10:00 | 487152-002 | 1 | Soil | EPA 8151A Chlorinated Herbicides | MIS-DRY |
| DU-01-A-T | 15-JUN-2023 10:00 | 487152-003 | 1 | Soil | EPA 8151A Chlorinated Herbicides | MIS-DRY |
| DU-01-B | 15-JUN-2023 10:00 | 487152-004 | 1 | Soil | EPA 8151A Chlorinated Herbicides | MIS-DRY |
| DU-01-C | 15-JUN-2023 10:00 | 487152-005 | 1 | Soil | EPA 8151A Chlorinated Herbicides | MIS-DRY |

| Notes: | Relinquished By: | Received By: |
|---|---|---|
| | | MAM/MAJ |
| | Date: 6/27/23 9:58 | Date: 6/27/23 9:58 |
| | MAM/MAJ | |
| | Date: 6/27/23 1405 | Date: 6.27.23 1405 |
| | | |
| | Date: | Date: |

5.9wd

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# Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Client Name: | Enthalpy Analytical | Date and Time Received: | 6/27/2023 14:05 |
| Project: | EO-487152 | Date Logged: | 6/27/2023 |
| | | Received by: | Antonio Mason |
| WorkOrder №: | 2306M45 Matrix: Soil | Logged by: | Adrianna Cardoza |
| Carrier: | Antonio Mason (MAI Courier) | | |

## Chain of Custody (COC) Information

| | | | | | |
|---|---|---|---|---|---|
| Chain of custody present? | Yes | ☑ | No | ☐ | |
| Chain of custody signed when relinquished and received? | Yes | ☑ | No | ☐ | |
| Chain of custody agrees with sample labels? | Yes | ☑ | No | ☐ | |
| Sample IDs noted by Client on COC? | Yes | ☑ | No | ☐ | |
| Date and Time of collection noted by Client on COC? | Yes | ☑ | No | ☐ | |
| Sampler's name noted on COC? | Yes | ☑ | No | ☐ | |
| COC agrees with Quote? | Yes | ☑ | No | ☐ | NA ☐ |

## Sample Receipt Information

| | | | | | |
|---|---|---|---|---|---|
| Custody seals intact on shipping container/cooler? | Yes | ☐ | No | ☐ | NA ☑ |
| Custody seals intact on sample bottles? | Yes | ☑ | No | ☐ | NA ☐ |
| Shipping container/cooler in good condition? | Yes | ☑ | No | ☐ | |
| Samples in proper containers/bottles? | Yes | ☑ | No | ☐ | |
| Sample containers intact? | Yes | ☑ | No | ☐ | |
| Sufficient sample volume for indicated test? | Yes | ☑ | No | ☐ | |

## Sample Preservation and Hold Time (HT) Information

| | | | | | |
|---|---|---|---|---|---|
| All samples received within holding time? | Yes | ☑ | No | ☐ | NA ☐ |
| Samples Received on Ice? | Yes | ☑ | No | ☐ | |
| (Ice Type: WET ICE ) | | | | | |
| Sample/Temp Blank temperature | Temp: 5.9°C | | | | NA ☐ |
| ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? | Yes | ☐ | No | ☐ | NA ☑ |
| Sample labels checked for correct preservation? | Yes | ☑ | No | ☐ | |
| pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? | Yes | ☐ | No | ☐ | NA ☑ |
| UCMR Samples: | | | | | |
| pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)? | Yes | ☐ | No | ☐ | NA ☑ |
| Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]? | Yes | ☐ | No | ☐ | NA ☑ |

Comments:

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# Appendix F
# Pre-Assessment Consultation

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## Jennifer Scheffel

**From:** Russ Cornelius <russ@brandsavants.com>
**Sent:** Sunday, May 28, 2023 11:00 AM
**To:** Jennifer Scheffel
**Subject:** Coast Guards proposed takeover and new site

**Importance:** High



Dear Ms. Scheffel,

In receipt of your letter implying you want public comment. Based on what you sent, this is a done deal. If you really want public input, we would have been brought into the discussion seven alternatives ago. But you have conveniently avoided that.

If I owned property in Maalaea Mermaid, I would be furious. Your plan is going to dramatically adversely affect their property values. A three story building and you make it sound as if it will have minimal impact on their views. Bull!

You are going to remove much needed parking for tourists who come to Maalaea Bay every day for tours.

You don't address the existing building! How convenient. How about keeping it and reducing the new monstrosity to two levels. Or would that be inconvenient for the Coast Guard in trying to be a good neighbor?

Shame on you for not being transparent during this process.

Maybe now I sense what the people over at Red Hill are experiencing.

Nice to know our Federal Government doesn't feel the need to be a good citizen.

**Russ Cornelius, CEO**
**Certified Brand Strategist, Member of The Brand Establishment**

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Inland Empire 951.680.0016
Cell: 909.224.0726
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September 9, 2024 SSFM 2018_041.001

Mr. Russ Cornelius, CEO
BrandSavants
VIA EMAIL: russ@brandsavants.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Cornelius,

Thank you for your email dated May 28, 2023, regarding the subject project. We appreciate your candid feedback and concerns expressed. Your comments have been noted and will be taken into consideration as we continue to refine the project.

We hope to reassure you that the intention behind soliciting public comments at this stage is to ensure that feedback can be considered early in the planning process. The other alternatives you mention that were internally vetted were done so to ensure compliance with federal regulations, facility requirements, and operational needs before undergoing more intensive review. In some of these alternatives we considered extensive reconstruction to the existing Station Maui. This would minimize the services that would move to the new proposed site and locate these services close to the pier which is highly desirable for Station efficiency. Ultimately however, these alternatives were deemed infeasible to satisfy the Coast Guard Shore Facilities Standards and the County of Maui flood ordinance, among other issues which will be outlined in the forthcoming Draft Environmental Assessment for the project.

Part of this process also involves considering if the project will "substantially affect scenic vistas and view-planes identified in county or state plans or studies" (Hawai'i Administrative Rules, §11-200-12(12)). We have taken care in our design to reduce the third story in size and site the building on the southern end of the property to preserve views to the extent possible.

Station Maui, as a Coast Guard facility, performs critical services and must be adequately prepared and positioned to respond to a range of situations. This is measured through national standards, of which Station Maui is currently critically under-equipped. Station Maui's primary responsibility for Maritime Homeland Security and Search and Rescue is reliant on response readiness. Having an ill-equipped facility leaves operators vulnerable and ultimately impacts Station Maui's ability to achieve its mission and avert loss of property and lives.

Your mention of parking is duly noted. We recognize the importance of Mā'alaea Bay as a recreation destination for visitors and residents. While infeasible for many reasons, one consideration for not expanding the existing station was that it would deplete parking availability

for personnel and lead to greater inconvenience for visitors and local businesses. The new facility would shift personnel parking away from the bay front, eliminating overflow and ideally lessen the facility's long-term impacts on the parking situation as opposed to the No-Action Alternative.

Transparency is a core value for us, and we will continue to do our best to ensure the community is well informed throughout the project's development. Your comparison between this project and the Red Hill situation highlights the importance of community involvement and government accountability. We are committed to upholding our responsibilities as a federal agency and to being a responsible steward of the resources and communities we serve. This includes our facility having the capacity to adequately provide for the safety of citizens through search and rescue operations, protection of natural resources, disaster response, and maritime security among other critical functions.

Once again, we want to express our gratitude for your input. Your concerns are valuable as we strive to create the project that aligns with the interests and well-being of the community. Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

6/3/23

Dear Ms. Scheffel

Many of us here at 20 Hauoli St. are firmly opposed to Yours proposal of 3 story building of the undeveloped parcel next door.

1. There is plenty of vacant & empty space available for lease at Maalaea Village. Use it... or Wailuku.

2. You never develope the "last" undeveloped land. Maalaea has no green space for the people. Plant trees and create a shady park for the people. Save money & eliminate the eye sore of an ugly building.

3. Preserve the view, period.

4. Reduce already over-crowding.

5. Recreational space can be created for everyone not just government people.

6. "National Security" is a false pretense. As we all have learned, preserving the environment is now true "National Security."

7. Zero growth is essential.

Thanks Wm. C. Musson

6/3/23

801-458-1102

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September 9, 2024

SSFM 2018_041.001

Mr. Wm. C. Musson
20 Hauoli Street, #309
Wailuku, Hawai‘i 96793

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Musson,

Thank you for your letter dated June 3, 2023, regarding the subject project. We appreciate your candid feedback and concerns expressed. Your comments have been noted and will be taken into consideration as we continue to refine the project. Mahalo for the opportunity to respond to the points you mentioned.

1. **Utilizing Available Space:** Your suggestion to explore existing vacant spaces for lease in Mā‘alaea Village or Wailuku is noted. As a Coast Guard facility, our operations need to be close to the marina to adequately serve our function. We have so far explored several alternatives for this project to reduce impacts on the surrounding community to the greatest extent possible. Our options for where we locate and how we design the project are in many ways constrained by facility operation needs and federal regulatory requirements. This will be outlined in more detail in the forthcoming draft Environmental Assessment for the project.
2. **Preservation of Green Space:** The idea of preserving green space and creating a shaded park for the community is a commendable one. We could explore ways to shade sidewalks or incorporate pocket parks for the community in our design. This however would be subject to necessary security requirements. Taking efforts to maintain community character and ensure a seamless transition through residential and recreational spaces are important to us as a part of the Mā‘alaea Harbor community.
3. **Preserving Views:** Part of this process involves considering if the project will “substantially affect scenic vistas and view-planes identified in county or state plans or studies” (Hawai‘i Administrative Rules, §11-200-12(12)). We have taken care in our design to reduce the third story in size and site the building on the southern end of the property to preserve views to the extent possible.
4. **Reducing Overcrowding:** We acknowledge your concerns regarding overcrowding in Mā‘alaea Bay and believe the issue calls for thoughtful planning for the future of the area. Overcrowding is often the result of communities not collaborating to adjust for future growth, points 5 and 7 below speak to this issue and the need for responsible, proactive

planning in more detail.

5. **Inclusive Recreational Space:** We recognize the importance of creating recreational spaces accessible to everyone and not just government personnel. Our current design is intended to reduce the footprint of the building and ensure adequate parking capacity for the facility to prevent Coast Guard operations from impacting recreational uses. Currently the facility is undersized and under-equipped which can lead to long-term issues such as overflow parking that would interfere with harbor visitors and local businesses. This project presents an opportunity to proactively plan to accommodate Coast Guard operations to minimize future impacts on harbor activities.
6. **National Security:** Station Maui, as a Coast Guard facility, performs critical services and must be adequately prepared and positioned to respond to a range of situations. This is measured through national standards, of which Station Maui is critically underperforming. Station Maui's primary responsibility for Maritime Homeland Security and Search and Rescue is reliant on response readiness. Having an ill-equipped facility leaves operators vulnerable and ultimately impacts Station Maui's ability to achieve its mission and avert loss of property and lives.
7. **Zero Growth:** We understand the sentiment on limiting growth of Mā'alaea Bay and certainly do not intend to contribute to development growth of the area. However, our facility is currently undersized and operating beyond its capacity, hindering its ability adequately serve its function. We believe that taking steps to ensure that the Coast Guard facility has adequate capacity is a means through which we can encourage responsible future growth in harmony with other marina functions.

Mahalo for your feedback in helping us make informed decisions that align with the best interests of the community. Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

## Jennifer Scheffel

**From:** mauiwill@gmail.com
**Sent:** Monday, June 5, 2023 1:08 PM
**To:** Jennifer Scheffel
**Cc:** 'Tapani Vuori'
**Subject:** Coast Guard Expansion Station consultation, Maalaea
**Attachments:** RPT 36008011.pdf

**Follow Up Flag:** Follow up
**Flag Status:** Flagged



Good afternoon Jennifer,

My name is Will Spence, I'm a local planning consultant who is currently helping the Maui Ocean Center (MOC) with some zoning issues. We received your preconsultation letter, thank you and I would appreciate being put on any list that you have.

Tapani Vuori, General Manager of MOC and I discussed the matter and don't know that MOC has any concerns regarding the new facility; it is certainly a good location and a benefit to the community. But what I'm inquiring about is the Coast Guard currently has a beacon or some type of transmitter on one of MOC's buildings. Interestingly, it has its own, 100 sq ft TMK – 3-6-008:011 (see attached).

Can we ask what will become of this TMK with the new building? It seems like all communications equipment would be located on the new facility and this one would no longer be necessary. Any relinquishing of the property may be of interest to my clients.

The reason this is of interest is our County Council has initiated zoning on several parcels owned by MOC, and this tiny one is included since it is in the middle of everything. There would be no conflict with the current function, the proposed zoning is to B-2 Business, a district that allows government functions of all types. And of course the feds supersede any local ordinances anyway. I'm happy to provide the Council's resolution if you like.

Happy to discuss,

Will

808-280-2724

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September 9, 2024

SSFM 2018_041.001

Mr. Will Spence
VIA EMAIL: mauiwill@gmail.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Spence,

Thank you for your email dated June 5, 2023, regarding the subject project. We appreciate your feedback and involvement in this matter. Your request to be included on our communication list has been noted and we will endeavor to keep you informed on project as it progresses.

Regarding the Coast Guard transmitter located on TMK 3-6-008:011, we understand your curiosity on its future status in light of the new facility. At this time, we cannot make a determination until the matter has been thoroughly vetted internally in consideration of regulatory requirements and critical systems redundancy needs. Please know that consideration and full implementation for this matter would take some time. Our current preliminary construction timeline is projected to run through to 2033 for full build-out, not including unanticipated delays.

As we move forward with the project, we will certainly evaluate the necessity of retaining this TMK and the associated communications equipment. Any potential relinquishment of this property may be considered, and we will keep your clients' interests in mind.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

## Jennifer Scheffel

**From:** Tapani Vuori <tvuori@mauioceancenter.com>
**Sent:** Tuesday, June 6, 2023 12:23 PM
**To:** Jennifer Scheffel
**Cc:** Jennifer Scheffel
**Subject:** Pre assessment consultation on draft environmental assessment for the proposed US Coast Guard facility in Ma'alaea, Maui
**Attachments:** Draft Environmental Assesment 053023.pdf



Jennifer,

Thank you for your time today; much appreciated. As I mentioned I am a board member of Ma'alaea Village Association (MVA) advocating for the entire Ma'alaea community, board member of Ma'alaea Triangle Association (MTA) overseeing the commercial area in the Ma'alaea Triangle area, board member of Maui Ocean Center Marine Institute (MOCMI)- turtle hospital, coral ark, and marine science education, and the General Manager of Maui Ocean Center, a public aquarium.

https://maalaeavillageassociation.org/

https://opencorporates.com/companies/us_hi/124192D2

https://mocmarineinstitute.org/

https://mauioceancenter.com/

As per our discussion please consider the following comments in your EA for this proposed project.

- Wastewater. Ma'alaea community is working towards building a regional wastewater treatment facility in order to remove the condominiums and the commercial area off the injection wells which are a major contributor to degradation of the Ma'alaea Bay eco system. Ma'alaea Village Association wastewater working group is actively engaged in this and is available to debrief your working group on the plans and the progress if you wish. We encourage you to collaborate with this project to fully demonstrate the stakeholder commitment to our Community.
- Parking. How will the parking issues resolved now that this project will result in a loss of quite many parking spots.
- View Plains. Please include complete view plains of the building impact from all angles for the community to evaluate the visual impact and also be prepared to show the visual impact for the owners and residents of Ma'alaea Mermaid, residential condominium unit next to the proposed project site.

If you have any questions or concerns please let me know and if you wish to schedule the debriefing on our regional wastewater treatment facility efforts I can get it organized. Thank you for your consideration.

Aloha,

**TAPANI VUORI**
GENERAL MANAGER

Cell: 808.561.2022
192 Mā'alaea Rd. Wailuku, HI 96793
mauioceancenter.com

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Mr. Tapani Vuori
VIA EMAIL: tvuori@mauioceancenter.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Vuori,

Thank you for your email dated June 6, 2023, regarding the subject project. We appreciate your active engagement and feedback. Your comments have been noted and will be taken into consideration as we continue to refine the project.

**Wastewater:** Your mention of the Mā‘alaea community's efforts to establish a regional wastewater treatment facility is indeed significant. We are committed to environmental stewardship and appreciate the opportunity to collaborate with the Ma'alaea Village Association wastewater working group. We would be very interested in a debriefing on the plans and progress of this initiative to explore potential synergies as we move forward.

**Parking:** Your concern regarding the impact on parking is duly noted. We recognize the importance of Mā‘alaea Bay as a recreation destination for visitors and residents. We believe the location of the new facility would shift personnel parking away from the bay front, eliminating overflow and is projected to lessen the facilities long-term impacts on the parking situation as opposed to the No-Action Alternative.

**View-plains:** Part of this process involves considering if the project will “substantially affect scenic vistas and view-planes identified in county or state plans or studies” (Hawai‘i Administrative Rules, §11-200-12(12)). We have taken care in our design to reduce the third story in size and site the building on the southern end of the property to preserve views to the extent possible. We can gladly provide a detailed evaluation of the view-plains from various angles to develop a better shared understanding of these potential impacts.

Again, we appreciate the opportunity to collaborate with the regional wastewater treatment facility working group and will look forward to learning more about such efforts. Please also feel free to reach out if you have any further questions or comments for our team.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

## Jennifer Scheffel

**From:** Liam Ball <liamball@hawaiilife.com>
**Sent:** Wednesday, June 7, 2023 6:25 AM
**To:** Jennifer Scheffel
**Subject:** Maalaea Coast Guard New Building

**Follow Up Flag:** Follow up
**Flag Status:** Flagged



Aloha Jennifer,

I'm a realtor assisting a client who lives next door to the proposed new Coast Guard building in Maalaea.

I was wondering if you could share any information regarding the proposed building, architectural plans, elevations etc and possibly a project overview, timeline for construction etc.

That would be super helpful!

Thanks - Liam

https://www.modernonmaui.com

Liam S. Ball Realtor Broker RB-21691
808.280.7809
Hawaii Life Real Estate Brokers

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September 9, 2024 SSFM 2018_041.001

Mr. Liam Ball
VIA EMAIL: liamball@hawaiilife.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Ball,

Thank you for your email dated June 7, 2023, regarding the subject project. We understand the importance of keeping the community informed, and we are happy to share more information:

**Architectural Plans and Elevations:** At this stage of the project, we have preliminary architectural plans and elevations available. These documents provide an initial overview of the building's design. Please find attached the preliminary architectural plans and elevations for your reference.

**Construction Timeline:** Currently we are aiming for release of the Draft Environmental Review toward the end of this year. This will also provide you a source for more detailed information about the project. The design stage is anticipated to run through Quarter 2 2029 to Quarter 4, 2030 and the construction phase is anticipated for Quarter 2, 2031 through Quarter 1, 2033 This is not including any unanticipated delays.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

# POLICE DEPARTMENT
## COUNTY OF MAUI
55 MAHALANI STREET
WAILUKU, MAUI, HAWAII 96793
TELEPHONE: (808) 244-6400
FAX: (808) 244-6411

**RICHARD T. BISSEN, JR.**
MAYOR

OUR REFERENCE

YOUR REFERENCE

**JOHN PELLETIER**
CHIEF OF POLICE

**WADE M. MAEDA**
DEPUTY CHIEF OF POLICE


June 13, 2023

Ms. Jennifer M. Scheffel
Senior Environmental Planner
SSFM International
99 Aupuni Street, Suite 202
Hilo, Hawaii 96720

**Re: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**TMK: (2) 3-8-014:028**
**Pre-Assessment Consultation for Draft Environmental Assessment**

Dear Ms. Scheffel:

This is in response to your letter dated May 25, 2023 requesting comments on a pre-assessment consultation for a Draft Environmental Assessment on the U.S. Coast Guard expansion of Station Maui facilities.

In review of the submitted documents, we have no objections to the upcoming construction project if it meets minimal standards set forth by county codes and state laws. We suggest efforts be made to minimize noise, dust, and debris so not to inhibit those whose health and well-being may be affected. We recommend proper precautions are taken to address the ingress and egress of construction materials or equipment onto public roadways. Thank you for giving us the opportunity to comment on this project.

Sincerely,

Assistant Chief Keola Tom
for: JOHN PELLETIER
Chief of Police

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September 9, 2024

SSFM 2018_041.001

Chief John Pelletier
County of Maui Police Department
55 Mahalani Street
Wailuku, Hawai‘i 96793

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Chief Pelletier,

Thank you for your letter dated June 13, 2023, regarding the subject project. We note that the County of Maui Police Department does not have any objections to the proposed project with conditions. Implementation of the Proposed Action would require coordination with Federal, State, and County agencies for permits or approvals. Federal agencies are not subject to all state and local regulations. While not beholden to the regulations, the Coast Guard would aim to meet intent of the regulation/permit to the extent practicable. The Coast Guard would implement the use of Best Management Practices to minimize noise, dust, and debris on and off the project site.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

## Jennifer Scheffel

**From:** Scott Metcalfe <scottt.metcalfe@gmail.com>
**Sent:** Tuesday, June 13, 2023 3:04 PM
**To:** Jennifer Scheffel
**Subject:** Expansion of Station Maui Facilities



Aloha Jennifer,

Please consider this letter as my comments and concerns in regards to the Maui Station Project.

The property in question and adjacent lot would best be made into a park green space. They have both been neglected and misused and mismanaged.

Somewhere along the line the cultural values of stewardship were not adopted. Polynesian adopted a simple reverence for the land and ocean. E MALAMA I KE A'INA a me KAI/WAI.

There's nothing acceptable about the lack of upkeep by an absentee harbor master and lack of "Malama A'ina" practiced by all users.

We all need to step up our game to clean up and respect the area known as Ma'alaea.

With the commercial users to include the Coast Guard no basic rules of stewardship have been adopted, adhered to or practiced of simply picking up and cleaning the area.

The Ma'alaea Village Association spear headed by Nikta Houston (808)633.3515 is deserving of accolades for beatifying the corner of the Ma'alaea Road and Hau'oli Street. It cost in excess of $20k and we were hassled by the harbor master. There is nothing acceptable about 5 year old trees and over brush growing growing through abandoned boats. One boat is a primary breeding ground of mosquitoes with its post-rain accumulations of water! If your presence and decision making can advent better stewardship then that could be a selling point.

As an owner at Ma'alaea Mermaid I am against building a structure next door that interferes with the view out my front door. We believe the two lots combined are a great opportunity for a green space in the form of a park. It can be a meetup space for the boat trips and means of beatification for the entire Ma'alaea area.

Our economy has demonstrated that over 50% of commercial space is not being utilized. We propose the U.S. Coastguard utilize the existing vacant space at the Maui Harbor Shops.

Attached are pertinent photos.

Malama Pono,
Scott T Metcalfe
20 Hau'oli St., 404
Wailuku, HI 96793
808.283.2130

Spectrum 2:13 PM 90%

Images Maps Shopping News

# Maui Harbor Shops


4.0 ★★★★☆ (2)

Overview Photos Reviews

DIRECTIONS SHARE

Maalaea Rd, Wailuku, HI 96793

0.2 mi

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September 9, 2024 SSFM 2018_041.001

Mr. Scott Metcalfe
VIA EMAIL: scott.metcalfe@gmail.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Metcalfe,

Thank you for your email dated June 13, 2023, regarding the subject project. We appreciate your candid feedback and concerns expressed. Your comments have been noted and will be taken into consideration as we continue to refine the project.

Your suggestion to explore existing vacant spaces in Mā‘alaea is noted. However, as a Coast Guard facility,

operations need to be close to the marina to adequately serve our function. We have so far explored several alternatives for this project to reduce impacts on the surrounding community to the greatest extent possible. Our options for where we locate and how we design the project are in many ways constrained by facility operation needs and federal regulatory requirements.

We recognize the importance of creating recreational spaces accessible to everyone. Our current design is intended to reduce the footprint of the building and ensure adequate parking capacity for the facility to prevent Coast Guard operations from impacting recreational uses. Currently the facility is undersized and under-equipped which can lead to issues such as overflow parking which would interfere with recreational visitors and local businesses. We believe this project presents an opportunity to proactively plan to accommodate Coast Guard operations in a way that can minimize its impact on habor activities.

The idea of preserving green space and creating a shaded park for the community is a commendable one. We could explore ways to incorporate some of these features in our design to a limited degree. This would be subject to security requirements necessary for the secure facility. Generally maintaining community character and ensuring seamless transition through residential and recreational spaces are important to us as a part of the harbor community.

Part of this process involves considering if the project will “substantially affect scenic vistas and view-planes identified in county or state plans or studies” (Hawai‘i Administrative Rules, §11-200-12(12)). We have taken care in our design to reduce the third story in size and site the building on the southern end of the property to preserve views to the extent possible.

Your concerns are invaluable as we strive to create the project in alignment with the interests and well-being of the community. Your letter, along with this response letter, will be included in the

forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**RICHARD T. BISSEN JR.**
Mayor

**KATHLEEN ROSS AOKI**
Planning Director

**GARRETT E. SMITH**
Deputy Director

**DEPARTMENT OF PLANNING**
COUNTY OF MAUI
ONE MAIN PLAZA
2200 MAIN STREET, SUITE 315
WAILUKU, MAUI, HAWAI'I 96793

June 15, 2023

Jennifer Scheffel
99 Aupuni Street
Suite 202
Hilo, Hawaii 96720

Dear Ms. Scheffel:

**SUBJECT: REQUEST FOR PRE-ASSESSMENT CONSULTATION FOR A DRAFT ENVIRONMENTAL ASSESSMENT (DEA), MAALAEA BEACH LOTS, WAIKAPU, WAILUKU, ISLAND OF MAUI, HAWAII; TMK: (2) 3-8-014:028 (RFC2023-00056)**

The Department of Planning (Department) is in receipt of your request to review the aforementioned pre-assessment consultation for a Draft Environmental Assessment (DEA). More specifically, this project is for the expansion of the U.S. Coast Guard's (USCG) Station Maui Facilities. Currently existing is a USCG station adjacent to Maalaea Harbor, which is too small to support current needs. Thus, the USCG is looking to expand to a parcel northeast of the existing Station Maui; this parcel is owned by the State of Hawaii and is currently used for public parking. The proposed facility will include a three-story building at the southern end of this parcel.

The proposed project parcel is zoned (for Maui County) for M-1 Light Industrial. Any permitted uses in a B-1, B-2, or B-3 business districts (except single-family dwellings, duplexes, bungalow courts, short-term rental homes, and transient vacation rentals) are permitted uses under M-1 Light Industrial. Under B-3 Business District, the following appears to be a proposed use for this project, "building and premises used, owned, or operated by government agencies, including community centers." Please note the development standards will need to confirm to M-1 Light Industrial Chapter 19.24 – M-1 LIGHT INDUSTRIAL DISTRICT. Additionally, the proposed project is part of the Kihei-Makena Community Plan and is located in the L1, Light Industrial area. This zoning district is defined in the Community Plan to be for warehousing, light assembly, service and craft-type operations.

As presented, the proposed use appears that it will require a Special Management Assessment (SMA) Major Permit as it appears the construction cost may be greater than $500,000.00 and would be considered a development pursuant to Chapter 205A-22 a "Development" means *(5) construction, reconstruction, or alteration of the size of any structure.*

Special Management Area permitting is applied through the Maui's Automated Planning and Permitting System (MAPPS). You can find the MAPPS website here: https://www.mapps.mauicounty.gov/.

Should you require further clarification, please contact Staff Planner Rachel Beasley at rachel.beasley@co.maui.hi.us or by phone at (808) 270.7814.

Sincerely,

ANN T. CUA
Planning Program Administrator

*for* KATHLEEN ROSS AOKI
Planning Director

xc: Ann T. Cua, Planning Program Administrator (PDF)
Candace Thackerson, Environmental Planning Supervisor (PDF)
Rachel Beasley, Staff Planner (PDF)
Jennifer Scheffel, SSFM International, Inc. (PDF)
KRA:ATC:RB:lp
K:\WP_DOCS\Planning\RFC\2023\00056_MaalacaHarborDraftEA\Response.docx

SSFM International
Innovate | Adapt | Sustain

September 9, 2024

SSFM 2018_041.001

Ms. Kathleen Ross Aoki, Planning Director
County of Maui Department of Planning
One Main Plaza
2200 Main Street, Suite 315
Wailuku, Hawai‘i 96793

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Ms. Aoki,

Thank you for your letter dated June 15, 2023, regarding the subject project. We appreciate your attention to this matter and the valuable information provided.

We note the possible requirement for a Special Management Assessment (SMA) Major Permit, considering the project location and projected construction costs. If necessary, we will initiate an application for a SMA Major Permit through Maui's Automated Planning and Permitting System (MAPPS), as outlined in your response. Your guidance on this process is greatly appreciated.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**RICHARD T. BISSEN, JR.**
Mayor

**KEKUHAUPIO R. AKANA**
Managing Director

**JOHN STUFFLEBEAN, P.E.**
Director

**JAMES A. LANDGRAF**
Deputy Director

**DEPARTMENT OF WATER SUPPLY**
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAI'I 96793
http://www.mauicounty.gov/water

June 16, 2023

Jennifer Scheffel
SSFM INTERNATIONAL, INC.
via email: jscheffel@ssfm.com

Dear Jennifer Scheffel:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR DRAFT EA
U.S. Coast Guard Expansion of Station Maui Facilities
TMK: (2) 3-8-014:028, Maalaea, Maui

Thank you for the opportunity to review and comment on the subject project involving the construction of a 3-story building to expand the existing U.S. Coast Guard Station Maui facilities.

There is not existing water service lateral or meter for the subject property. Therefore, the project will need to comply with the department's Administrative Rules, Chapter 201 relating to Water Service, as amended. The Administrative Rules clarify large quantity of water usage and the tiers for an applicant's request for new or additional water service from the Department. However, if the project is a County, state, or federal public facility project, as defined in Maui County Code (MCC) 19.04.040, the project can request an exemption from these Administrative Rules.

Please be aware that the amount of water requested for a project are updated at the beginning of each year. Therefore, we advise you to contact us to discuss your options in the future. The Department's Administrative Rules can be found at https://www.mauicounty.gov/205/Rules-Regulations.

All water system improvements shall be designed in accordance with the Department's Water System Standards 2002, as amended. Requirements will be determined at the time of building permit application. These requirements may include, but are not limited to the following:

- Installation of water service lateral and box, and an approved reduced pressure backflow preventer (RPBP) to serve the property's domestic and irrigation service lateral.
- Installation of a double check detector assembly (DCDA) to serve the property's fire line, if on-site fire protection is required to be installed by the Department of Fire and Public Safety, who

has jurisdiction during the building permit process.

- Provide domestic and irrigation water demand calculations prepared, signed and stamped by a licensed (State of Hawaii) professional engineer or architect.
- Deliver perpetual easement or right of entry agreement for any water system improvements that are not situated with the County owned right-of-way.
- All water system improvements require submittal of civil plans (24"x36") stamped and signed by a licensed (State of Hawaii) engineer for the department's review and approval. Construction work shown on the approved plans shall be completed by a licensed contractor at the property owner's expense.

If you have any questions, please feel free to contact me at (808) 270-7682 or by email at tammy.yeh@co.maui.hi.us. Engineering Division's main number is (808) 270-7835.

Sincerely,

TAMMY YEH, P.E.
Civil Engineer VI

cc: DWS – Water Resources and Planning (Water.Resources@mauicounty.gov)

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September 9, 2024

SSFM 2018_041.001

Ms. Tammy Yeh, P.E., Civil Engineer VI
County of Maui Department of Water Supply
200 South High Street
Wailuku, Hawai‘i 96793

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Ms. Yeh,

Thank you for your letter dated June 16, 2023, regarding the subject project. We appreciate your attention to this matter and the valuable information provided.

The Coast Guard has noted the eventual need to request new water service during the building permit application process. We will do our due diligence to comply with Water System Standards and Maui County Code requirements, as needed.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

June 19, 2023

SSFM International, Inc.
RECEIVED
6/28/23

SSFM International, Inc.
Attn: Jennifer Scheffel
99 Aupuni St. Ste 202
Hilo, Hi 96720

Re: Comments about Maui Expansion of Coast Guard Facilities

I am responding to your letter dated 5/25/23; my comments will be divided into three categories: Property Owner/Resident, Environmental, Health. My qualifications are owner/resident 30 Hauoli St, #304, Masters in Environmental Planning/Geography-Former Executive Director for a Land Trust, PhD in Holistic Health-Former ED, Practitioner, Educator, Author.

OWNER/RESIDENT

The drawings are not adequate to properly show the visual impact on specific properties. I recommend that you create a holographic model such as those used by Realtors and make it available on your web site. All of these categories have the potential to adversely affect property values.

ENVIRONMENTAL

There is no information provided on the impact to the Environment. Areas of concern are sewage (is it tertiary), construction and operational toxins as well as (including disposal) runoff (changes in sedimentary rates as it affects both the health of the ecosystem and currents/shoreline). Maalaea is a small Harbor, which is already impacted by sewage and runoff which in my opinion exceeds its capacity. This is clearly the result of previous poor planning which added to the potential affects of climate change make this a very fragile system, therefore it is important that these issues be addressed as they affect the health of the system, health of the residents, and property values.

HEALTH

Not only are the issues cited above also related to Health, but there is no data on how the air quality will be affected. This is a concern as full time residents health

is already being affected by the residue of jet fuel from the frequent fly overs.

SUMMARY

I both appreciate and value the important work that the Coast Guard engages in, however projects must be viewed Holistically. We simply can no longer afford to work within linear paradigms-the long term costs of doing so are too high on all levels. And too often sites are chosen for monetary or political reasons to the detriment of both the environment and the residents, which ultimately also has a negative economic impact. I am not saying that this is the case here, but you do not provide nearly enough information from which to draw a reasonable conclusion and I would encourage you to do so.

While I have been coming here for almost 40 years, I have only been a full time resident for a year, but the results of poor past planning (on site and off site) are visually apparent when one sees the deluge of soil being delivered into the bay during storms. Other results are not visually apparent but are reasonable to assume when both the size of the Harbor and issues such as sewage, chemicals, in the soil, and the resulting possible proliferation of infectious organisms are considered.

Perhaps the issues above have been considered, however I simply do not know without the appropriate information. I think Holistically; consider ALL issues when evaluating any project- that includes time as well. We are having to pay the price for many of our poor past decisions/actions, therefore it is vitally important that careful consideration be given, so we don't add to an already overwhelming list.

Thank you for your consideration

Dalma M. Bane, ND, PhD
30 Hauoli St. #304
Wailuku, Hi, 96793
dalmabane@gmail.com/808-214-6048.com/808-214-6048

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September 9, 2024

SSFM 2018_041.001

Ms. Dalma M. Bane, ND, PhD
30 Hauoli Street, #304
Wailuku, Hawai‘i 96793

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Ms. Bane,

Thank you for your letter dated June 19, 2023, regarding the subject project. We appreciate your attention to this matter and the valuable information provided and provide the following responses to your comments.

**Owner/Resident**

We understand your concerns regarding visual impacts on specific properties. Part of this process involves considering if the project will "substantially affect scenic vistas and view-planes identified in county or state plans or studies" (Hawai‘i Administrative Rules, §11-200-12(12)). We have taken care in our design to reduce the third story in size and site the building on the southern end of the property to preserve views to the extent possible. We can gladly provide a detailed evaluation of the view-plains from various angles to develop a better shared understanding of these potential impacts.

**Environmental**

Environmental issues, including impacts to water resources and infrastructure, will be discussed in the Draft Environmental Assessment (EA).

**Health**

Potential impacts to air quality will be discussed in the Draft EA.

We will notify you when the Draft EA is available. There will be a 30-day public comment period for the Draft EA during which time you can provide additional comments.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

# STATE OF HAWAIʻI
# OFFICE OF PLANNING
# & SUSTAINABLE DEVELOPMENT

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

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

**JOSH GREEN, M.D.**
GOVERNOR

**SYLVIA LUKE**
LT. GOVERNOR

**MARY ALICE EVANS**
INTERIM DIRECTOR




DTS 202305301456RE

June 21, 2023

Ms. Jennifer Scheffel
SSFM International, Inc.
99 Aupuni Street, Suite 202
Honolulu, Hawaiʻi 96720

Dear Ms. Scheffel:

Subject: U.S. Coast Guard Expansion of Station Maui Facilities
Department of Homeland Security, U.S. Coast Guard
TMK: (2) 3-8-014:028; Maalaea Harbor, Maui
Pre-Assessment Consultation for Draft Environmental Assessment

Thank you for the opportunity to provide comments on the expansion of Station Maui facilities proposed by the U.S. Coast Guard (USCG). Our office was notified of the pre-assessment consultation request via memo, dated May 25, 2023.

It is our understanding that Station Maui's primary mission is to support the Maritime Safety and Security Program of the Department of Homeland Security, as well as USCG search and rescue operations. This proposed action calls for the construction and operation of a three-story building at the southern end of Department of Land and Natural Resources (DLNR), Division of Boating and Ocean Recreation (DOBOR) property.

The first story of the proposed building would consist of boat maintenance facilities and storage of gear necessary for rapid mission response. The second story would consist of administrative spaces and training space for day-to-day operations. The third story would consist of berthing space, a kitchen, and recreational space. The building itself will be sited on the southern end of the site, with the third story reduced in size to preserve views of the Maui coastline to the extent possible. Parking spaces for USCG staff and building visitors will be located on the northern portion of the property. A security perimeter fence would be installed around the entire property.

The Office of Planning and Sustainable Development (OPSD) has reviewed the transmitted material, and has the following comments to offer:

1. Coastal Zone Management Act (CZMA), Federal Consistency
   We note that due to the direct involvement of the USCG/Homeland Security, this proposed action may be subject to CZMA federal consistency. OPSD is the lead agency with the authority to conduct CZMA federal consistency reviews on behalf of the State of Hawai‘i. We recommend that USCG consult with our office on the applicable regulations and regulatory process associated with CZMA federal consistency determinations.

2. Hawai‘i Coastal Zone Management (CZM) Program
   The CZM area is defined as “all lands of the State and the area extending seaward from the shoreline to the limit of the State’s police power and management authority, including the U.S. territorial sea” under Hawai‘i Revised Statutes (HRS) § 205A-1.

   Pursuant to HRS § 205A-4, in implementing the objectives of the CZM program, agencies shall consider ecological, cultural, historic, esthetic, recreational, scenic, open space values, coastal hazards, and economic development. As the proposed action is proposed by the USCG, the Draft Environmental Assessment (Draft EA) should include a discussion on the project’s consistency with the policies of the Hawai‘i CZM Program, HRS § 205A-2, as amended.

   Furthermore, as listed in HRS § 205A-2, the objectives and supporting policies of the Hawai‘i CZM Program serve as the foundation of the enforceable policies of the State of Hawai‘i. Disclosure of impacts on CZM objectives and supporting policies as it relates to HRS Chapter 343 requirements, will aid the State in determining impacts to the resources of the coastal zone. Furthermore, the information disclosed in the Draft EA on HRS § 205A-2, can also be cited as support material in federal consistency submittals.

3. Special Management Area (SMA)
   According to the review material, the vacant land proposed for the USCG facility is owned by the DLNR. If the project site falls under the jurisdiction of the DOBOR, please consult with the DLNR to assess as to whether a SMA use permit is required by the County of Maui pursuant to HRS § 171-6, as amended. In addition, please contact the County of Maui Department of Planning for the requirement of shoreline setbacks given the land is owned by the DLNR.

4. Stormwater Runoff, Erosion, and Water Resources
   Pursuant to Hawaii Administrative Rules (HAR) § 11-200.1-18(d)(7) – identification and analysis of impacts and alternatives considered; to ensure that nearshore marine resources along the coastal regions of the island of Maui remain protected, the negative effects of stormwater inundation and sediment loading surrounding the proposed project site, ensuing from construction activity, as well as the operational use of Station Maui should be evaluated.

   Issues that would benefit the Draft EA’s examination of stormwater management and the

goal of maintaining water quality ensuing from land-based activities should include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, quantifying permeable surfaces in close proximity of the nearshore environment, and any anticipated increase in volume or rate of stormwater runoff that may flow to the downslope marine environment. Pursuant to HAR § 11-200.1-18(d)(8), the Draft EA should detail the mitigation measures for the protection for surface water resources and the coastal ecosystem should take this into account.

5. Climate Change Adaptation/Sea Level Rise (SLR)
   Due to the proximity of Station Maui to the coastal areas of Maui, environmental threats related to SLR may negatively impact the long-term viability of this USCG facility. It would therefore be beneficial for the Draft EA to include an evaluation of SLR adaptation strategies that could be used to safeguard this development. To assess the potential environmental impacts and operational integrity of Station Maui, we suggest the Draft EA refer to the findings of the "Hawai'i Sea Level Rise Vulnerability and Adaptation Report 2017," accepted by the Hawai'i Climate Change Mitigation and Adaptation Commission.

   The Report, and Hawaii Sea Level Rise Viewer at https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/ identifies a 3.2-foot SLR exposure area across the main Hawaiian Islands, as a starting evaluation point. The Draft EA should provide a map of 3.2-foot SLR exposure area in relation to the project area, and consider site-specific mitigation measures, including setbacks from the shoreline, relocation options further inland, increasing the height of the support facilities to accommodate higher water levels, or various climate change adaptation strategies to respond to impacts of 3.2-foot SLR scenario or greater.

6. Recreational Resources
   In compliance with HRS 205A-2 Objectives and Policies for Recreational Resources, the DEA should assess and discuss mitigation actions for the impacts to the public's access to recreational resources and parking for public access to the shoreline.

If you have any questions, please contact Joshua Hekekia on Environmental Assessment concerns as they relate to this OPSD response letter at (808) 587-2845; or Debra Mendes on CZMA federal consistency issues at (808) 587-2840.

Sincerely,

Mary Alice Evans

Mary Alice Evans
Interim Director

SSFM International
Innovate | Adapt | Sustain

September 9, 2024

SSFM 2018_041.001

Ms. Mary Alice Evans, Director
State of Hawai‘i Office of Planning & Sustainable Development
P.O. Box 2359
Honolulu, Hawai‘i 96804

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Ms. Evans,

Thank you for your letter dated June 22, 2023, regarding the subject project. We appreciate your attention to this matter and valuable information provided.

**Coastal Zone Management Act (CZMA), Federal Consistency:**
We acknowledge the possibility of this project falling under CZMA federal consistency regulations. We will indeed consult with your office to gain a thorough understanding of the applicable regulations and the regulatory process associated with CZMA federal consistency determinations. Your guidance in this regard is much appreciated.

**Hawai‘i Coastal Zone Management (CZM) Program:**
The Coast Guard recognizes the importance of considering CZM for the subject project. The upcoming Draft Environmental Assessment (EA) will include a discussion on its consistency with the policies of the Hawai‘i CZM Program, HRS § 205A-2, as amended.

**Special Management Area (SMA):**
We will collaborate with the DOBOR and the DLNR to determine whether an SMA use permit would be required by the County of Maui. We will also consult the County of Maui Department of Planning for shoreline setbacks. We appreciate your guidance on this matter.

**Stormwater Runoff, Erosion, and Water Resources:**
Your advice to evaluate stormwater management and its impact on water quality is duly noted. We will examine the issues related to stormwater runoff and erosion resulting from construction activity and operational use of the new Station Maui. The Draft EA will include the identification of impacts and mitigation measures to protect the coastal ecosystem.

**Climate Change Adaptation/Sea Level Rise (SLR):**
We agree that the proximity of Station Maui to coastal areas makes it susceptible to environmental threats related to sea-level rise. The Draft EA will include an evaluation of SLR adaptation strategies to safeguard the facility. We will refer to the 2017 Hawai‘i Sea Level Rise Vulnerability and Adaptation Report and the Hawai‘i Sea Level Rise Viewer to assess potential impacts and site-specific mitigation measures.

**Recreational Resources:**
In alignment with HRS 205A-2 Objectives and Policies for Recreational Resources, the Draft EA will assess and discuss mitigation actions for the impacts on public access to the shoreline and parking.

We appreciate your expertise and guidance in this process and will endeavor to address the topics raised. Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**JOSH GREEN, M.D.**
GOVERNOR | KE KIA'ĀINA

**SYLVIA LUKE**
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

**DAWN N. S. CHANG**
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

**STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**KA 'OIHANA KUMUWAIWAI 'ĀINA**
**LAND DIVISION**

P.O. BOX 621
HONOLULU, HAWAII 96809

June 23, 2023

SSFM International, Inc.
Attn: Ms. Jennifer M. Scheffel via email: jscheffel@ssfm.com
Sr. Environmental Planner
99 Aupuni Street, Suite 202
Hilo, Hawaii 96720

Dear Ms. Scheffel:

SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities** located at Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028 on behalf of Department of Homeland Security, U.S. Coast Guard

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

At this time, enclosed are comments from the (a) Division of Aquatic Resources, (b) Division of Boating & Ocean Recreation, (c) Engineering Division, and (d) Office of Conservation & Coastal Lands 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

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

May 31, 2023

**MEMORANDUM**

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (glenn.r.higashi@hawaii.gov)
_X_ Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities**
LOCATION: Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028
APPLICANT: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 22, 2023.**

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

**BRIEF COMMENTS:**

( ) We have no objections.
(☑) We have no comments.
( ) We have no additional comments.
( ) Comments are included/attached.

Signed: _____
Print Name: Brian Neilson
Division: State of Hawaii
Date: Jun 6, 2023

Attachments
cc: Central File

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL
RESOURCES DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: June 5, 2023
DAR # AR6420



MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Russell Sparks, Aquatic Biologist

SUBJECT: Pre-assessment consultation for DEA for the proposed US Coast Guard Expansion of Station Maui Facilities.

Request Submitted by: Russell Y Tsuji, Land Administrator

Location of Project: Maalaea Harbor, Maui, TMK (2) 3-8-014:028

Brief Description of Project:

A Draft Environmental Assessment will be developed for plans to use a vacant lot in Maalaea harbor to construct a new 3 story Coast Guard facility. The new facility will provide space for boat maintenance and storage, administrative activities and training, and on the top story space for staff to sleep, with kitchen and recreational space. At this time, DAR Maui has no concerns with these plans, but we look forward to reviewing the DEA once completed.

Comments:

☒ No Comments ☐ Comments Attached

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

Comments Approved: _____ Date: Jun 6, 2023

Brian J. Neilson
DAR Administrator

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

**STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**KA 'OIHANA KUMUWAIWAI 'ĀINA**
**LAND DIVISION**

P.O. BOX 621
HONOLULU, HAWAII 96809

May 31, 2023

**MEMORANDUM**

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (glenn.r.higashi@hawaii.gov)
_X_ Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
___ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
_X_ Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
_X_ Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities**
LOCATION: Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028
APPLICANT: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 22, 2023.**

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

**BRIEF COMMENTS:**

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

Signed: Kimberly Kahaleua
Print Name: Kimberly Kahaleua
Division: Boating & Ocean Recreation
Date: 06/01/2023

Attachments
cc: Central File

**JOSH GREEN, M.D.**
GOVERNOR | KE KIA'ĀINA

**SYLVIA LUKE**
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

**DAWN N. S. CHANG**
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA **MOKU'ĀINA** 'O HAWAI'I
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
KA 'OIHANA **KUMUWAIWAI** 'AINA
**LAND DIVISION**

P.O. BOX 621
HONOLULU, HAWAII 96809

May 31, 2023

**MEMORANDUM**

FROM: ~~TO:~~

**DLNR Agencies:**
X Div. of Aquatic Resources (glenn.r.higashi@hawaii.gov)
X Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
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X Land Division _ Maui District (daniel.l.ornellas@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: ~~FROM:~~ Russell Y. Tsuji, Land *Russell Tsuji*
SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities**
LOCATION: Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028
APPLICANT: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 22, 2023.**

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**BRIEF COMMENTS:**

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

Signed: *Carty S. Chang*
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Jun 14, 2023

Attachments
cc: Central File

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

**LD/Russell Y. Tsuji**
**Ref: Pre-Assessment Consultation for DEA for the Proposed U.S. Coast Guard Expansion of Station Maui Facilities**
**Location: Maalaea Harbor, Waikapu, Wailuku, Island of Maui**
**TMK: (2) 3-8-014:028**
**Applicant: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard**

**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). Be advised that 44CFR, Chapter 1, Subchapter B, Part 60 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 zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT) could also be used to research flood hazard information.

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

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4849.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Jun 14, 2023

COR: MA 23-140

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA
SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

RECEIVED
LAND DIVISION
2023 JUN -1 PM 1:30
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS
2023 MAY 31 P 4:21
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

**STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**KA 'OIHANA KUMUWAIWAI 'ĀINA**
**LAND DIVISION**

P.O. BOX 621
HONOLULU, HAWAII 96809

May 31, 2023

**MEMORANDUM**

TO: **DLNR Agencies:**
X Div. of Aquatic Resources (glenn.r.higashi@hawaii.gov)
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X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities**
LOCATION: Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028
APPLICANT: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 22, 2023.**

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

**BRIEF COMMENTS:**

Not in Conservation District

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

Signed: _____
Print Name: Trevor Fitzpatrick
Division: OCCL
Date: 6/1/2023

Attachments
cc: Central File

SSFM International
Innovate | Adapt | Sustain

September 9, 2024 SSFM 2018_041.001

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

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Tsuji,

Thank you for distributing the pre-assessment consultation letter for the Draft Environmental Assessment (EA) to the divisions within the Department of Land and Natural Resources. We offer the following responses:

**Division of Aquatic Resources**
The Coast Guard has noted that the Department of Land and Natural Resources, Division of Aquatic Resources had no comments with regard to aquatic resources.

**Division of Boating and Ocean Recreation**
The Coast Guard has noted that the Department of Land and Natural Resources, Division of Boating and Ocean Recreation has no objections to the Proposed Action.

**Engineering Division**
The Coast Guard has noted the Department of Land and Natural Resources, Engineering Division’s advice to research the Flood Hazard Zone designations for the project site and to check for relevant County Flood Ordinances. The Coast Guard will do its due diligence to ensure safety and proper compliance.

**Office of Conservation and Coastal Lands**
The Coast Guard has noted the Department of Land and Natural Resources, Office of Conservation and Coastal Lands’ determination that the project site is not in the conservation district.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**JOSH GREEN, M.D.**
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

**KENNETH S. FINK, MD, MGA, MPH**
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

**STATE OF HAWAI'I**
**DEPARTMENT OF HEALTH**
**KA 'OIHANA OLAKINO**
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

6551 – 2 3 8 014 028
233 Maalea Rd Wailuku

June 23, 2023

Ms. Jennifer Scheffel
SSFM International
99 Aupuni Street, Suite 202
Hilo, Hawaii 96720
Email: jscheffel@ssfm.com

Dear Ms. Scheffel:

Subject: U.S. Coast Guard Expansion of Station Maui Facilities
Department of Homeland Security, U.S. Coast Guard
Tax Map Key (TMK): (2) 3-8-014: 028
Pre-Assessment Consultation for Draft Environmental Assessment
(233 Maalaea Road, Wailuku, Maui, 96793)

It is our understanding that the proposed subject project will be connected to a sewer collection system which conveys the domestic wastewater to the Hawaii State, Department of Land and Natural Resources, Maalaea Small Boat Harbor (MSBH) Wastewater Treatment Facility. The MSBH Wastewater Treatment Facility is presently under an Informal Notice of Violation (INOV) for failure to obtain the required approvals from the Department of Health to operate the treatment facility. The proposed facilities will not be able to connect to the MSBH Wastewater Treatment Facility until the INOV is resolved.

Please be informed that the development may have to include design considerations to address any effects associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiian resources or the exercise of traditional cultural practices. All wastewater plans must conform to applicable provisions of the Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems."

Should you have any questions, please call Mr. Mark Tomomitsu of my staff at (808) 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:ct

c: Mr. Roland Tejano, Maui IWS Staff, via email
Mr. Finn McCall, DLNR (email: finn.d.mccall@hawaii.gov)
Mr. Jonathan Nagato, via email

SSFM International
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September 9, 2024

SSFM 2018_041.001

Ms. Sina Pruder, P.E., Chief
State of Hawai‘i Department of Health
Wastewater Branch
P.O. Box 3378
Honolulu, Hawai‘i 96801-3378

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Ms. Pruder,

Thank you for your letter dated June 23, 2023, regarding the subject project. We appreciate your response and detailed information provided regarding the wastewater service requirements and the Informal Notice of Violation currently impacting the Mā‘alaea Small Boat Harbor Wastewater Treatment Facility. We recognize that the proposed project will not be able to connect to this wastewater treatment facility until the violation is resolved.

The construction timeline is currently projected to begin in 2031. In the meantime, we will be monitoring this situation closely to ensure we can move forward with the project and adhere to best practices to protect the harbor.

The Coast Guard will address and mitigate any effects of wastewater construction and/or discharge on public trust land or Native Hawaiian resources in the design and proposed operation of the subject project. Such measures shall be in full compliance with Hawai‘i Administrative Rules, Chapter 11-62.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**RICHARD T. BISSEN, JR.**
Mayor

**KEKUHAUPIO R. AKANA**
Acting Managing Director

**BRADFORD K. VENTURA**
Fire Chief

**GAVIN L.M. FUJIOKA**
Deputy Fire Chief

**DEPARTMENT OF FIRE & PUBLIC SAFETY**
COUNTY OF MAUI
313 MANEA PLACE
WAILUKU, MAUI, HAWAI'I 96732
www.mauicounty.gov

June 26, 2023

SSFM International, Inc.
Attn: Jennifer M. Scheffel / Sr. Environmental Planner
SSFM International, Inc.
99 Aupuni Street, Suite 202
Hilo HI. 96720
Email: jscheffel@ssfm.com

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**TMK (2) 3-8-014: 028 – 0000**
**Pre-Assessment for Draft Environmental Assessment**

To whom it concerns,

Thank you for allowing our office to provide comment on the subject proposed project.
As per your request, comments are provided below:

There are no objections in regards to the information provided as part of the Environmental Pre-Assessment for the U.S Coast Guard Expansion of Station Maui Facilities.

Our office does reserve the right to comment on the proposed project during the building permit review process when detailed plans for this project are routed to our office for review. At that time, fire apparatus access, water supply for fire protection, and fire and life safety requirements associated with the subject project will be formally reviewed.

Should you have any specific fire related public safety concerns please identify those to us on this or any future projects you would like us to review.

If there are any questions or comments, please feel free to contact me at (808) 876-4697 or by email at michael.gormley@mauicounty.gov.

Sincerely,
Michael Gormley, Lieutenant - Fire Prevention Bureau

SSFM International
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September 9, 2024

SSFM 2018_041.001

Lieutenant Michael Gormley
Fire Prevention Bureau
County of Maui Department of Fire & Public Safety
313 Manea Place
Wailuku, Hawai‘i 96732

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Lieutenant Gormley,

Thank you for your letter dated June 26, 2023, regarding the subject project. The Coast Guard notes that you do not have any objections regarding the project at this time but reserved the right to comment during the building permit review process. Mahalo and we will notify your office should we require guidance in the meantime.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner

**JOSH GREEN, M.D.**
GOVERNOR | KE KIA'ĀINA

**SYLVIA LUKE**
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

**DAWN N. S. CHANG**
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

**STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**KA 'OIHANA KUMUWAIWAI 'ĀINA**
**LAND DIVISION**

P.O. BOX 621
HONOLULU, HAWAII 96809

June 26, 2023

SSFM International, Inc.
Attn: Ms. Jennifer M. Scheffel via email: jscheffel@ssfm.com
Sr. Environmental Planner
99 Aupuni Street, Suite 202
Hilo, Hawaii 96720

Dear Ms. Scheffel:

SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities** located at Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028 on behalf of Department of Homeland Security, U.S. Coast Guard

Thank you for the opportunity to review and comment on the subject matter. In addition to our previous comments dated June 23, 2023, enclosed are comments from the 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

Enclosure
cc: Central Files

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

May 31, 2023

**MEMORANDUM**

FROM: **DLNR Agencies:**
X Div. of Aquatic Resources (glenn.r.higashi@hawaii.gov)
X Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
__ Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
X Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Maui District (daniel.l.ornellas@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Pre-Assessment consultation for DEA for the Proposed **U.S. Coast Guard Expansion of Station Maui Facilities**
LOCATION: Maalaea Harbor, Waikapu, Wailuku, Island of Maui; TMK: (2) 3-8-014:028
APPLICANT: SSFM International on behalf of Department of Homeland Security, U.S. Coast Guard

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **June 22, 2023.**

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

**BRIEF COMMENTS:**

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached.

Signed: *Lainie Berry*
Print Name: LAINIE BERRY, Wildlife Program Mgr.
Division: Division of Forestry and Wildlife
Date: Jun 23, 2023

Attachments
cc: Central File

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813



June 23, 2023

*Log no. 4145*

**MEMORANDUM**

**TO:** RUSSELL Y. TSUJI, Administrator
Land Division

**FROM:** LAINIE BERRY, Wildlife Program Manager
Division of Forestry and Wildlife

**SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment (DEA) for the Proposed U.S. Coast Guard Expansion of Station Maui Facilities on Maui Island**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments on the Pre-Assessment Consultation for the (DEA) for the Proposed U.S. Coast Guard Expansion of Station Maui Facilities on the island of Maui; TMK (2) 3-8-014:028. The U.S. Coast Guard (Coast Guard) proposes to expand the existing Station Maui to meet the current and future mission demands of the Coast Guard. Station Maui is located adjacent to the Maalaea Harbor in Wailuku on the island of Maui on land leased from the State of Hawai'i's Division of Boating and Ocean Recreation (DOBOR). The Proposed Action includes the construction and long-term operation of a three-story building at the southern end of the DOBOR property. Parking spaces would be provided on the northern portion of the property and a security fence would be installed around the entire property.

The State listed ʻŌpeʻapeʻa or Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup-rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required,

DOFAW recommends that all lights used to be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea.

If nighttime construction is required during the seabird fledgling season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/#response.

Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

State-listed waterbirds such as the Ae'o or Hawaiian stilt (*Himantopus mexicanus knudseni*), 'Alae ke'oke'o or Hawaiian coot (*Fulica alai*), and Nēnē or Hawaiian Goose (*Branta sandvicensis*) could potentially occur at or in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the Maui Branch DOFAW Office at (808) 984-8100.

The State endangered Īlio holo i ka or Hawaiian Monk Seal (*Monachus schauinslandi*), threatened Honu or Green Sea Turtle (*Chelonia mydas*), and endangered Honu'ea or Hawksbill Sea Turtle (*Eretmochelys imbricata*) could potentially occur or haul out onshore within the vicinity of the proposed project site. If either species is detected within 100 meters of the project area all nearby construction operations should cease and not continue until the focal animal has departed the area on its own accord.

The project area is within the range of the State listed Blackburn's Sphinx Moth (*Manduca blackburni*) or BSM. Larvae of BSM feed on many nonnative hostplants, which include tree tobacco (*Nicotiana glauca*), that grow in disturbed soil. We recommend contacting the Maui Branch DOFAW office at (808) 984-8100 for further information about where BSM may be present and whether a vegetation survey should be conducted to determine the presence of plants preferred by BSM. DOFAW recommends removing plants less than one meter in height or during the dry season to avoid harm to BSM. If you intend to either remove tree tobacco over one meter in height or to disturb the ground around or within several meters of these plants, they must be thoroughly inspected by a qualified entomologist for the presence of BSM eggs and larvae.

DOFAW recommends using native plant species for landscaping that are appropriate for the area; i.e., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain detrimental fungal pathogens (e.g., Rapid ʻŌhiʻa Death), vertebrate and invertebrate pests (e.g., Coqui Frogs, Little Fire Ants, etc.), or invasive plant parts (e.g., Miconia, Mullein, etc.) that could harm our native species and ecosystems. We recommend consulting the Maui Invasive Species Committee (MISC) at (808) 573-6472 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

We recommend that Best Management Practices are employed during and after construction to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Myrna N. Girald Pérez, Protected Species Habitat Conservation Planning Coordinator at (808) 265-3276 or myrna.girald-perez@hawaii.gov.

Sincerely,

Lainie Berry

LAINIE BERRY
Wildlife Program Manager

SSFM International
Innovate | Adapt | Sustain

September 9, 2024

SSFM 2018_041.001

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

**SUBJECT: U.S. Coast Guard Expansion of Station Maui Facilities**
**Department of Homeland Security, U.S. Coast Guard**
**Tax Map Keys (TMK): (2) 3-8-014:028**
**Response to Pre-Assessment Consultation Comments for Draft Environmental Assessment**

Dear Mr. Tsuji,

Thank you for distributing the pre-assessment consultation letter for the Draft Environmental Assessment to the divisions within the Department of Land and Natural Resources. We offer the following response to the Division of Forestry & Wildlife:

Thank you for your thoughtful and detailed information provided regarding the various threatened and endangered species that may be present or occasionally transit through the project site. Our project will require us to conduct a Section 7 assessment in which we will reference the information provided in your letter. We will also be conducting a biological review of the project site with a qualified biologist to further determine the presence of threatened or endangered species or their habitats.

We note your advice on outdoor and nighttime lighting impacts, along with mitigation measures that may be required to prevent the further spread of invasive species in the area. We will endeavor to use native plant species in our landscape designs wherever feasible. Best management practices will also be employed to avoid or mitigate adverse impacts.

If during the course of this project we discover the potential for unanticipated adverse impacts on local threatened or endangered species, we will promptly consult your office for guidance.

Your letter, along with this response letter, will be included in the forthcoming Draft Environmental Assessment. We appreciate your participation in the pre-assessment consultation process. Should you have additional comments or questions regarding this project, please contact me at (808) 356-1273 or via email at jscheffel@ssfm.com.

SSFM INTERNATIONAL, INC.

Jennifer M. Scheffel
Sr. Environmental Planner