JOSH GREEN, M.D.
GOVERNOR

KEITH T. HAYASHI
SUPERINTENDENT

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

OFFICE OF FACILITIES AND OPERATIONS

July 3, 2025

TO: Mary Alice Evans
Director, Office of Planning and Sustainable Development

FROM: Jadine Urasaki Jadine Urasaki (Jul 3, 2025 16:55 HST)
Public Works Administrator, Facilities Development Branch

SUBJECT: Draft Environmental Assessment and Anticipated Finding of No Significant Impact
Baldwin High School – Sports Facilities and Master Plan Improvements
Wailuku, Maui, Hawaii
Job No.: Q51215-19
Tax Map Key Nos.: (2)3-8-007:004 and (2)3-8-007:055 (por.)

The Hawaii State Department of Education (Department) hereby submits this Draft Environmental Assessment and Anticipated Finding of No Significant Impact (EA-AFONSI) determination for the proposed Baldwin High School – Sports Facilities and Master Plan Improvements, Wailuku, Maui, Hawaii. Please publish notice of this Draft EA-AFONSI in the upcoming issue of *The Environmental Notice*.

A copy of the Draft EA-AFONSI along with the online submission requirements have been submitted via your online submittal site.

Should you have any questions, please contact Richard Bass, Project Coordinator Consultant of the Facilities Development Branch, Project Management Section, at (808) 784-5135 or via email at rbass@bowersandkubota.com or Emily Murai, Project Consultant of Munekiyo Hiraga, at (808) 983-1233 or via email at planning@munekiyohiraga.com.

JU:rb
Attachment

c: Munekiyo Hiraga
Facilities Development Branch

From: dbedt.opsd.erp@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Tuesday, July 15, 2025 3:40:42 PM

Action Name

H.P. Baldwin High School Sports Facilities and Master Plan Improvements

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)3-8-007:004 and (2)3-8-007:055(por.)

Action type

Agency

Other required permits and approvals

Chapter 343, Hawai‘i Revised Statutes (HRS), Environmental Assessment; Chapter 6E, HRS Historic Preservation Compliance; Chapter 11-46 Hawai‘i Administrative Rules (HAR); Community Noise Control, as applicable; Chapter 11-60.1-33, HAR, Fugitive Dust, as applicable; National Pollutants Discharge Elimination System (NPDES) Permit, as applicable; Americans with Disabilities Act (ADA) Compliance Design Review; Construction Permits; Height Variance

Proposing/determining agency

State of Hawai‘i, Department of Education

Agency jurisdiction

State of Hawai‘i

Agency contact name

Denise Gibo

Agency contact email (for info about the action)

Denise.Gibo@k.12.hi.us

Email address for receiving comments

planning@munekiyohiraga.com

Agency contact phone

(808) 784-6200

Agency address

1390 Miller Street

Honolulu, Hawai'i 96813
United States
Map It

Is there a consultant for this action?

Yes

Consultant

Munekiyo Hiraga

Consultant contact name

Emily Murai

Consultant contact email

planning@munekiyohiraga.com

Consultant contact phone

(808) 983-1233

Consultant address

305 High Street
Suite 104
Wailuku, Hawai'i 96793
United States
Map It

Action summary

The proposed H.P. Baldwin High School Sports Facilities and Master Plan improvements involve the construction of locker rooms, a weight room, a training room, track and practice field, four (4) physical education classrooms, a two-story building with 14 classrooms, as well as an agricultural education site and building. Additional site improvements to be implemented as part of the project will includes Americans With Disabilities Act (ADA) accessible ramps, utility installations, grading, drainage improvements, parking and landscaping.

Reasons supporting determination

Refer to Chapter VIII Significance Criteria of the Draft EA.

Attached documents (signed agency letter & EA/EIS)

- HP_Baldwin_High_School__Draft_EA_July_2025_2ndSubmittal.pdf
- HP_Baldwin_High_School_DOE_AFNSI_07.03.251.pdf

ADA Compliance certification (HRS §368-1.5):

The authorized individual listed below acknowledges that they retain the responsibility for ADA compliance and are knowingly submitting documents that are unlocked, searchable, and may not be in an ADA compliant format for publication. The project files will be published without further ADA compliance changes from ERP, with the following statement included below the project summary in The Environmental Notice: "If you are experiencing any ADA compliance issues with the above project, please contact (authorized individual submitting the project at email)."

Action location map

- HP_Baldwin_High_School_Zipfile1.zip

Authorized individual
Emily Murai
Authorized individual email
planning@munekiyohiraga.com
Authorized individual phone
(808) 983-1233
Authorization
• The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Draft Environmental Assessment

H. P. BALDWIN HIGH SCHOOL SPORTS FACILITIES AND MASTER PLAN IMPROVEMENTS, WAILUKU, MAUI

TMK NO. (2)3-8-007:004 and 055(por.)

DOE JOB NO. Q51227-2

Prepared for:

State of Hawai‘i,
Department of Education

July 2025

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Planning. Project Management. Sustainable Solutions.

Draft Environmental Assessment

H. P. BALDWIN HIGH SCHOOL SPORTS FACILITIES AND MASTER PLAN IMPROVEMENTS, WAILUKU, MAUI

TMK NO. (2)3-8-007:004 and 055(por.)

DOE JOB NO. Q51227-2

Prepared for:

State of Hawai‘i,
Department of Education

July 2025

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MUNEKIYO HIRAGA

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Executive Summary

Project Name:
H. P. Baldwin High School Sports Facilities and Master Plan Improvements

Type of Document:
Draft Environmental Assessment

Legal Authority:
Chapter 343, Hawai'i Revised Statutes

Anticipated Determination:
Anticipated Finding of No Significant Impact (AFNSI)

Applicable Environmental Assessment review "Trigger":
Use of County Lands and State Funds

Location:
Maui Island
Wailuku
TMK No. (2)3-8-007:004 and 055(por.)

Landowner:
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Applicant:
State of Hawai'i
Department of Education
P. O. Box 2360
Honolulu, Hawai'i 96804
Contact: Denise Gibo

Approving Agency:
State of Hawai'i
Department of Education
P. O. Box 2360
Honolulu, Hawai'i 96804
Contact: Denise Gibo

Consultant:
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawai'i 96793
Contact: Emily Murai
Phone: (808) 983-1233

Project Summary:

The State of Hawai‘i, Department of Education (DOE) proposes sports facilities, classroom, and Master Plan improvements at H.P. Baldwin High School (BHS), located in Wailuku, Maui. BHS is located on an approximately 42-acre parcel identified by Tax Map Key (TMK) (2)3-8-007:004 (Parcel 4). Additional improvements related to Americans with Disabilities Act (ADA) accessible ramps are proposed on a portion of the adjacent 38.49-acre parcel identified by TMK No. (2)3-8-007:055 (Parcel 55). Parcel 4 is the main campus of BHS and Parcel 55 is home to the War Memorial Stadium Complex. Both Parcel 4 and Parcel 55 are owned by the County of Maui. The proposed Master Plan improvements involve the construction of athletic facilities, including locker rooms, a weight room, a training room, track and practice field, and four (4) physical education classrooms. In addition, a two-story building with 14 classrooms is proposed along with an agricultural education building and site. The proposed classroom buildings will reduce the need for portable classrooms currently in use and allow for a more robust agriculture program. In addition, BHS offers physical education courses and a variety of boys' and girls' Varsity and Junior Varsity athletic programs including, but not limited to, basketball, volleyball, football, soccer, baseball, softball, tennis, swimming, water polo, golf, wrestling, air riflery, judo, bowling, paddling, and surfing. BHS currently has its own gymnasium, basketball courts, and baseball and softball practice fields. However, the school primarily relies on adjacent County facilities, such as the War Memorial Stadium Complex, to accommodate many of its sports practice activities and physical education courses. The proposed improvements are intended to provide BHS with its own facilities such that they can reduce dependency on temporary, portable classroom buildings, and County-owned facilities currently being used for physical education classes and interscholastic sports programs. The proposed ADA improvements on Parcel 55 will facilitate access between the two (2) parcels. Additional site improvements to be implemented as part of the project will include utility installations, grading, drainage improvements, and landscaping.

The use of County lands and State funds are triggers for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai‘i Revised Statutes (HRS). As such, this Draft EA has been prepared in accordance with Chapter 343, HRS and Chapter 11-200.1, Hawai‘i Administrative Rules (HAR) to evaluate the technical characteristics and potential environmental impacts of the proposed project, as well as to advance findings and mitigative measures relative to the project.

List of Acronyms

ADA	Americans with Disabilities Act
AFNSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
BHS	H.P. Baldwin High School
BMPs	Best Management Practices
CIA	Cultural Impact Assessment
cfs	Cubic Feet per Second
CO2 EQ	Carbon Dioxide Equivalent
CWPP	Community Wildfire Protection Plans
DOE	State of Hawai‘i, Department of Education
DOFAW	State of Hawai‘i, Department of Forestry and Wildlife
DOH	State of Hawai‘i, Department of Health
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPA	Fire Program Analysis
GHG	greenhouse gas
GIS	Geographic Information System
gpd	Gallons Per Day
gpm	Gallons Per Minute
HAR	Hawai‘i Administrative Rules
HCZMP	Hawai‘i Coastal Zone Management Program
HRHP	Hawai‘i Register of Historic Places
HRS	Hawai‘i Revised Statutes
HWMO	Hawai‘i Wildfire Management Organization
LSB	Land Study Bureau
LRFI	Literature Review and Field Inspection
MFD	Maui Fire Department
MIP	Maui Island Plan
MSL	mean sea level
NRHP	National Register of Historic Places
PZUE	Puuone sand, 7 to 30 percent slopes
RGB	rural growth boundaries
SCS	Scientific Consulting Services, Inc.
SHPD	State Historic Preservation Division
SIHP	State Inventory of Historic Properties
SLRVAR	Hawai‘i Sea Level Rise Vulnerability and Adaptation Report
SMA	Special Management Area
STB	small town boundary
TIAR	Traffic Impact Assessment Report
TMK	Tax Max Key
UGB	urban growth boundary
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WHP	Wildfire Hazard Potential

PROJECT OVERVIEW

I. PROJECT OVERVIEW

A. PROPERTY BACKROUND, EXISTING USE AND LAND OWNERSHIP

The State of Hawai‘i, Department of Education (DOE) is proposing Master Plan improvements at the H.P. Baldwin High School (BHS) campus in Wailuku, Maui, Hawai‘i. See **Figure 1**. The BHS campus is located north of Ka‘ahumanu Avenue, directly across the intersection of Maui Lani Parkway and Ka‘ahumanu Avenue. The BHS property is an approximately 42-acre parcel owned by the County of Maui and identified by TMK (2)3-8-007:004 (Parcel 4). Adjacent to BHS is the War Memorial Stadium Complex, which is the largest sports and recreation facility in the County of Maui Parks system. The County Park parcel adjacent to BHS covers an area of approximately 38.49 acres and is identified by TMK (2)3-8-007:055 (Parcel 55). See **Figure 2**. The subject properties are bounded by Ka‘ahumanu Avenue to the south, the Keōpūolani Regional Park to the east, portions of the War Memorial Stadium Complex, Liholiho Street, Leleihoku Street, and Pu‘uone Tract residential properties to the north and Lunalilo Street, the Wailuku U.S. Army Reserve Center, and the Boy Scouts of America offices to the west. The County purchased the BHS property in 1938 for use as a school and has since been used as a public high school serving students in grades 9 to 12. Although the school property is owned by the County, school operations are overseen by the DOE. The War Memorial Stadium Complex was built in the 1950s and contains the 20,000-person capacity Satoki Yamamoto track and field stadium, the Coach Sakamoto competition swimming pool, the Ichiro “Iron” Maehara baseball stadium, a multi-purpose gymnasium and various athletic facilities including Little League fields, tennis courts, and locker rooms. The War Memorial Stadium Complex facilities are used by the public and for County and school sports events. BHS has also used the War Memorial Stadium Complex for sports practices, games, and physical education classes.

B. PROJECT NEED

The proposed Master Plan improvements involve the construction of permanent classroom buildings, an agricultural site, and athletic facilities. The proposed classroom buildings will reduce the need for portable classrooms currently in use. In addition, BHS offers physical education courses and a variety of boys’ and girls’ Varsity and Junior Varsity athletic programs including, but not limited to, basketball, volleyball, football, soccer, baseball, softball, tennis, swimming, water polo, golf, wrestling, air riflery, judo, bowling, paddling, and surfing. BHS currently has its own gymnasium, basketball courts, and baseball and softball practice fields. However, the school primarily relies on nearby County facilities, such as the War Memorial Stadium Complex to accommodate many of its sports practice activities and physical education courses. The proposed improvements are intended to provide BHS with its own facilities such that they can reduce dependency on temporary,

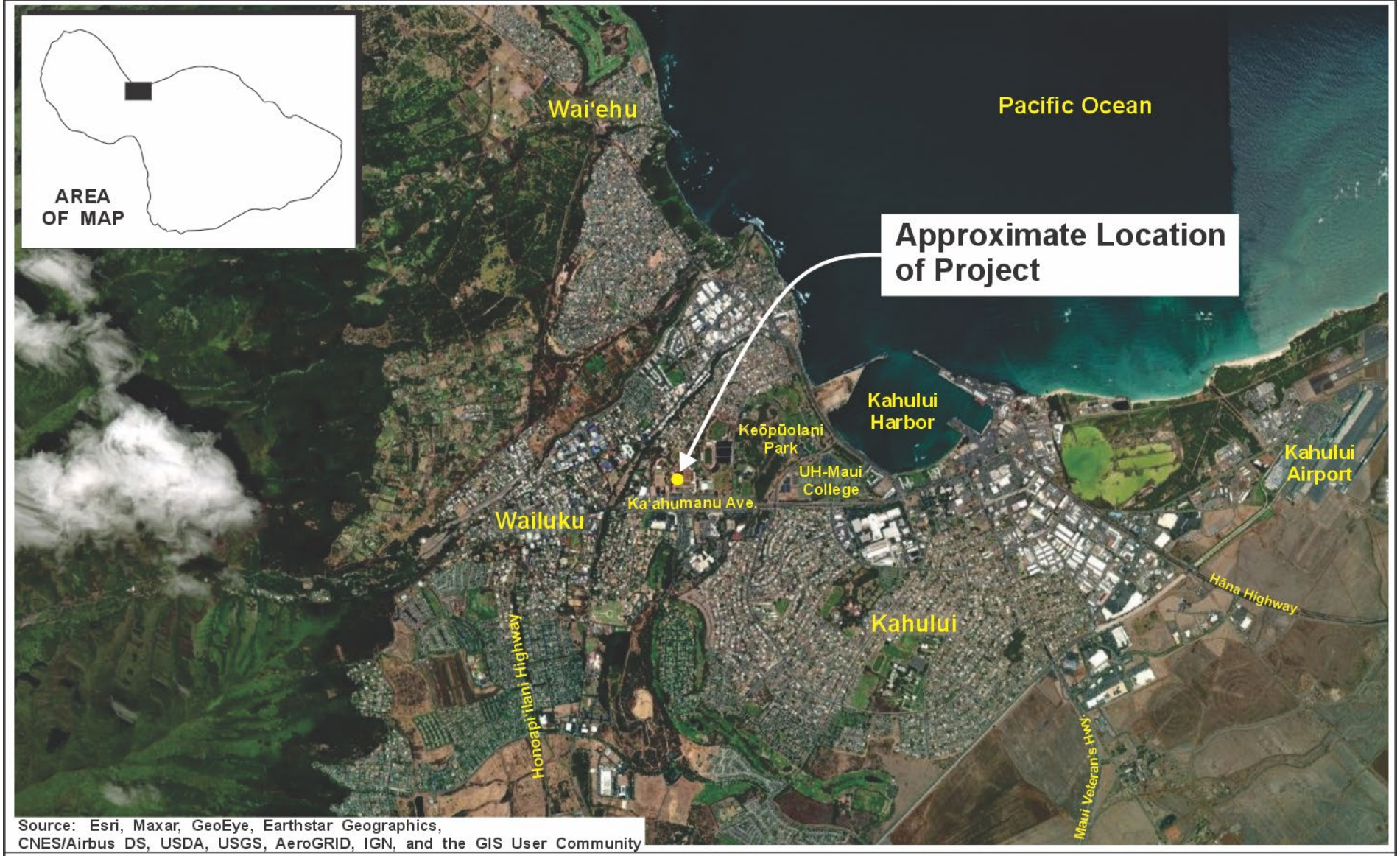


Figure 1

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Regional Location Map

2,000
0 Feet
1,000 4,000

MUNEKIYO HIRAGA

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

Inform\BHS Sports Facility\Figures\Regional Location

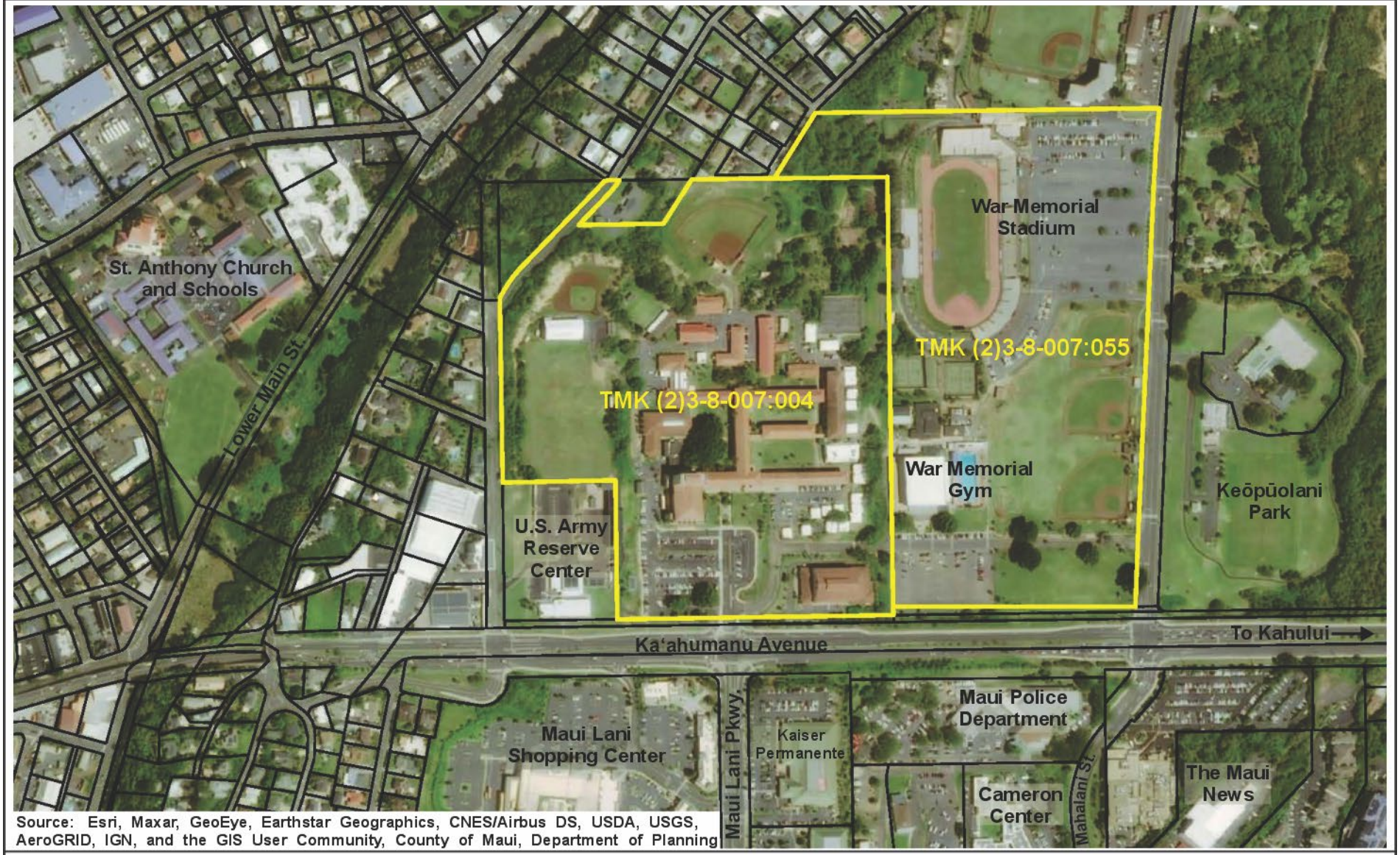


Figure 2

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Property Location Map

0 250 Feet
125 500

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

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\PropLoc

portable classroom buildings, and County-owned facilities currently being used for physical education classes and interscholastic sports programs.

C. PROPOSED ACTION

The proposed BHS Master Plan improvements involve the construction of athletic facilities, including locker rooms, a weight room, a training room, track and practice field, and four (4) physical education classrooms. In addition, a two-story building with 14 classrooms is proposed along with an agricultural education classroom and site. It is noted that improvements on Parcel 55 are limited to Americans with Disabilities Act (ADA) ramp improvements to facilitate access between the two (2) parcels. See **Figure 3**. In addition to the proposed sports improvements, related improvements such as utility installations, grading, drainage improvements, and landscaping will be included in the project scope. See **Appendix "A"**, Preliminary Project Plans. The proposed project will be funded by the DOE.

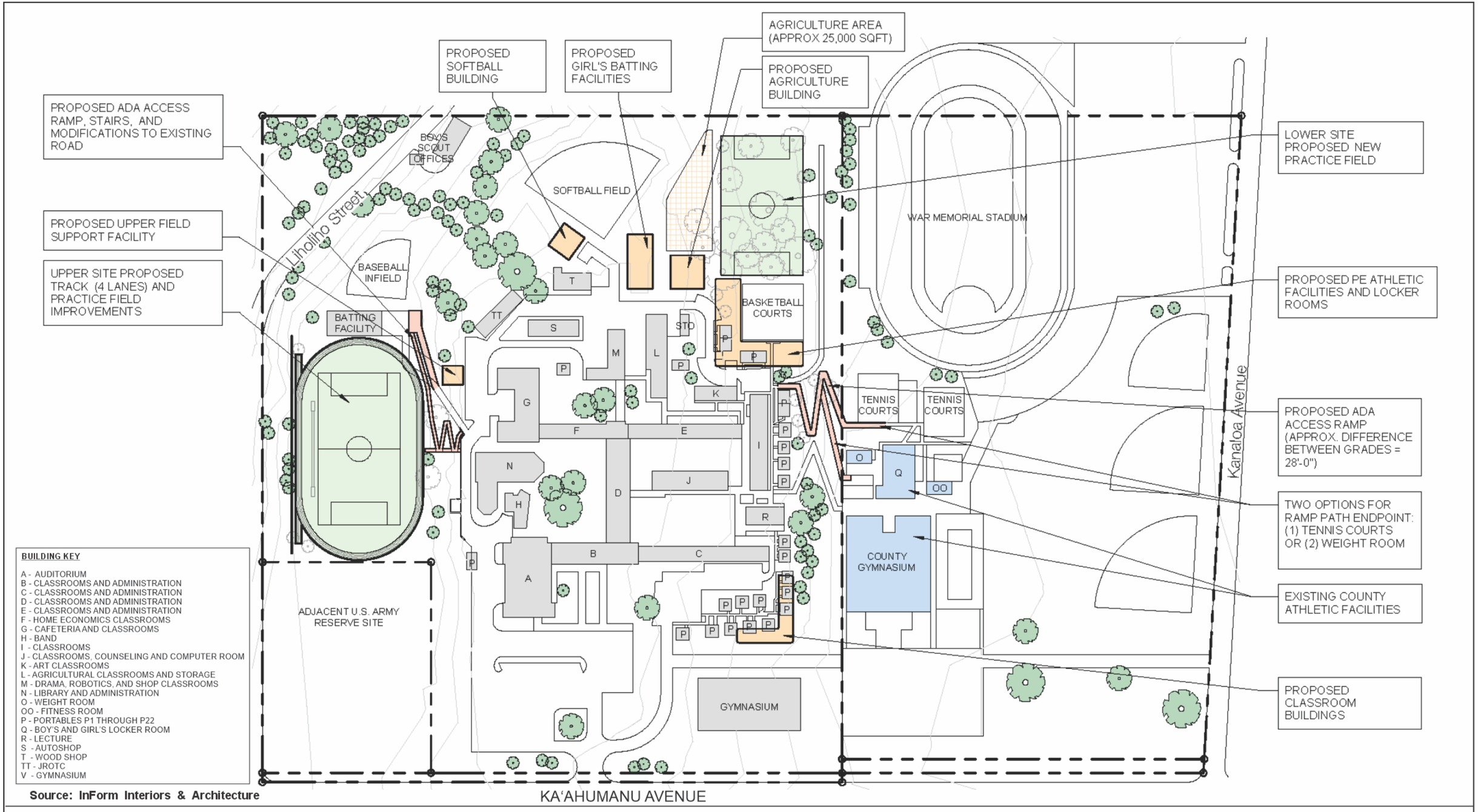
D. CHAPTER 343 HAWAIʻI REVISED STATUTES, ENVIRONMENTAL ASSESSMENT

The proposed action will occur on County-owned land and will involve the use of State funds. The use of County lands and State funds trigger compliance with the environmental review requirements of HRS, Chapter 343. As such, this Draft Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS and Chapter 200.1 of Title 11, Hawaiʻi Administrative Rules (HAR). Accordingly, this document addresses the technical characteristics and potential socio-environmental impacts of the proposed project, as well as advances findings and mitigative measures relative to the project.

The DOE will serve as the approving agency for the EA.

E. ESTIMATED CONSTRUCTION SCHEDULE

The Master Plan improvements will be developed in phases, dependent on funding availability. The athletic facilities building, which includes the weight room, fitness room, physical education classrooms, and bathrooms, will be the first phase and is anticipated to start in 2026 and take approximately 18 months to complete. The second phase is construction of the locker rooms, which is expected to start in February 2027 and will take 18 months for completion. Subsequent construction phasing will be determined based on funding availability.



Source: InForm Interiors & Architecture

Figure 3

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Conceptual Site Plan

NOT TO SCALE

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

MUNEKIYO HIRAGA

InForm\BHS Sports Facility\Figures\Conceptual Site Plan

DESCRIPTION OF THE EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION MEASURES

II

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

A. PHYSICAL SETTING

1. Surrounding Land Use

a. Existing Conditions

The project area consists of the H.P. Baldwin High School (BHS) campus and a portion of the War Memorial Stadium Complex located on the adjacent parcel to the east. Both parcels are located within the Wailuku-Kahului urban area. Kahului is the island's commerce and industrial center, hosting the Kahului Harbor, the Kahului Airport, and various retail shopping centers which include the Queen Ka'ahumanu Center, Maui Mall, Maui Marketplace, Pu'unene Shopping center, and the greater Maui Business Park. Wailuku on the other hand, serves as the seat of County and State governments, with most government agencies headquartered in the historic civic center area between Kaohu Street and Main Street. Wailuku also serves as a center for professional services such as medical, legal, and design professions. Various small businesses, retail shops, and restaurants are also present within the Wailuku area.

Land uses surrounding the BHS campus and War Memorial Stadium Complex include residential subdivisions of Wailuku and Kahului, business and commercial uses, as well as recreational and public/quasi-public uses. Business and facilities surrounding the project area include the Wailuku U.S. Army Reserve Center, the Maui Police Department, Maui Lani Shopping Center, Kaiser Maui Lani Clinic, and Maui Memorial Medical Center.

b. Potential Impacts and Mitigation Measures

The proposed Master Plan improvements to the BHS campus are compatible with the surrounding recreational and public/quasi-public uses in the area. The improvements will be mainly within the existing BHS campus, which has been utilized as a public high school for 70 years. Land use patterns are not expected to be adversely impacted by the proposed project.

2. Climate

a. Existing Conditions

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

Average temperatures at the general project area (based on temperatures recorded at Kahului Airport) range from the low 60s to high 80s (Fahrenheit). August is historically the warmest month, while January is the coolest month. Annual precipitation rainfall average is approximately 16 inches per year (Maui County Data Book, 2022). Winds blow predominantly out of the north-northeasterly direction.

b. Potential Impacts and Mitigation Measures

The proposed Master Plan improvements are complementary of the BHS campus and surrounding uses. The proposed project is not anticipated to have an adverse effect on climate.

3. Wildfire Hazards

a. Existing Conditions

Agencies and organizations such as the State Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW), the Maui Department of Fire and Public Safety (MFD), and the Hawai'i Wildfire Management Organization (HWMO) have identified wildfires as an increasingly common hazard to communities and native ecosystems due to dry climatic conditions, non-native invasive species, increased commercial and residential development, and more people living in close proximity to wildland areas. In Hawai'i, wildfire has also been correlated to drought conditions. Wildfire history data show an increase in ignition and areas burned during the warmer drier months of summer.

Community Wildfire Protection Plans (CWPP), developed by HWMO for communities across the State, identify and prioritize areas for hazardous fuel reduction treatments, suggest methods of treatment and recommend measures to reduce structural ignitability. The project area is not identified within any of the CWPPs developed.

In addition to the CWPP maps, the United States Forest Service (USFS) and the United States Department of Agriculture (USDA), have created a model to indicate Wildfire Hazard Potential (WHP) at a more detailed, 30-meter scale. The WHP model calculates the potential for the occurrence of a wildfire that would be difficult to contain based on three (3) factors: the LANDFIRE program which is a fire and fuel characteristics mapping program that builds ecological models to show potential fire risk and behavior, the Large Fire Simulator from the Fire Program Analysis (FPA) System, and point locations of fire occurrences from the FPA System. Using this information, the WHP model is able to assess potential fire hazards in a region. For the BHS campus and War Memorial Stadium Complex parcel, the WHP model shows a very low fire risk, likely due to its urban environment and location away from wildlands (Scott, Gilbertson-Day, Moran, Dillon, Shore, Vogler, 2020). See **Figure 4**.

b. Potential Impacts and Mitigation Measures

The proposed project is not located within an area identified as having a medium or high level of fire hazard potential. The proposed Master Plan improvements will be designed to conform to the Maui County Fire Code. In addition, BHS has a fire evacuation plan, which will be updated once Master Plan improvements are implemented. The proposed project is not anticipated to increase the wildfire hazard potential for the BHS campus and surrounding areas.

4. Topography and Soil Conditions

a. Existing Conditions

Underlying the project sites and surrounding area are soils belonging to the Pulehu-Ewa-Jaucus association. According to the Soil Survey of the Islands of Kauaʻi, Oʻahu, Maui, Molokaʻi, and Lānaʻi, State of Hawaiʻi, prepared by the United States Department of Agriculture Soil Conservation Service, these soils are characterized as having a slight to moderate erosion hazard (Foote et al, 1972). See **Figure 5**.

The project area is located on soils identified as Puuone sand (PZUE), 7 to 30 percent slopes, which are derived from coral and seashells. See **Figure 6**. PZUE is found on sandhills near the ocean and consists of grayish-brown, calcareous sand that is about 20 inches thick. The substratum consists of a grayish-brown cemented sand. Permeability is rapid above the cemented portions, and the hazard from wind erosion is moderate to severe. This land type is suited for use as pastures and homesites,

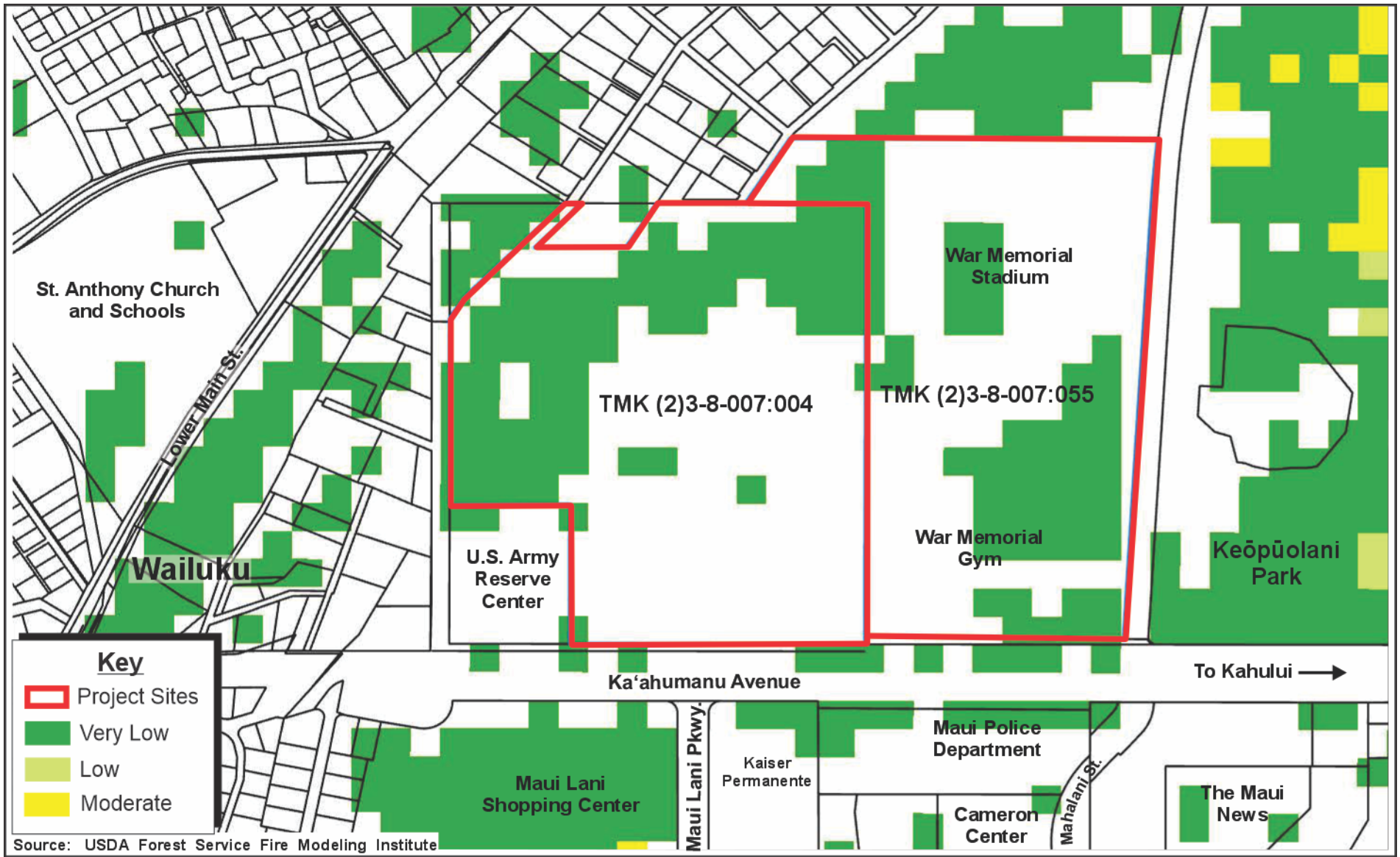


Figure 4

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Wildfire Hazard Potential Map

0 125 250 500 Feet

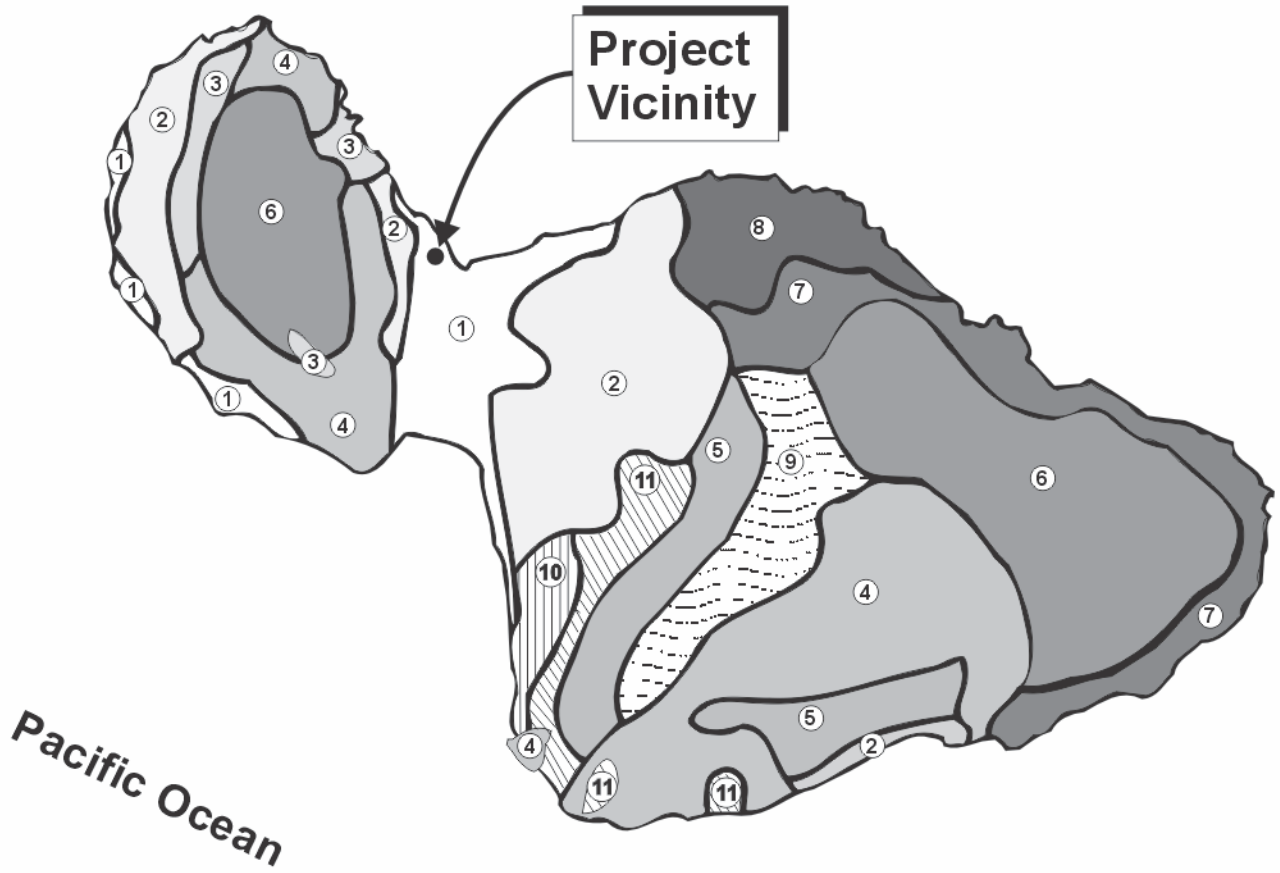
Prepared for: State of Hawai'i, Department of Education

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\Wildfire

LEGEND

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



Map Source: U.S. Department of Agriculture, Soil Conservation Service, 1972

Figure 5 H.P. Baldwin High School NOT TO SCALE

Sports Facilities and Master Plan Improvements

Soil Association Map

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

MUNEKIYO HIRAGA

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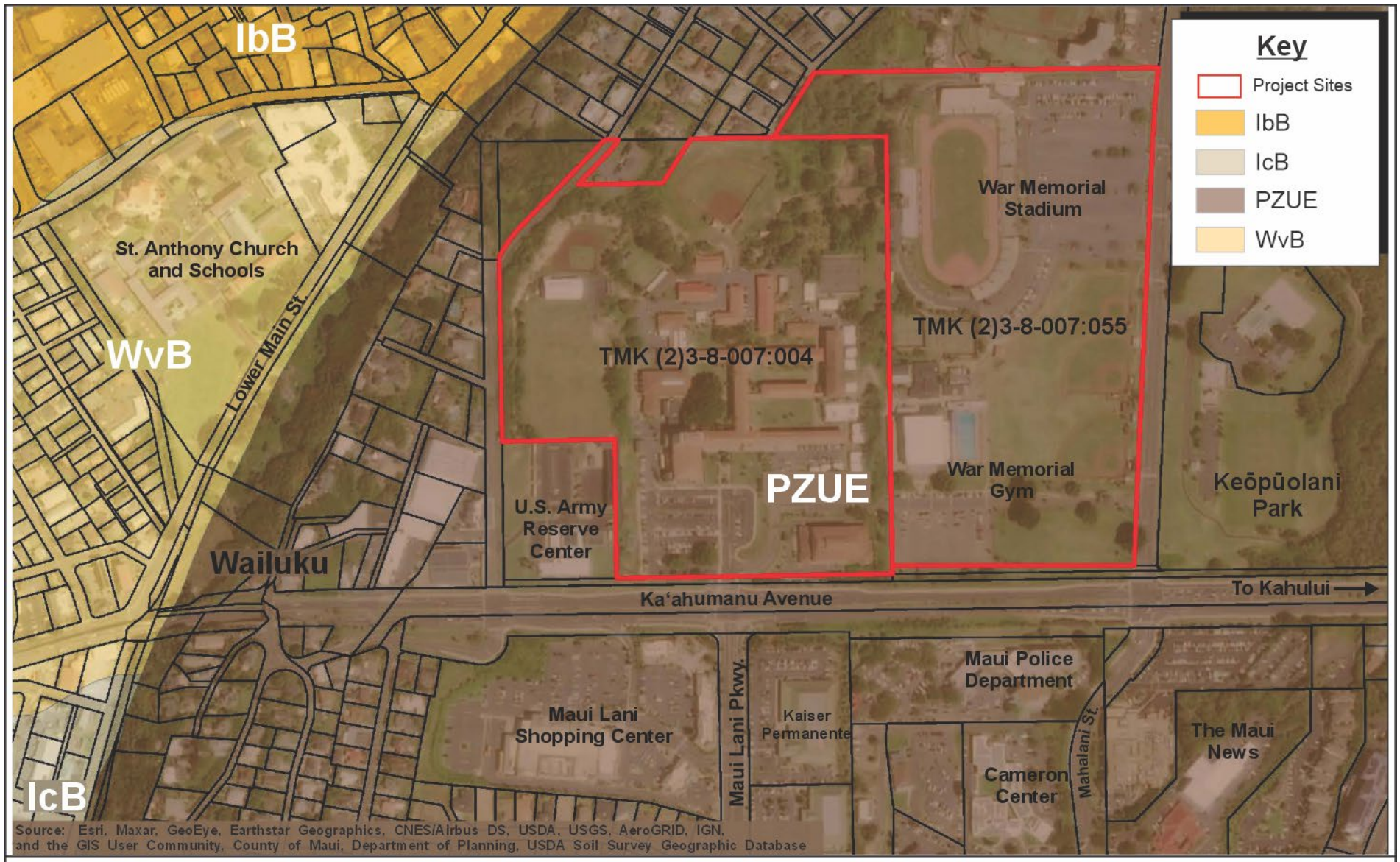

Figure 6

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Soil Classification Map

0 125 250 500 Feet

MUNEKIYO HIRAGA

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

Inform\BHS Sports Facility\Figures\SoilClass

and natural vegetation can consist of bermudagrass, kiawe, and lantana (U.S. Department of Agriculture, 1972). The majority of the BHS property slopes northwest to southeast. Elevation ranges from about 83 to 171 feet mean sea level (MSL) with slopes ranging from 1 to 45 percent.

b. Potential Impacts and Mitigation Measures

Austin, Tsutsumi & Associates, Inc. prepared a Preliminary Engineering and Drainage Report (PEDR) for the project. See **Appendix "B"**. Due to the existing topography, construction of the proposed improvements will require excavation and/or embankment. Efforts to balance "cuts" and "fills" during grading will be made to minimize the import and export of earthwork materials and accommodate drainage and service utilities will be made to the extent feasible. Retaining walls will be used where graded embankments are not feasible.

According to the PEDR, temporary erosion control measures must be implemented during construction to minimize soil loss and erosion hazards. Best Management Practices (BMPs) include silt fences, dust fences, stabilized construction entrances, truck washdown areas, and filter socks. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties.

5. Agricultural Productivity Considerations

a. Existing Conditions

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

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

The project sites are "unclassified" according to the ALISH classification system.

Separately, the University of Hawai‘i, Land Study Bureau (LSB) developed the Overall Productivity Rating, which classified soils according to five (5) productivity levels, with “A” representing the class of highest productivity soils and “E” representing the lowest.

The project sites are also unclassified by the LSB.

b. Potential Impacts and Mitigation Measures

The proposed improvements will occur on an existing high school campus built in 1938 and sports complex built in the 1950s and surrounded by urban uses. Both parcels have been developed and in use for over 70 years. As such, agricultural production is not anticipated to be affected by the proposed action. It is noted that a portion of the project improvements include an agricultural area for student education purposes. As such, the proposed improvements will indirectly support agriculture through the agriculture education curriculum.

6. Flood, Tsunami, and Sea Level Rise

a. Existing Conditions

The Flood Insurance Rate Map (FIRM), Geographic Information System (GIS) layer provided by the United States (U.S.) Federal Emergency Management Agency (FEMA) indicates the project sites are situated in Flood Zone X, outside the floodplain. Flood Zone X (unshaded) represents areas outside of the 0.2 percent annual chance flood plain, and there are no restrictions upon development within this zone. See **Figure 7**. Similarly, the project sites are located in the “Safe Zone” with regards to the tsunami evacuation zones. See **Figure 8**.

As a result of climate change associated impacts from greenhouse gas emissions, sea level rise and flooding are expected to worsen which may have deleterious impacts on the Hawaiian Islands. The Hawai‘i Sea Level Rise Vulnerability and Adaptation Report (SLRVAR), written to address climate change related threats to public health, natural resources, and the economy, was initially published in 2017 and updated in 2022. The 2022 update has new projections that show an expected three (3) to four (4) foot sea level rise by 2100. Recent science, presented in the 2022 SLRVAR update, has raised the projected intermediate-high sea level rise scenario to 5.9-feet by 2100. Based on this, SLRVAR recommends planning for

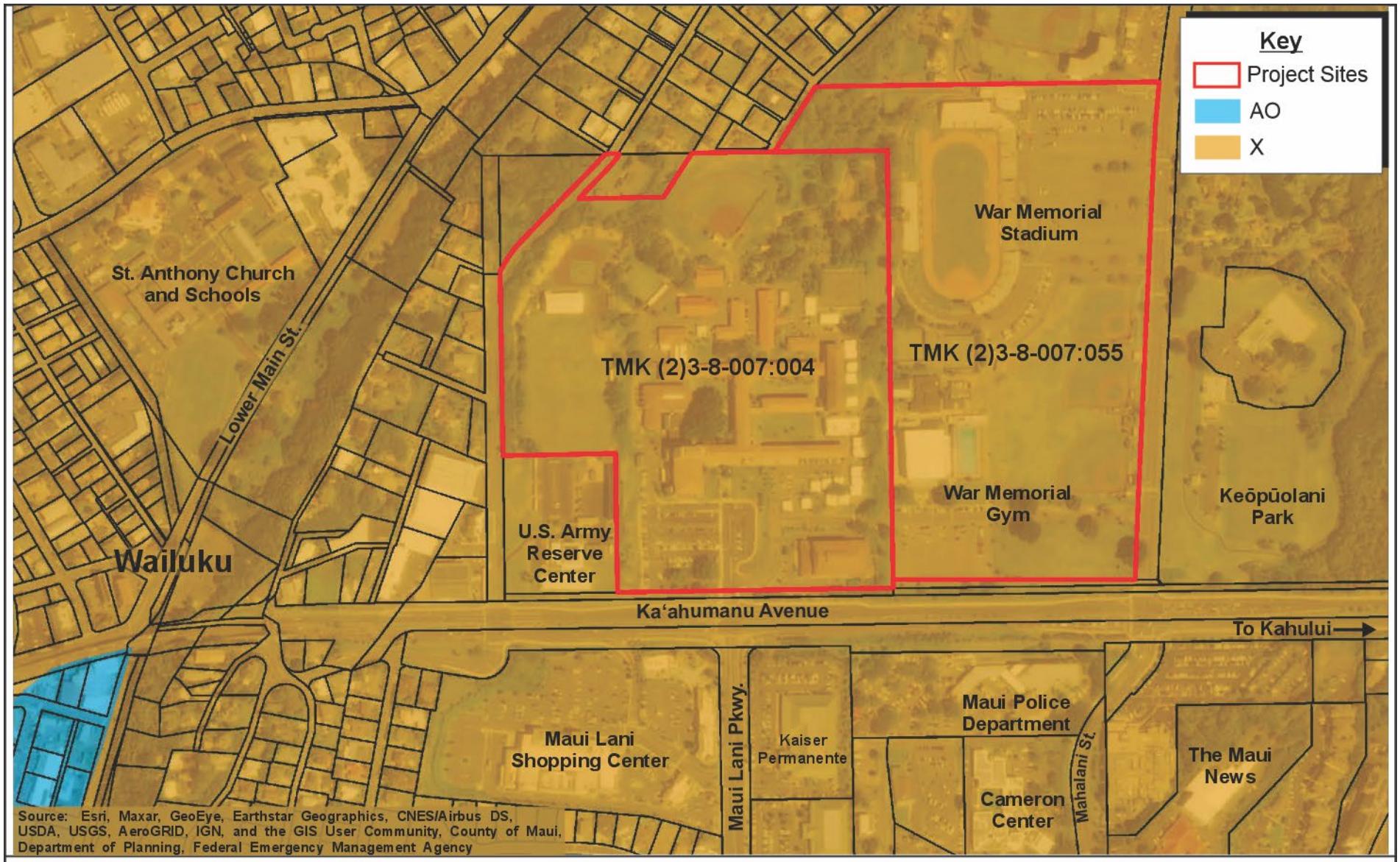

Figure 7

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Flood Hazard Map

0 250 Feet
125 500

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

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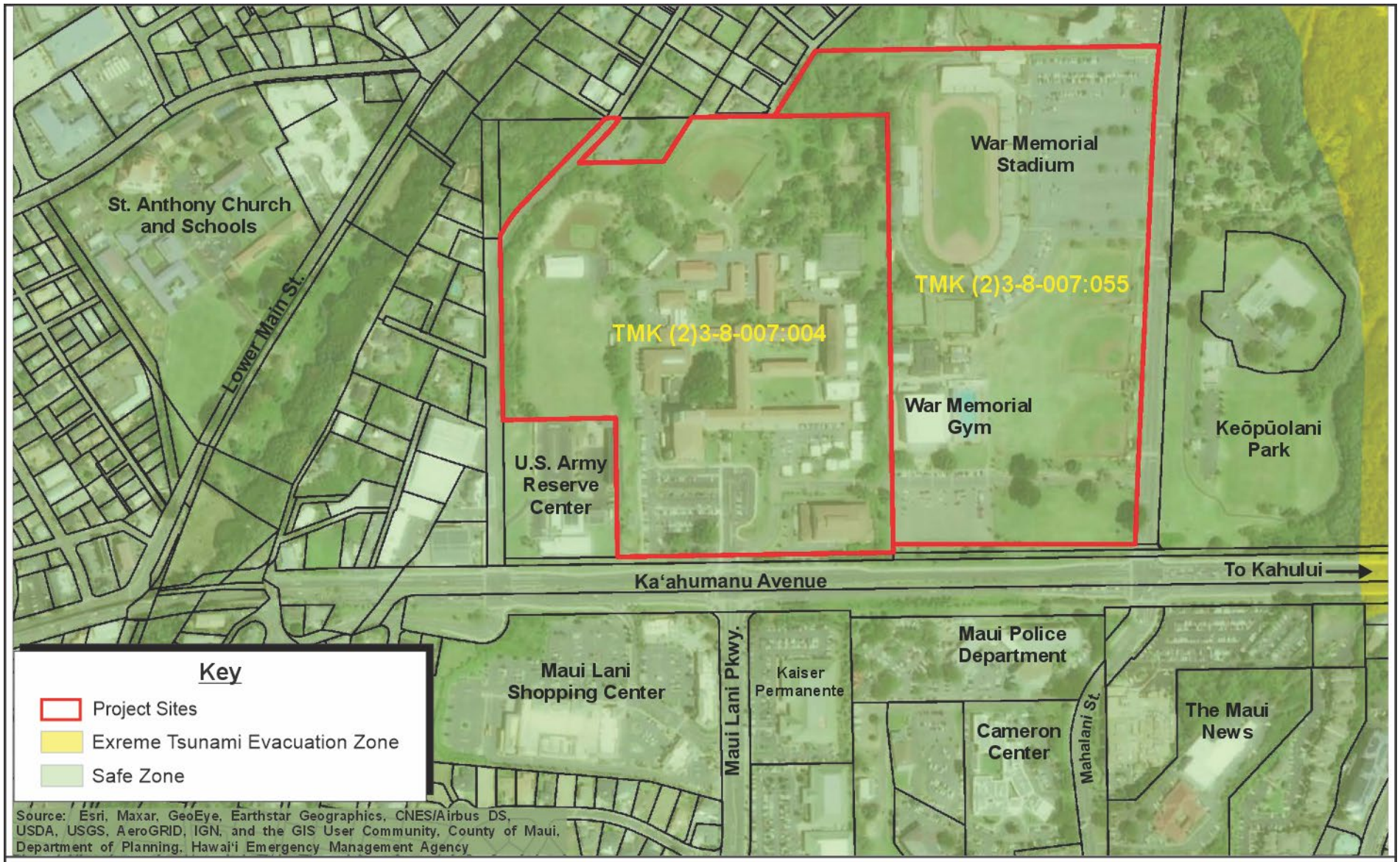

Figure 8

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Tsunami Evacuation Zones Map

0 125 250 500 Feet

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

MUNEKIYO HIRAGA

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5.9-feet of sea level rise by 2100 for planning and design of public infrastructure projects and projects with a low tolerance for flood risk. SLRVAR recommended planning for four (4)-feet of sea level rise by 2100 as the minimum for all other projects. Mid-century modeling shows 1.3-feet of sea level rise by 2050 at the intermediate-high scenario (Sweet et al., 2022)

b. Potential Impacts and Mitigation Measures

The development of the proposed project is located inland and outside of the flood hazard inundation zone, tsunami evacuation zone, and anticipated sea level rise exposure area. In addition, the project will comply with the County of Maui's drainage standards and will utilize stormwater runoff BMPs during construction. As such, there are no significant adverse impacts to flooding conditions anticipated as a result of the proposed project. Drainage conditions will be discussed in further detail in Section D.4 of this chapter. Accordingly, significant adverse impacts associated with floods, tsunamis, and sea level rise are not anticipated.

7. Streams and Wetlands

a. Existing Conditions

There are no streams or wetlands occurring within or in the vicinity of the proposed project.

b. Potential Impacts and Mitigation Measures

Due to the project area's location away from streams and wetlands, the proposed action is not anticipated to have adverse impacts to streams or wetlands. Furthermore, appropriate Best Management Practices (BMPs) will be used during construction, and applicable drainage improvements will be implemented to ensure that the project will not adversely impact downstream water resources.

8. Flora and Fauna

a. Existing Conditions

Due to the long-established urban development and the project site's use as a high school, there are no known critical habitats for rare, endangered or threatened species of flora, fauna and avifauna located within the project site. There are no known streams or wetlands located within or in the vicinity of the project

b. Potential Impacts and Mitigation Measures

Through consultation with the U.S. Fish & Wildlife Service (USFWS), an official species list of threatened and endangered species was generated from the USFWS Information for Planning and Consultation (IPaC) online tool. See **Appendix "C"**. In addition, the design guidelines and recommendations for threatened and endangered species have been shared with the project team for implementation, as may be applicable.

Due to the long-standing urbanized use of BHS and surrounding area, implementation of the proposed Master Plan improvements is not anticipated to have an adverse impact upon flora and fauna resources in the region.

9. Historic and Archaeological Resources

a. Existing Conditions

An Archaeological Literature Review and Field Inspection (LRFI) was conducted by Scientific Consulting Services (SCS) in March 2023. See **Appendix "D"**. The LRFI notes that the BHS campus was included on the Hawai'i Register of Historic Places (HRHP) as a part of Maui Public Schools, which collectively constitute State Inventory of Historic Places (SIHP) Site 50-50-04-01630, on June 2, 1992. It was also listed on the National Register of Historic Places (NRHP) with Reference Number 667 on June 30, 2000. According to the NRHP Registration Form, "*the main buildings of Henry Perrine Baldwin High School were built in Kahului between 1938 and 1940,*" and the school "*is significant for its use of Modern style architecture for a school building and for its role in the history of the education in Maui.*"

The LRFI reviewed previous archaeological surveys conducted within and surrounding the project area. Other than the BHS campus itself, no other SIHP sites are located within the project area. Previous archaeological investigations conducted have not identified historic or archaeological properties in the project area. SCS also performed a field survey consisting of a one-hundred percent pedestrian survey of the project area. A basalt and concrete culvert were documented, but was assessed as being of contemporary origin. No cultural materials or archaeologically significant sites were identified during the field inspection.

b. Potential Impacts and Mitigation Measures

Previous archaeological studies have not identified archaeological or historic properties beyond the existing historic school buildings on the BHS campus. However, it is noted that the project area contains PZUE sand dunes, which are known to contain burials. As such, SCS recommends archaeological monitoring be conducted for all ground disturbing activity. The State Historic Preservation Division (SHPD) has been consulted regarding the proposed action. Mitigation measures will comply with all SHPD recommendations.

10. Cultural Resources

a. Existing Conditions

A Cultural Impact Assessment (CIA) was conducted by International Archaeology to assess the possible impacts the construction project may have on cultural beliefs and practices in and around the project area. The CIA includes a cultural and historical archival literature review of the study area. In addition, ethnographic and oral histories were gathered through interviews with five (5) cultural informants. Interviews were analyzed to identify specific concerns. See **Appendix "E"**, CIA**.**

From a traditional Hawaiian land structure, BHS is located in the *ʻili ʻāina* of ʻOwā, in the *ahupuaʻa* of Wailuku and *moku* of Wailuku (Pūʻali Komohana). Wailuku (Pūʻali Komohana) is one (1) of 12 *moku* on Maui and occupies the northwest side of the island. ʻOwā, the nearby *ʻili ʻāina* of Kalua and the larger *ʻahupuaʻa* of Wailuku, experienced several large-scale battles during the reign of Kahekili and his son Kalanikūpule. The tumultuous battles between these Maui chiefs and the Hawaiʻi island chiefs, Kalaniōpuʻu and Kamehameha, from 1775 to 1779 is believed to be a contributing factor to the numerous heiau or temples in Wailuku and is also associated with the burials in the sand hills area of Wailuku.

These sand hills were unsuitable for farming due to poor soil quality. Instead, agriculture flourished in the foothills and valleys of ʻĪao, where fertile silty clay soils supported the cultivation of taro (loʻi kalo) and other crops, alongside the rivers of Nā Wai ʻEhā that provided water for irrigation. Nā Wai ʻEhā translates to the "four waters", and includes Wailuku, Waiehu, Waiheʻe, and Waikapū. The rivers of Nā Wai ʻEhā provided water and stream life to cultivate loʻi kalo, iʻa (fish), ʻōpae (shrimp), hīhīwai (grainy snail), and other freshwater resources. In ancient times, the area from Waiheʻe to Wailuku was recognized as the largest continuous system of wetland taro cultivation in the islands.

b. Potential Impacts and Mitigation Measures

Through ethnographic consultation, it was noted that a concern among cultural informants is the potential disturbance of *iwi kūpuna* (ancestral bones) during construction, as many *iwi* have already been exposed in nearby areas. Other cultural considerations such as laʻau lapaʻau, hula and mele, mahiʻai and kalua and the reverence of pohaku piko were discussed with the cultural informants. Cultural Informant Iris Nitta also noted the absence of a Hawaiian Studies teacher at the high school**.**

Through consultation, the following potential effects were discussed:

- Interviewees indicated there is a high probability that *iwi kupuna* is present in the project area due to the area's rich history and other *iwi kupuna* found in nearby areas, and that it will be disturbed during construction activities. It is important to note that no *iwi kupuna* have been found directly within the project area.

- Although *lei* making is still practiced on campus and Hawaiian music and dancing is performed at the auditorium, the school does not have a Hawaiian Studies program.

- Although the physical integrity of the *pōhaku piko* on campus will not be disturbed by construction work, its spiritual attributes may be affected.

In addition to these concerns, in general the informants endorsed the project's goal of providing much-needed education and sports facilities for students. Furthermore, the improvements to the school's facilities may potentially lead to student training and participation in traditional Hawaiian practices such as hula and *lei* making, fostering continuity between the past and present.

To address cultural concerns, the following actions are recommended by the CIA:

1. Conduct a blessing of the construction area and the *pōhaku piko* before ground disturbance begins and after the project is completed. The blessing should be performed by a knowledgeable cultural practitioner and/or *kahu* to ensure the spiritual safety of students, teachers, staff, construction workers, and visitors.

2. Consider hiring a Hawaiian Studies teacher with a strong knowledge of spiritual encounters who can educate the children

about the *pōhaku piko* (central stone) on campus as well as other aspects of Hawaiian culture.

3. Work with an archaeological firm to prepare a burial treatment plan for *iwi kūpuna* that may be encountered during construction.

4. Work with an archaeological firm to monitor all ground-disturbing project work to mitigate impacts to cultural resources such as *iwi kūpuna* and develop a plan to protect these resources in consultation with cultural stakeholders/organizations and appropriate government agencies.

It is noted that archaeological monitoring is recommended by the project archaeologist, which would include a protocol for inadvertent discovery of *iwi kupuna*. The other suggested recommendations will be implemented by the Department of Education (DOE), as practicable. Refer to **Appendix "E"**.

11. Air Quality

a. Existing Conditions

There are no point sources of airborne emissions in the immediate vicinity of the project site. Although minimal, airborne pollutants are largely attributable to vehicular traffic on the surrounding roadways. These sources, however, are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources. Overall, the air quality in the region is considered good.

b. Potential Impacts and Mitigation Measures

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

The proposed project is not an action which will generate adverse long-term air quality impacts. The proposed BHS Master Plan improvements are not anticipated to have an adverse effect upon air quality.

12. Greenhouse Gas Considerations

a. Existing Conditions

Greenhouse gases (GHG) (carbon dioxide, methane, nitrous oxide and fluorinated gases) trap heat in the earth's atmosphere. In the context of climate and ocean warming, increases in levels of atmospheric GHG have been attributed to human activity (IPCC, 2021). Within the State of Hawai'i, the energy sector (including fossil fuel burning to produce electricity, transportation, waste incineration, and natural gas systems) is identified as the source of approximately 89 percent of GHG emissions (Hawai'i Department of Health, 2021). Other sources of GHG emissions include industrial facilities, agriculture and forestry, and waste treatment such as landfills, composting, and wastewater treatment.

The Federal Greenhouse Gas Reporting Program (40 CFR Part 98) requires mandatory reporting of GHG emissions from sources that emit 25,000 metric tons or more of carbon dioxide equivalent (CO2 EQ) per year in the United States. Categories of use which are generally associated with this level of reporting include power plants, petroleum and natural gas systems, refineries, and other heavy manufacturing processes. On Maui, the facilities operating at or above the 25,000 metric ton level include Hawaiian Electric Company's Kahului Power Plant, Maalaea Power Plant, the Hawaiian Commercial Sugar Company Industrial Waste Landfill, and the Central Maui Landfill (United States Environmental Protection Agency (U.S. EPA) 2022).

b. Potential Impacts and Mitigation Measures

The proposed action involves the construction of locker rooms, athletic facilities, and practice fields as well as classroom buildings and related improvements at the existing BHS campus. In the context of the GHG Reporting Program (25,000 metric tons of CO2 EQ), the relative effects of GHG emissions (CO2 EQ) from the project are not considered significant.

The proposed action will involve short-term consumption of fuel for construction equipment, vehicles, and machinery during the construction period. The proposed facilities will be developed with sustainable design guidelines to reduce energy consumption and contribute to the overall reduction in GHS emissions.

Furthermore, the State of Hawai'i has set a renewable energy portfolio standard of 100 percent (100%) by the year 2045 (Section 269-92, HRS) to minimize dependence on fossil fuel combustion, and has declared a

policy to reduce GHG emissions to 1990 levels by the year 2020 (Act 234, Session Laws of Hawai‘i, 2007). In efforts to reduce emissions, Chapter 11-60.1 of the HAR was amended to place a cap on facilities with potential sources of GHG emissions at or above 100,000 tons per year. The State is on track to meet these goals and emission inventory reports conducted by ICF International, Inc., the University of Hawai‘i and the State of Hawai‘i, Department of Health project that Hawai‘i’s GHG emissions in 2017 (excluding aviation emissions) were lower than the net GHG emissions in 1990 (Hawai‘i Department of Health, 2021; Hawai‘i PUC, 2020), which will result in a reduction of GHG impact of the proposed action along with reductions of GHG emissions statewide.

The proposed action is not anticipated to create significant direct and indirect foreseeable GHG emissions. This action does not fall within the threshold of mandatory GHG reporting.

13. Noise Quality

a. Existing Conditions

There are no fixed noise generators in the vicinity of the project site. Noise generated in the area is primarily attributed to vehicular traffic along Ka‘ahumanu Avenue and the surrounding roadways. Intermittent noise in the vicinity of the project site may be generated by school activities as well as recreational activity originating from the War Memorial Stadium Complex and BHS gymnasium.

b. Potential Impacts and Mitigation Measures

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

In order to mitigate noise impacts, construction activities are anticipated to be limited to daylight work hours. Project-related noise will be minimized through use of applicable BMPs, such as regular maintenance of construction equipment and use of properly muffled equipment in compliance with the provisions of the State of Hawai‘i Department of Health (DOH) HAR, Title 11, Chapter 46 “Community Noise Control.” In the long term, the proposed project may result in increased intermittent noise from sports practice and school activities on the BHS campus. However, these

activities will be limited to daytime hours, and it is not anticipated to result in significant noise generation.

14. Scenic and Open Space Resources

a. Existing Conditions

Mauna Kahālāwai (West Maui Mountains) to the west, Haleakalā to the east, and Kahului Harbor and the Pacific Ocean to the north, define the scenic resources in Central Maui. The BHS campus and War Memorial Stadium Complex are located in an area surrounded by existing development including residential, commercial, and public/quasi-public facilities.

b. Potential Impacts and Mitigation Measures

The project area is not part of a designated scenic corridor and, therefore, implementation of the proposed action will not affect views from inland vantage points. It is noted that the proposed athletic facilities classroom building, and locker room building currently in design may exceed the 30-foot height limit. The building will be two stories, but the sloping topography and ceiling height requirements necessitate additional height. Regardless, the proposed project is not anticipated to have a significant adverse impact upon the visual character of the surrounding area. A height variance will be obtained for the Athletic Facilities and Locker Room Buildings.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

a. Existing Conditions

The population of the island of Maui has exhibited growth over the past several decades. According to the U.S. Census, the resident population of the island in 2020 was 200,629, an increase of 6.7 percent from the 2010 population of 144,444 (U.S. Census 2020). According to the latest Maui County Data Book, the estimated population of Maui was 164,333 in 2022, which is a -0.3 percent decrease from 2021 and a -1.4 percent decrease from 2017 (Maui County Data Book, 2022).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project involves the construction of permanent classroom buildings, sports facilities, and related improvements at the BHS campus. The proposed new classrooms, locker rooms, athletic facilities, and practice fields will provide improved on-campus facilities for students. The project is not anticipated to adversely impact the island's population parameters and will reduce the school's reliance on neighboring County facilities for sports activities.

2. Economy

a. Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry. Many of the hotel and resort amenities are in South Maui and West Maui, with non-resort, smaller hotels located in Central Maui. The Wailuku-Kahului region encompasses a broad range of commercial, service, and governmental activities.

According to the State of Hawai'i, Department of Business and Economic Development economic report from the third quarter of 2024, Maui County has continued to experience economic impacts from the 2023 wildfires through the second quarter of 2024. Maui County visitor arrivals and jobs decreased in the second quarter and Maui County's unemployment rate remained higher in the second quarter of 2024 compared to the same quarter in 2023. Maui County's unemployment rate increased 1.4 percentage points from 2.7 percent to 4.1 percent in the second quarter of 2024 (State of Hawai'i, Department of Business and Economic Development, 2024).

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is anticipated to have positive economic and fiscal impacts. In the short term, the development of sports facilities, classrooms, and related improvements will contribute to the local economy through the generation of construction jobs and related support services made through local suppliers. There are no significant adverse economic impacts associated with the proposed project.

C. PUBLIC SERVICES

1. Solid Waste Collection and Disposal

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui on a weekly basis. Residential solid waste collected by County crews is disposed of at the County's Central Maui Landfill located approximately 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies. A privately operated green waste recycling facility, Maui Earth Compost Company, is situated at Pulehu Road and Hansen Road, while Eko Compost is operated at the Central Maui Landfill. According to the County of Maui, the Central Maui Landfill has adequate capacity to accommodate residential and commercial waste needs through the year 2026. The County's Department of Environmental Management (DEM) is currently planning to implement a processing facilities project adjacent to the landfill, which would further extend the projected capacity by an estimated 16 years. The remaining capacity estimate is based on future disposal volumes that assume significant population growth. Solid waste from BHS is currently collected by a private refuse collection company.

b. Potential Impacts and Mitigation Measures

Construction-related waste will be properly disposed of in accordance with policies and practices established by the Solid Waste Division to ensure that there are no adverse impacts to the County's Central Maui Landfill. Upon completion of the project, solid waste collection will continue to be provided by a solid waste refuse collection company and disposed of at the Central Maui Landfill.

The proposed project is not anticipated to have adverse impacts on solid waste collection on Maui.

2. Police, Fire, and Medical Facilities

a. Existing Conditions

Police protection for the Wailuku-Kahului region is provided by the Maui Police Department located at the Wailuku Station, headquartered at the intersection of Ka‘ahumanu Avenue and Mahalani Street, approximately half a mile away from the project site. The Maui Police Department provides

investigative services, uniform patrol services, technical support, and traffic services as stated in its mission to protect the residents of Maui County.

Fire prevention, protection, rescue, and emergency services for the Wailuku-Kahului region are provided by the Maui County Department of Fire and Public Safety. The department has two (2) stations to service the Wailuku-Kahului region, both in proximity to the project site. The Wailuku station is located in Wailuku town approximately half a mile west of the project site and the Kahului station is located on Dairy Road in Kahului approximately three (3) miles east of the project site.

Maui Memorial Medical Center is managed by Maui Health, a subsidiary of Kaiser Permanente, and is the only major medical facility on the island. Acute, general, and emergency care services are provided by the 214-bed Maui Memorial Medical Center facility located on Mahalani Street, Wailuku, less than one mile southeast of the project sites.

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

b. Potential Impacts and Mitigation Measures

The proposed project involves the construction of Master Plan improvements at the BHS campus and ADA ramp improvements connecting BHS to the War Memorial Stadium Complex. The proposed project is located within service areas for existing police, fire, and medical facilities and is not anticipated to adversely impact these services.

3. Educational Facilities

a. Existing Conditions

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

The area is also served by several privately operated schools providing education for elementary, intermediate, and high school students. Privately operated schools serving the Wailuku-Kahului region include St. Anthony School (grades K to 12), Ka‘ahumanu Hou Christian School (grades K to

12), Emmanuel Lutheran School (K to 6), and Maui Adventist School (grades 1 to 8).

Additionally, the University of Hawai‘i Maui College is a four-year college located on Ka‘ahumanu Avenue in Kahului.

BHS is part of the DOE's Baldwin, Kekaulike, Kulanihakoi and Maui complexes which include schools in Central Maui, Kihei and Upcountry Maui. Enrollment for BHS in the 2023-2024 school year was 1,345 students, which is a slight increase from the 2022-2023 enrollment which was 1,338 students. The DOE has noted an overall declining trend in enrollment across its schools. Within the Baldwin, Kekaulike, Kulanihakoi and Maui complexes, enrollment was at 16,208 for the 2013-2014 school year, but has declined to 14,606 in the 2022-2023 school year (DOE Data Book 2022-2023.)

b. Potential Impacts and Mitigation Measures

The proposed Master Plan improvements will enhance the BHS campus by providing permanent and onsite facilities and is not considered a student population generator. According to BHS administration, student enrollment has steadily decreased over the last 30 years and could continue to decrease in the future. The 2024 enrollment at BHS is 1,266 and the post Project-buildout enrollment forecast is 1,200 to 1,350 students. In order to be conservative, a future enrollment of 1,350 students was assumed to assess anticipated future conditions.

4. Recreational Facilities

a. Existing Conditions

Within the Wailuku-Kahului Community Plan Region, there are many recreational activities, including shoreline and boating activities at the Kahului Harbor and adjoining beach parks, and organized recreational activities provided/offered at County Parks. Adjacent to BHS is the County's War Memorial Stadium Complex which consists of a stadium, a soccer field, baseball and softball fields, a gymnasium, tennis courts, and locker rooms. Other popular recreational resources include the ‘Īao Valley State Park, the Kehalani Mauka Park, the Velma McWayne Santos Community Center, Keōpūolani Regional Park, and the Kahului Community Center Park.

In addition, there are several golf courses in the Wailuku-Kahului region. These include The Dunes at Maui Lani Golf Course and the Maui County-owned Waiehu Golf Course.

b. Potential Impacts and Mitigation Measures

The proposed project will increase the number of recreational facilities at BHS and will increase the overall inventory of recreational facilities in the Wailuku-Kahului area. The proposed locker rooms, athletic facilities, and practice fields will relieve the use of County park facilities for student athletic activities and physical education courses. This in turn, would allow the County facilities to be utilized by the general public with more frequency.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

The Wailuku-Kahului region is served by a roadway network which includes arterial, collector, and local roads. Existing roadways in the vicinity of the project sites include Maui Lani Parkway, Kanaloa Avenue, Mahalani Street, and Halia Nakoa Street. Roadways in the project vicinity that are equipped with sidewalks include Kaʻahumanu Avenue, Maui Lani Parkway, Kanaloa Avenue, and Mahalani Street. In addition, the Maui Bus Route 1 and 2 of the Wailuku Loop and Reverse Route are located in the project vicinity.

Access to the BHS campus is provided by a driveway off of Kaʻahumanu Avenue and access to the War Memorial Stadium Complex parcel adjacent to BHS is provided through driveways off of Kaʻahumanu Avenue and Kanaloa Avenue.

A Traffic Impact Assessment Report (TIAR) was prepared by Austin, Tsutsumi & Associates, Inc. See **Appendix "F"**.

Traffic counts were performed to identify existing traffic volumes on Tuesday, September 10, 2024 at the following intersections:

- Kaʻahumanu Avenue/Maui Lani Parkway (signalized)
- Kaʻahumanu Avenue/Kanaloa Avenue/Mahalani Street (signalized)
- Kanaloa Avenue/Halia Nakoa Street (unsignalized)

Based on the traffic count data, the TIAR found that the weekday morning peak hour of traffic was determined to occur between 7:00 a.m. to 8:00 a.m. The afternoon school peak hour of traffic was determined to occur from 2:15 p.m. to 3:30 p.m., while the weekday afternoon commuter traffic peaked between 3:30 p.m. to 4:30 p.m. Based on existing intersection analysis, all vehicle turning movements operate at acceptable levels of service (LOS) of D or better, with the exception of the Kaʻahumanu Avenue/Maui Lani Parkway intersection.

The mainline left-turn movements and various northbound Maui Lani Parkway movements operate at LOS E during all peak hours of traffic. During the AM peak hour for school drop-off, the eastbound left-turn movement and westbound right-turn movement can occasionally queue back beyond its storage lane due to student drop-off. During the AM and PM peak hours, the westbound left-turn movement can queue back to the length of its storage lane. However, all vehicles typically clear in one (1) signal cycle, and all movements operate below capacity.

In addition to existing traffic conditions, the TIAR assessed the future traffic conditions for the full buildout of the project. Although undetermined, the Year 2054 was selected as the base year for future conditions and took into account future planned developments in the region that may impact traffic conditions. According to the TIAR, by the Year 2054, traffic is anticipated to increase over existing conditions due to other known developments and de facto growth within the Wailuku and Kahului regions. Actual growth within the study region may vary based on the approval process and actual construction timelines of the various projects. Traffic will generally operate similar to existing conditions with the exception of the Kaʻahumanu Avenue/Maui Lani Parkway intersection. The northbound left-turn and right-turn movements are anticipated to go from LOS D to LOS E for all peak hours of traffic mainly due to potential regional increases from the Wailuku area. However, all movements will continue operating below capacity.

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

The future Year 2054 was also analyzed to reflect full build-out conditions of all project improvements. From a trip generation perspective, the replacement of portables with new classrooms will not in itself generate new trips. However, project trips were increased to account for potential student enrollment increases over the next 30 years. The proposed track, practice field, and athletic facilities are intended for on-campus activities and not for public use. Trips for these fields were projected based on

observations performed at two (2) similar nearby practice fields in the afternoon peak hour, which generated an average of ten (10) entering trips and five (5) exiting trips per field. Overall, the proposed project is expected to conservatively generate 30 additional morning trips and 50 school dismissal peak trips and 50 afternoon commuter peak hour trips. For Future Year 2054 conditions, due to relatively low Project volume increases, all movements at the study intersections are expected to continue operating similar to Base Year 2054 conditions during peak hours of traffic. All movements will only increase by 0 to 2 seconds per movement and will continue operating below capacity. The project is not anticipated to result in significant traffic impacts. As such, no traffic mitigation improvements were recommended in the TIAR. Refer to **Appendix "F"**.

In addition, a parking analysis was prepared for the project to determine the required number of parking stalls for the various new facilities. (See **Appendix "F-1"**.) The athletic facilities will not require additional parking stalls. However, per Maui County standards, eight (8) parking stalls will be required for each new classroom building. A total of 16 new classrooms are proposed in addition to one (1) agricultural building, which will require a total of 152 parking stalls. The minimum number of parking stalls will be provided as the new facilities are constructed.

2. Water

a. Existing Conditions

Water service to BHS is provided by the County of Maui, Department Water Supply through an existing 4-inch domestic water meter that connects to an existing 12-inch water main within Kaʻahumanu Avenue. The campus domestic water service lines are a mixture of ductile iron and copper pipes with sizes varying from 2 inch to 6 inch. Fire protection water service is supplied by an 8-inch double-check detector assembly that connects to an existing 12-inch water main within Kaʻahumanu Avenue. The fire water service lines are ductile iron 6-inch waterlines that service various fire hydrants throughout the campus. Refer to **Appendix "B"**.

b. Potential Impacts and Mitigation Measures

The existing 4-inch domestic water meter and system will remain and be used to provide domestic water to the proposed project. According to the County of Maui, Department of Water Supply Water Meter Sizing Worksheet – Non-Residential, the maximum capacity flow through a 4-inch water meter is 500 gallons per minute (gpm). The proposed capacity flow would be 85 gpm. The projected maximum daily water demand for the build

out of improvements based on a 1,350-student enrollment is an average of 81,000 gallons per day (gpd) with a maximum of 121,500 gpd. Future enrollment is anticipated to be similar to previous enrollment. Thus, the proposed improvements are not anticipated to significantly increase demand on water service.

3. Wastewater

a. Existing Conditions

Wastewater service is provided by an existing 8-inch sewerline located throughout the BHS campus and outlets to an existing County of Maui 8-inch sewerline located within the adjacent Parcel 55. Refer to **Appendix "B"**.

b. Potential Impacts and Mitigation Measures

The proposed project will connect to and utilize the existing wastewater system, which connects to the County wastewater treatment system. The wastewater flows that are expected to be generated by the Master Plan buildout were estimated based on a student enrollment of 1,350 using the County of Maui, Wastewater Reclamation Division Wastewater Flow Standards. The proposed project is estimated to generate an average wastewater flow of 22,450 gpd and require a peak design flow of 218,000 gpd. Coordination will also be undertaken with the County Department of Environmental Management to confirm available capacity to service the proposed improvements. Refer to **Appendix "B"**.

4. Drainage System

a. Existing Conditions

The BHS campus is located on a continuously sloped area allowing stormwater to generally flow towards the adjacent Parcel 55 located to the east side of the campus. While some of the stormwater runoff sheet flows through the campus towards Parcel 55, a few onsite drainage systems divert stormwater into above and underground basins. There are currently two (2) above-ground basins and three (3) underground basins in various locations around the campus. Runoff around the existing BHS gymnasium is collected by existing drain inlets and eventually outfalls into the existing County of Maui drainage system. Pre-development onsite runoff is estimated to be 136.16 cubic feet per second (cfs), based on a 50-year, 1-hour storm recurrence interval. Refer to **Appendix "B"**.

b. Potential Impacts and Mitigation Measures

The existing flow pattern will generally be the same following the build-out of improvements. The proposed total runoff flow rates for a 50-year, 1 hour design storm is approximately 157.89 cfs, which is an increase of 21.73 cfs over pre-development conditions. The proposed improvements will be in compliance with Maui County's "Rules for the Design of Storm Water Treatment Best Management Practices". To retain the increase in runoff, underground retention basins will be installed under the proposed upper practice field, lower practice field, and in the parking lot located adjacent to the proposed 2-story, 14-classroom building. Stormwater runoff will be collected by drain inlets, area drains, or swales and conveyed for retention via the proposed underground retention basins. Refer to **Appendix "B"**.

5. Electric, Telephone, and Cable

a. Existing Conditions

There are existing overhead electrical, telephone, and cable transmission lines provided by Hawaiian Electric Company, Ltd. (Maui Electric Company, Ltd.), Hawaiian Telcom, and Spectrum Cable, respectively, along Ka'ahumanu Avenue to the south of the project site.

b. Potential Impacts and Mitigation Measures

It is anticipated that the proposed athletic facilities and classroom building will connect to existing electric and telecommunication systems in the area.

The project contractor will coordinate with Hawaiian Electric Company, Ltd. to ensure electrical capacity and connection will be available upon completion of each development phase.

E. CUMULATIVE AND SECONDARY IMPACTS

Pursuant to the Hawai'i Administrative Rules, Chapter 200, Section 11-200.1-2, entitled

Environmental Impact Statement Rules, a cumulative impact means:

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

“Secondary impacts” or “indirect impacts” are defined as:

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

Cumulative and secondary impacts can be viewed as actions of others that are taken because of the presence of the project. Secondary impacts from highway projects, for example, can occur because they can induce development by removing one (1) of the impediments to growth.

The proposed project would be implemented at the existing BHS campus and will enhance the campus with the addition of permanent classroom buildings, locker rooms, athletic facilities, and sports practice fields. The proposed project is not a phase of a larger action, nor does it represent a commitment to such actions. Further, construction of the proposed project would not directly increase enrollment at the high school, but will reduce the need for students to travel offsite for sports activities and reduce reliance on portable classrooms and neighboring County facilities for physical education needs.

Secondary impacts are those which have the potential to occur late in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of a project or because the project removes impediments for growth. The proposed permanent classrooms will help establish a sense of place, and additional sports facilities at BHS will allow the County to offer greater availability of its park and athletic facilities for other recreational users. In addition, having a dedicated agricultural classroom and space may encourage a more robust agricultural program at BHS. With the proposed mitigation measures in place, the project is not anticipated to have a significant adverse secondary impact on the physical environment. The project site has ready access to necessary infrastructure, such that extension of infrastructure systems and service limits will not be required. In summary, the proposed action is not anticipated to result in significant adverse cumulative or secondary impacts.

RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

III

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205, Hawai'i Revised Statutes (HRS), all lands in the State have been placed into one (1) of four (4) major land use districts by the State Land Use Commission. These land use districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is located within the "Urban" district. See **Figure 9**. Pursuant to Chapter 205, Hawai'i Revised Statutes (HRS), the "Urban" districts shall include uses or activities provided by ordinances or regulations of the County in which the "Urban" district is located. Section F below outlines the County of Maui's zoning regulations that are applicable to the proposed project. The proposed project is consistent with the "Urban" district designation.

B. HAWAI'I STATE PLAN

Chapter 226, HRS, also known as the Hawai'i State Plan, is a long-range comprehensive plan which serves as a guide for the future long-term development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The Plan consists of three (3) parts. Part I includes the Overall Theme, Goals, Objectives, and Policies; Part II includes Planning, Coordination, and Implementation; and Part III establishes Priority Guidelines. Part II of the State Plan covers its administrative structure and implementation process.

The overall theme of the Hawai'i State Plan is governed by the following general principles.

1. Individual and family self-sufficiency

2. Social and economic mobility

3. Community or social well-being

In consonance with the foregoing principles, the Hawai'i State Plan identifies three (3) clarifying goals:

1. A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.

2. A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.

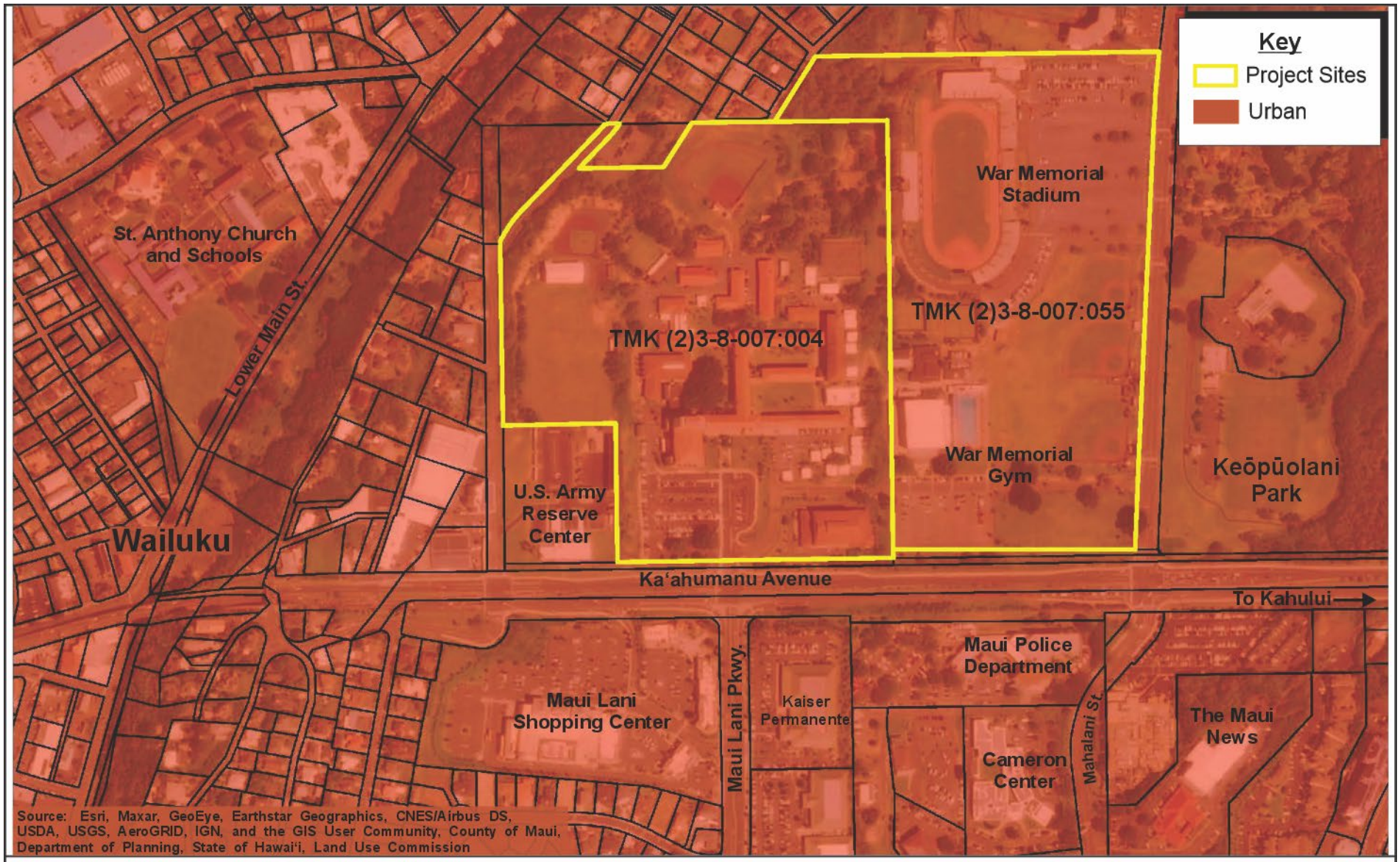

Figure 9

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
State Land Use Districts Map

0 250 125 500 Feet

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

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\SLUD

3. Physical, social, and economic well-being, for individuals and families in Hawai‘i, that nourishes a sense of community responsibility, of caring, and of participation in community life.

This section of the environmental assessment examines the applicability of the proposed action as it relates to the objectives, policies, and priority guidelines of the Hawai‘i State Plan, as set forth in HRS Sections 226-5 through 226-27.

The table below summarizes the relationship between the proposed action and the goals of the Hawai‘i State Plan. The relationship between the action and the goals are categorized into the following groups. More detailed analysis and discussion, including the methodology used, is presented in **Appendix "G-1"**.

1. **Directly applicable**: the action and its potential effects directly advances or promotes the objective, policy or priority guideline.

2. **Indirectly applicable**: the action and its potential effects indirectly supports or advances the objective, policy or priority guideline.

3. **Not applicable**: the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Hawai‘i State Plan.

In general, a proposed action's applicability to the objectives, policies and priority guidelines of the Hawai`i State Plan is judged on the basis of the action's direct or indirect relationship to the respective objectives, policies and priority directions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions. The analysis presented in **Table 1** and summarized below focuses on key elements of the proposed action's relationship to the Hawai‘i State Plan. Detailed discussion on the applicability of the proposed action to each goal and related objectives, policies, and implementing actions of the Hawai`i State Plan is provided in **Appendix "G-1"**.

Table 1. Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies (HRS 226-1 to 226-27)

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies **Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable**	**DA**	**IA**	**NA**
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
HRS 226-4: State Goals. In order to ensure, for the present and future generations, those elements of choice and mobility that ensure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.			
Chapter 226-5 Objective and Policies for Population			
Objective:			
(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.	✓		
Chapter 226-6 Objectives and policies for the economy – – in general			
Objectives:			
(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.		✓	
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			✓
Chapter 226-7 Objectives and policies for the economy – – agriculture.			
Objectives:			
(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
Objective:			
(a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			✓
Chapter 226-9 Objective and policies for the economy – – federal expenditures.			
Objective:			
(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 Hawaii's economy.			✓
Chapter 226-10 Objective and policies for the economy – – potential growth and innovative activities.			
Objective:			
(a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawaii's economic base.			✓
Chapter 226-10.5 Objectives and policies for the economy – – information industry.			
Objective:			
(a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawaii as a leader in broadband and wireless communications and applications in the Pacific Region.			✓
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives:			
(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 Hawaii's land-based, shoreline, and marine resources.		✓	
(2) Effective protection of Hawaii's unique and fragile environmental resources.		✓	
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			
Objective: (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.		✓	

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			
Objectives:			
(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 Hawaii's land, air, and water resources.		✓	
(2) Greater public awareness and appreciation of Hawaii's environmental resources.		✓	
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective:			
(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, sustainable development, climate change adaptation, sea level rise adaptation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.			✓
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives:			
(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			✓
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			✓
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.		✓	
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective:			
(a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.		✓	
Chapter 226-17 Objectives and policies for facility systems – – transportation.			
Objectives:			
(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			✓
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			✓
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives:			
(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.			✓
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			✓
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
Objective:			
(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.			✓
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
Objectives:			
(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			✓
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.			✓
(2) The orderly development of residential areas sensitive to community needs and other land uses.			✓
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.			✓
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives:			
(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Chapter 226-21 Objectives and policies for Socio-cultural advancement – – education.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.	✓		
Chapter 226-22 Objective and policies for socio-cultural advancement – – social services.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.			✓
Chapter 226-23 Objective and policies for socio-cultural advancement – – leisure.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.	✓		
Chapter 226-24 Objective and policies for socio-cultural advancement – – individual rights and personal well-being.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			✓
Chapter 226-25 Objective and policies for socio-cultural advancement – – culture.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.	✓		
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objectives:			
(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(1) Assurance of public safety and adequate protection of life and property for all people.			✓
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			✓
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.			✓
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives:			
(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.	✓		
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓

The proposed project involves the development of permanent classroom buildings, including agricultural class facilities, a new boys' restroom and new girls' restroom, a weight room and fitness room facility, track and practice fields, and athletic support facilities on the Baldwin High School (BHS) campus along with Americans with Disabilities Act (ADA) ramp improvements to the adjacent War Memorial Stadium Complex. The new permanent classroom and athletic facilities are most directly applicable to the State's objectives and policies for population and socio-cultural advancement related to education. The proposed improvements provide additional classroom and sports facilities, which will enhance educational programs and reduce the high school's dependency on portable structures and neighboring County park facilities currently being used. The reduced use of County park facilities by BHS will increase the availability of these facilities to the public, helping to accommodate the population on Maui and increasing their use of recreational and leisure activities. The project is proposed by the State of Hawai'i, Department of Education (DOE), which demonstrates their efforts to provide sufficient facilities for educational institutions to address community needs. In addition, through the preparation of a Cultural Impact Assessment and Ka Pa'akai analysis, the proposed project supports the objective for the socio-cultural advancement related to culture.

Indirectly, the proposed project advances the State's objectives and policies for the physical environment and facility systems. The Environmental Assessment (EA) being prepared represents the DOE's commitment to ensure that natural resources such as the coastal environment are not impacted by demolition or construction activities. The commitment to utilizing Best Management Practices (BMPs) also ensures compatibility between land-based and water-based functions, resources, and ecological systems

during the construction phase. The EA process involves analyzing the project's impact on a number of natural resource parameters and forwarding measures aimed at mitigating any potential impacts. Furthermore, the proposed project will be implemented in a developed area in proximity to existing infrastructure and services. Through improvements to an existing high school campus, the proposed action makes prudent use of resources and ensures the project site has adequate access to facility systems.

The proposed action does not directly or indirectly impact objectives and policies related to areas such as agriculture, the visitor industry, federal expenditures, the information industry, telecommunication systems, housing, health, transportation, or public safety.

Priority Guidelines

"Priority guidelines" means those guidelines which shall take precedence when addressing areas of statewide concern. This section addresses applicability criteria to the priority guidelines set forth in HRS 226-103.

Priority guidelines of the Hawai'i State Plan covers the economy, population growth and land resources, crime and criminal justice, affordable housing, quality education, sustainability, and climate change adaptation.

Table 2 below summarizes the relationship between the proposed action and the priority guidelines of the Hawai'i State Plan. A more detailed discussion is presented in **Appendix "G-1"**.

Table 2. Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines (Chapters 226-101 to 226-109)

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
Chapter 226-101: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
Chapter 226-102: Overall direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.			
Chapter 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy	✓		
(b) Priority guidelines to promote the economic health and quality of the visitor industry			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture			✓
(e) Priority guidelines for water use and development			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(f) Priority guidelines for energy use and development			✓
(g) Priority guidelines to promote the development of the information industry			✓
Chapter 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution	✓		
(b) Priority guidelines for regional growth distribution and land resource utilization	✓		
Chapter 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice			✓
Chapter 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing			✓
Chapter 226-107: Quality education.			
Priority guidelines to promote quality education	✓		
CHAPTER 226-108: Sustainability			
Priority guidelines and principles to promote sustainability	✓		
CHAPTER 226-109: Climate change adaptation priority guidelines			
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:		✓	

The proposed BHS Master Plan improvements support the State's priority guidelines for economic growth, population growth, land resource utilization, sustainability and quality education, and represent an investment in an educational institution that is responsive and sensitive to the needs of the community, while encouraging construction activity which supports the local economy. The proposed action involves construction of classroom and sports facilities, which will enhance educational programs and reduce the high school's dependency on portable structures and neighboring County park facilities currently used. In addition, all new facilities will be designed with applicable ADA standards to accommodate students with special needs. Improvements to an existing campus make prudent use of land and natural resources, and BMPs implemented for this project ensure environmental resources will not be adversely impacted.

C. STATE FUNCTIONAL PLANS

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

Plans establish more specific strategies for implementation. In particular, State Functional Plans provide for the following:

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

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

Table 3. Relationship Between the Proposed H.P. Baldwin High School Sports Facilities Improvements and the State Functional Plans

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
1	Agriculture Functional Plan (1991)	Department of Agriculture	Continued viability of agriculture throughout the State	The proposed action will be located in an urban area and, as such, is not anticipated to contravene the objectives and policies of this functional plan.
2	Conservation Lands State Functional Plan (1991)	Department of Land and Natural Resources	Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry	The proposed project will not utilize any State Conservation lands. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
3	Education State Functional Plan (1989)	Department of Education	Improvements to Hawai'i's educational curriculum, quality of educational staff, and access to adequate facilities	The proposed action is directly applicable to the goals of the Education State Functional Plan and specifically supports the plan's goal to "*provide facilities that are sufficient in number, functional, well-placed and compatible with the physical surroundings*". BHS currently relies on County facilities for many of its sports facilities. The proposed new improvements would provide the much-needed classroom, sports, and physical education facilities in an appropriate location within the school's campus. In addition, the proposed facilities would advance this functional plan's goal to "*help schools effectively handle the whole length and breadth of required learning experiences"* through the provision of adequate sports and physical education facilities.

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
4	Employment State Functional Plan (1990)	Department of Labor and Industrial Relations	Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities	The proposed action will result in the creation of construction-related jobs throughout the development period and has the potential to encourage the retention of qualified teachers and coaches and contribute to recruitment efforts. The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
5	Energy State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
6	Health State Functional Plan (1989)	Department of Health	Improve health care system by providing for those who don't have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
7	Higher Education Functional Plan (1984)	University of Hawai'i	Prepare Hawai'i's citizens for the demands of an increasingly complex world through providing technical and intellectual tools	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
8	Historic Preservation State Functional Plan (1991)	Department of Land and Natural Resources	Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai'i	The proposed action is not anticipated to contravene the objectives and policies of this functional plan. An archaeological Literature Review and Field Inspection (LRFI) conducted for this project surveyed the project site for historic properties. No historic properties were discovered, however, the SHPD has been consulted on potential mitigation measures for the protection of historic and archaeological

State Functional Plan		State Coordinating Agency	Purpose	Analysis
				features. In addition, a CIA was prepared for this project and included consultation with cultural informants to document oral histories of the project area and potential mitigation measures to protect cultural resources and practices.
9	Housing State Functional Plan (2017)	Hawai‘i Housing Finance and Development Corporation	Based largely on joint public/private efforts to finance, build, and maintain an adequate supply of affordable housing. It will be a working tool to guide the State, the counties, as well as the private sector in meeting the overall goal that every Hawaii resident will have the opportunity to live in a safe, decent and affordable home.	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
10	Human Services State Functional Plan (1989)	Department of Human Services	Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for ‘self-sufficiency’	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
11	Recreation State Functional Plan (1991)	Department of Land and Natural Resources	Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation opportunities, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.

	State Functional Plan	State Coordinating Agency	Purpose	Analysis
12	Tourism State Functional Plan (1991)	Department of Business, Economic Development and Tourism	Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community members; development of a productive workforce and enhancement of career and employment opportunities in the visitor industry	The proposed action is not anticipated to contravene the objectives and policies of this functional plan.
13	Transportation State Functional Plan (1991)	Department of Transportation	Development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand	The proposed action is not anticipated to contravene the objectives and policies of this functional plan. A Traffic Impact Assessment Report (TIAR) was prepared for the proposed improvements. Implementation of the Master Plan improvements are not anticipated to significantly impact vehicular levels of service.

D. HAWAIʻI 2050 SUSTAINABILITY PLAN

The Hawaiʻi 2050 Sustainability Plan is intended to serve as the State's climate and sustainability strategic action plan pursuant to Hawaiʻi Revised Statutes (HRS) Section 226-65. The Hawaiʻi 2050 Sustainability Plan was developed using public engagement consistent with a community-driven approach in addition to collaboration with state and county stakeholder agencies.

The analysis to follow focuses on what the Plan describes as the Decade of Action. The Decade of Action is defined as 2020-2030, a timeframe in which the United Nations declared to accelerate sustainable solutions for the biggest climate challenges. This analysis looks at eight (8) Recommended Actions which contain 38 strategies intended to guide Hawaiʻi to a more sustainable future. **Table 4** outlines the ways in which the project is meets the Recommended Actions outlined by the Plan.

Table 4. Hawaiʻi 2050 Sustainability Plan (HRS, Section 226-65)

Hawaiʻi 2050 Sustainability Plan (HRS, Section 226-65) **DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable**	**DA**	**IA**	**N/A**
1. Promote a Sustainable Economic Recovery			
Strategy 1: Support farmer livelihoods			✓
Strategy 2: Support local markets for locally grown food			✓
Strategy 3: Promote sustainable & resilient farmland, practices, and infrastructure			✓
Strategy 4: Invest in green workforce development beginning with youth.		✓	
Strategy 5: Foster the development of jobs that can sustain families financially.			✓
Strategy 6: Support diversification of the economy.		✓	
Strategy 7: Reduce the environmental footprint of the tourism industry.			✓
Strategy 8: Support native Hawaiian culture and reduce impacts of the tourism industry to local communities.			✓
Analysis: **The proposed master plan improvements include an agricultural site and classroom space. Indirectly, the proposed agricultural education facilities represent an investment in agricultural activity for youth and indirectly supports economic diversification.**			
2. Reduce Greenhouse Gas Emissions			
Strategy 9: Measure, manage, and plan for GHG emission reduction.		✓	
Strategy 10: Incorporate climate change planning into decision-making processes.		✓	
Strategy 11: Promote energy conservation and efficiency through outreach, communication, and community and public engagement.			✓
Strategy 12: Continue to invest in the deployment of clean energy technologies to reduce reliance on fossil fuels.			✓
Strategy 13: Expand the adoption of zero emission vehicles.			✓

Hawai'i 2050 Sustainability Plan (HRS, Section 226-65) DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
Strategy 14: Promote alternative modes of transportation.			✓
Strategy 15: Reduce the generation of waste, including plastic waste.			✓
Strategy 16: Increase diversion of waste through recycling, reuse, and composting.			✓
***Analysis*: The proposed project will be designed for LEED Silver certification, wherever possible, indirectly supporting the sustainability goal for reducing greenhouse gas emissions and climate change planning through sustainable design.**			
3. Improve Climate Resilience			
Strategy 17: Integrate climate change adaptation and resilience considerations into planning and implementation.			✓
Strategy 18: Assess and communicate the impacts of climate change to residents, businesses, and communities most likely to be impacted.			✓
Strategy 19: Implement actions that improve the state's resilience to climate change.			✓
Strategy 20: Increase the resilience of vulnerable populations to the impacts of climate change and other shocks and stressors.			✓
***Analysis*: The proposed project is not directly or indirectly applicable to the strategies for climate resilience. The project is located outside of identified high-hazard areas impacted by climate change, i.e. sea level rise exposure area and flood zones.**			
4. Advance Sustainable Communities			
Strategy 21: Advance smart growth initiatives and multimodal transportation systems.			✓
Strategy 22: Advance sustainability in school and university operations		✓	
Strategy 23: Integrate sustainable design principles into new and existing buildings.		✓	
***Analysis*: As previously mentioned, the proposed new buildings will be designed to LEED Silver certification standards, where possible, which directly implements the strategies for sustainable design principles in school operations.**			
5. Advance Equity			
Strategy 24: Strengthen broadband access to support digital learning and online solutions in rural areas.			✓
Strategy 25: Continue to improve economic and social sustainability of individuals through access to affordable housing.			✓
Strategy 26: Continue to implement strategies that reduce homelessness in Hawai'i to enhance livelihoods.			✓
Strategy 27: Continue to advance opportunities for all, regardless of gender.	✓		
***Analysis*: The proposed athletic facilities include locker room and training facilities for both boys and girls. In this regard, the proposed project provides equal opportunity for boys and girls to participate in sports and athletic programs.**			
6. Institutionalize Sustainability Throughout Government			
Strategy 28: Invest in staff and other resources to coordinate and advance sustainability goals across state agencies and local governments.			✓

Hawai'i 2050 Sustainability Plan (HRS, Section 226-65) DA = Directly Applicable, IA = Indirectly Applicable, N/A = Not Applicable	DA	IA	N/A
Strategy 29: Update state policies to reflect sustainability and climate change priorities.			✓
Strategy 30: Incorporate sustainability into government operations.			✓
***Analysis*: The proposed action is neither directly or indirectly applicable to the strategies for sustainability in government.**			
7. Preserve the Natural Environment			
Strategy 31: Improve water quality through reduced pollution and dumping.			✓
Strategy 32: Support water reuse strategies to conserve water.			✓
Strategy 33: Establish policies to protect Hawai'i's unique marine ecosystems.			✓
Strategy 34: Manage climate change impacts to marine resources.			✓
Strategy 35: Protect and manage watersheds.			✓
Strategy 36: Continue to adopt strategies that protect land-based natural resources.			✓
Strategy 37: Conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.			✓
***Analysis:* The proposed action is neither directly or indirectly applicable to the strategies for preserving the natural environment. However, BMPs will be incorporated into the project to reduce pollution and protect natural resources.**			
8. Perpetuate Traditional Ecological Knowledge and Values			
Strategy 38: Ground climate and sustainability strategies in our cultural foundation.			✓
***Analysis*: The proposed action is neither directly or indirectly applicable to the strategies for perpetuating Traditional Ecological Knowledge and values in sustainability strategies. However, it is noted that a CIA was prepared to identify traditional and cultural knowledge of the region.**			

E. GENERAL PLAN OF THE COUNTY OF MAUI

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

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

Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan.

1. Countywide Policy Plan

The Countywide Policy Plan was adopted in March 2010 and is a comprehensive policy document for the islands of Maui County to the year 2030. The plan replaces the General Plan of the County of Maui 1990 Update and provides the policy framework for the development of the Maui Island Plan as well as for updating the nine (9) detailed Community Plans. The Countywide Policy Plan provides broad goals, objectives, policies and implementing actions that portray the desired direction of the County's future. Goals are intended to describe a desirable condition of the County by the year 2030 and are intentionally general. Objectives tend to be more specific and may be regarded as milestones to achieve the larger goals. Policies are not intended as regulations, but instead provide a general guideline for County decision makers, departments, and collaborating organizations toward the attainment of goals and objectives. Implementing actions are specific tasks, procedures, programs, or techniques that carry out policy.

Table 4 below summarizes the relationship between the proposed action and the 11 goals of the Countywide Policy Plan. The relationship between the action and the goals are categorized into the following groups. More detailed analysis and discussion, including the methodology used, is presented in **Appendix "G-2"**.

1. **Directly applicable:** the action and its potential effects directly advances, promotes or affects the relevant goal, objective, or policy.

2. **Indirectly applicable:** the action and its potential effects indirectly supports, advances or affects the objective, policy or priority guideline.

3. **Not applicable:** the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Countywide Policy Plan.

In general, a proposed action's applicability to the goals, objectives, policies, and implementing actions of the Countywide Policy Plan is judged on the basis of the action's direct or indirect relationship to the respective objectives, policies and priority directions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions. The analysis presented in **Table 4** and summarized below focuses on key elements of the proposed action's relationship to the Countywide Policy Plan. Detailed discussion on the applicability of the proposed action to each goal and related objectives, policies, and implementing actions of the Countywide Policy Plan is provided in **Appendix "G-2"**.

Table 5. Countywide Policy Plan

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
A. PROTECT THE NATURAL ENVIRONMENT			
Goal: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.		✓	
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
Goal: Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents' multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.		✓	
C. IMPROVE EDUCATION			
Goal: Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.	✓		
D. STRENGTHEN SOCIAL AND HEALTHCARE SERVICES			
Goal: Health and social services in Maui County will fully and comprehensively serve all segments of the population.			✓
E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS			
Goal: Quality, island-appropriate housing will be available to all residents.			✓
F. STRENGTHEN THE LOCAL ECONOMY			
Goal: Maui County's economy will be diverse, sustainable, and supportive of community values.		✓	
G. IMPROVE PARKS AND PUBLIC FACILITIES			
Goal: A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.	✓		
H. DIVERSIFY TRANSPORTATION OPTIONS			
Goal: Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.			✓
I. IMPROVE PHYSICAL INFRASTRUCTURE			
Goal: Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.		✓	
J. PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT			
Goal: Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.	✓		
K. STRIVE FOR GOOD GOVERNANCE			
Goal: Government services will be transparent, effective, efficient, and responsive to the needs of residents.	✓		
L. MITIGATE CLIMATE CHANGE AND WORK TOWARD RESILIENCE			
Goal: Minimize the causes and negative effects of climate change.		✓	

The proposed project is most directly applicable to the County's objectives and policies for education, public facilities, and sustainable land use. The proposed improvements are public education facilities which will enhance the BHS campus and encourage physical education courses and activities. The improvements to the BHS campus have the potential to help attract and retain qualified teachers and coaches while expanding opportunities for students and the community. In addition, the project is located in an area designated for public use and urban growth within existing County water, wastewater, and energy utility service areas with sufficient capacity to service this project.

Indirectly, the proposed action supports the County's objectives and policies for preservation of the natural environment and traditional and cultural resources. BMPs will be used to prevent impacts to the natural environment and various technical studies such as a CIA and archaeological Literature Review and Field Inspection (LRFI) were conducted for the project site to ensure impacts to historic and cultural resources are avoided or mitigated. The proposed project also indirectly supports the County's goal to mitigate impacts from climate change and promote resiliency through the implementation of green design practices in project plans. Furthermore, the EA process also involves coordination and decision making amongst State and County agencies and will also involve review of the EA by various government agencies.

The proposed action does not directly or indirectly impact objectives and policies related to areas such as transportation, crime, and criminal justice.

2. <u>Maui Island Plan</u>

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

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

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

program for implementation, and action implementation schedule

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

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

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

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

The proposed project is located within the UGB of the MIP. In this regard, it is consistent with the directed growth strategy defined via growth maps adopted in the MIP. See **Figure 10**.

Table 5 below summarizes the relationship between the proposed action and the goals of the MIP. The relationship between the action and the goals are categorized into the following groups. More detailed analysis and discussion, including the methodology used, is presented in **Appendix "G-3"**.

1. **Directly applicable:** the action and its potential effects directly advances or promotes the objective, policy or priority guideline.

2. **Indirectly applicable:** the action's potential effects indirectly support or advance the objective, policy or priority guideline.

3. **Not applicable:** The action and its potential effects have no direct or indirect relationship to the objectives and policies of the Maui Island Plan.

Figure 10

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Maui Island Plan Growth Boundaries Map

0 125 250 500 Feet

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

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\MIP

In general, a proposed action's applicability to the MIP is judged on the basis of the action's direct or indirect relationship to the respective objectives, policies, and priority directions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions. The analysis presented in **Table 6** and summarized below focuses on key elements of the proposed action's relationship to the MIP. Detailed discussion on the applicability of the proposed action to each goal and related objectives, policies, and implementing actions of the MIP is provided in **Appendix "G-3"**.

Table 6. Maui Island Plan Goals, Objectives, and Policies

Maui Island Plan Goals, Objectives and Policies **Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable**	**DA**	**IA**	**NA**
CHAPTER 1 – POPULATION			
1.1 Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.	✓		
CHAPTER 2 – HERITAGE RESOURCES			
CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES ISSUES			
2.1 Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.		✓	
SHORELINE, REEFS, AND NEARSHORE WATERS			
2.2 An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.			✓
WATERSHEDS, STREAMS, AND WETLANDS ISSUES			
2.3 Healthy watersheds, streams, and riparian environments.			✓
WILDLIFE AND NATURAL AREAS			
2.4 Maui's natural areas and indigenous flora and fauna will be protected.		✓	
SCENIC RESOURCES			
2.5 Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.		✓	
CHAPTER 3 – NATURAL HAZARDS			
3.1 Maui will be disaster resilient.			✓
CHAPTER 4 – ECONOMIC DEVELOPMENT			
ECONOMIC DIVERSIFICATION			
4.1 Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
TOURISM			
4.2 A healthy visitor industry that provides economic well-being with stable and diverse employment opportunities.			✓
AGRICULTURE			
4.3 Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.			✓
EMERGING SECTORS			
4.4 A diverse array of emerging economic sectors.			✓
SMALL BUSINESS DEVELOPMENT			
4.5 Small businesses will play a key role in Maui's economy.			✓
HEALTH CARE SECTOR			
4.6 Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.			✓
EDUCATION AND WORKFORCE DEVELOPMENT			
4.7 Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.	✓		
CHAPTER 5 – HOUSING			
5.1 Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.			✓
CHAPTER 6 – INFRASTRUCTURE AND PUBLIC FACILITES			
SOLID WASTE			
6.1 Maui will have implemented the ISWMP thereby diverting waste from its landfills, extending their capacities.		✓	
WASTEWATER			
6.2 Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to accommodate projected demand; ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.			✓
WATER			
6.3 Maui will have an environmentally sustainable, reliable, safe, and efficient water system.			✓
TRANSPORTATION			
6.4 An interconnected, efficient, and well-maintained, multimodal transportation system.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
TRANSIT			
6.5 An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.			✓
PARKS			
6.6 Maui will have a diverse range of active and passive recreational parks, wilderness areas, and other natural-resource areas linked, where feasible, by a network of greenways, bikeways, pathways, and roads that are accessible to all.	✓		
PUBLIC FACILITIES			
6.7 Maui will have adequate public facilities that meet the diverse needs of residents.			✓
SCHOOLS AND LIBRARIES			
6.8 Maui will have school and library facilities that meet residents' needs and goals.	✓		
HEALTH CARE			
6.9 All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.			✓
ENERGY			
6.10 Maui will meet its energy needs through local sources of clean, renewable energy, and through conservation.	✓		
HARBORS AND AIRPORT			
6.11 Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.			✓
CHAPTER 7 – LAND USE			
AGRICULTURAL LANDS			
7.1 Maui will have a prosperous agricultural industry and will protect agricultural lands.			✓
RURAL AREAS			
7.2 Maui will have a rural landscape and lifestyle where natural systems, cultural resources and farm lands are protected and development enhances and compliments the viability and character of rural communities.			✓
URBAN AREAS			
7.3 Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.	✓		

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
CHAPTER 8 – DIRECTED GROWTH PLAN			
URBAN AND SMALL TOWN GROWTH AREA			
8.1 Maui will have well-serviced, complete, and vibrant urban communities and traditional small towns through sound planning and clearly defined development expectations.	✓		
RURAL GROWTH AREA			
8.2 Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations.			✓

The proposed improvements provide additional classroom, sports and locker room facilities, which will enhance educational programs and reduce the high school's dependency on portable structures and neighboring County park facilities currently being used. The project will also increase the inventory of park and recreation facilities since they will be freed up from use by BHS students, supporting the MIP's goals for adequate school and park facilities to meet the needs of the community and accommodate the growing population on Maui. The proposed action is proposed by the DOE and located on County-owned land, thereby encouraging coordination between State and County agencies. Furthermore, the project will be constructed in an appropriate location on the BHS campus and is consistent with the MIP's UGB designation.

The proposed action is indirectly supportive of the MIP's goals for cultural, historical, and archaeological resources through the completion of a CIA and archaeological LRFI in efforts to identify, preserve and protect cultural, historical and archaeological resources. Indirectly, the proposed project is also applicable to the goal, objective, and policies for infrastructure and public facilities related to solid waste, wastewater, and water. BHS provides recycling bins throughout the campus in an effort to reduce the stream of solid waste disposed at the Central Maui Landfill. The proposed project will be serviced by County wastewater and water services. The proposed project is also indirectly applicable to the goal, objective, and policies for economic development. The proposed project will create jobs during the construction period.

F. WAILUKU-KAHULUI COMMUNITY PLAN

The project site is located within the Wailuku-Kahului Community Plan region, one (1) of nine (9) community plan regions established in the County of Maui. Each region's growth and development are guided by a Community Plan. The County's Community Plan reflects current and anticipated conditions in the Wailuku-Kahului region and advances planning

goals, objectives, policies, and implementation considerations to guide decision-making in the region. The primary purpose of the Community Plan is to outline a detailed agenda for carrying out these policies and objectives. The Wailuku-Kahului Community Plan was adopted by the County of Maui through Ordinance Number 3061 and became effective on June 5, 2002. The Community Plan land use map designates the project site as "Public/Quasi-Public". See **Figure 11**. The proposed project is consistent with the following goals, objectives, and policies of the Wailuku-Kahului Community Plan as outlined below.

EDUCATION

Objective and Policy:

- *Encourage the Department of Education to provide recreation facilities for schools, thus expanding opportunities for public use of presently shared facilities.*

  Discussion and Response:

  The proposed project will provide sports facilities on the BHS campus, thus expanding recreational opportunities for public use at presently shared facilities, including those at the County's War Memorial Stadium Complex.

G. COUNTY ZONING

The land underlying the proposed project sites are zoned "R-3 Residential" by the Maui County Zoning Ordinance. See **Figure 12**. Pursuant to Chapter 19.08.020 of the Maui County Code, high schools, parks and government facilities are permitted to be used within Residential districts. The proposed use of the property for high school sports facilities and classrooms is consistent with this designation.

The proposed action is appropriate for these underlying land use designations. However, several buildings are anticipated to exceed the 30-foot building height limit in residential zoned areas. The proposed athletic facilities building and locker rooms, currently in design, may exceed the 30-foot height limit allowed in Residential zoned areas by up to 15 feet. The proposed classroom building, currently in design, may exceed the 30-foot height limit by up to 10 feet. All buildings anticipated to exceed 30 feet will be two-stories, but the sloping topography and ceiling height requirements necessitates additional height. As such, a Zoning Code Variance Application will be submitted to the County of Maui, and a variance shall be obtained prior to construction should any buildings exceed 30 feet.

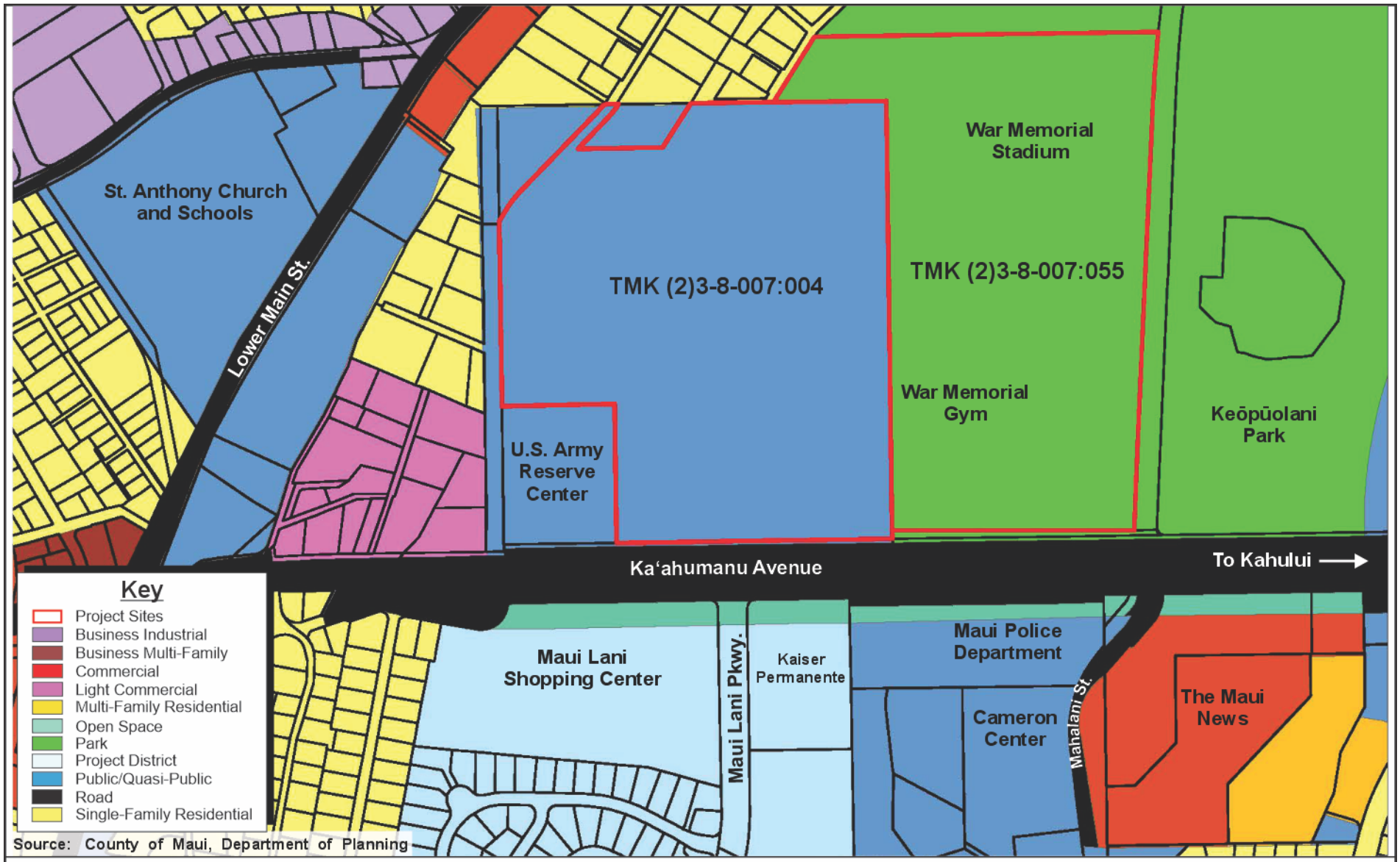

Figure 11

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Wailuku-Kahului Community Plan Map

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

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\WKCP

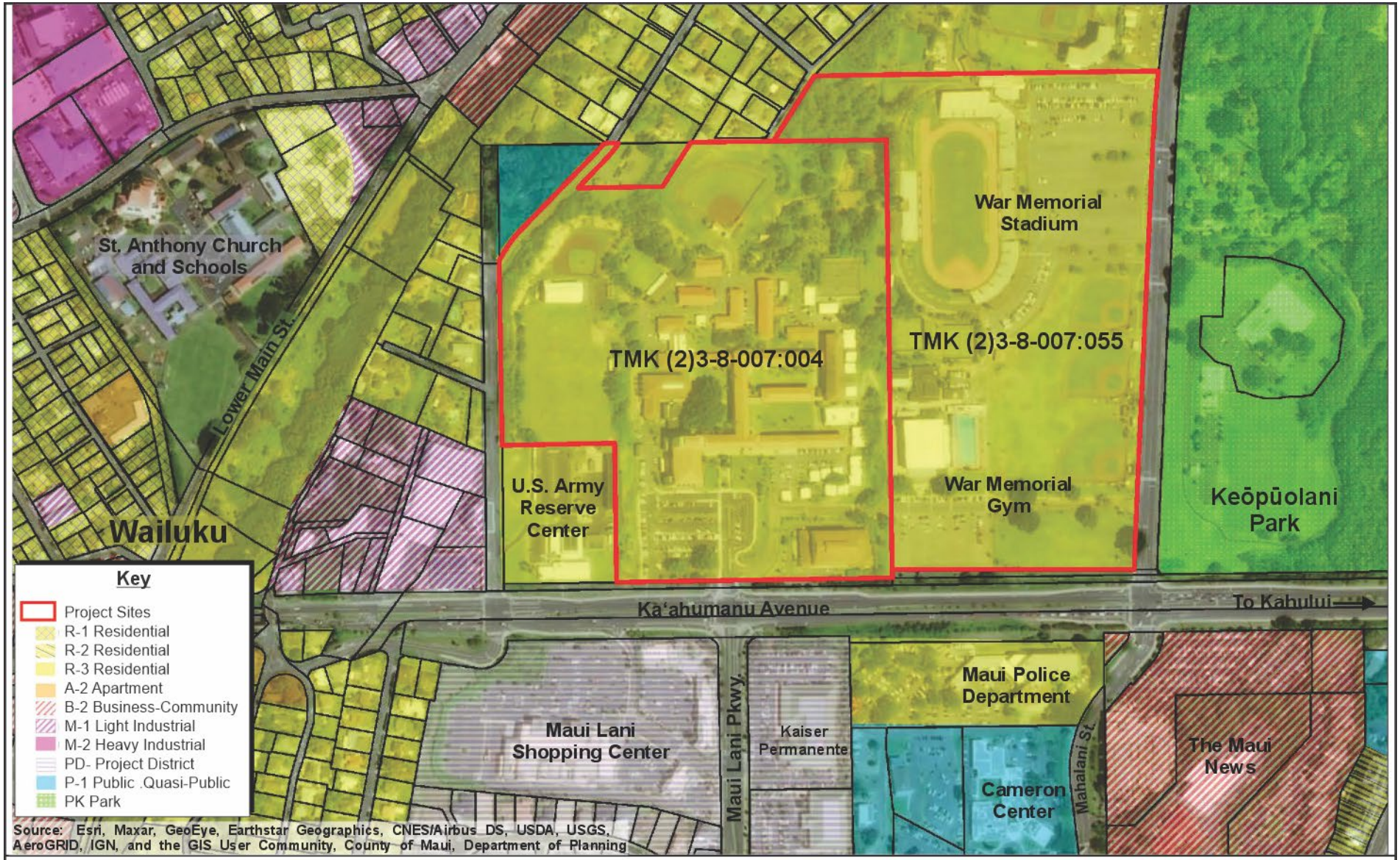

Figure 12

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Maui County Zoning Map

0 125 250 500 Feet

MUNEKIYO HIRAGA

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

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H. HAWAIʻI COASTAL ZONE MANAGEMENT PROGRAM

The Hawaiʻi Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawaiʻi's coastal zone. Although the subject properties are not within the County of Maui's Special Management Area, the applicability of coastal zone management considerations applies to all lands in the State of Hawaiʻi and, as such, has been reviewed and assessed as follows. See **Figure 13**.

1. Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

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

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

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

ii. Requiring restoration of coastal resources that have significant recreational and ecosystem value, including but not limited to coral reefs, surfing sites, fishponds, sand beaches, and coastal dunes, when these resources will be unavoidably damaged by development; or requiring monetary compensation to the State for recreation when restoration is not feasible or desirable;

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

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

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

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

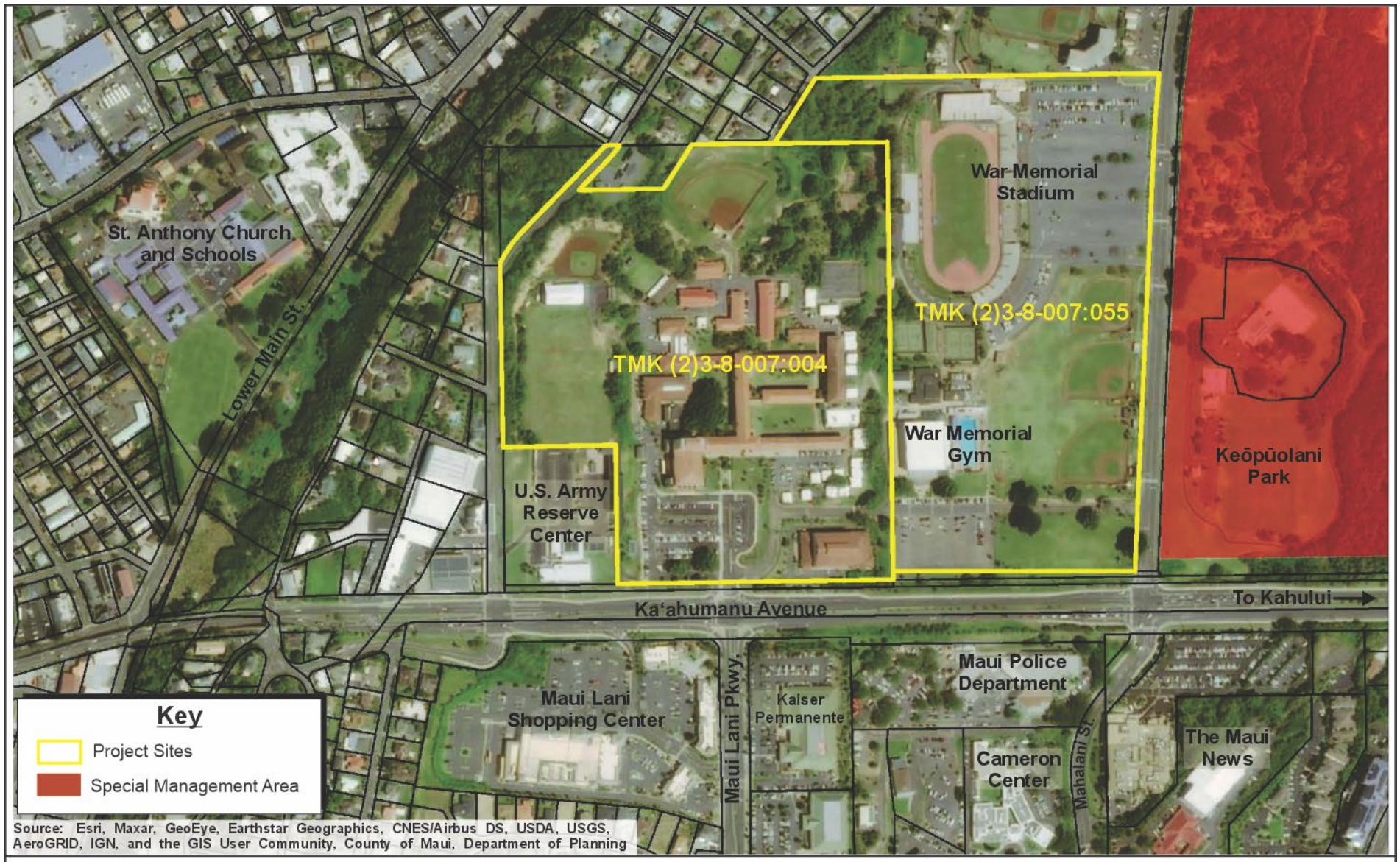

Figure 13

H.P. Baldwin High School
Sports Facilities and Master Plan Improvements
Special Management Area Map

0 125 250 500 Feet

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

MUNEKIYO HIRAGA

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

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

Response: The project sites are located inland and away from the coastline. The proposed action is not anticipated to impact coastal recreational opportunities or affect existing public access to and along the shoreline.

2. Historic Resources

Objective:

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

Policies:

a. Identify and analyze significant archaeological resources;

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

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

Response: An Archaeological Literature Review and Field Inspection (LRFI) and Cultural Impact Assessment (CIA) has been prepared for the proposed action in order to identify archaeological and historic features and cultural practices and present proposed mitigation measures to reduce impacts to historic resources. The SHPD has been consulted, and the project will comply with recommended mitigation and avoidance measures.

3. Scenic and Open Space Resources

Objective:

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

Policies:

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

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

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

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

Response: As indicated previously, the project is located inland and not on or near the shoreline. The proposed project is not anticipated to adversely impact coastal scenic and open space resources.

4. Coastal Ecosystems

Objective:

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

Policies:

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

b. Improve the technical basis for natural resource management;

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

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

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

Response: The proposed project is located inland, away from coastal ecosystems and is, therefore, not anticipated to have adverse impacts on coastal/shoreline resources, including reefs and marine resources. Appropriate BMPs will be utilized to ensure that construction runoff is appropriately detained, minimizing any impact on coastal waters.

5. Economic Uses

Objective:

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

Policies:

a. Concentrate coastal dependent development in appropriate areas;

b. Ensure that coastal dependent development and coastal related development are located, designed, and constructed to minimize exposure to coastal hazards and adverse social, visual, and environmental impacts in the coastal zone management area; and

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

i. Use of designated locations is not feasible;

ii. Adverse environmental effects and risks from coastal hazards are minimized; and

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

Response: The proposed project is not a coastal dependent development. The project site is located inland from the shoreline. The proposed project will have positive, short-term impacts on the economy through construction activity. The proposed project does not contravene the objective and policies for economic use.

6. Coastal Hazards

Objective:

Reduce hazard to life and property from coastal hazards.

Policies:

a. Develop and communicate adequate information about the risks of coastal hazards;

b. Control development, including planning and zoning control, in areas subject to coastal hazards;

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

d. Prevent coastal flooding from inland projects.

Response: According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the area, the project site falls within Zone X (shaded), an area of minimal flooding. In addition, the project site is not located within the tsunami evacuation zone or projected sea level rise exposure area. Drainage improvements will be designed in accordance with the Drainage Standards of the County of Maui to ensure that the project will not adversely affect downstream properties from the effects of flooding and erosion. Adverse impacts to hazard-sensitive areas are not anticipated.

7. Managing Development

Objective:

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

Policies:

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

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

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

Response: This Draft EA has been prepared to facilitate public understanding and involvement with the proposed project. All aspects of the development of the proposed project will be conducted in accordance with the applicable Federal, State, and County standards. Opportunities for agency and public review of the proposed action are offered through the regulatory review process of Chapter 343, HRS.

8. Public Participation

Objective:

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

Policies:

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

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

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

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

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

Response: Opportunities for agency and public participation will be provided through the early consultation, review, and comment processes of the Chapter 343, HRS EA process.

9. Beach and Coastal Dune Protection

Objectives:

a. Protect beaches and coastal dunes for:

i. Public use and recreation;

ii. The benefit of coastal ecosystems; and

iii. Use as natural buffers against coastal hazards; and

b. Coordinate and fund beach management and protection.

Policies:

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

b. Prohibit construction of private shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;

c. Minimize the construction of public shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;

d. Minimize grading of and damage to coastal dunes;

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

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

Response: The project site is located inland, away from the shoreline and is not anticipated to impact coastal and shoreline processes. Best Management Practices (BMPs) and drainage improvements shall be implemented to minimize impacts to downstream properties and the shoreline.

10. Marine and Coastal Resources

Objective:

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

Policies:

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

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

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

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

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

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

IV ALTERNATIVES TO THE PROPOSED ACTION

IV. ALTERNATIVES TO THE PROPOSED ACTION

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

A. PREFERRED ALTERNATIVE

The preferred alternative is the construction of the proposed classroom facilities, athletic facilities, and sports practice fields and related improvements described in Chapter I of this document. The proposed improvements represent a use which will serve to enhance the existing H.P. Baldwin High School (BHS) campus by providing dedicated on-campus facilities such that BHS can reduce dependency on neighboring County facilities. As such, the preferred alternative is deemed the most appropriate.

B. ALTERNATIVE CONFIGURATIONS

Several site configurations and design concepts were considered by the State of Hawai‘i, Department of Education (DOE) during the selection process. The project was initially proposed to just include athletic facilities, but it was expanded to include the classrooms and other programs beneficial to the students and the school, such as the agricultural space. Previous iterations were presented, but through discussion with the DOE and BHS, the program and building layout were adjusted to arrive at the most optimal configuration for the students and staff. During the final stages of the design process, the Athletic Facilities building underwent further adjustments and value engineering to reduce cost for a more cost-effective design.

C. NO ACTION ALTERNATIVE

Under the “no action” alternative, the project site would remain “as is”. The “no action” alternative is not considered to be in the best interest of BHS students, staff, and the greater community on Maui. The “no action” alternative would not improve BHS, thereby not providing new educational and athletic facilities, and as such, BHS would continue to rely on portable classrooms and off-campus County facilities, which, in turn, limits alternative community uses of the County sports and recreational facilities. The “no action” alternative does not advance the goals and objectives of the State, County, and Community Plan. In this context, the proposed project is considered the most appropriate alternative.

D. DEFERRED ACTION ALTERNATIVE

A deferral of the proposed action means that the development proposal would be pursued at a later point in time. The deferral alternative is not considered viable from a project implementation standpoint. The DOE's commitment to planning, design, and construction allows for the project to proceed at this time. Delays in project implementation will likely result in higher development costs and greater uncertainty with respect to infrastructure systems capacity. The DOE believes that the project can be viably developed under current market and financing conditions. With this in mind, the "deferred action alternative" is not considered appropriate.

V

SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

An assessment of construction-related and post construction-related impacts on the physical and socio-economic environment were carried out as part of the environmental assessment documentation process. As discussed previously, the project area is not known to contain habitat area, or areas for native fauna species to nest, breed, or inhabit. Similarly, the proposed action does not involve work which would disrupt any rare or threatened vegetation in the area. As such, significant adverse impacts to flora and fauna species in the project vicinity are not anticipated.

The proposed development may result in limited, unavoidable construction-related impacts on the environment, as described in Chapter II. In the short term, construction associated with the proposed project will have a temporary impact on air quality from dust generation and discharge of exhaust from construction equipment during ground altering activities and site grading. Appropriate Best Management Practices (BMPs) will be incorporated to mitigate adverse construction-related impacts, including but not limited to, watering of exposed surfaces, installing dust screens, and regular maintenance of construction equipment.

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

In addition, it is noted that the proposed project, as with any development project, will result in irreversible and unavoidable environmental effects, specifically in regards to any ground-altering activities. However, as the project will be constructed on previously graded and altered land, significant impacts from ground-altering activities are not anticipated. Mitigation measures required by SHPD for construction activities will be followed.

In summary, the proposed action is not anticipated to create any significant, long-term adverse environmental effects.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

VI

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed action will not entail a substantial commitment of public services or facilities. The proposed action is anticipated to result in the irreversible and irretrievable commitment of fiscal and land resources. Other resource commitments include energy, labor, water, and material resources. This commitment, however, is considered appropriate insofar as the proposed action seeks to improve the H.P. Baldwin High School campus for public benefit. The proposed improvements will benefit the students and faculty of the school and will also benefit the larger Maui community by allowing greater access to the County recreational facilities adjacent to the school, as the students currently utilize the County facilities for physical education and extra-curricular activities. With the proposed improvements, the high school will have its own sports facilities for use.

LIST OF PERMITS AND APPROVALS

VII

VII. LIST OF PERMITS AND APPROVALS

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

State of Hawai‘i

1. Chapter 343, Hawai‘i Revised Statutes (HRS), Environmental Assessment
2. Chapter 6E, HRS Historic Preservation Compliance
3. Chapter 11-46 Hawai‘i Administrative Rules (HAR), Community Noise Control, as applicable
4. Chapter 11-60.1-33, HAR, Fugitive Dust, as applicable
5. National Pollutants Discharge Elimination System (NPDES) Permit, as applicable
6. Americans with Disability Act (ADA) Compliance Design Review by State agency

County of Maui

1. Construction permits (i.e., building and grading permits)
2. Height Variance approval

SIGNIFICANCE CRITERIA ASSESSMENT

VIII

VIII. SIGNIFICANCE CRITERIA ASSESSMENT

The “Significance Criteria”, defined in Chapter 11-200.1-13 of the Hawai‘i Administrative Rules (HAR), were reviewed and analyzed to determine whether the proposed project will have significant effect on the environment. As defined under Chapter 343, Hawai‘i Revised Statutes (HRS) “significant effect” means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State’s environmental policies or long-term environmental goals as established by law, or adversely affect the economic welfare, social welfare, or cultural practices of the community and State. The analysis required to determine whether a proposed action may have a significant effect requires that every aspect of the proposed action, expected primary and secondary consequences, and the cumulative as well as the short-term and long-term effects are evaluated in accordance with the Significance Criteria of Section 11-200.1-13 of the Administrative Rules. The following criteria and analyses are provided.

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

There are no known rare, threatened, or endangered species of flora, fauna, avifauna, or important habitats located within the project site. As mentioned previously, an archaeological Literature Review and Field Inspection (LRFI) and Cultural Impact Assessment (CIA) were conducted for the project area.

The proposed project, with agreed upon mitigation measures, is not anticipated to involve an irrevocable commitment to loss or destruction of any natural, cultural, or historic resources. Curtail the range of beneficial uses of the environment.

The proposed action will be implemented on the existing H.P. Baldwin High School (BHS) property, making prudent use of land resources. The project site is located in an urban area in the midst of existing public facilities and infrastructure. The proposed use of the site for development of new sports facilities is compatible with the site’s surrounding uses and existing use as a high school campus.

2. <u>Conflict with the State’s environmental policies or long-term environmental goals established by law.</u>

The proposed action does not conflict with the policies and guidelines of Chapter 343, HRS. An environmental assessment (EA) has been carried out to ensure the proposed project will not have significant adverse impacts on the environmental resources. While this project may cause adverse impacts based on the analysis conducted in this EA, the adverse impacts are not anticipated to be significant. Where mitigation measures are required due to potential impacts attributed to the project, the Department of Education (DOE) will implement those applicable measures to further reduce adverse impacts.

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

Positive economic and social impacts are anticipated as a result of the project including the creation of construction-related jobs. In addition, the proposed action will have positive effects on social welfare through the provision of adequate high school sports facilities to support athletics and physical education courses. Furthermore, a Cultural Impact Assessment (CIA) was prepared for the proposed project to identify impacts to cultural practices and potential mitigation measures. Interviewees of the CIA were supportive of the proposed improvements.

4. Have a substantial adverse effect on public health.

The proposed development of locker rooms, athletic facilities, and practice fields will have a positive effect on public health by increasing opportunities for physical activity. In addition, the project is not anticipated to result in long-term air or noise impacts and is not anticipated to create significant direct or indirect foreseeable greenhouse gas (GHG) emissions. As such, no adverse impact to public health or welfare is anticipated as a result of the proposed action.

5. Involve adverse secondary impacts, such as population changes or effect on public facilities.

The proposed project will provide educational facilities improvements to the existing BHS campus and is not anticipated to have an impact on population. Rather, the proposed improvements will reduce the use and dependency on public, County facilities. As such, the project is not anticipated to involve substantial secondary impacts to population or public facilities.

6. Involve a substantial degradation of environmental quality.

No substantial degradation of environmental quality resulting from the action is anticipated. Best Management Practices (BMPs) and appropriate erosion control measures will be utilized during the construction period. Drainage system improvements will be constructed in accordance with applicable regulatory design standards to ensure that surface runoff will not have an adverse effect on adjacent or downstream properties.

Any potential short-term impacts to air and noise quality during the construction phase of the project will be mitigated through employing BMPs. In the long term, the project will not adversely impact air quality and ambient noise.

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

The proposed action involves the development of the proposed Master Plan and ADA improvements and does not represent a commitment to larger actions. Through the implementation of BMPs and by meeting applicable local, State, and Federal regulations, the proposed project is not anticipated to cumulatively have considerable effect upon the environment.

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

No known rare, threatened, or endangered species of flora, fauna, or important habitats are present in the project area. The project site is located adjacent to residential and commercial developments and public facilities. The project is not anticipated to substantially affect rare, threatened, or endangered species, or its habitat.

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

Construction activities will result in short-term air quality and noise impacts. BMPs, including erosion control and dust control measures (such as regular watering and sprinkling and installation of dust screens and timely revegetation of graded areas), will be implemented to minimize wind-blown emissions. In the short term, noise impacts will occur primarily from construction equipment. Equipment mufflers or other noise attenuating equipment, as well as proper vehicle maintenance and limiting construction to daylight hours, will be used during construction activities. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawai'i, Department of Health (DOH) Administrative Rules Title 11, Chapter 46, "Community Noise Control". These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46. In the long term, the proposed new water system storage tank is not anticipated to significantly impact ambient noise levels.

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

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

The project site is situated inland and is not anticipated to have any adverse impact upon coastal waters or resources, beaches, estuaries, or other freshwater bodies.

According to the Federal Emergency Management Agency's Flood Insurance Rate Maps currently in effect, the project area falls within Zone X (unshaded), an area of minimal flooding. The project site is located outside of the tsunami inundation zone. In addition, the site is located outside of the projected sea level rise exposure area.

Drainage improvements will be designed to mitigate runoff in accordance with County drainage and stormwater quality rules and regulations. During construction, recommended BMPs will be implemented for erosion and sedimentation control to minimize potential impacts to water quality.

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

The project site is not identified as a scenic vista or viewplane. The proposed buildings will be similar in height to the existing buildings on campus, and as such, the proposed action is not anticipated to have substantial adverse effects on scenic vistas or viewplanes.

12. Require substantial energy consumption or emit substantial greenhouse gasses.

The proposed action will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources or substantial emission of greenhouse gasses.

The project's technical characteristics and related impact considerations were thoroughly evaluated. In accordance with HAR, Section 11-200.1-13, "Significance Criteria" every phase of the proposed action, the anticipated impacts, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the action were considered. The analysis contained in this EA was supported through in-depth technical studies that were prepared by qualified professionals, and which were then reviewed by agencies having jurisdiction and expertise in their respective fields of authority.

Each section of the EA included a discussion and analysis of the impacts related to the respective environmental, infrastructural, public services and socio-economic parameters. While this project may cause impacts, based on the analysis conducted in the EA, the impacts are not anticipated to be significant. Where mitigation measures are required due to potential impacts attributed to the project, the DOE will implement those applicable measures to further reduce adverse impacts. Furthermore, the project will also result in positive impacts for the community and BHS students and staff, in particular.

In summary, the project will enhance the existing BHS campus and will be developed in an area with existing infrastructure systems. The proposed project is not anticipated to have a significant adverse impact on the surrounding physical, cultural, and socio-economic environments. Based on the preceding analysis in this EA document, and in accordance with the significance criteria set forth in 11-200.1-13, HAR, the proposed project has been determined to qualify for an anticipated finding of no significant impact (AFNSI).

IX

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

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

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

FEDERAL AGENCIES

1. Jason Hew, Acting District Conservationist
   U.S. Department of Agriculture
   Natural Resources Conservation Service
   77 Hoʻokele Street, Suite 202
   Kahului, Hawaiʻi 96732

2. Jen Martin, Chief
   U.S. Dept. of the Army
   U.S. Army Corps of Engineers,
   Honolulu District
   Regulatory Branch, Building 230
   Fort Shafter, Hawaiʻi 96858-5440
   Via email: CEPOH-RO@usace.army.mil

3. U.S. Fish and Wildlife Service
   Pacific Islands Fish and Wildlife Office
   300 Ala Moana Blvd., Rm. 3-122
   Honolulu, Hawaiʻi 96850
   Via email: pifwo_admin@fws.gov

STATE AGENCIES

4. Keith Regan, Comptroller
   Department of Accounting and General Services
   State of Hawaiʻi
   1151 Punchbowl Street
   Honolulu, Hawaiʻi 96813

5. Kali Watson, Chair
   Department of Hawaiian Home Lands
   State of Hawaiʻi
   P. O. Box 1879
   Honolulu, Hawaiʻi 96805

6. Dr. Kenneth S. Fink, MD, MGA, MPH, Director
   Department of Health
   State of Hawaiʻi
   1250 Punchbowl St., Room 325
   Honolulu, Hawaiʻi 96813

7. Dawn N. S. Chang, Chairperson
   Department of Land and Natural Resources
   State of Hawaiʻi
   P. O. Box 621
   Honolulu, Hawaiʻi 96809
   Via email: dlnr@hawaii.gov and dlnr.land@hawaii.gov

8. Ed Sniffen, Director
   Department of Transportation
   State of Hawaiʻi
   869 Punchbowl Street, Room 509
   Honolulu, Hawaiʻi 96813-5097
   Via email: DOT.LandUse@hawaii.gov

9. Stacy Kealohalani Ferreira, Chief Executive
   Office of Hawaiian Affairs
   State of Hawaiʻi
   560 N. Nimitz Highway, Suite 200
   Honolulu, Hawaiʻi 96817

10. Mary Alice Evans, Director
    Office of Planning and Sustainable Development
    State of Hawaiʻi
    P. O. Box 2359
    Honolulu, Hawaiʻi 96804-2359

MAUI COUNTY AGENCIES

11. Shayne Agawa, P.E., Director
    Department of Environmental Management
    County of Maui
    200 S. High Street
    Wailuku, Hawai‘i 96793

12. Brad Ventura, Chief
    Department of Fire and Public Safety
    County of Maui
    200 Dairy Road
    Kahului, Hawai‘i 96732
    Via email: fire.planreview@mauicounty.gov

13. Richard E. Mitchell, Esq., Director
    Department of Housing
    County of Maui
    2065 Main Street, Suite 108
    Wailuku, Hawai‘i 96793

14. Lori Tsuhako, Director
    Department of Human Concerns
    County of Maui
    2200 Main Street, Suite 546
    Wailuku, Hawai‘i 96793

15. Patrick McCall, Director
    Department of Parks and Recreation
    County of Maui
    P.O. Box 1405
    Wailuku, Hawai‘i 96793

16. Kate Blystone, Director
    Department of Planning
    County of Maui
    2200 Main Street, Suite 315
    Wailuku, Hawai‘i 96793

17. Jordan Molina, Director
    Department of Public Works
    County of Maui
    200 S. High Street, 4th Floor
    Wailuku, Hawai‘i 96793

18. Marc Takamori, Director
    Department of Transportation
    County of Maui
    110 Ala‘ihi Street, Suite 210
    Kahului, Hawai‘i 96732

19. John Stufflebean, P.E., Director
    Department of Water Supply
    County of Maui
    200 S. High Street, 5th Floor
    Wailuku, Hawai‘i 96793

20. John Pelletier, Chief
    Maui Police Department
    County of Maui
    55 Mahalani Street
    Wailuku, Hawai‘i 96793

21. Alice Lee, Council Chair
    Maui County Council
    County of Maui
    200 S. High Street, 8th Floor
    Wailuku, Hawai‘i 96793

Subject: FW: Technical Assistance for the Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui
Attachments: IPaC Info Letter_Species List Instructions_PIFWO_20Apr2022_Final.pdf

From: Javar-Salas, Chelsie <chelsie_javar-salas@fws.gov>
Sent: Tuesday, July 30, 2024 6:01 AM
To: General eMail <planning@munekiyohiraga.com>
Subject: Technical Assistance for the Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui

This is an EXTERNAL e-mail.
Only open links and attachments from a Trusted Sender.

Dear Emily Y.K. Murai,

Thank you for the opportunity to comment on the Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui. The U.S. Fish and Wildlife Service (Service) has updated how we manage our technical assistance workload and process section 7 consultations.

We have streamlined portions of the consultation process. Your first step in our updated process is to obtain an Official Species List in our new Information for Planning and Consultation (IPaC) online tool, for which a link can be found at the box in top left corner of the this home page: **https://ecos.fws.gov/ecp/**.

After entering basic project information, including a map of the project (you can use the map drawing tool or upload a GIS polygon that contains the project area(s)), please navigate to request an Official Species List. In addition to creating your species list, this process automatically generates an ECOSphere Project in our system, facilitating our work on your project. Each submitted project is assigned a unique Project Code; please provide this Project Code in any correspondence with our office relating to the project.

Your IPaC-generated Official Species List will include all federally listed species, critical habitat, migratory birds, and wetland habitat that occurs, or may transit through, the project vicinity. For projects in Hawai'i, each species on your Official Species List page (links directly below it) provides the Service's recommended avoidance and minimization measures for that species. Our general avoidance and minimization measures for both animals and plants are provided at our website here: https://www.fws.gov/office/pacific-islands-fish-and-wildlife/library, please refer to them in the preliminary stages of project design.

A few IPAC tips:

- If you upload a polygon for your project area, please include all sites in a single file. Otherwise, you will get a project code for every site. To facilitate your closer look at which species may occur within smaller portions of your project site, you may use IPaC's functionality, without making the Official Species List request.
- Unless you are a Federal agency with an existing programmatic consultation with us, you can ignore any prompts to further your consultation in IPaC or to use D Keys.
- Once you have an established account in Login.gov, you may access IPaC directly at **https://ipac.ecosphere.fws.gov/** or continue to access IPaC via the home page at **https://ecos.fws.gov/ecp/**, accessing IPaC in the upper left hand corner.
- Additional background information about IPaC:

- Your offical IPaC species list is based on species' range maps shown on each species' page in https://ecos.fws.gov/ecp/.
- Survey the project footprint and adjacent areas that may be affected by project-related increases in noise, lighting, invasive species, wildfire, and other stressors. Use the survey data to inform project design and your analysis of the effects of the action to the species.
- Address all the species in the Official Species List in your effects analysis.
- Incorporate the Service's recommended avoidance and minimization measures to the extent you can, and coordinate with our office for project-specific technical assistance when the avoidance measures can't be implemented.

Please do not hesitate to contact me or pifwo_admin@fws.gov for additional assistance.

Mahalo,
Chelsie

Chelsie Javar-Salas (she/her) | Maui Nui and Hawai'i Island Team | U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office | 300 Ala Moana Blvd., Room 3-122 Honolulu, HI 96850 | phone: 808-210-6131 | email: chelsie_javar-salas@fws.gov | website: https://www.fws.gov/office/pacific-islands-fish-and-wildlife

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

Subject: IPaC generated official species list for the Pacific Islands Fish and Wildlife Office

Dear Action Agency or Applicant:

The Pacific Islands Fish and Wildlife Office (PIFWO) is transitioning to the Information for Planning and Consultation (IPaC) online portal, https://ipac.ecosphere.fws.gov/ for federal action agencies and non-federal agencies or individuals to obtain official species lists, including threatened and endangered species, designated critical habitat, and avoidance and minimization measures to consider in your general project design. IPaC has been used by continental USFWS offices to provide official species lists and avoidance and minimization guidance since 2017. Using IPaC expedites the process for species list distribution. Obtaining a species list in IPaC is relatively straightforward and takes minimal time to complete. Step by step instructions are included below.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of your species list should be verified after 90 days. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change the species list. Verification can be completed by visiting the IPaC website at regular intervals during project planning and implementation. An updated list may be requested through the IPaC system by completing the same process used to obtain the initial species list.

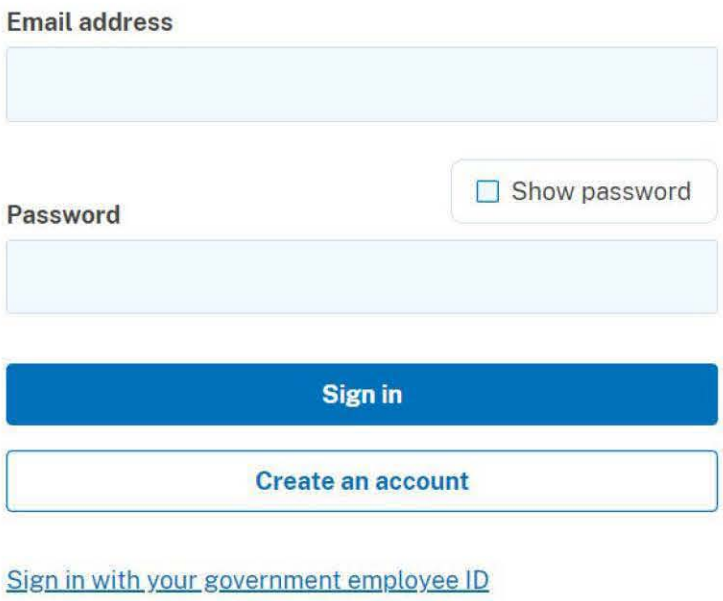
We hope this process provides efficiencies to our partners in obtaining a species list. For federal action agencies, it also opens additional IPaC functionality that the PIFWO office is still working on, such as the use of Determination Keys for informal section 7 programmatic consultations. We will let our agency partners know when that functionality becomes available.

If you have questions about a species list obtained through the IPaC system or need assistance in completing an IPaC species list request, please contact the Service at 808-792-9400 or via email at pifwo_admin@fws.gov. We appreciate your efforts to conserve listed species across the Pacific Islands.

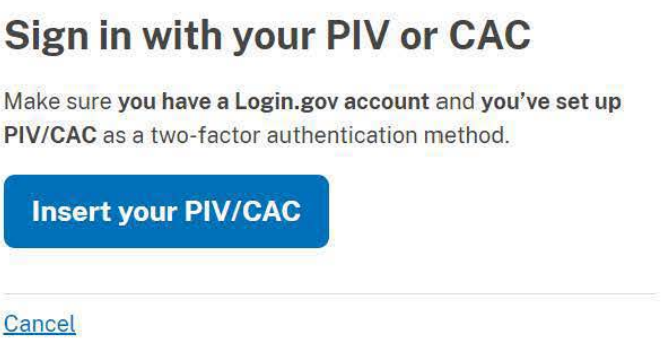
Instructions for Action Agencies and partners to obtain an official species list in IPaC

- Navigate to https://ipac.ecosphere.fws.gov/
- You can get an unofficial species list without logging in. However, if you want an official species list you will need to log in first using your Login.gov account. If you don't have an IPaC account, they are easy to create.

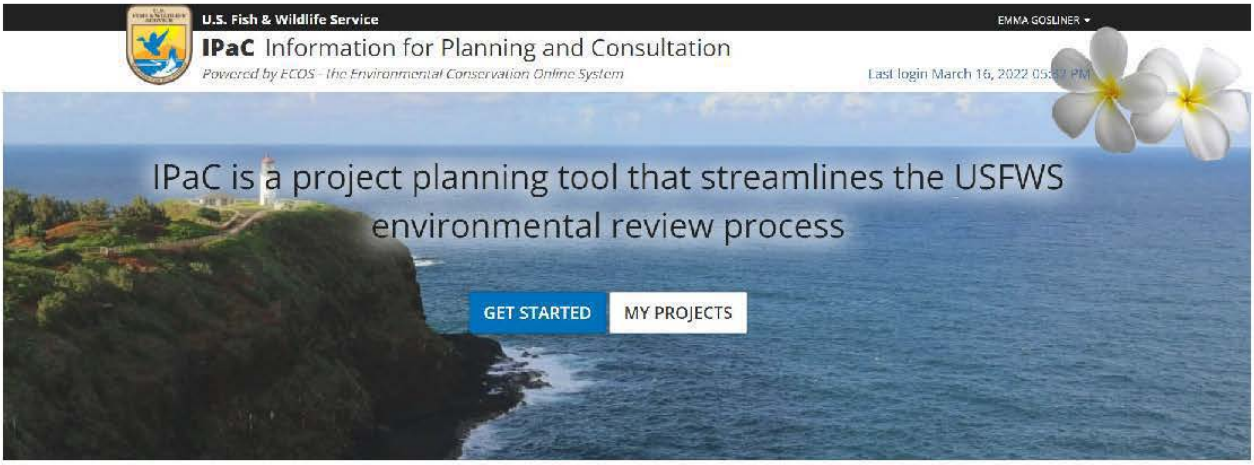
Select Log in with Login.gov and sign in using your email and password.



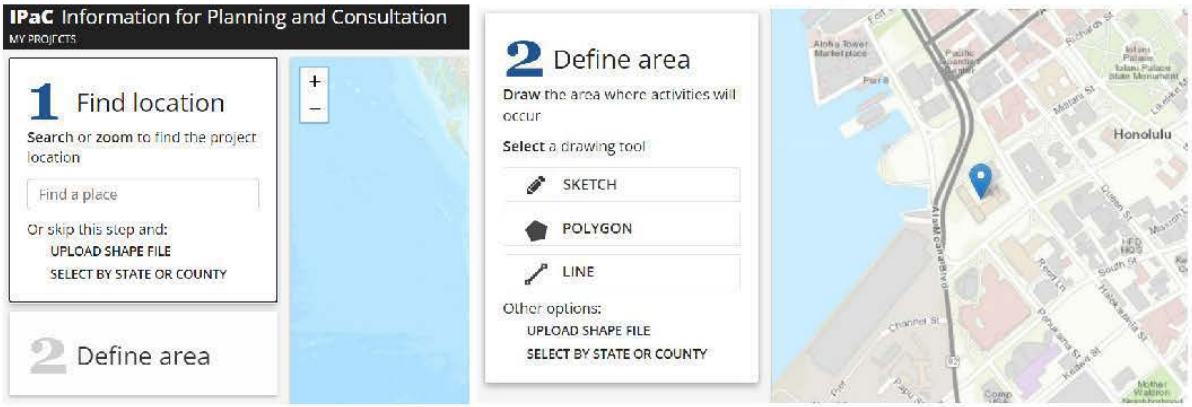
If you have a PIV or CAC card, you can sign in using that method as well.

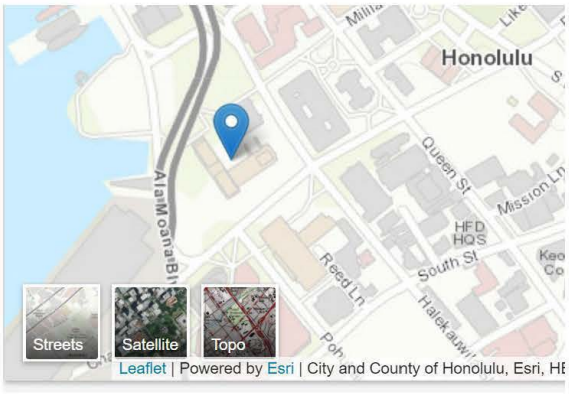


- Once you log in, select "Get Started".

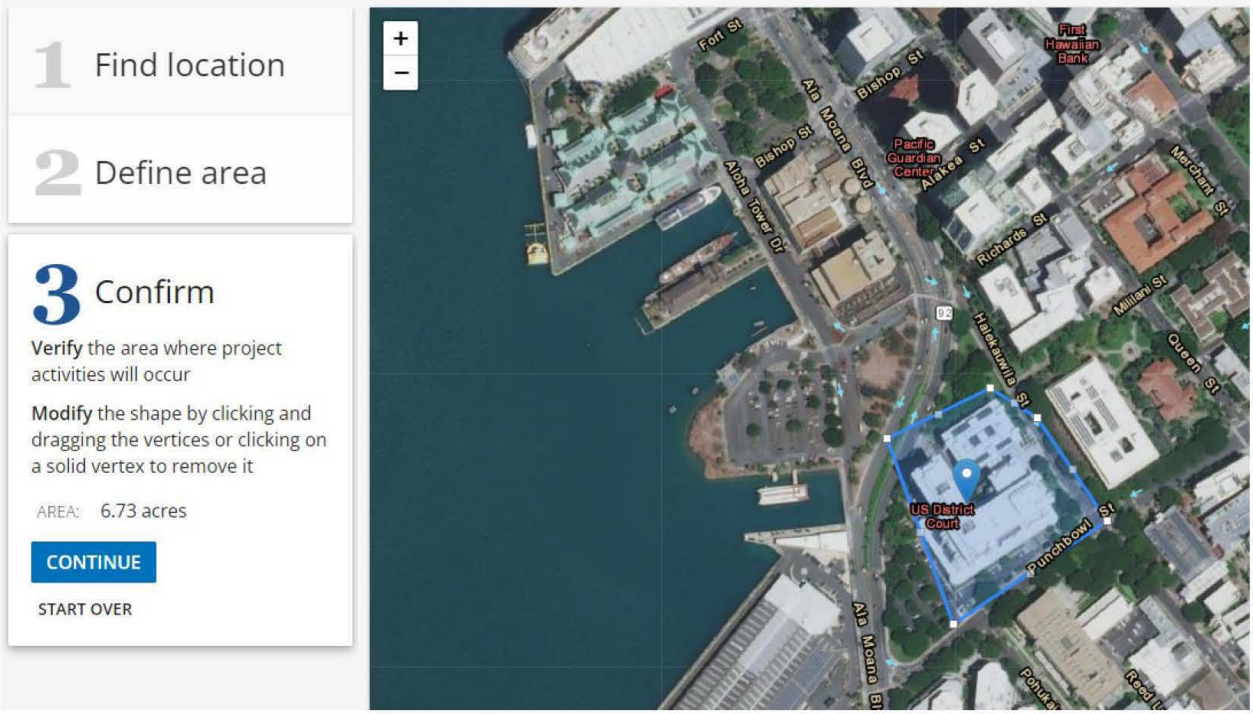


- Define the action area: Identify the location of the proposed action by uploading an existing shapefile or by entering an address or coordinates of the action area. Once identified on the map, you can manually draw the action area using the drawing tools.



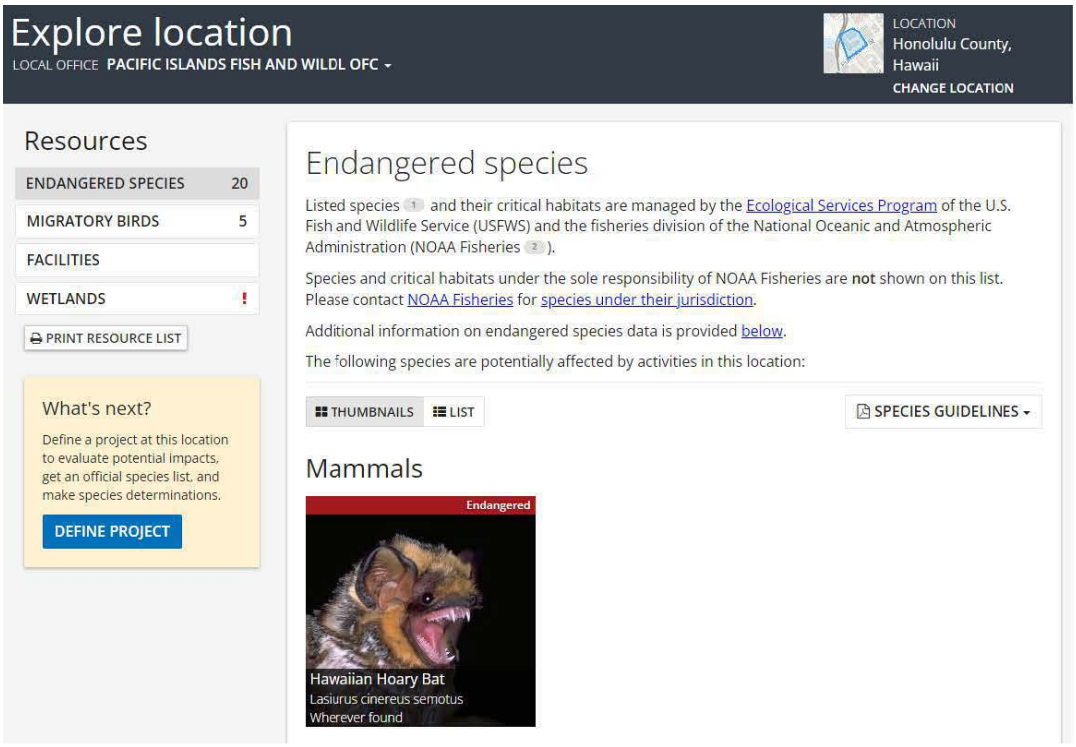


To help identify your action area you can choose between multiple base maps available.

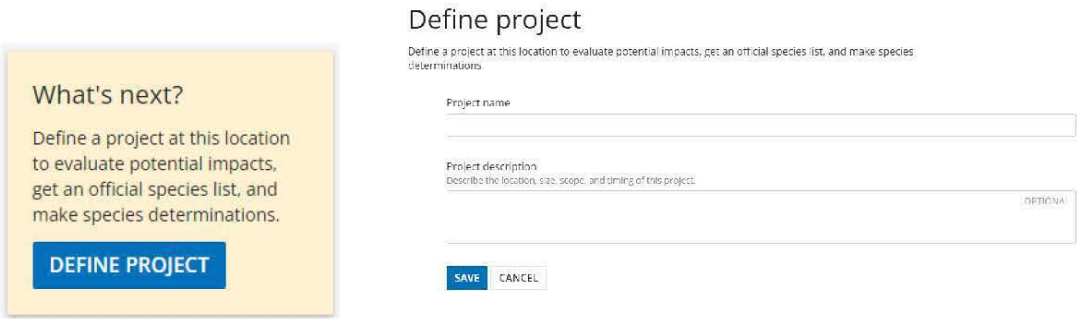


Press continue when you have finished drawing or uploading the action area location.

- The species information on the page that follows is <u>not</u> official. However, it identifies the project County, local Fish and Wildlife Field Office, species covered under NOAA Fisheries as well as Migratory Bird Treaty Act species. The list can be viewed in Thumbnail or List format.
- Once the species list populates you will see images of the species that may occur on, near, or transgress across your project. Click on SPECIES GUIDELINES on your top right to see Avoidance and Minimization measures to incorporate into your General Project Design Guidelines.

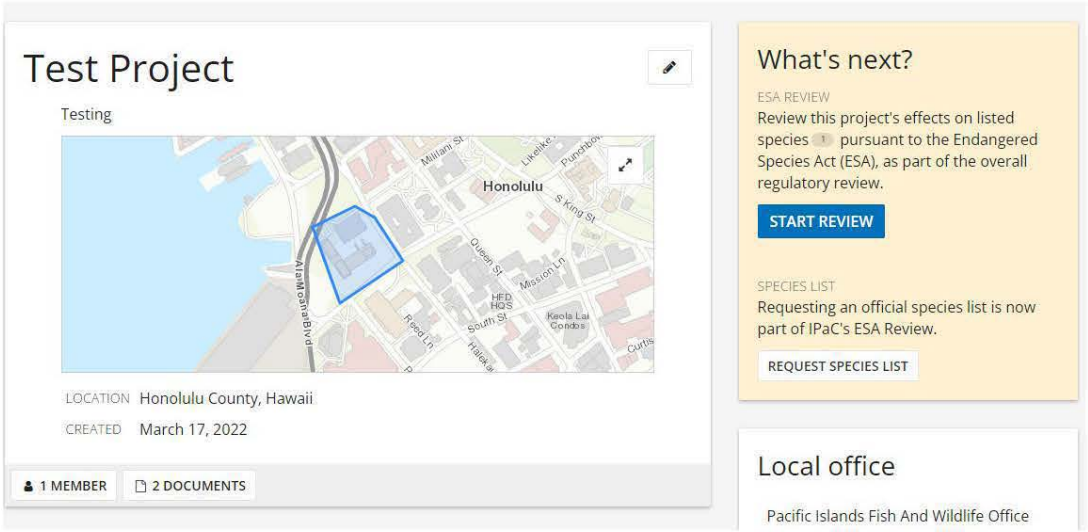


- Continue with the following steps to comply with the requirements of ESA section 7 to obtain an **official species list**.
- Select Define Project

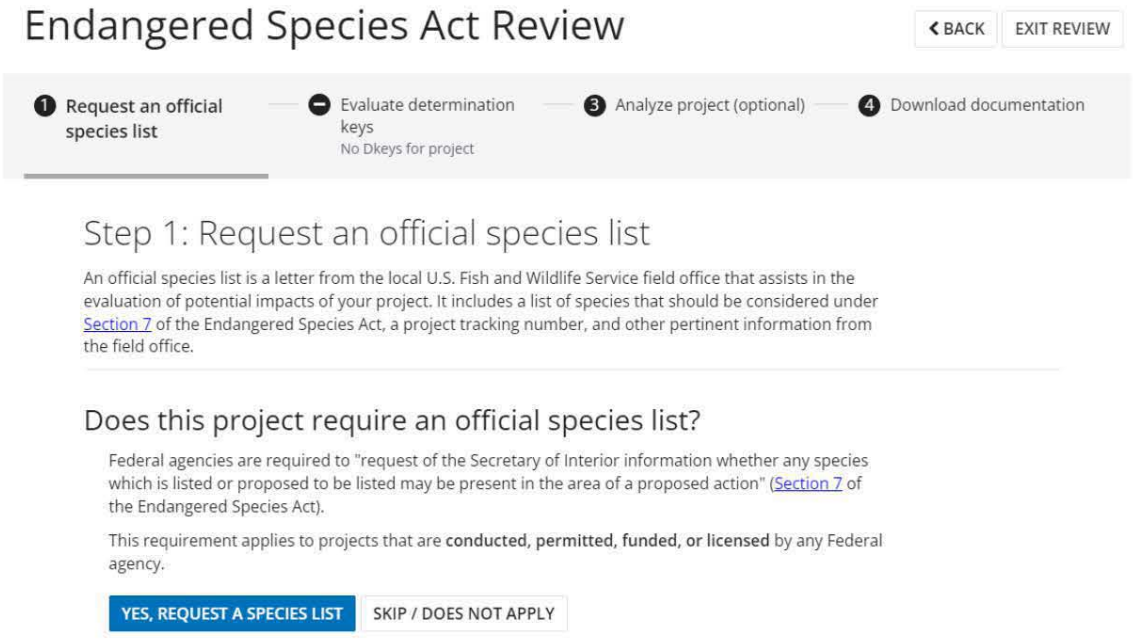


Enter the Project Name and a brief description of the project (a description is not mandatory, but recommended for future coordination with the Service). Click SAVE at bottom of page.

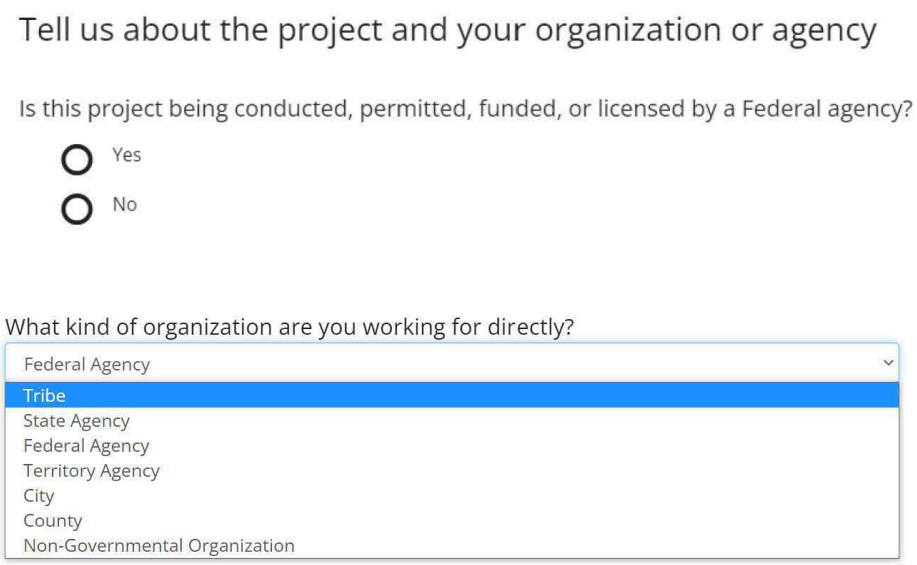
- At the bottom of the What's next box on the right, click Request Species List



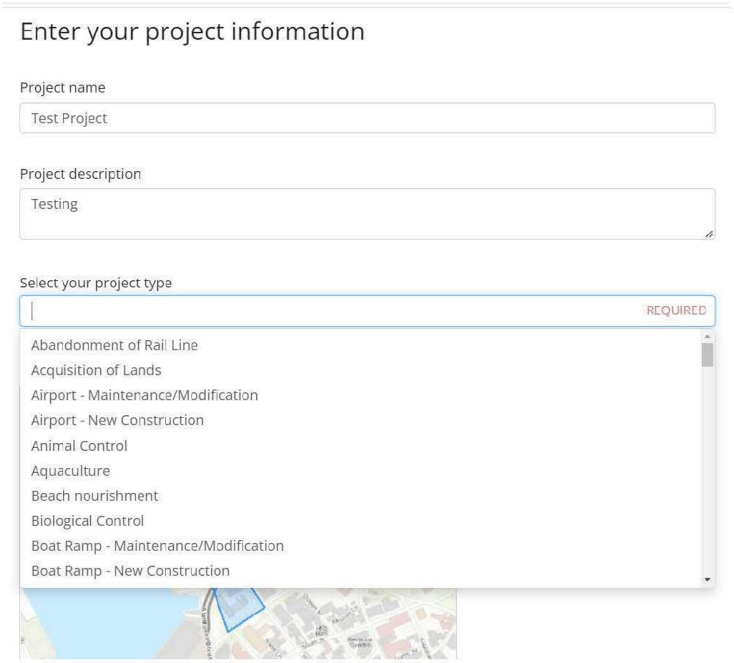
- on the following screen, click Yes, Request Species List



- Fill out the contact information for yourself or your agency. Contractors, state partners, and any other project proponents may request a species list and should be covered using the dropdown menus.



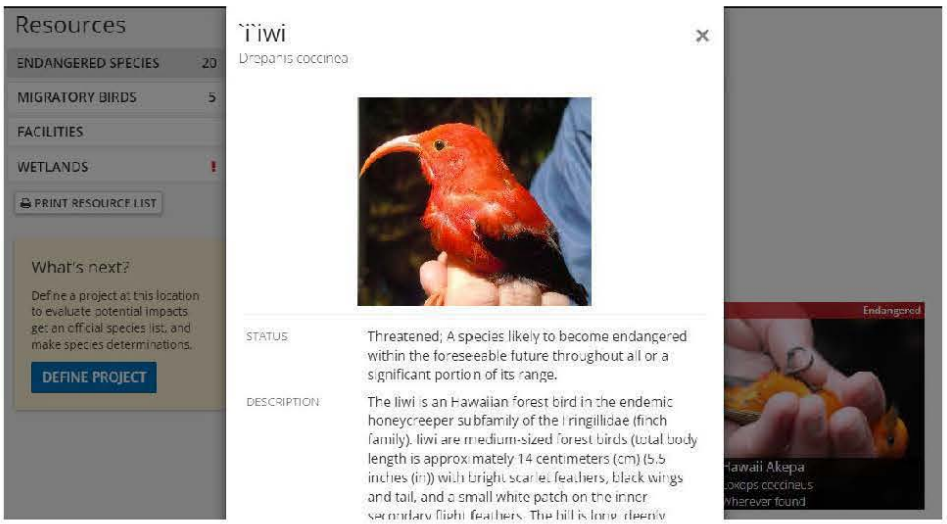
- From the pull-down menu for Classify Type of Project, select the project type that best fits the proposed action.



- Once all required sections are filled out, press SUBMIT OFFICIAL SPECIES LIST REQUEST

- An Official Species List should be generated and available for download in a couple of seconds.

- If you need additional information on a species, click on their name that is hot-linked to their species information page. A brief overview of the species' status, description and critical habitat will appear as well as a link to their ECOS species profile.



MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Via email: pifwo_admin@fws.gov

Chelsie Javar-Salas
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd., Room 3-122
Honolulu, Hawai'i 96850

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Ms. Javar-Salas:

Thank you for your comments, dated July 30, 2024, responding to our request for early consultation comments on the subject project.

On behalf of the State of Hawai'i Department of Education (DOE), thank you for providing guidance on generating an Official Species List through the Information for Planning and Consultation (IPaC) online tool. An Official Species List has been generated for the project area in IPaC and will be included in the Draft Environmental Assessment (EA) for this project, in addition to potential avoidance and minimization measures as recommended by the U.S. Fish and Wildlife Service. The project has been assigned #2024-0133743 in the IPaC online tool.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your email and this response will be included in the Draft EA being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
K:\DATA\Inform\BHS Sports Facility\Apps\0ECL\0Responses\USFWS.docx

JUL 30 2024

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

KEITH A. REGAN
COMPTROLLER
KA LUNA HO'OMALU HANA LAULĀ

MEOH-LENG SILLIMAN
DEPUTY COMPTROLLER
KA HOPE LUNA HO'OMALU HANA LAULĀ

STATE OF HAWAI'I | KA MOKU'ĀINA O HAWAI'I
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWE LAULĀ
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)24.162

JUL 23 2024

Emily Y. K. Murai, Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Emily Y. K. Murai:

Subject: Early Consultation Request for the
Proposed H.P. Baldwin High School Master Plan Improvements
Wailuku, Maui, Hawaii
T.M.K. Nos. (2) 3-8-007:004 and (2) 3-8-007:055 (por.)

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

If you have any questions, your staff may call Dora Choy-Johnson of the Public Works Division at (808) 586-0488.

Sincerely,

GORDON S. WOOD
Public Works Administrator

DC:mc
c: Jeff Pearson, MDO

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Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Gordon S. Wood, Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Mr. Wood:

Thank you for your letter, dated July 23, 2024, responding to our request for early consultation comments on the subject project.

We acknowledge that the Department of Accounting and General Services (DAGS) does not have comments to offer at this time as the proposed project does not impact DAGS projects or existing facilities.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft Environmental Assessment being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
K:\DATA\Inform\BHS Sports Facility\Apps\0ECL\0Responses\DAGS.docx

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

August 2, 2024

Munekiyo Hiraga
Attn: Ms. Emily Y.K. Murai, Associate
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@munekiyohiraga.com

Dear Ms. Murai:

SUBJECT: Early Consultation Request for the Proposed H.P. **Baldwin High School** Master Plan Improvements located at Wailuku, Island of Maui; TMKs: (2) 3-8-007:004 and (2) -8-007:055 (por.) on behalf of the State of Hawaii, Department of Education

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

At this time, enclosed are comments from the (a) Engineering Division and (b) Land Division-Maui District 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

July 16, 2024

MEMORANDUM

FROM: ~~TO:~~ **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_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)
___Office of Conservation & Coastal Lands
_X_ Land Division – Maui District (dlnr.land.maui@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: ~~FROM:~~ Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for the Proposed H.P. **Baldwin High School** Master Plan Improvements
LOCATION: Wailuku, Island of Maui; TMKs: (2) 3-8-007:004 and (2) 3-8-007:055 (por.)
APPLICANT: State of Hawaii, Department of Education

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 2, 2024.**

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: *Carty S. Chang*
Print Name: Carty S. Chang, Chief Engineer
Division: Engineering Division
Date: Jul 23, 2024

Attachments
cc: Central File

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements
Location: Wailuku, Island of Maui
TMK(s): (2) 3-8-007:004 and (2) 3-8-007:055 (por.)
Applicant: State of Hawaii, Department of Education

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR, 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 Hazard Zones are designated 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) (fhat.hawaii.gov) 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) 241-4896.

The applicant should include water demands and infrastructure required to meet project needs. Please note that all State projects requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: Jul 23, 2024

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

July 16, 2024

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_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)
___Office of Conservation & Coastal Lands
_X_ Land Division – Maui District (dlnr.land.maui@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Russell Y. Tsuji, Land Administrator *Russell Tsuji*
SUBJECT: Early Consultation Request for the Proposed H.P. **Baldwin High School** Master Plan Improvements
LOCATION: Wailuku, Island of Maui; TMKs: (2) 3-8-007:004 and (2) 3-8-007:055 (por.)
APPLICANT: State of Hawaii, Department of Education

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 2, 2024.**

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: *Ebony V. Butihi*
Print Name: Ebony V. Butihi
Division: Maui District Land Office
Date: July 17, 2024

Attachments
cc: Central File

JOSH GREEN, M.D.
GOVERNOR | KE KIAʻĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIAʻĀINA

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

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA
LAND DIVISION

130 Mahalani St.
Wailuku, Hawaii 96793
PHONE: (808) 984-8103
FAX: (808) 984-8111

July 17, 2024

MEMORANDUM

TO: Russell Y. Tsuji, Administrator

FROM: Ebony V. Butihi, Documentation Specialist

SUBJECT: Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements

LOCATION: Wailuku, Island of Maui;
TMKs: (2) 3-8-007:004 and (2) 3-8-007:055 (por.)

APPLICANT: State of Hawaii, Department of Education

Pursuant to your request for comments on the above matter, we offer the following:

TMK: (2) 3-8-007:004 and TMK: (2) 3-8-007:055 (por.) to be under the control and management of the County of Maui.

The Maui District Land Office has reviewed the Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements and has no objection to its findings.

Should you have any further questions, please contact me at (808) 984-8105.

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Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Via email: dlnr.land@hawaii.gov

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

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Mr. Hirokawa:

Thank you for your letter, dated August 2, 2024, responding to our request for early consultation comments.

On behalf of the State of Hawai'i Department of Education (DOE), we offer the following information in response to the comments received. The responses are in the order of the comments received.

Engineering Division

We acknowledge the comment that State projects are required to comply with the rules and regulations of the National Flood Insurance Program, Title 44 of the Code of Federal Regulations, when the proposed development falls within a Special Flood Hazard Area. We note that the entirety of the proposed project area is within Flood Zone X.

We note that the Draft Environmental Assessment (EA) being prepared for this project will include a Preliminary Engineering and Drainage Report (PEDR) which will discuss anticipated water demand calculations and any needed infrastructure improvements to service the project. The PEDR will be discussed in and appended to the Draft EA and a copy of the Draft EA will be provided for Department of Land and Natural Resources review, comment and inclusion in the State Water Plan Update projections.

The DOE understands that State projects requiring water service from their local Department of Water Supply system will be required to pay a resource development charge in addition to Water Facilities Charges for transmission and daily storage.

Land Division- Maui District

We acknowledge that the DLNR Land Division does not object to the proposed project.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft EA for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
Kyle Shinyama, Austin Tsutsumi & Associates
Matthew Murakami, Austin Tsutsumi & Associates
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JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

EDWIN H. SNIFFEN
DIRECTOR
KA LUNA HO'OKELE

Deputy Directors
Nā Hope Luna Ho'okele
DREANALEE K. KALIU
TAMMY L. LEE
CURT T. OTAGURO
ROBIN K. SHISHIDO

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO

DIR 0000728
STP 8.3800

August 5, 2024

VIA EMAIL: planning@munekiyohiraga.com

Ms. Emily Y.K. Murai
Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Murai:

Subject: Chapter 343, Hawaii Revised Statutes Early Consultation
H.P. Baldwin High School Master Plan Improvements
Wailuku, Maui, Hawaii
Tax Map Key: (2) 3-8-007: 004 and 055 (por.)

Thank you for your letter, dated July 15, 2024, requesting the Hawaii Department of **Transportation's (HDOT) review and comments on** the subject project. HDOT understands the State of Hawaii, Department of Education proposes master plan improvements at H.P. Baldwin High School located in Wailuku, Maui. The proposed improvements include the construction of new classrooms, restrooms, athletic facilities, and agriculture class facilities.

HDOT has the following comments:

1. The proposed development project is approximately 1.75 miles from the property boundary of Kahului Airport (OGG). All projects within 5 miles from Hawaii State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports 08-01-2016.pdf.

2. The project site is approximately 17,240 feet from the end of Runway 2 at OGG. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and staging area heights, including heights of temporary construction cranes, shall be included in the submittal. The form and criteria for submittal can be found at the following website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp. Please provide a copy of the FAA response to the Part 77 analysis to the HDOT Airport Planning Section.

3. **Due to the project's proximity to OGG, the applicant and future users should be aware of potential** single-event noise from aircraft operations. There is also potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over or near the project. These incidences may increase or decrease over time and are dependent on airport operations.

4. The proposed project shall not provide landscape and vegetation that will create a wildlife attractant, which can potentially become a hazard to aircraft operations. Please review the FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants On Or Near Airports for guidance. If the project**'s landscaping** creates a wildlife attractant, the developer shall immediately mitigate the hazard upon notification by the HDOT and/or FAA.

5. We recommend additional information be provided within the Draft Environmental Assessment, such as proposed classroom capacity, schedules, and/or daily operation hours. An evaluation should be provided on whether the proposed improvements will have any local impacts on Kaahumanu Avenue (State Route 32). If relevant, a Traffic Assessment may be included and prepared by an engineer licensed with the State of Hawaii.

6. Describe strategies to reduce carbon emissions from the project, if any. Suggestions include:

    a. Incorporate elements that encourage and enhance the use of multiple types of transportation to reduce carbon emissions.

    b. Implement energy-efficient technologies and practices, such as light-emitting diode lighting.

    c. Use sustainable, recycled, or low-emission materials in construction and manufacturing.

Please submit any subsequent land use entitlement-related requests for review or correspondence to the HDOT Land Use Intake email address at DOT.LandUse@hawaii.gov.

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

Sincerely,

EDWIN H. SNIFFEN
Director of Transportation

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PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Via email: DOT.LandUse@hawaii.gov

Ed Sniffen, Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street, Room 509
Honolulu, Hawai'i 96813-0597

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.) (DIR 0000728 STP 8.3800)

Dear Mr. Sniffen:

Thank you for your letter, dated August 5, 2024, responding to our request for early consultation comments on the subject project.

On behalf of the State of Hawai'i Department of Education (DOE), we offer the following information in response to the comments received. The responses are in the order of the comments received.

We acknowledge that the proposed project is approximately 1.75 miles from the Kahului Airport. As such, the Technical Assistance Memorandum (TAM) will be reviewed to identify potential reviews or permits that may be required.

We acknowledge that the project site is approximately 17,240 feet from the end of Runway 2 at OGG and that the Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9. We confirm that a Form 7460-1 Notice of Proposed Construction or Alteration with construction staging heights and temporary construction will be submitted to the FAA prior to construction initiation.

We acknowledge that the project's proximity to the Kahului Airport may result in single event noise from aircraft operations and that there is potential for fumes, smoke, vibrations and odors from fluctuating aircraft operations.

We confirm that the project will not provide landscape and vegetation that will create a wildlife attractant, which can potentially become a hazard to aircraft operations. The FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on/or Near Airports has been shared with the design team for guidance.

We acknowledge the recommendation to include additional information in the Draft Environmental Assessment (EA) being prepared for this project. We note that a traffic impact assessment is being prepared for the master plan improvements and will be included and discussed in the Draft EA.

Thank you for the suggested strategies to reduce carbon emissions from the project. Project related impacts and potential mitigation measures to reduce carbon emissions will be discussed in the Draft EA.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft EA. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
Kyle Shinyama, Austin Tsutsumi & Associates
Matthew Murakami, Austin Tsutsumi & Associates
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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

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARY ALICE EVANS
DIRECTOR

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

Coastal Zone Management Program

Environmental Review Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented Development

Statewide Geographic Information System

Statewide Sustainability Branch

DTS202407191001NA

July 30, 2024

Ms. Emily Y K Murai
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Attn: Emily Y K Murai

Dear Ms. Murai:

Subject: Early Consultation Environmental Assessment for the H. P. Baldwin High School Master Plan Improvements at Wailuku, Maui; Tax Map Keys: (2) 3-8-007:004 and 055 (por)

The Office of Planning and Sustainable Development (OPSD) is in receipt of your early consultation request, received July 19, 2024, on the preparation of an Environmental Assessment (EA), for the proposed master plan improvements at H.P. Baldwin School located in Wailuku on the island of Maui

According to the request, the proposed improvements will involve the construction of agriculture class facilities, new classroom buildings, a new boys' and girls' restroom, weight room and fitness room facility, track and practice fields, and athletic support facilities. Additional related improvements include utility installations, landscaping, and Americans with Disabilities Act (ADA) accessibility improvements. The proposed improvements' purpose is to provide new classrooms and provide on-campus athletic facilities.

The OPSD has reviewed the subject request and has the following comments to offer:

1) The EA shall discuss all triggers of the preparation of an EA set forth in Hawaii Revised Statutes (HRS) Chapter 343, and list all required permits and approvals for the proposed improvements.

2) The State of Hawaii Coastal Zone Management (CZM) Area encompasses the entire state. The Hawaii CZM Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The subject EA should include an assessment with mitigation measures, if needed, as to how the proposed development conforms to each of the

CZM objectives and supporting policies set forth in HRS Chapter 205A-2, as amended.

3) In enacting Act 224, Session Laws of Hawaii 2005, the legislature found that light **pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and** ocean waters can be disruptive to avian and marine life. Pursuant to § 205A-30.5, exterior lighting and lamp posts associated with the proposed improvements shall be full cut-off luminaries to provide the necessary shielding to mitigate potential light pollution in the coastal areas and lessen possible seabird strikes.

4) Pursuant to Hawaii Administrative Rules (HAR) § 11-200.1-18(d), the EA needs to consider alternatives and assess their potential impacts. The OPSD recommends that the site-specific Best Management Practices shall be developed and implemented to prevent any runoff, sediment, soil and debris potentially resulting from associated construction activities from adversely impacting the coastal ecosystems and the State waters as specified in HAR Chapter 11-54.

If you respond to this comment letter, please include DTS202407191001NA in the subject line. For any questions regarding this letter, please contact Rachel Beasley of our office at (808) 587-2878 or by email at rachel.e.beasley@hawaii.gov.

Sincerely,

Mary Alice Evans

Mary Alice Evans
Director

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Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Mary Alice Evans, Director
State of Hawai'i
Office of Planning and Sustainable Development
P.O. Box 2359
Honolulu, Hawai'i 96804

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.) DTS202407191001NA

Dear Ms. Evans:

Thank you for your letter dated July 30, 2024 responding to our request for early consultation comments.

On behalf of the State of Hawai'i, Department of Education (DOE), we offer the following information in response to the comments received. The responses are in the order of the comments received.

The Draft Environmental Assessment (EA) will discuss all triggers for the preparation of an EA as set forth in the Hawai'i Revised Statutes, Chapter 343. A list of required permits and approvals for the proposed project will also be included in the EA.

The EA will contain an analysis of the project's relationship to Hawai'i Coastal Zone Management Program objectives and supporting policies.

We confirm that all exterior lighting will be fully shielded to mitigate light pollution and lessen possible seabird strikes.

We confirm that the project's alternatives and potential impacts will be discussed in the EA. In addition, site-specific Best Management Practices to prevent runoff, sediment, soil and debris potentially resulting from associated construction activities from adversely impacting the coastal ecosystems and the State waters will be discussed in the EA. It is noted that Baldwin High School is located at least one (1) mile away from the shoreline.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft Environmental Assessment being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
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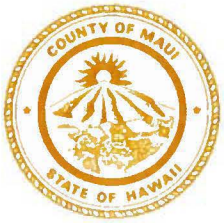
RICHARD T. BISSEN, JR.
Mayor

RICHARD E. MITCHELL, ESQ.
Acting Director

SAUMALU MATA'AFA
Deputy Director



DEPARTMENT OF HOUSING
COUNTY OF MAUI
2065 MAIN STREET, SUITE 108
WAILUKU, MAUI, HAWAI'I 96793
PHONE: (808) 270-7351

July 31, 2024

Emily Y. K. Murai, Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: CHAPTER 343, HAWAII REVISED STATUTES EARLY CONSULTATION REQUEST FOR THE PROPOSED H. P. BALDWIN HIGH SCHOOL MASTER PLAN IMPROVEMENTS; WAILUKU, MAUI, HAWAII, TMK NOS. (2) 3-8-007:004 AND (2) 3-8-007:055 (POR.)

Dear Ms. Murai:

The Department of Housing reviewed the information submitted for the above - referenced project, and determined the project is not subject to Chapter 2.96, Maui County Code (MCC). In accordance with Section 2.96.080, MCC, the project does not require a residential workforce housing agreement. The Department has no additional comments to offer at this time.

Please contact the Department at (808) 270-7351 or housing@co.maui.hi.us if you have any questions.

Sincerely,

RICHARD E. MITCHELL, ESQ.
Acting Director of Housing

MUNEKIYO HIRAGA
Planning Project Management Sustainable Solutions

Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 15, 2024

Richard E. Mitchell, Acting Director
Department of Housing
County of Maui
2200 Main Street, Suite 546
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2) 3-8-007:004 and (2) 3-8-007:055 (por.)

Dear Mr. Mitchell:

The State of Hawai'i, Department of Education (DOE) proposes master plan improvements at H.P. Baldwin High School (BHS) located in Wailuku, Maui. See **Figure 1**. BHS is located on an approximately 42-acre parcel identified by Tax Map Key No. (2)3-8-007:004 owned by the County of Maui. TMK No. (2) 3-8-007:055 (Parcel 55) is adjacent to BHS and is also owned by the County of Maui. See **Figure 2**. The proposed improvements will involve the construction of agriculture class facilities, new classroom buildings, a new boys' restroom and new girls' restroom, a weight room and fitness room facility, track and practice fields, and athletic support facilities. It is noted that improvements on Parcel 55 are limited to Americans with Disabilities Act (ADA) ramp improvements. See **Figure 3**. In addition to the proposed sports facility and classroom improvements, related improvements including utility installations, landscaping, and ADA accessibility improvements will be included in the project scope. The proposed improvements are intended to provide new classrooms for the existing high school, which will reduce the need for portable classrooms and will provide on-campus athletic facilities such that BHS can reduce dependency on the County-owned facilities currently being used for physical education classes and interscholastic sports programs. The proposed project will be funded by the DOE.

The subject properties are designated as "Urban" by the State Land Use Commission, is within the Urban Growth Boundary as designated by the Maui Island Plan, is designated for "Public/Quasi-Public" use by the Wailuku-Kahului Community Plan, and is designated as "R-3, Residential" by Maui County Zoning. The proposed action is appropriate for these underlying land use designations. However, several buildings are anticipated to exceed the 30 foot building height limit in residential zoned areas. The proposed athletic facilities building, locker rooms, currently in design may exceed the 30 foot height limit allowed in residential zoned areas by up to 15 feet. The proposed classroom building, currently in

design may exceed the 30 foot height limit by up to 10 feet. All buildings anticipated to exceed the 30 feet will be two-stories, but the sloping topography and ceiling height requirements necessitates additional height. As such, a Zoning Code Variance Application will be submitted to the County of Maui and a variance shall be obtained prior to construction should any buildings exceed 30 feet.

The use of State funds and County lands are "triggers" for preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statues (HRS). As such, a Draft EA will be prepared for this project to evaluate the technical characteristics and potential environmental impacts of the proposed project, as well as to advance findings and mitigative measures relative to the project. The DOE will be the approving agency for the EA.

On behalf of the DOE, we kindly request your early review and comment on the proposed project in accordance with the requirements of Chapter 11-200.1, Hawai'i Administrative Rules. We appreciate receiving any comments you may have by **August 5, 2024**. Please send your comments to the address listed below:

Munekiyo Hiraga
Attention: Emily Y.K. Murai, Associate
305 High Street, Suite 104
Wailuku, Hawai'i 96793
OR
Email: planning@munekiyohiraga.com

Thank you for your participation in the Chapter 343, HRS environmental review process. Should you have any questions regarding this early consultation request, please do not hesitate to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Associate

EYKM:ab
Attachments
cc: George Ramiscal, Bowers+Kubota (w/attachments)
John Harada, InForm Design (w/attachments)
Cecilia Sarate, InForm Design (w/attachments)
Caio Lopes, InForm Design (w/attachments)
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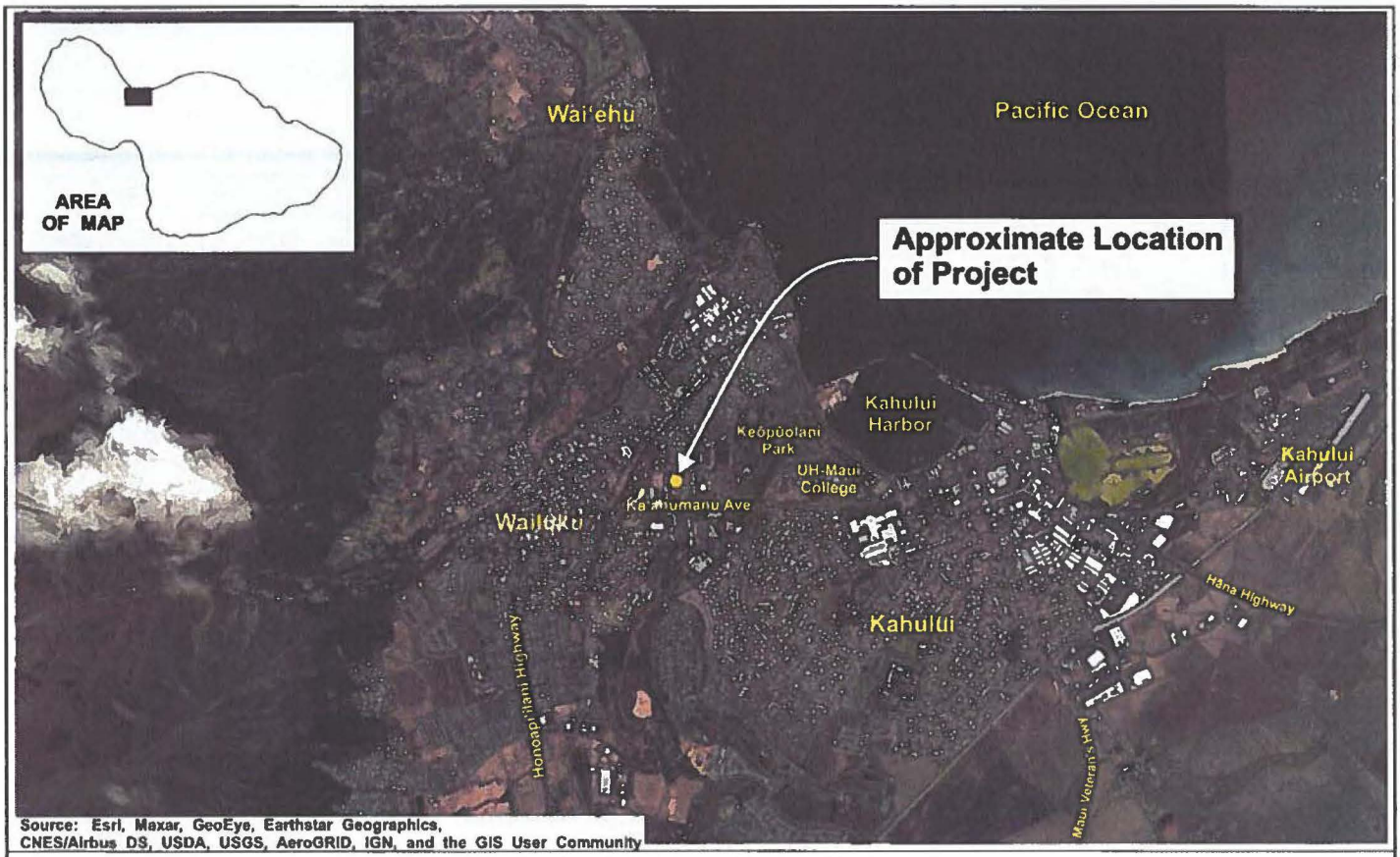


Figure 1

H.P. Baldwin High School
Master Plan Improvements
Regional Location Map

2,000 0 Feet
1,000 4,000

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

MUNEKIYO HIRAGA

InformABHS Sports Facility\Figures\Regional Location

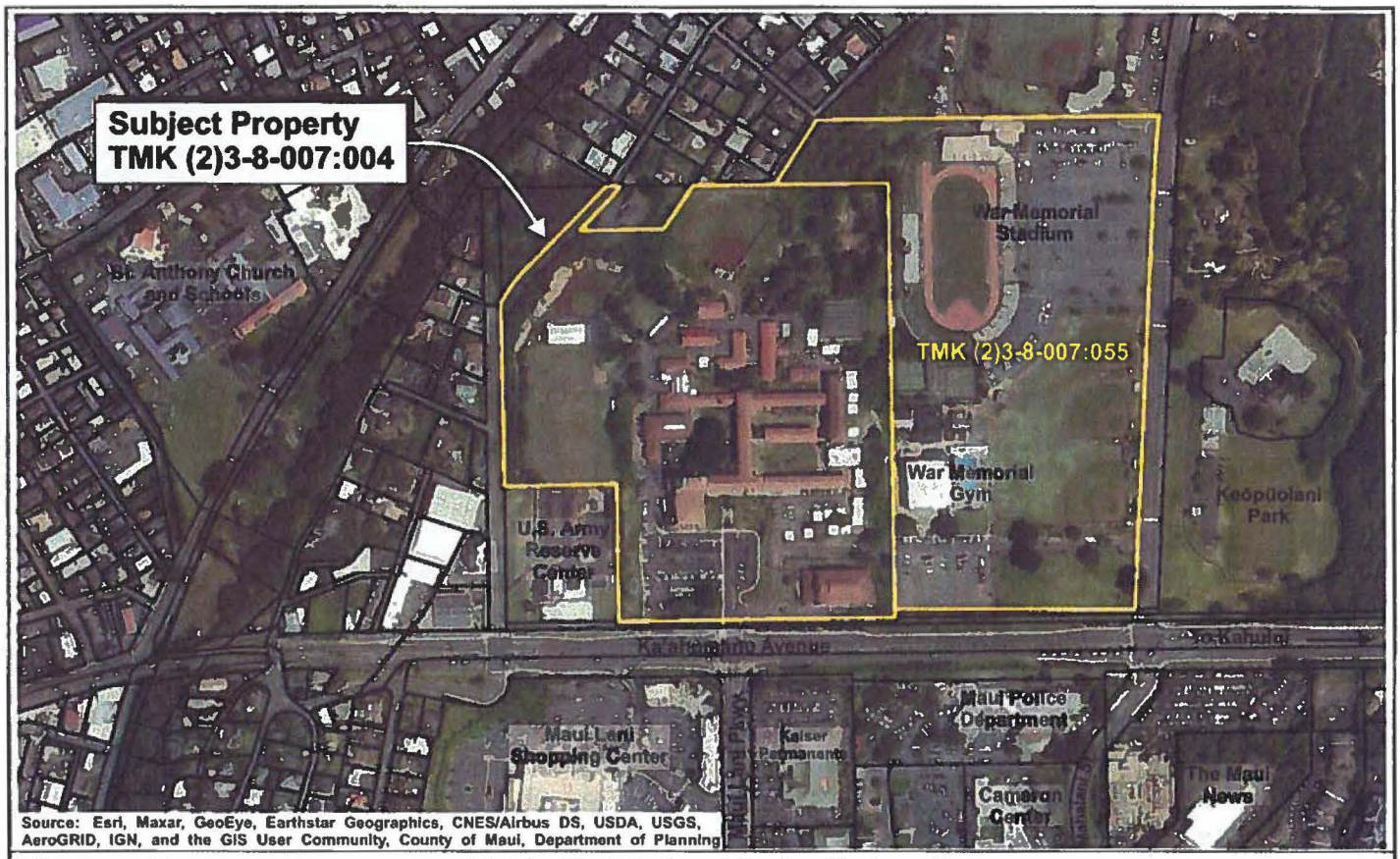


Figure 2

H.P. Baldwin High School Master Plan Improvements

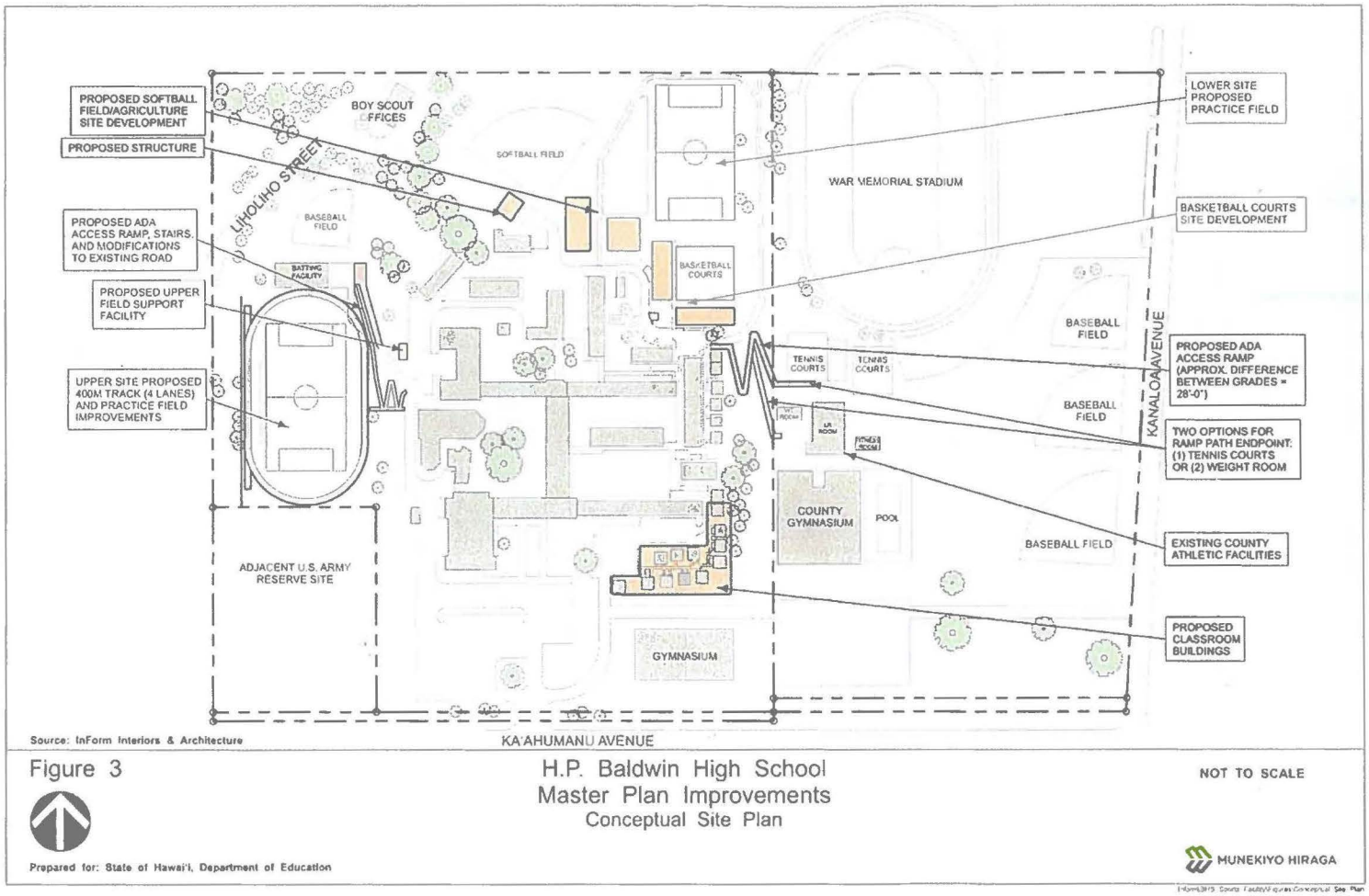
Property Location Map

0 250 125 500 Feet

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

MUNEKIYO HIRAGA

Inform\BHS Sports Facility\Figures\Property Location



Source: InForm Interiors & Architecture

Figure 3

H.P. Baldwin High School
Master Plan Improvements
Conceptual Site Plan

NOT TO SCALE

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

MUNEKIYO HIRAGA

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Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Richard E. Mitchell, Esq., Director
County of Maui
Department of Housing
2065 Main Street, Suite 108
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Mr. Mitchell:

Thank you for your letter, dated July 31, 2024, responding to our request for early consultation comments for the subject project.

Thank you for confirming that the project is not subject to Chapter 2.96, Maui County Code and does not require a workforce housing agreement. We acknowledge that the County of Maui, Department of Housing has no additional comments to offer at this time.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft Environmental Assessment being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
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RICHARD T. BISSEN, JR.
Mayor

JOSIAH K. NISHITA
Managing Director

PATRICK S. MCCALL
Director

SHANE T. DUDOIT
Deputy Director

DEPARTMENT OF PARKS AND RECREATION
COUNTY OF MAUI
700 HALI'A NAKOA STREET, UNIT 2
WAILUKU, MAUI, HAWAI'I 96793
www.mauicounty.gov

July 30, 2024

Emily Y.K. Murai, Associate
Munekiyo Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Murai:

SUBJECT: CHAPTER 343, HAWAI'I REVISED STATUES EARLY CONSULTATION REQUEST FOR THE PROPOSED H.P. BALDWIN HIGH SCHOOL MASTER PLAN IMPROVEMENTS, WAILUKU, MAUI, HAWAI'I; TMK (2) 3-8-007:004 AND (2) 3-8-007:055 (POR.)

Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation (DPR) has a few comments to the State of Hawai'i Department of Education's (DOE) proposed improvements.

DPR's War Memorial Gym Building Improvements Capital Improvement Project (CIP) is currently under construction at parcel 055. Since a major element of the project involves structural improvements at the Gym to meet the Enhanced Hurricane Protection Area (EHPA) shelter standards, it includes anchorage installation at eleven (11) portable buildings on the H.P. Baldwin High School (BHS) property at parcel 004, located closest to the Gym (see attached drawings).

DOE should be aware that any future improvements made to the classroom portable buildings will be required to retain the anchorage to maintain the EHPA shelter standards at the Gym.

The CIP scope of work also includes the installation of two air conditioning cooling towers and a diesel generator at the gravel parking area in front of the BHS weight room, located between the existing ADA ramp path and the sidewalk connection to the current BHS locker rooms, at parcel 055. DOE should take this into account when re-designing BHS's ADA ramp path to confirm that adequate space is provided for the ramp. If DOE considers the alternate option to end the proposed ADA ramp path at the DPR Tennis Courts, we request to be involved in the design review process.

DPR is also concerned about the vehicular access to DOE's proposed facilities improvements at the Basketball Courts Site Development and the Lower Site Proposed Practice Field, and requests confirmation that DOE will be providing their own access on BHS's parcel 004 and will not need access through DPR's parcel 055.

Should you have any questions, please feel free to contact me or Samual A. Marvel, Chief of Planning and Development, at samual.marvel@co.maui.hi.us or (808) 270-6173.

Sincerely,

PATRICK S. MCCALL
Director of Parks and Recreation

Enclosure

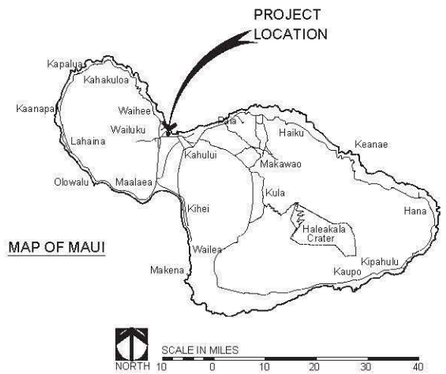
c: Samual A. Marvel, Chief of Planning and Development

PSM:SAM:csa

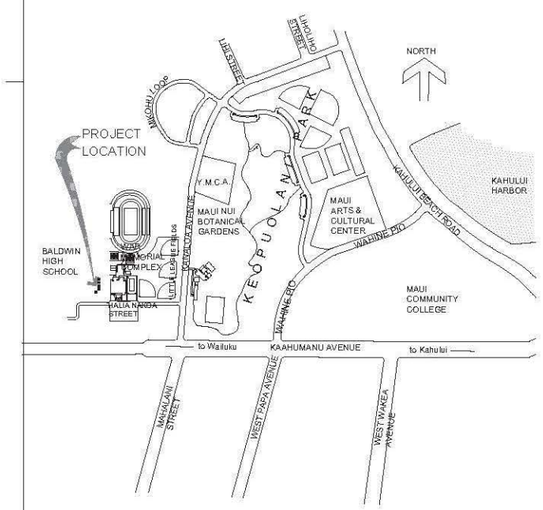
MAUI WAR MEMORIAL GYM BUILDING IMPROVEMENTS
BALDWIN HIGH SCHOOL PORTABLES FOUNDATION IMPROVEMENT

County of Maui - Department of Parks & Recreation Job No. P17/031
for and by the Maui School District
Department of Education, State of Hawaii
1650 W Kaahumanu Avenue, Wailuku, Maui, Hawaii
TMK 3-8-007: 004

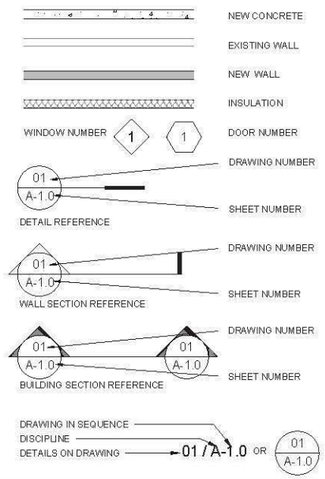
LOCATION MAP



VICINITY MAP



SYMBOL LEGEND



ABBREVIATIONS

@	AT	GWB.	GYPSUM WALL BOARD
&	AND	GYPBD.	GYPSUM BOARD
A.B.	ANCHOR BOLT	H.	HIGH
A/C.	AIR CONDITIONING	H.B.	HOSE BIB
ACOUS.	ACOUSTICAL	HD.	HAND DRYER
A.D.A.	AMERICANS WITH DISABILITIES ACT	HDWE.	HARDWARE
ADAAG	ADA ACCESSIBILITY GUIDELINES	H.M.	HOLLOW METAL
ADJ.	ADJUSTABLE	HORIZ.	HORIZONTAL
A.F.F.	ABOVE FINISHED FLOOR	HR.	HOUR
A.H.U.	AIR HANDLING UNIT	I.D.	INSIDE DIAMETER
AL.	ALUMINUM	INT.	INTERIOR
ALT.	ALTERNATE	JT.	JOINT
APPROX.	APPROXIMATE	LAM.	LAMINATE
ARCH.	ARCHITECTURAL	LAV.	LAVATORY
BLDG.	BUILDING	MAX.	MAXIMUM
BLKG.	BLOCKING	MECH.	MECHANICAL
BM.	BEAM	MET.	METAL
BOT.	BOTTOM	MEZZ.	MEZZANINE
C.I.P.	CAST-IN-PLACE	MIN.	MINIMUM
CEM.	CEMENT	MISC.	MISCELLANEOUS
CER.	CERAMIC	M.O.	MASONRY OPENING
CLG.	CEILING	(N)	NEW
CLR.	CLEAR	N.I.C.	NOT IN CONTRACT
C.M.U.	CONCRETE MASONRY UNIT	NO. -OR- #	NUMBER
C.O.	CLEAN OUT	N.T.S.	NOT TO SCALE
COL.	COLUMN	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
CONC.	CONCRETE	O.F.O.I.	OWNER-FURNISHED OWNER-INSTALLED
CONT.	CONTINUOUS	O.C.	ON CENTER
DEPT.	DEPARTMENT	P.T.D./R.	PAPER TOWEL DISPENSER/ RECEPTACLE
DET.	DETAIL	PLYWD.	PLYWOOD
D.F.	DRINKING FOUNTAIN	R.D.	ROOF DRAIN
DIA.	DIAMETER	REF.	REFERENCE
DIM.	DIMENSION	REFRIG.	REFRIGERATOR
DN.	DOWN	REQ'D.	REQUIRED
DWG.	DRAWING	R.O.	ROUGH OPENING
(E)	EXISTING	S.C.	SOLID CORE
EA.	EACH	S.C.D.	SEAT COVER DISPENSER
E.F.S.	EXTERIOR FINISH SYSTEM	SCHED.	SCHEDULE
E.J.	EXPANSION JOINT	S.D.	SOAP DISPENSER
EL.	ELEVATION	S.F.	SQUARE FOOT
ELEC.	ELECTRICAL	SECT.	SECTION
ELEV.	ELEVATOR	S.G.	SAFETY GLASS
EMERG.	EMERGENCY	S.STL.	STAINLESS STEEL
EQ.	EQUAL	SIM.	SIMILAR
E.W.C.	ELECTRIC WATER COOLER	SL.	SLOPE
F.E.C.	FIRE EXTINGUISHER CABINET	SQ.	SQUARE
F.D.	FLOOR DRAIN	STRUC.	STRUCTURAL
F.D.C.	FIRE DEPT. CONNECTION	STD.	STANDARD
F.O.F.	FACE OF FRAMING	THK.	THICK
F.S.	FLOOR SINK	T.P.H.	TOILET PAPER HOLDER
F.F.	FINISH FLOOR	TYP.	TYPICAL
F.R.P.	FIBERGLASS REINFORCED PANEL	U.O.N.	UNLESS OTHERWISE NOTED
FT.	FOOT -OR- FEET	VCT.	VINYL COMPOSITION TILE
FTG.	FOOTING	VEND.	VENDING
FURR.	FURRING	W/	WITH
GA.	GAUGE	W.C.	WATER CLOSET
GALV.	GALVANIZED	W.R.	WATER RESISTANT

PROJECT DIRECTORY

PROJECT COORDINATION:	DEPT. OF PARKS & RECREATION, PLANNING & DEVELOPMENT DIVISION CHERYL AKIONA, C.I.P. COORDINATOR 700 HALIA NAKOA STREET, WAILUKU, HAWAII 96793 PHONE: (808) 270-7388, EMAIL: cheryl.akiona.@co.maui.hi.us
STRUCTURAL ENGINEEER: PRIME	KAI HAWAII, INC. BRIAN MURDOCK, P.E. 50 S. BERETANIA ST. #C-119C, HONOLULU HI 96813 PHONE: (808) 791-3944 EMAIL: bmurdock@kaihawaii.com
CONSTRUCTION: MANAGEMENT	BOWERS + KUBOTA CONSULTING TODD NIEMANN, CCM 1955 MAIN STREET, STE 400 WAILUKU, HI 96793 PHONE: (808) 836-7787 FAX: (808) 833-1841 EMAIL: tniemann@bowersandkubota.com

PROJECT DATA

T.M.K.:	3-8-007: 004
ADDRESS:	BALDWIN HIGH SCHOOL 1650 W KAAHUMANU AVE, WAILUKU, HI 96793
LOT AREA:	41,961 ACRES
OWNER:	COUNTY OF MAUI
STATE LAND USE ZONE:	URBAN
COMMUNITY PLAN:	PUBLIC/QUASI-PUBLIC
COUNTY USE ZONE:	R-3 RESIDENTIAL
FLOOD ZONE:	C
SPECIAL MGT. AREA:	NO

WIND DESIGN DATA:

GENERAL SCOPE OF WORK

1. ANCHORAGE PORTABLES AT BALDWIN HIGH SCHOOL
2. PROVIDE ANCHORAGE AT EACH PORTABLE (12 TOTA;)
3. INSTALL ANCHORAGE DURING SUMMER MONTHS

APPROVALS

COUNTY STAMPS

KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS
50 S. Beretania Street, #C-119C
Honolulu, HI 96813
Phone: (808)533-2210
Fax: (808)533-2686
E-mail: mail@kaihawaii.com

BRIAN C. MURDOCK LICENSED PROFESSIONAL ENGINEER No. 11238-S HAWAII, U.S.A.
EXPIRATION DATE OF THE LICENSE 4/30/2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR 16-115-2.

BALDWIN HIGH SCHOOL PORTABLES
FOUNDATIONIMPROVEMENTS Job No. P17/031
County of Maui - Department of Parks & Recreation
700 HALI'A NAKOA STREET, WAILUKU, MAUI, HAWAII
T.M.K.: (2) 3-8-007:004

TITLE SHEET

REVISIONS:

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T-1

SHEET 12 OF

PROJECT NO. 2018-013

DATE: AUGUST 2022

GENERAL:

A. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE BUILDING CODE AS STATED BELOW. HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
   1. COUNTY OF MAUI: AMENDED IBC, 2012
B. THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE CONTRACTING OFFICER ALL INCONSISTENCIES AND OMISSIONS.
C. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE CONTRACTING OFFICER ALL INCONSISTENCIES AND OMISSIONS.
D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.
G. DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.

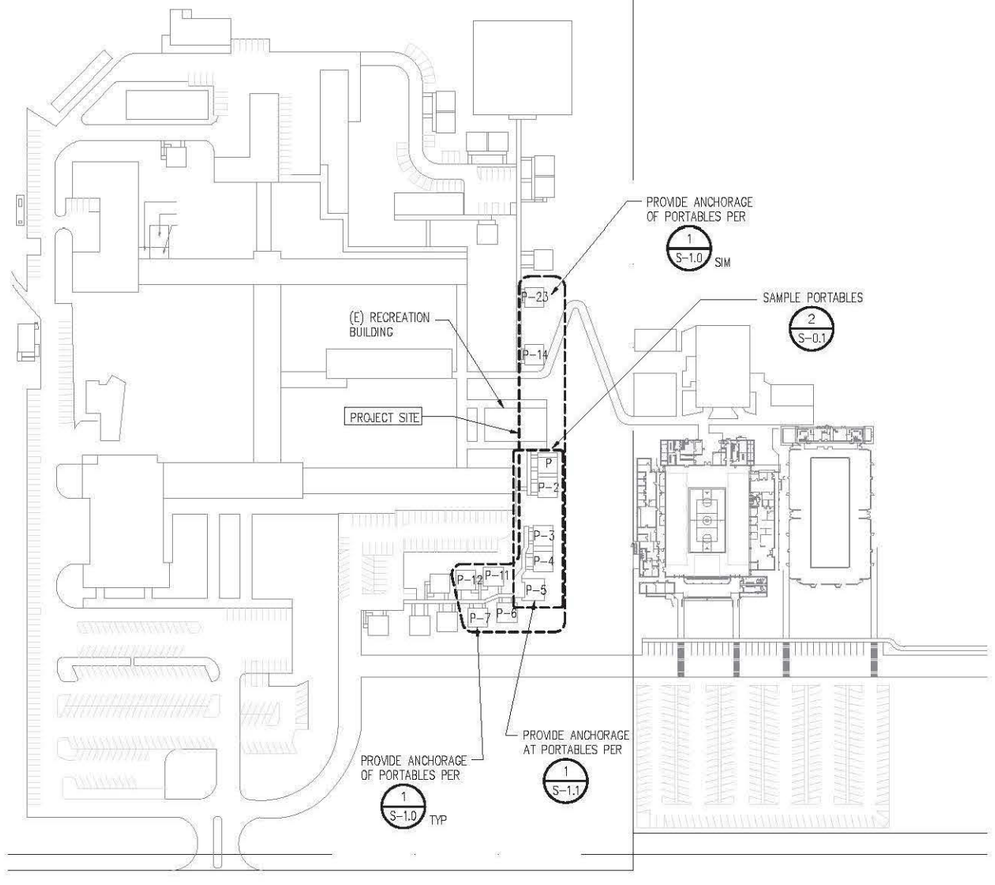
SPECIAL INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK AS REQUIRED BY THE BUILDING CODE IS MADE AT THE APPROPRIATE TIME. THE CONTRACTOR SHALL SUBMIT STATEMENT OF RESPONSIBILITY TO THE CONTRACTING OFFICER AND BUILDING DEPARTMENT PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL GIVE TIMELY NOTICE OF WHEN AND WHERE INSPECTIONS ARE TO BE MADE AND PROVIDE ACCESS FOR THE INSPECTOR. FREQUENCY OF INSPECTION IS DEFINED IN THE IBC, SECTION 1705 TABLES, AS AMENDED BY THE STATE. THE CONTRACTOR SHALL CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE STATE AND PAY FOR RE-INSPECTION AS REQUIRED.
B. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE WITH APPROVED CONSTRUCTION DOCUMENTS. THE INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE CONTRACTING OFFICER AND LICENSED ARCHITECT OR ENGINEER WHO IN TURN SHALL SUBMIT A WRITTEN STATEMENT TO THE CITY CERTIFYING RECEIPT OF THE FINAL INSPECTION LETTER AND DOCUMENTING THAT THERE ARE NO KNOWN UNRESOLVED CODE REQUIREMENTS.

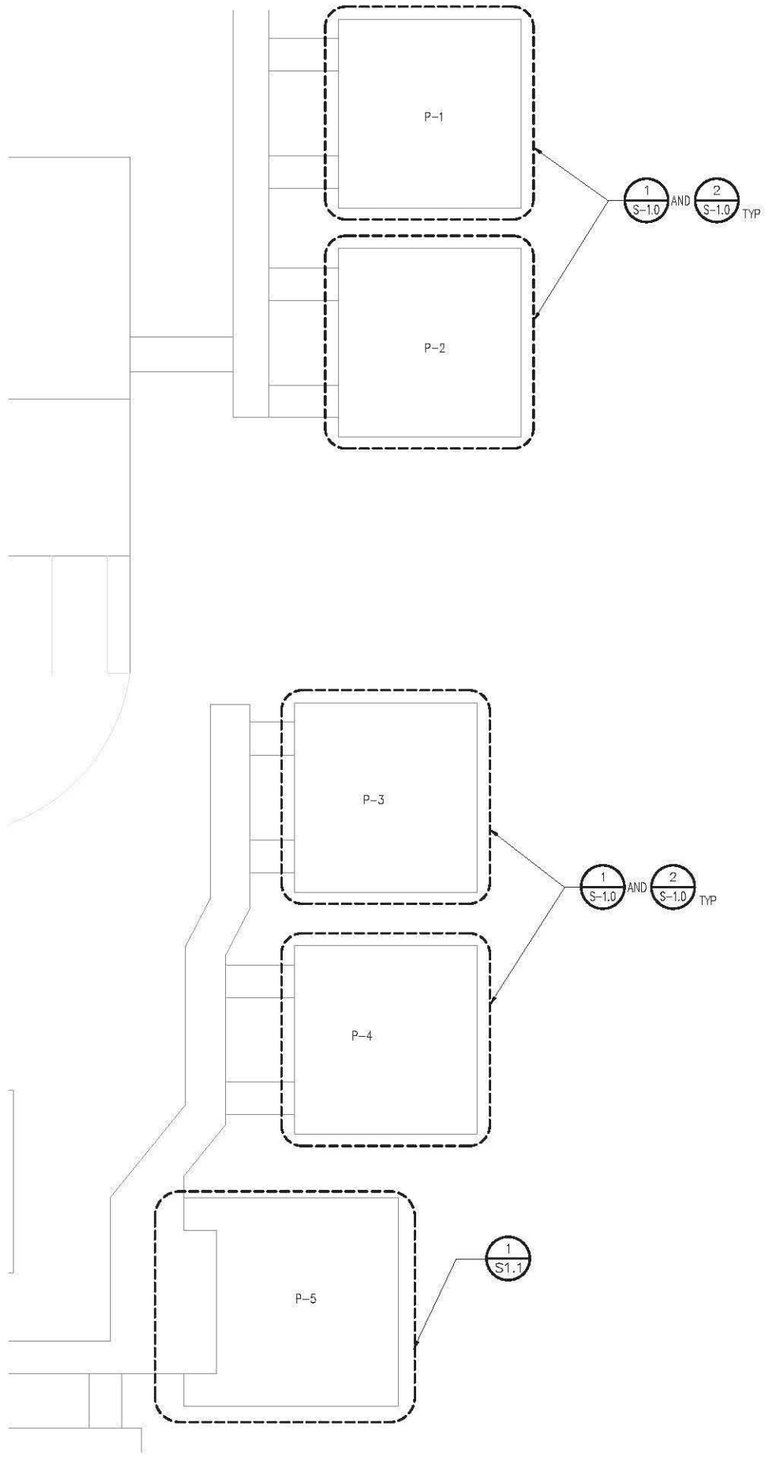
C. OWNER WILL ENGAGE A QUALIFIED SPECIAL INSPECTOR TO ERFORM SPECIAL INSPECTIONS AND PREPARE REPORTS, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL ENGAGE GEOTECHNICAL ENGINEER FOR SPECIAL INSPECTION AS INDICATED
D. THE FOLLOWING TYPE OF WORK LISTED IN THE IBC, SECTION 1705, AS AMENDED BY THE STATE, REQUIRES SPECIAL INSPECTION:
   1. SOILS – CONTRACTOR SHALL ENGAGE GETOTECHNICAL ENGINEER FOR SPECIAL INSPECTION OF THE FOLLOWING: HELICAL PILES

FOUNDATION:

A. CONTRACTOR SHALL ENGAGE GEOTECHNICAL ENGINEER TO VERIFY ASSUMPTIONS INCLUDED.
B. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER SEEPAGE.
C. EXCAVATIONS FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY EXISTING FOOTING OR FOUNDATION WITH FIRST UNDERPINNING OR PROTEXTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATIONS.
D. EXCAVATIONS FOR FOUNDATIONS SHALL BE MONITORED AND APPROVED BY THE GEOTECHINCAL ENGINEERTO CONFIRM FOUNDATION BEARING CONDITIONS AND REQUIRED EMBEDMENT DEPTHS. GEOTECHNICAL ENGINEER SHALL SUBMIT LETTER OF COMPLIANCE TO THE CONTRACTING OFFICER.



1/S-0.1 OVERALL SITE PLAN
SCALE: 1" = 100'-0"



2/S-0.1 ENLARGED SITE PLAN
SCALE: 3/32" = 1'-0"

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COUNTY STAMPS

KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS
50 S. Beretania Street, #C-119C
Honolulu, HI 96813
Phone: (808)533-2210
Fax: (808)533-2686
E-mail: mail@kaihawaii.com

BRIAN C. MURDOCK LICENSED PROFESSIONAL ENGINEER No. 11208-S HAWAII, USA

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EXPIRATION DATE OF RNL LICENSE: 4/30/2023

BALDWIN HIGH SCHOOL PORTABLES
FOUNDATIONIMPROVEMENTS Job No. P17/031
County of Maui - Department of Parks & Recreation
700 HALI'A NAKOA STREET, WAILUKU, MAUI, HAWAII
T.M.K.: (2) 3-8-007:004

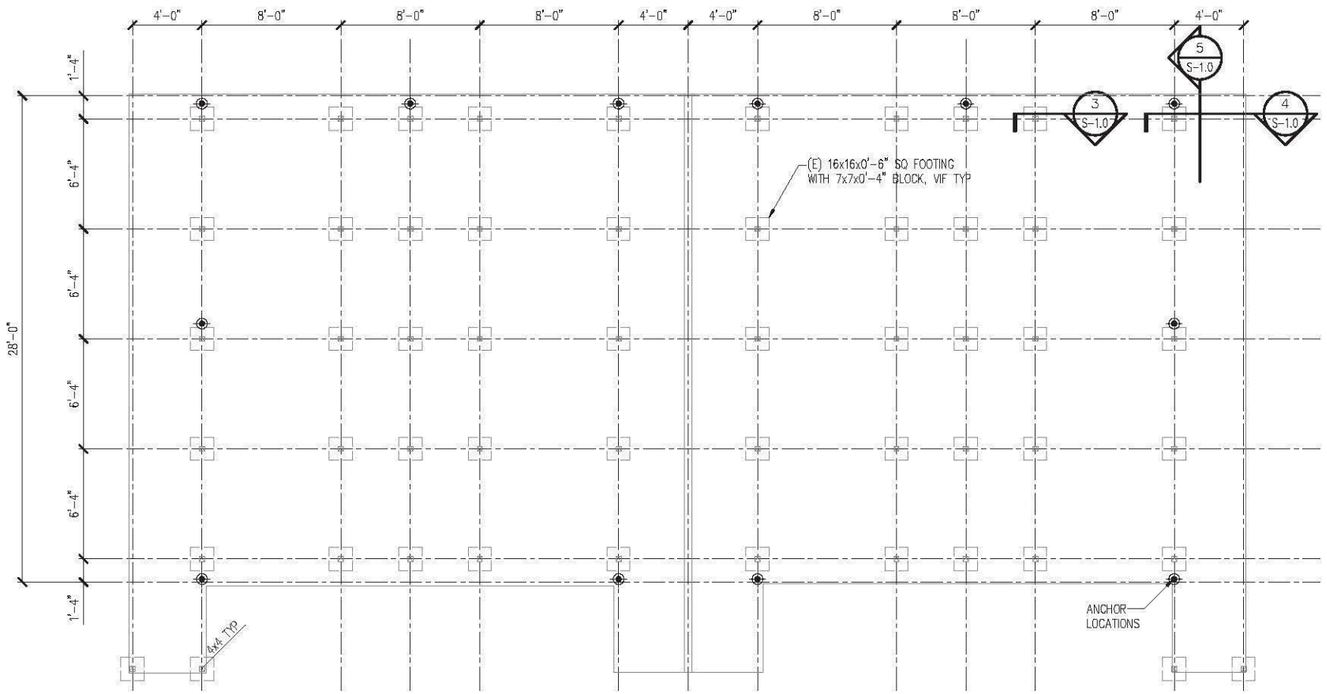
OVERALL SITE PLAN AND ENLARGED SITE PLAN

REVISIONS:	
10/27/2022	ADDENDUM 3

S-0.1

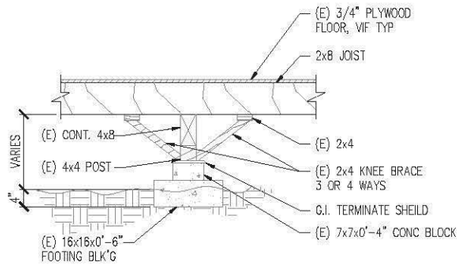
SHEET 12 OF
PROJECT NO. 2018-013
DATE: AUGUST 2022

P:\4551-4600\4570.01 County of Maui - War Memorial Gym Building Improvements\004 Drawings\Structural\AutoCAD_format\2022-10-27_4570-01 Baldwin\4570-01_S0-1.dwg, 10/27/2022 10:31:46 AM, tamanaha

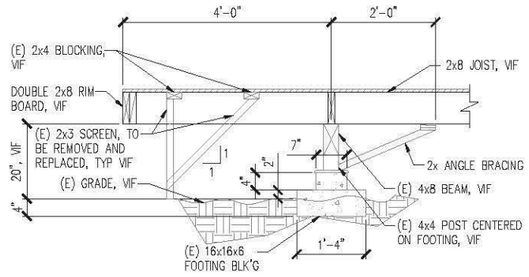


1 S-1.0 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

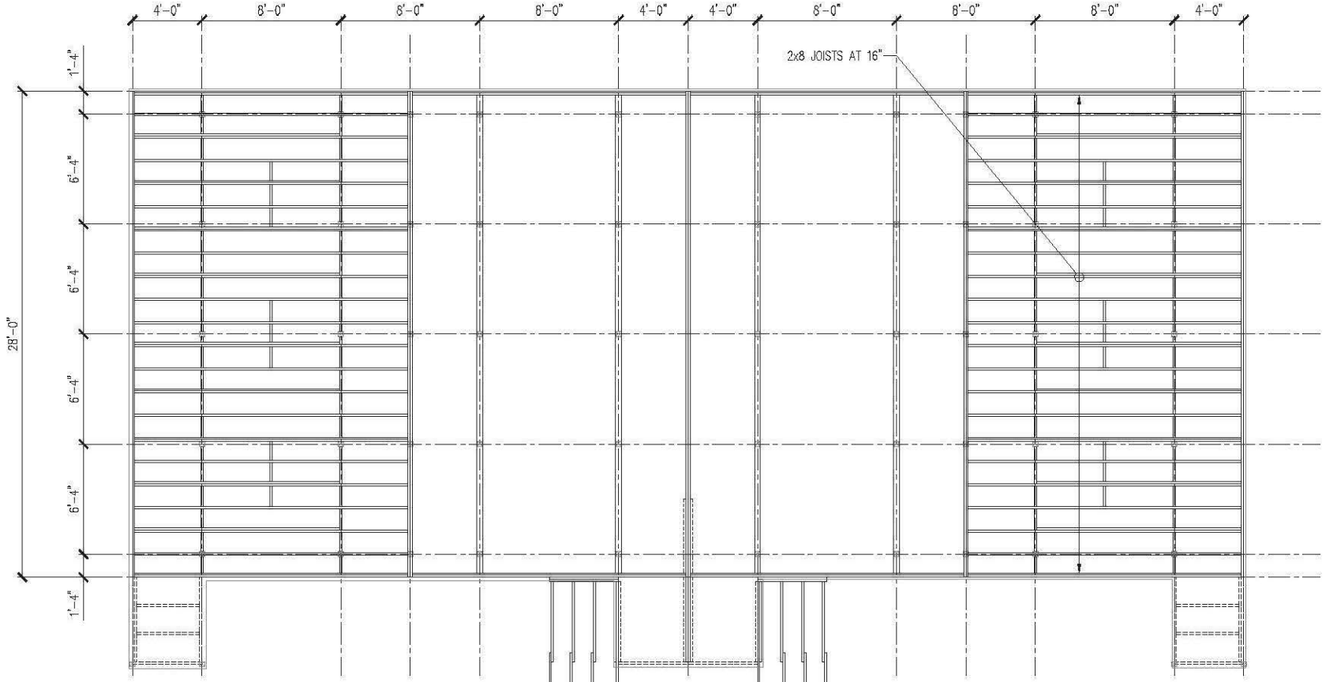
NOTE:
VERIFY ALL DIMENSIONS IN FIELD, AS DIMENSIONS MAY VARY



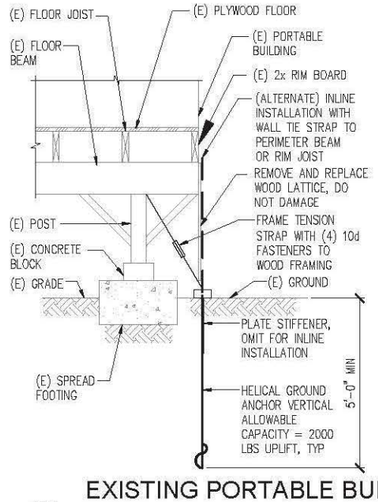
3 S-1.0 TYPICAL FOOTING DETAIL
SCALE: 3/4" = 1'-0"



4 S-1.0 SECTION AT FOOTING OVERHANG
SCALE: 3/4" = 1'-0"



2 S-1.0 FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"



5 S-1.0 EXISTING PORTABLE BUILDING ANCHORAGE DETAIL
NOT TO SCALE

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COUNTY STAMPS

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Honolulu, HI 96813
Phone: (808)533-2210
Fax: (808)533-2686
E-mail: mail@kaihawaii.com

BRIAN C. MURDOCK LICENSED PROFESSIONAL ENGINEER No. 11238-S HAWAII, U.S.A.
Brian Murdock
EXPIRATION DATE OF THE LICENSE 4/30/2024

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BALDWIN HIGH SCHOOL PORTABLES
FOUNDATIONIMPROVEMENTS Job No. P17/031
County of Maui - Department of Parks & Recreation
700 HALI'A NAKOA STREET, WAILUKU, MAUI, HAWAII
T.M.K.: (2) 3-8-007:004

FOUNDATION, FLOOR FRAMING PLANS AND DETAILS

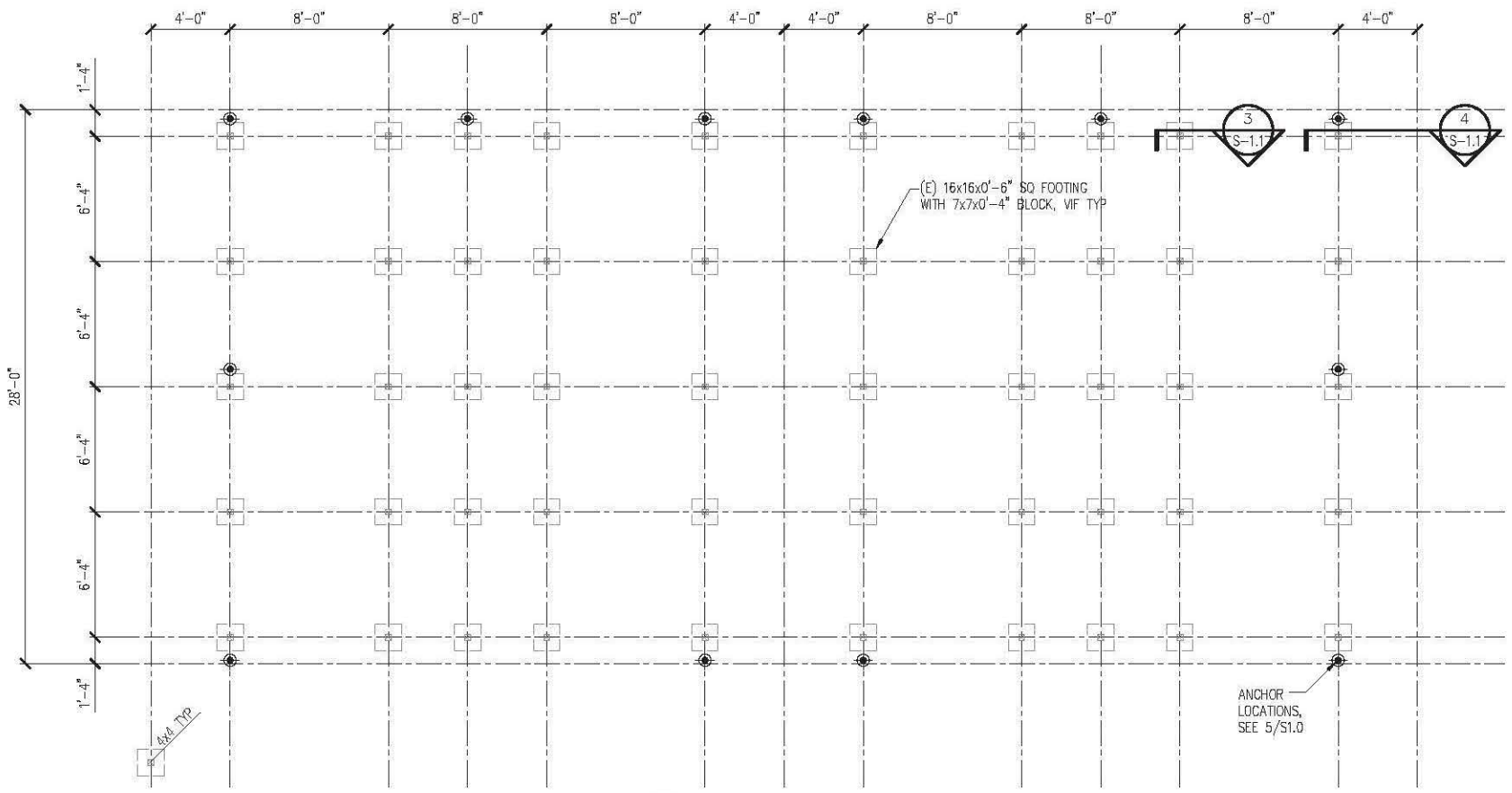
REVISIONS:

S-1.0

SHEET OF 12

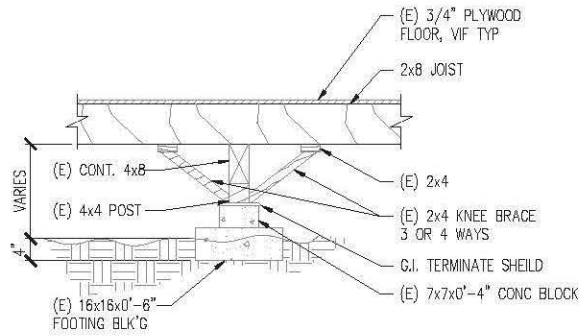
PROJECT NO. 2018-013

DATE AUGUST 2022



1 S-1.1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

NOTE:
VERIFY ALL DIMENSIONS IN FIELD, AS DIMENSIONS MAY VARY FOR BALANCE OF INFORMATION, SEE SHEET S-1.0



3 S-1.1 TYPICAL FOOTING DETAIL
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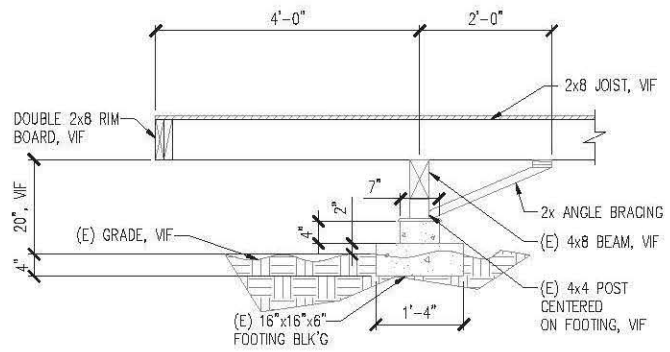
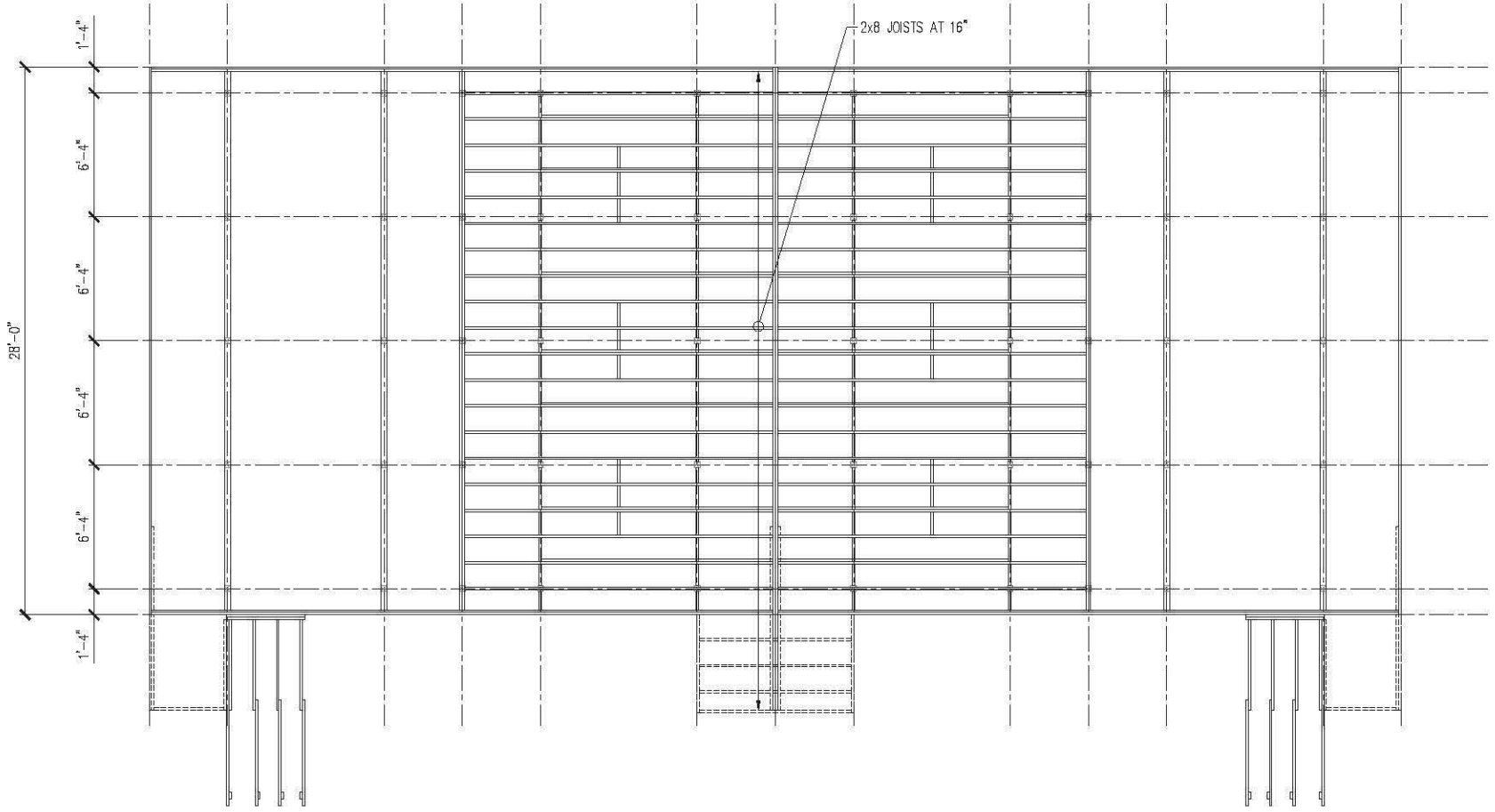


4 S-1.1 SECTION AT FOOTING OVERHANG
SCALE: 3/4" = 1'-0"



2 S-1.1 FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

COUNTY STAMPS

KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS
50 S. Beretania Street, #C-119C
Honolulu, HI 96813
Phone: (808)533-2210
Fax: (808)533-2686
E-mail: mail@kaihawaii.com

BRIAN C. MURDOCK LICENSED PROFESSIONAL ENGINEER No. 11208-S HAWAII, U.S.A.
EXPIRATION DATE OF THE LICENSE 4/30/2024

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BALDWIN HIGH SCHOOL POOL PORTABLES FOUNDATIONIMPROVEMENTS Job No. P17/031

County of Maui - Department of Parks & Recreation

700 HALI'A NAKOA STREET, WAILUKU, MAUI, HAWAII
T.M.K.: (2) 3-8-007:004

FOUNDATION, FLOOR FRAMING PLANS AND DETAILS

REVISIONS:

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S-1.1

SHEET OF
PROJECT NO. 2018-013
DATE: AUGUST 2022

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
VICE PRESIDENT
Tessa Munekiyo Ng AICP
VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

Patrick S. McCall, Director
County of Maui
Department of Parks and Recreation
P.O. Box 1405
Wailuku, HI 96793-6405

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Mr. McCall:

Thank you for your letter, dated July 30, 2024, responding to our request for early consultation comments on the subject project.

On behalf of the State of Hawai'i Department of Education (DOE), we offer the following information in response to the comments received. The responses are in the order of the comments received.

Thank you for the information regarding the War Memorial Gym Building Improvements project and anchorage installation for Enhanced Hurricane Protection Area (EHPA) shelter standards currently under construction at the War Memorial Gym and H.P Baldwin High School (BHS) portable buildings.

We acknowledge that future improvements made to the classroom portable buildings will need to retain the anchorage needed to maintain the EHPA shelter standards at the War Memorial Gym.

We also acknowledge that the proposed Americans with Disabilities Act (ADA) ramp may need to accommodate the two (2) new air conditioning cooling towers and diesel generator being installed in front of the current BHS weight room if the ramp will terminate at the weight room. Alternatively, if the ADA ramp path will terminate at the tennis courts the County of Maui, Department of Parks and Recreation will be consulted during the design development.

Lastly, we note the comment regarding vehicle access to the proposed improvements at the Basketball Courts site and the practice field at the Lower site. Access to the proposed athletic facilities will be from the main BHS entrance off of Kaʻahumanu Avenue and will not require access through Parcel 055.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft Environmental Assessment being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter InForm Design
Caio Lopes, InForm Design
Matthew Murakami, Austin Tsutsumi & Associates
K:\DATA\Inform\BHS Sports Facility\Apps\0ECL\0Responses\DPR.docx

RICHARD T. BISSEN, JR.
MAYOR

POLICE DEPARTMENT

COUNTY OF MAUI

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

JOHN PELLETIER
CHIEF OF POLICE

WADE M. MAEDA
DEPUTY CHIEF OF POLICE

August 2, 2024

Munekiyo Hiraga
Attention: Emily Y.K. Murai, Associate
305 High Street, Suite 104
Wailuku, HI 96793

Re: MPD response to Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2) 3-8-007:004 and (2) 3-8-007:055 (por.)

Dear Ms. Murai,

This is in response to the letter we received regarding the master plan improvements for H.P. Baldwin High School. The proposed improvements include the construction of agriculture class facilities, new classroom buildings, restrooms, a weight room and fitness room, track and practice fields, ADA ramp upgrades, and landscaping.

After reviewing the master plan, including considerations for person movement and public safety, we have no comments at this time, as the project will be confined to the H.P. Baldwin High School property.

Sincerely,

Assistant Chief Keola Tom
for: JOHN PELLETIER
Chief of Police

MUNEKIYO HIRAGA
Planning. Project Management. Sustainable Solutions.

Karlynn K. Fukuda
PRESIDENT
Mark Alexander Roy AICP, LEED AP
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VICE PRESIDENT

Michael T. Munekiyo AICP
FOUNDER

July 21, 2025

John Pelletier, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai'i 96793

SUBJECT: Chapter 343, Hawai'i Revised Statutes Early Consultation Request for the Proposed H.P. Baldwin High School Master Plan Improvements; Wailuku, Maui, Hawai'i, TMK Nos. (2)3-8-007:004 and (2)3-8-007:055(por.)

Dear Chief Pelletier:

Thank you for your letter, dated August 2, 2024, responding to our request for early consultation comments for the subject project.

We acknowledge that the County of Maui, Police Department does not have comments to offer at this time, as the project is confined to the H.P. Baldwin High School property.

Thank you again for your participation in the early consultation process for the Proposed H.P. Baldwin High School Master Plan Improvements. A copy of your letter and this response will be included in the Draft Environmental Assessment being prepared for this project. Should you have any questions or need additional information, please feel free to contact me at (808) 983-1233.

Very truly yours,

Emily Y.K. Murai
Senior Associate

EYKM:ab
cc: Denise Gibo, DOE Public Works Manager
John Harada, InForm Design
Valeria Zaiter, InForm Design
Caio Lopes, InForm Design
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X. REFERENCES

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APPENDIX A

PRELIMINARY DEVELOPMENT PLANS

BALDWIN HIGH SCHOOL - MASTERPLAN
ATHLETIC FACILITIES AND LOCKER ROOMS

Department of Education and Baldwin High School

Concept Package - July 2022 (Updated November 2024)

DOE JOB NO: Q51227-20

1347 Kapiolani Blvd. Suite 401
Honolulu Hawaii 96813
Tel 808 946 3676

inform.design

iNFORM
Interiors and Architecture

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3 HISTORY

Wailuku Pre-Western Contact

Baldwin High School

Baldwin Athletic Fields

Research Conclusions

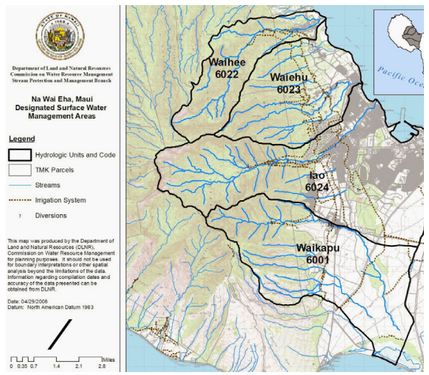
Wailuku Pre-Western Contact

Wailuku is both the name for the town Baldwin High School sits within and for the name of the Ahupua‘a and Moku the school is located within. The name Wailuku translates to “Water of Destruction” and harkens back to a period when the surrounding area of Baldwin High School was well fed by water to the extent that it was able to sustain one of Maui’s largest pre western contact populations and the largest contiguous Lo‘i in all of Hawai‘i.

For the area of Wailuku and its Hawai‘ian population water was a significant element to everyday life. The importance of water is reflected in the names given by the original population. The West Maui mountains, which Wailuku sits at the base of, is named Kahalawai or “House of Water”. The valley that the Wailuku stream flows into Wailuku from, ‘Iao Valley, translates to “Cloud Supreme”. And to further mark the significance of the area’s water Wailuku stream was one of four West Maui streams the Hawai‘ian population called Na Wai ‘Eha: “The Four Great Waters”.

The sugar plantations of the 1800’s would ultimately divert the Wailuku stream, and the other streams of the area, to feed their water-intensive sugarcane. These diversions have left the streams and area of Wailuku a dry version of its former shelf. Slowly through public pressure and legal action, the diversions are being returned to their old state to establish a healthier ecosystem.

An illustration capturing life in Wailuku pre-westerners. Kalo and Kahului Bay are on the foreground and ‘Iao Valley is at the background.



Map of Na Wai ‘Eha, “The Four Great Waters”.

Maui youth at a local Lo‘i.

Wailuku stream flowing through ‘Iao Valley.

A water diversion on the Wailuku stream.

Baldwin High School

Built between 1938 and 1940, Baldwin High School exhibited a unique architecture style for the Hawai‘ian Islands that captured large design trends happening in 1930s America. The school was partially funded by Franklin D. Roosevelt’s New Deal Public Works Administration (PWA) and was designed by the PWA architect Henry Stewart. The architecture style of the buildings followed a new, national, architectural style referred to as PWA Moderne. PWA Moderene was the Moderne style typical of many of the PWA funded projects from the 30s and 40s. These projects typically blended elements of the new art deco style with the more traditional features of the neoclassical style, all while maintaining a depression era modesty.

Baldwin High School’s PWA design elements include its classical building organization and symmetry, horizontal massing with select uses of contrasting, vertical, decorative elements (see Building B’s two large vertical walls along the horizontal lanai or the auditorium’s four vertical fins at the horizontal entry façade wall), and select ornamental flourishes (decorative downspouts, stonework, and ventilation grills). Local influence within the design can be seen in the use of wide lanais/corridors, the Asian influenced pattern work in the ornamental flourishes and the key design choice to use low pitched roofs (varying from the typical PWA flat roofs) with red tiles for extra emphasis.

Baldwin High School retains many of its historic design elements and is listed within the National Register of Historical Places.

Baldwin’s original buildings.

Baldwin in the mid 1900s.

A local example of PWA Moderne, Hale ‘Auhau, is a government building on Oahu that uses classical symmetry.

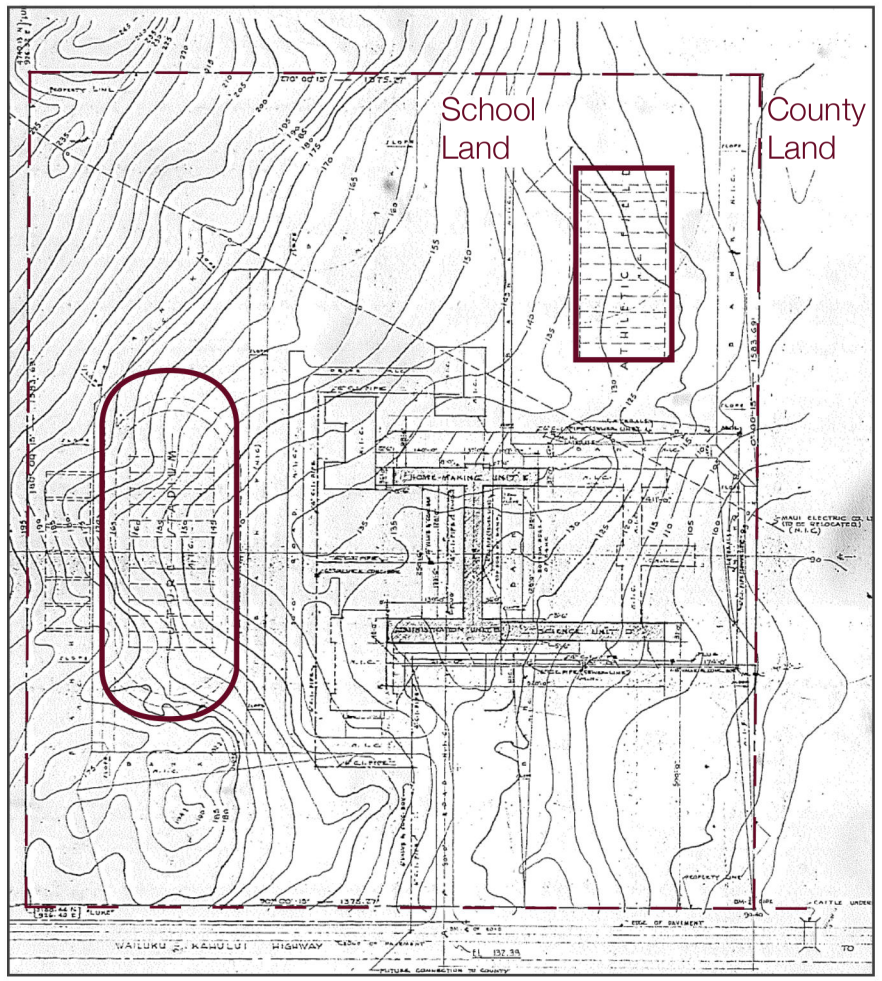
A local example of PWA Moderne, Farrington High uses ornate reliefs along its simple exterior.

A mainland example of PWA Moderne the Hoover Dam uses geometric projections within a simple exterior.

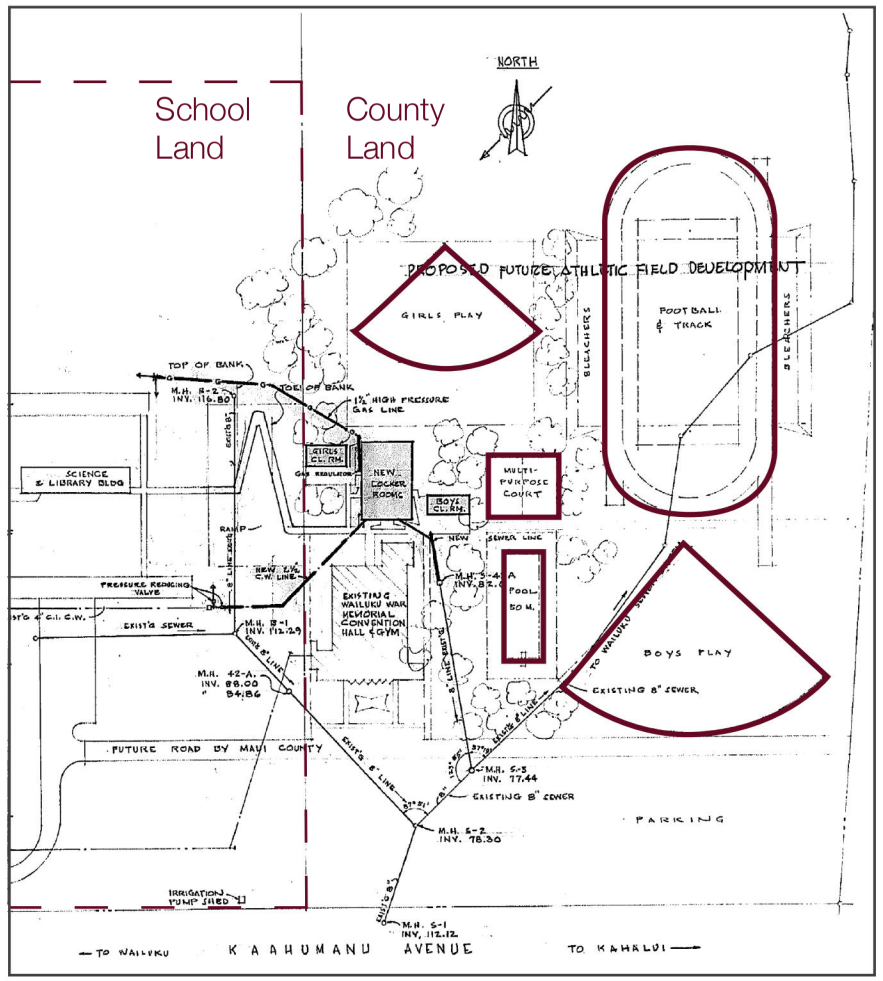
Baldwin Athletic Fields

Baldwin High School's athletic achievements have long been a standout feature of the school. Throughout those years the school's access to athletic fields and facilities have been precarious with Wells Park being used as a practice field until the adjacent war memorial stadium complex was built. For most of the school's sports the off campus, county park remains the current location for sports training.

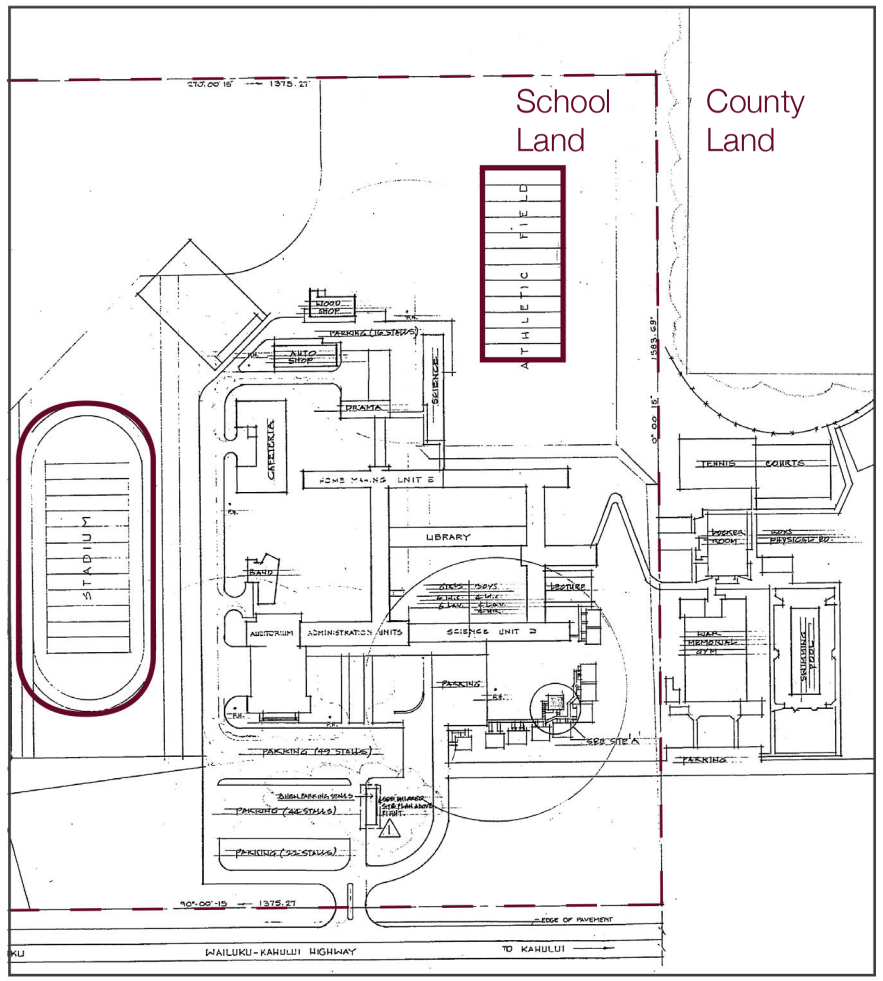
The earliest plans for the school called for two fields to be built on campus. Almost 25 years after, with the school still lacking athletic fields, new plans proposed the school's fields be in the adjacent park. Over 25 years after those plans the school began proposing again the original, on campus, athletic field locations.



1938 Proposed Fields - School Land



1961 Proposed Fields - County Land



1989 Proposed Fields - School Land

Research Conclusions

Baldwin High School holds a rich architectural and cultural history. Designs for future development that can pull from this history are poised to have both an impactful presence and a strong relationship to the other buildings at the school.

Some of the design opportunities that can be concluded are:

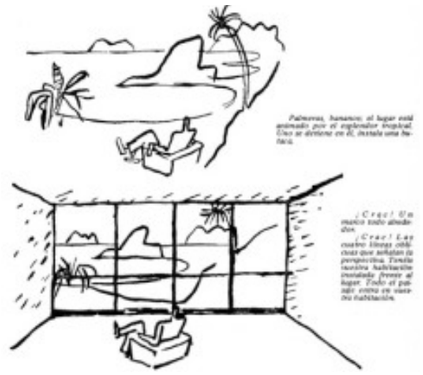
From Cultural History

- Highlighting the water that is so significant to the area's mountains and to Wailuku.
  - Downspouts can be a design feature that expose the rainwater whether by using decorative downspouts (similar to the original school buildings) or by using rain chains.
  - The buildings' surrounding hardscape and landscape can be organized around the points that water flows off the building.
  - Water runoff can be captured to irrigate the school's agriculture.
- Referencing 'Iao Valley through orientation of select building elements.

From Architectural History

- Organizing the buildings with a sense of symmetry.
- Topping the building with a low-pitched roof.
- Maintaining simple, smooth, building forms with accents created by select geometric and decorative elements.
- Carefully incorporating varying elements and styles to reflect both the cultural mix that makes up Hawai'i and the mix of styles that make up the original designs of Baldwin HS.

An example of a water being highlighted through a rain chain and well designed gutter.



A sketch from one of the 1900's most prominent architects, Le Corbusier, showcases how framing a view can connect one to the landscape.

Like the original buildings, Baldwin's new library building utilizes symmetry in the entrance and a red, low, pitch, roof.

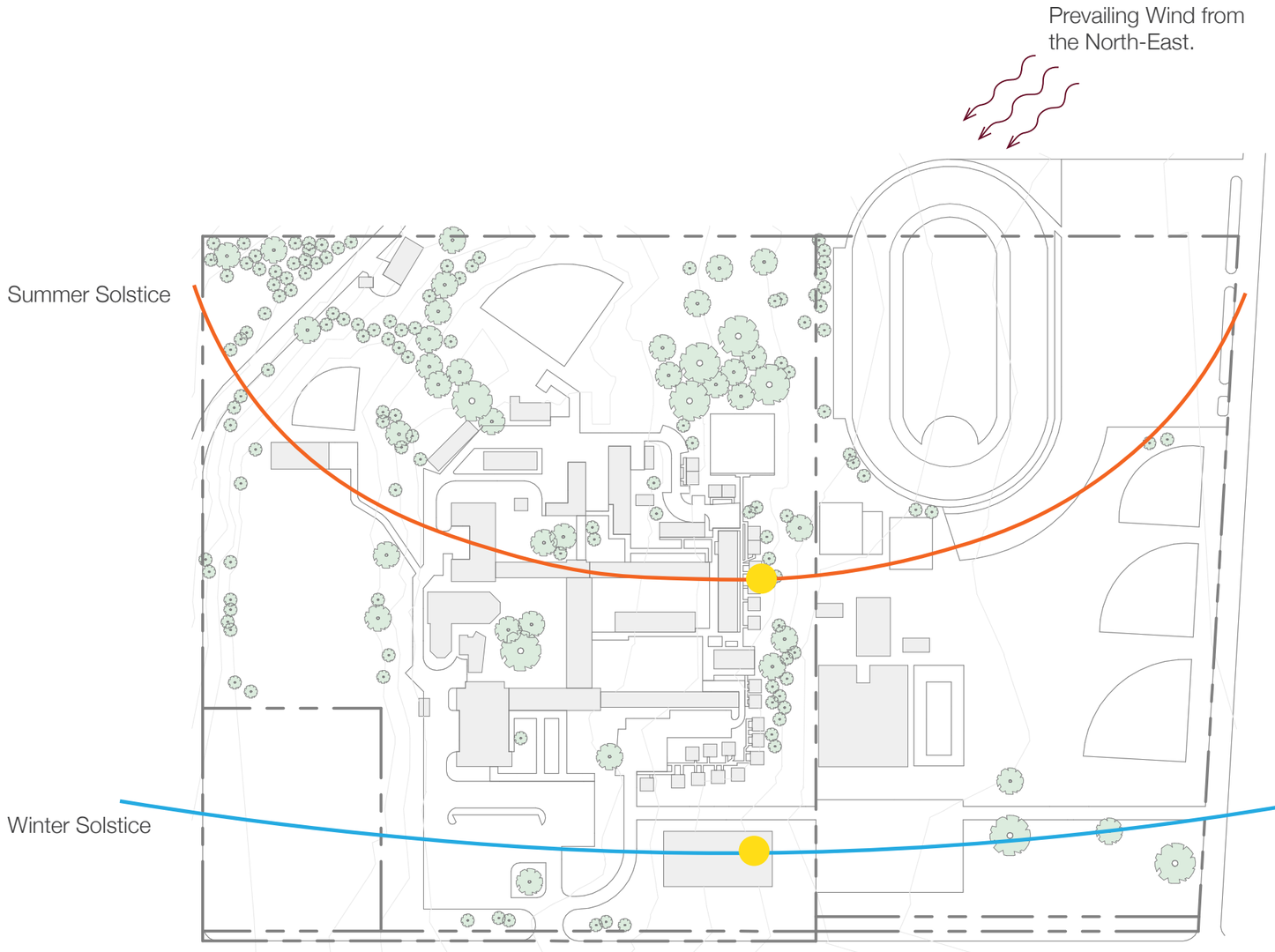
Baldwin's Auditorium and Admin building (both original) make strong use of layering and decorative elements such as the downspouts.

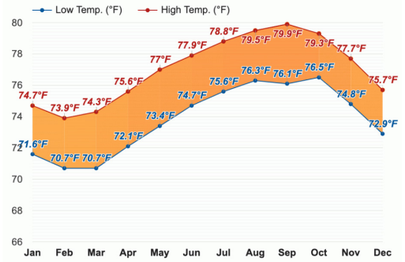
8 SITE

Baldwin Site Analysis
Baldwin Campus Master plan
Selected Site Plan
Proposed Site Plan Options

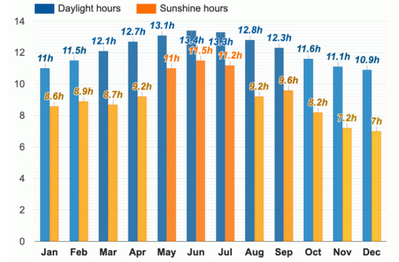
BALDWIN HS - MASTER PLAN

Baldwin Site Analysis: Environment

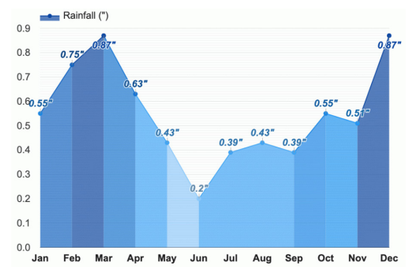




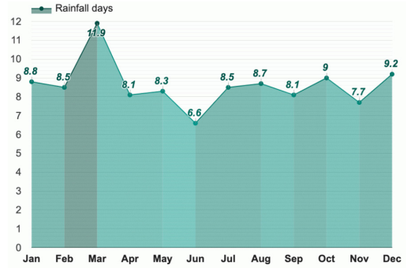
Temperature



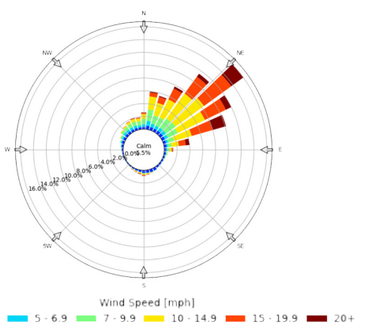
Daylight / Sunshine



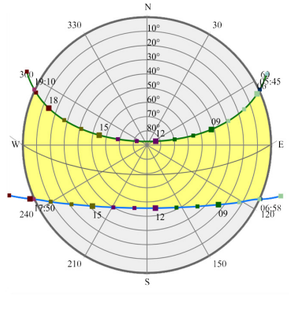
Rainfall



Rainfall Days



Wind Rose Diagram



Sun Chart

0' 150' 300' 600'

Scale: 1' = 300'

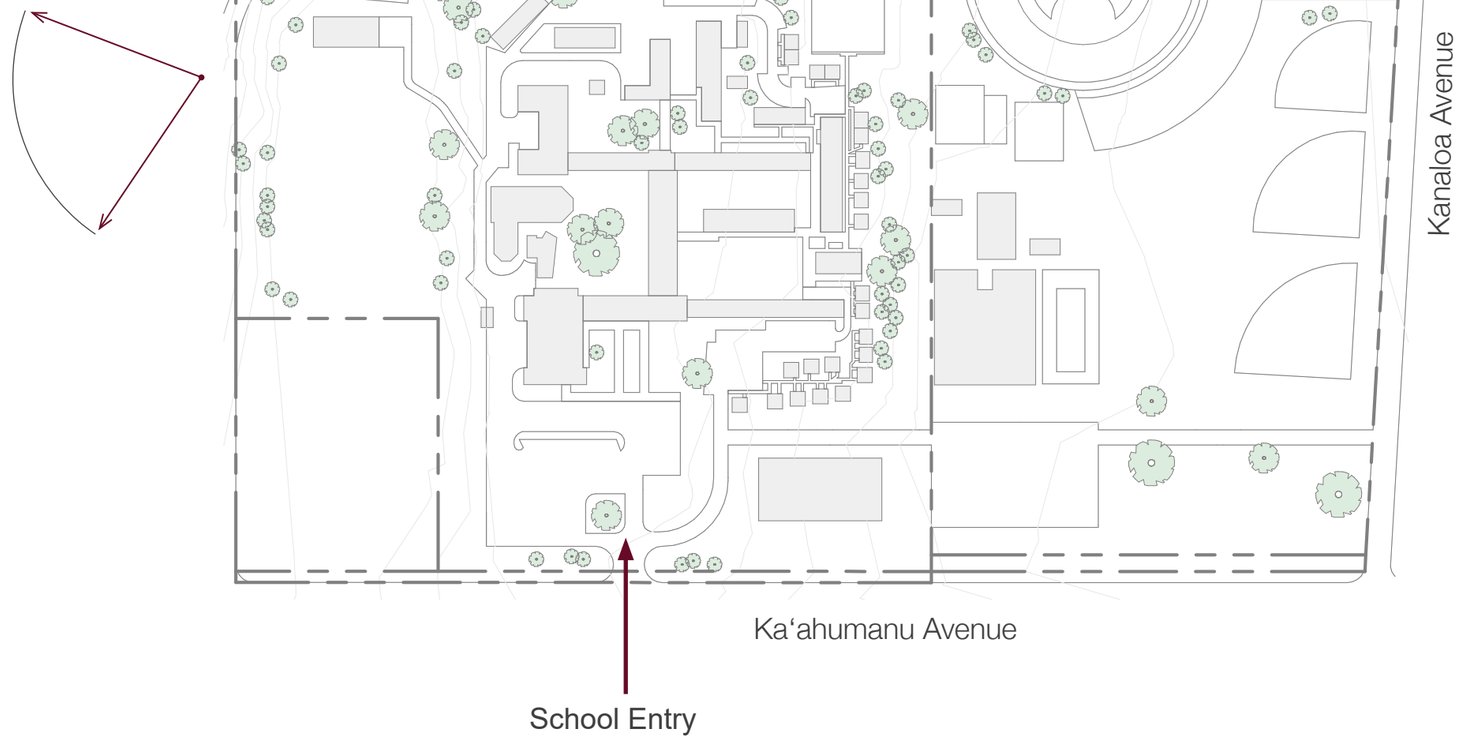
NORTH

Baldwin Site Analysis: Views

Views to the West and South-West of ʻIao Valley and Mauna Kahalawai.

Views to the North-East and East of the ocean and Maui Coast.

Views to the East and South-East of Haleakala.

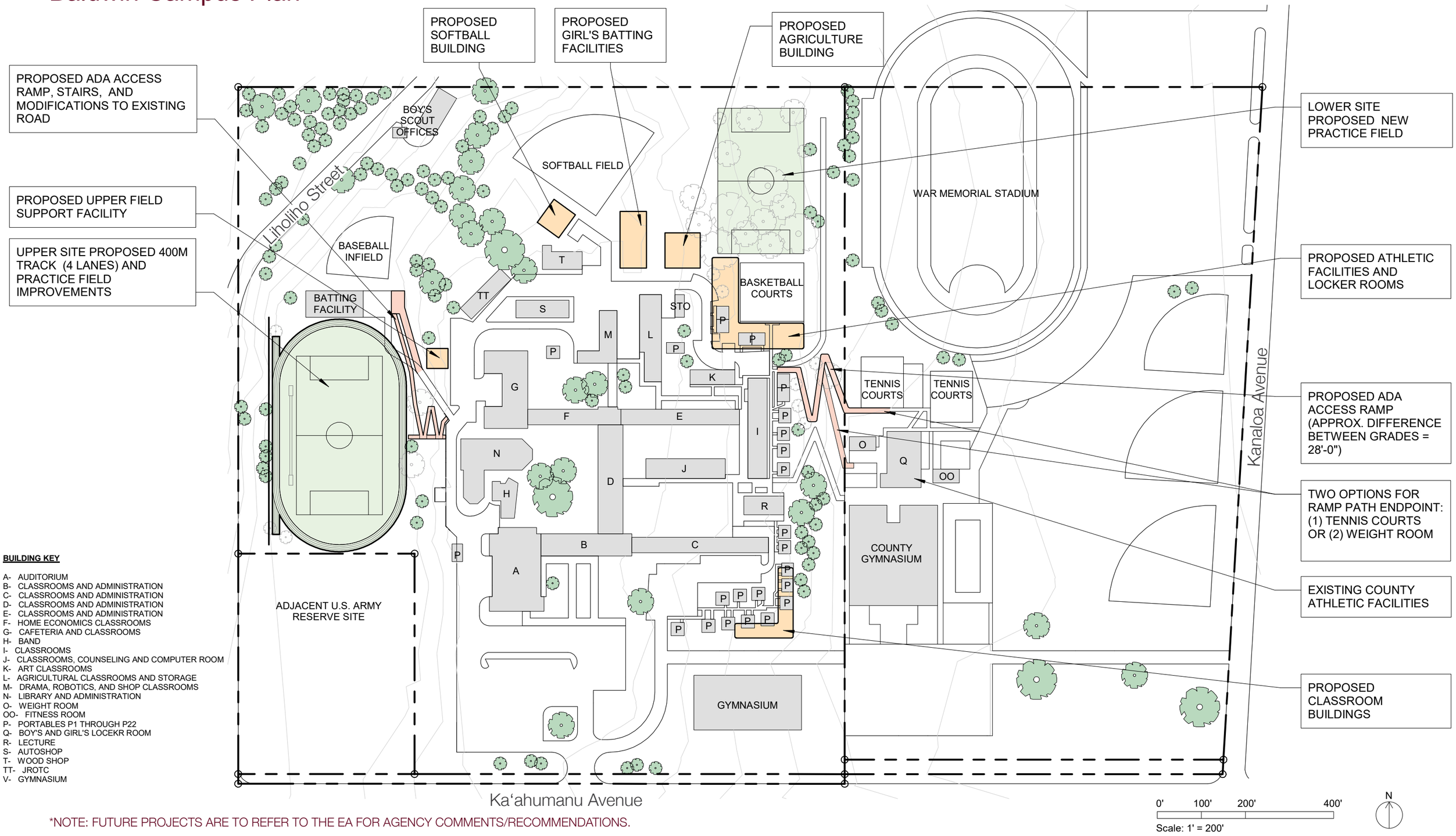


0' 150' 300' 600'

Scale: 1' = 300'

NORTH

Baldwin Campus Plan

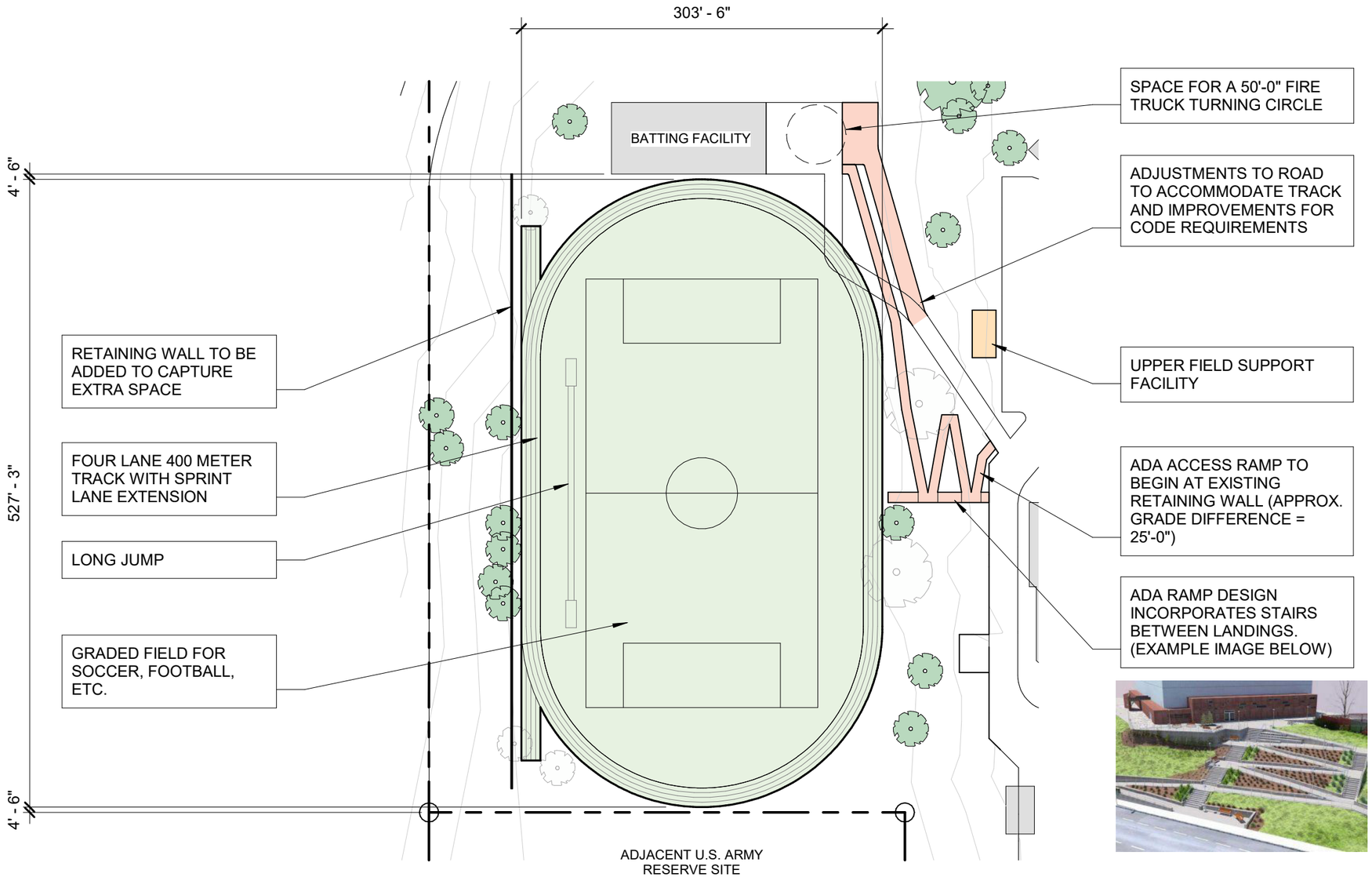


BUILDING KEY

A- AUDITORIUM
B- CLASSROOMS AND ADMINISTRATION
C- CLASSROOMS AND ADMINISTRATION
D- CLASSROOMS AND ADMINISTRATION
E- CLASSROOMS AND ADMINISTRATION
F- HOME ECONOMICS CLASSROOMS
G- CAFETERIA AND CLASSROOMS
H- BAND
I- CLASSROOMS
J- CLASSROOMS, COUNSELING AND COMPUTER ROOM
K- ART CLASSROOMS
L- AGRICULTURAL CLASSROOMS AND STORAGE
M- DRAMA, ROBOTICS, AND SHOP CLASSROOMS
N- LIBRARY AND ADMINISTRATION
O- WEIGHT ROOM
OO- FITNESS ROOM
P- PORTABLES P1 THROUGH P22
Q- BOY'S AND GIRL'S LOCEKR ROOM
R- LECTURE
S- AUTOSHOP
T- WOOD SHOP
TT- JROTC
V- GYMNASIUM

*NOTE: FUTURE PROJECTS ARE TO REFER TO THE EA FOR AGENCY COMMENTS/RECOMMENDATIONS.

Upper Site Plan

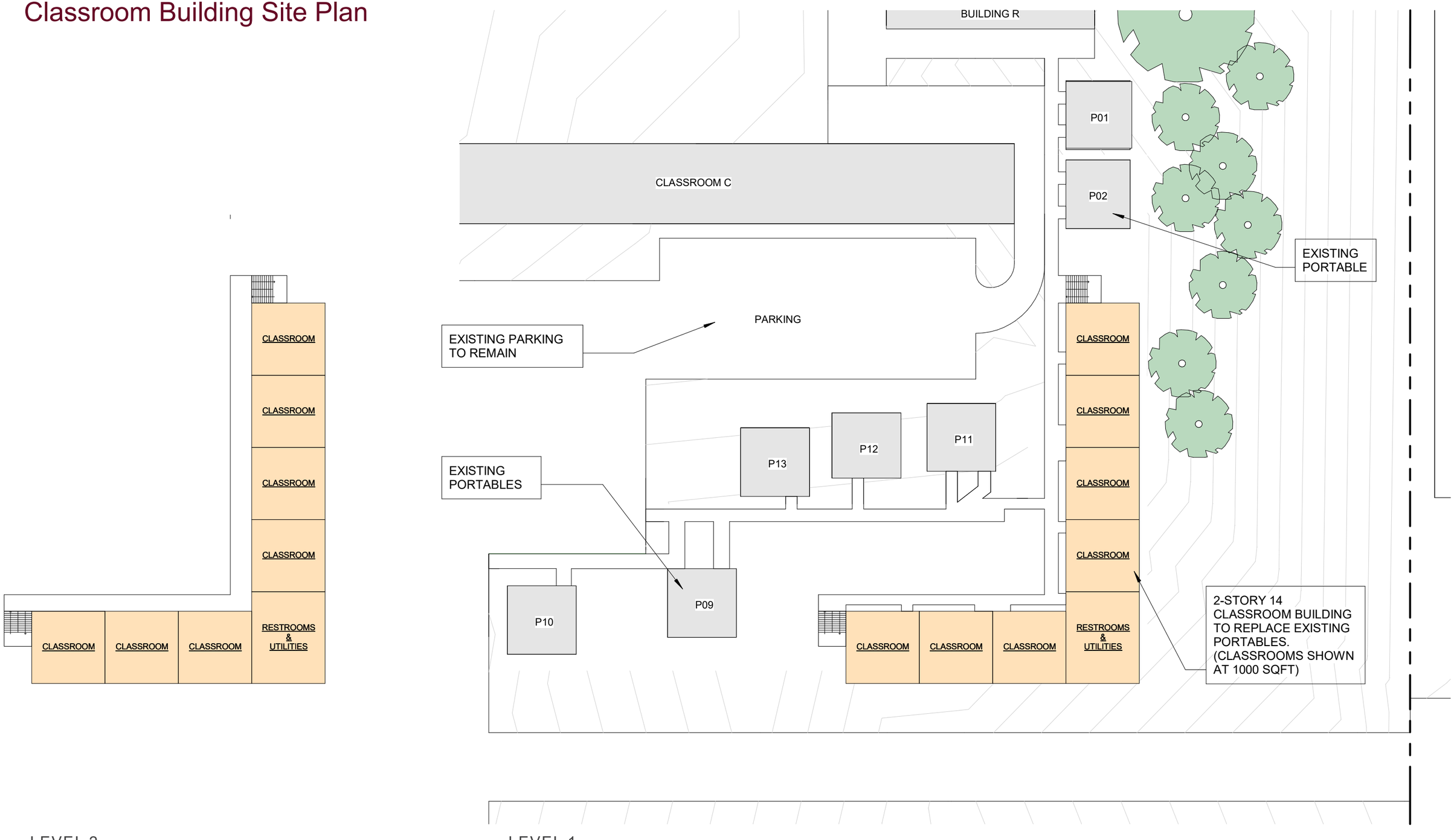


0' 50' 100' 200'

Scale: 1' = 100'

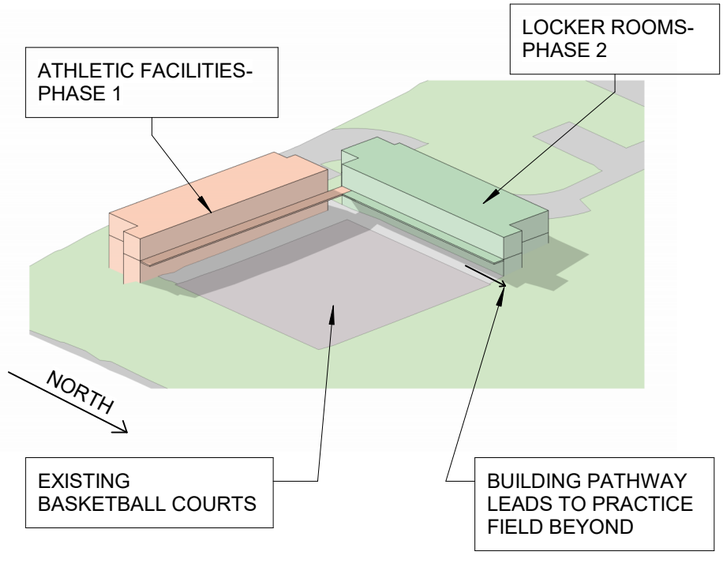
N

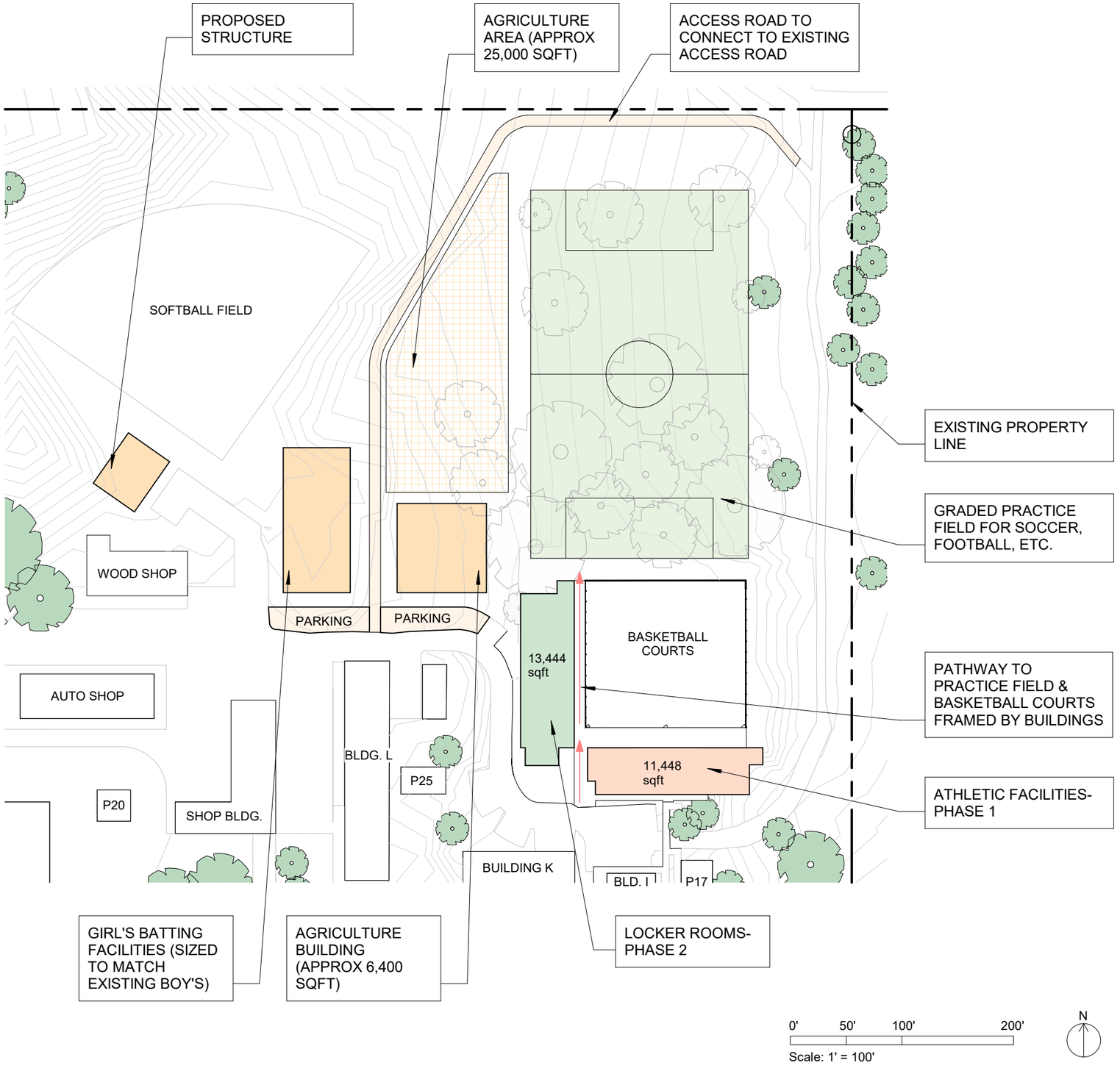
Classroom Building Site Plan



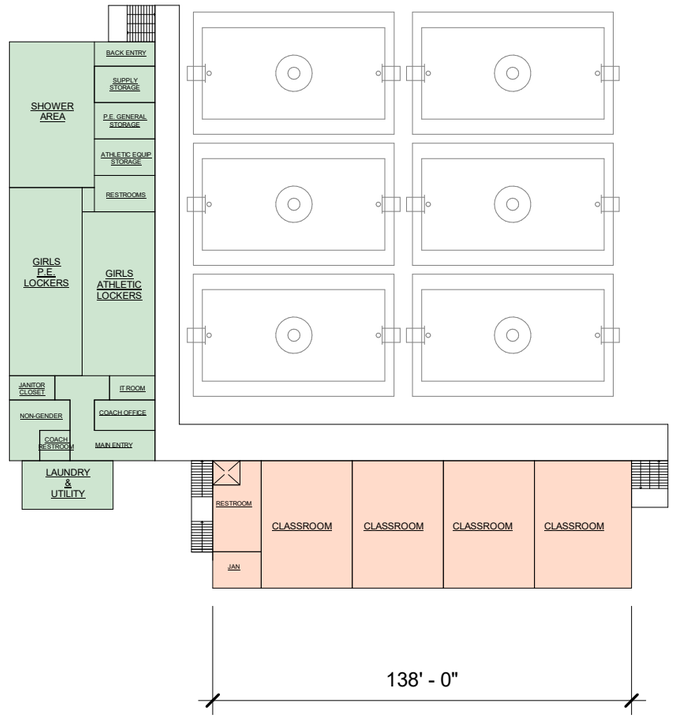
Basketball Courts Site

SITE AREA DASHED

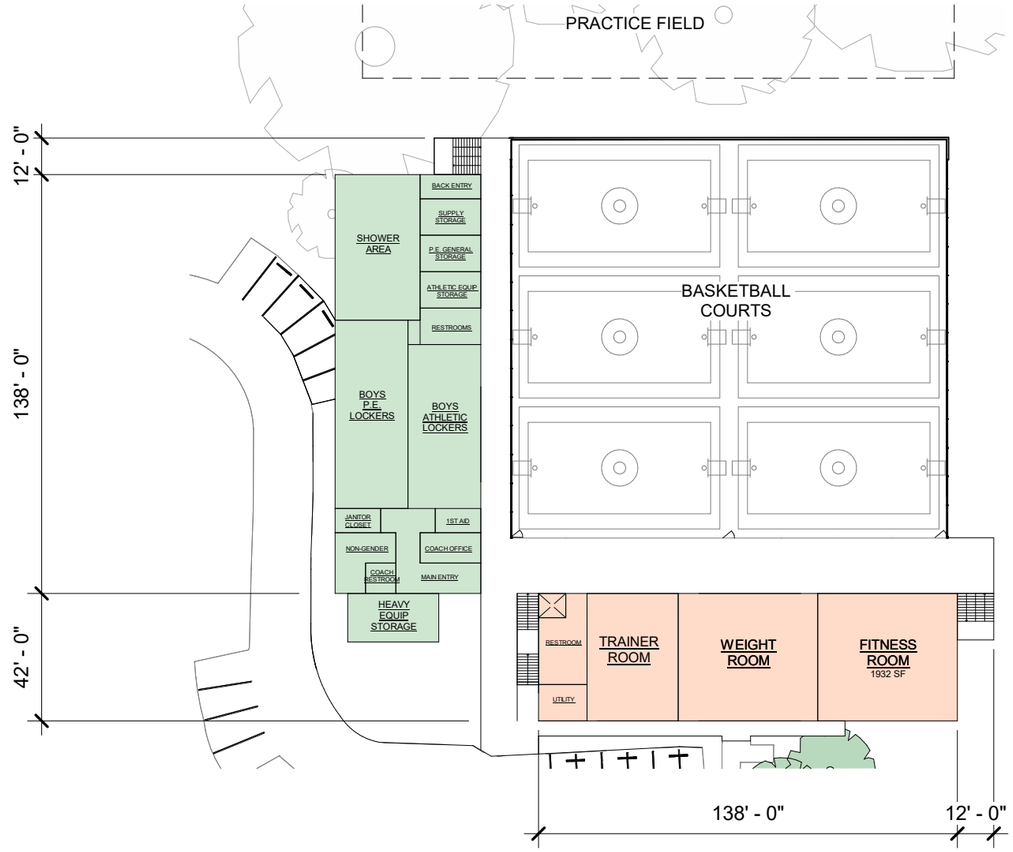




Basketball Courts Site - Selected Option



LEVEL 2



LEVEL 1

PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	600	PE Locker (per gender)	1,440	1,488
Trainers Room	1,300	1,260	Athlete Locker (per gender)	1,290	1,296
Weight Room	1,800	1,932	Toilet & Shower Area (per gender)	1,900	1,588
Fitness Room	1,800	1,932	Office (per gender)	300	300
Total Athletic Facilities	**5,240**	**5,724**	Storage (per gender)	890	840
Classroom (x4)	980	1,281	Circulation (per gender)	600	670
Common Area	0	600	Total Locker Room (per gender)	6,420	6,182
Total Classrooms	**3,920**	**5,724**	**Total Locker Room**	**12,840**	**12,364**
			Common Area	**780**	**1,080**
Athletic Facilities and Classrooms	**9,160**	**11,448**	**Total Locker Facilities**	**13,620**	**13,444**

BASKETBALL COURTS SITE - OPTION 1
PROS
-Original design intent. -Provides 4 classrooms.
CONS
-Estimated cost is significantly over the initial budget.

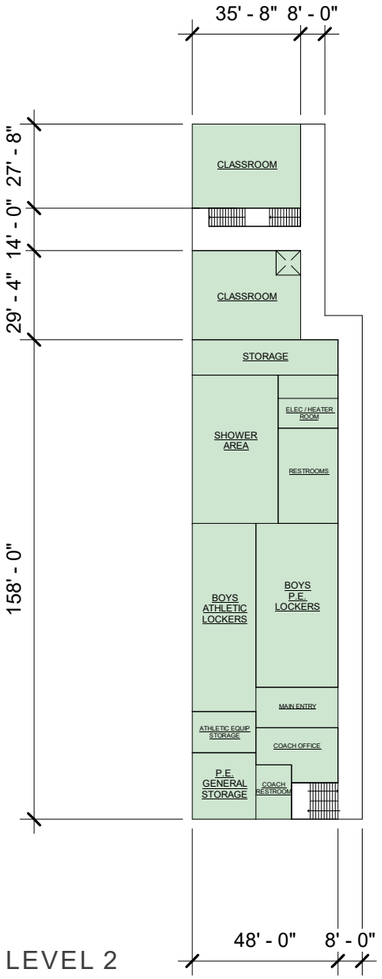
0' 25' 50' 100'

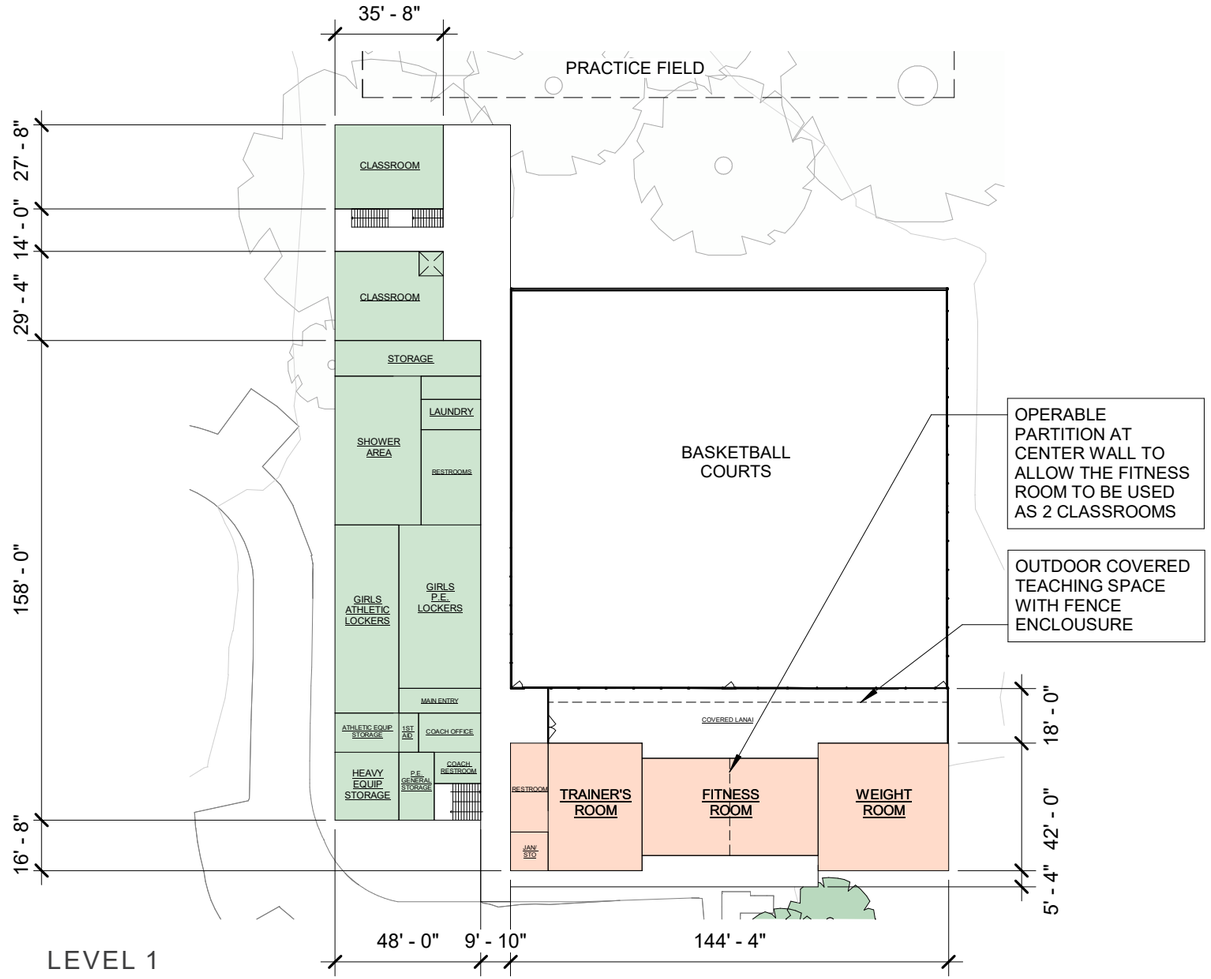
Scale: 1' = 50'

N

PRESENTED ON 1/27/2023

Basketball Courts Site - Option 1





PROGRAM AREA

PHASE 1			PHASE 2					
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	535	PE Locker (per gender)	1,440	1,458	Classroom (x2)	980	986
Trainers Room	1,300	1,303	Athlete Locker (per gender)	1,290	1,302	Classroom (x2)	980	982
Weight Room	1,800	1,806	Toilet & Shower Area (per gender)	1,900	2,004	**Total Classrooms**	**3,920**	**3,936**
Fitness Room (2x classrooms)	1,800	1,834	Office (per gender)	400	533	**Common Area**	**780**	**750**
			Storage (per gender)	890	1,098			
Covered Lanai		2,065	Circulation (per gender)	600	442			
			Total Locker Room (per gender)	6,520	6,837			
Total Athletic Facilities	**5,240**	**7,543**	**Total Locker Room**	**13,040**	**13,674**	**Total Locker Facilities and Class-rooms**	**17,740**	**18,360**

BASKETBALL COURTS SITE - SELECTED OPTION

PROS

-Keeps the cost of the Athletic Facility low by moving the construction of the classrooms to phase 2.

-Uses covered lanai as additional cost effective teaching space in phase 1.

-Provides the opportunity for two classroom spaces without a large increase in square footage.

-Estimated cost is close to the original budget.

CONS

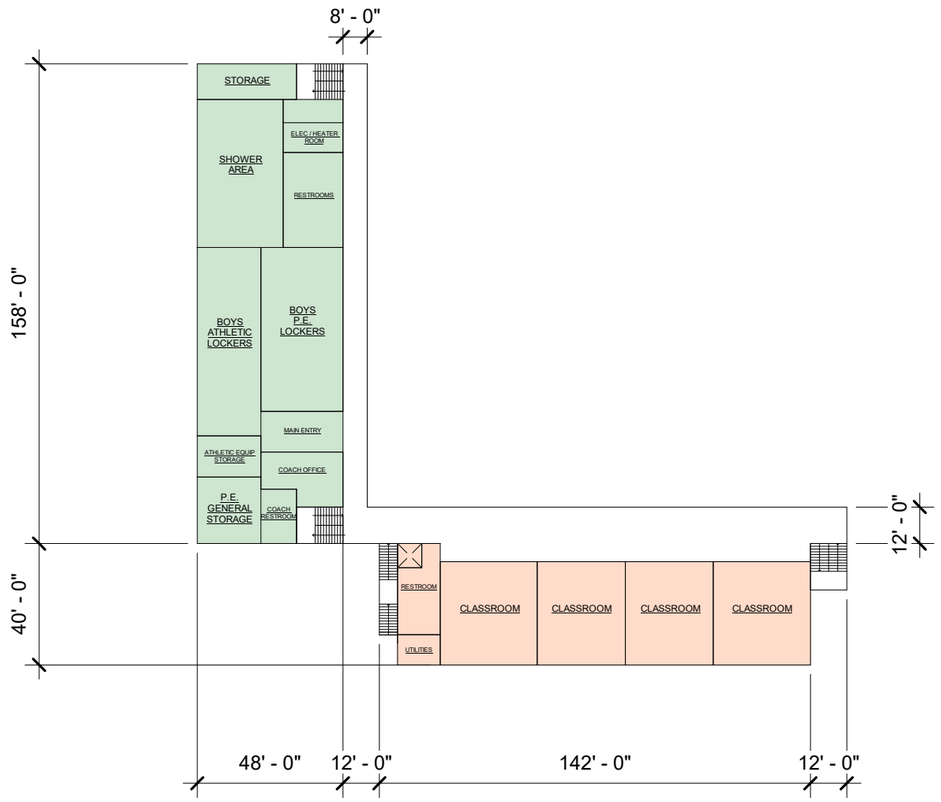
-Dedicated indoor classroom space will not be provided until phase 2.

-Fitness Room would need to be shared with the 2 classrooms.

PRESENTED ON 1/27/2023

Basketball Courts Site - Option 1B

($10,594,500 rough cost estimate for the Athletic Facility)



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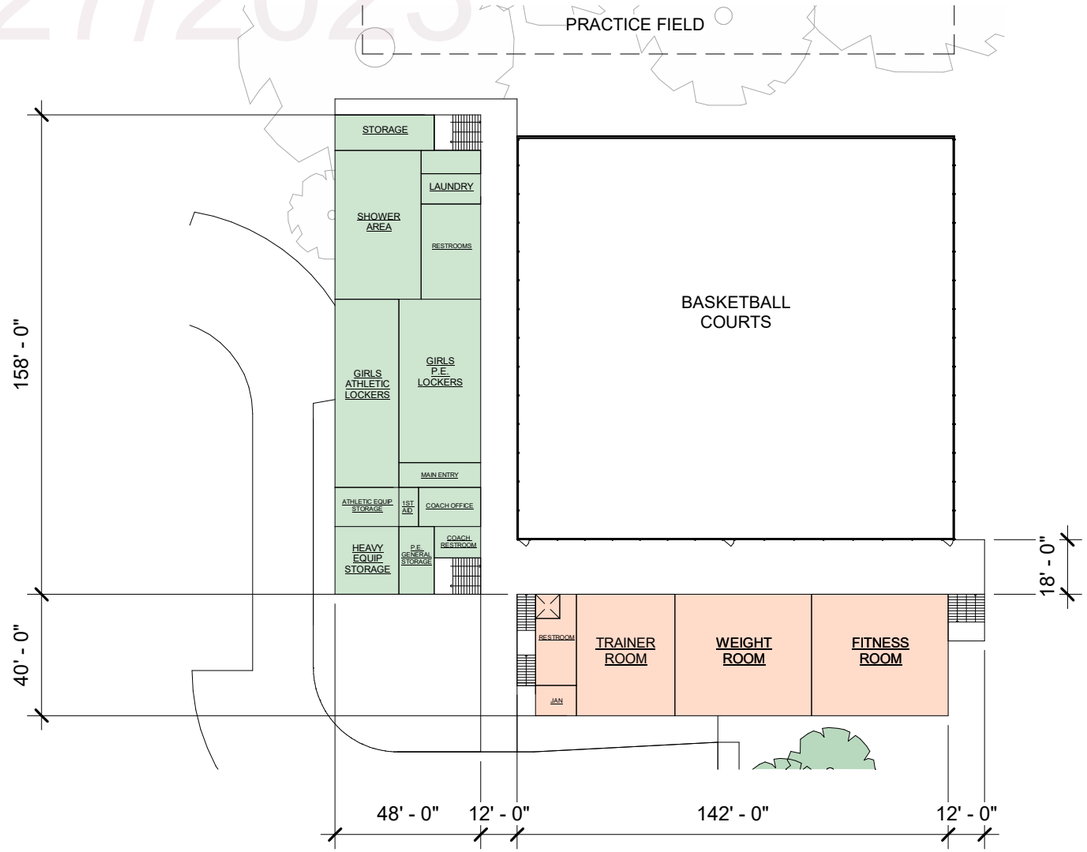
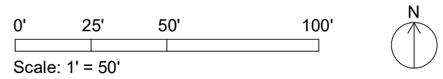
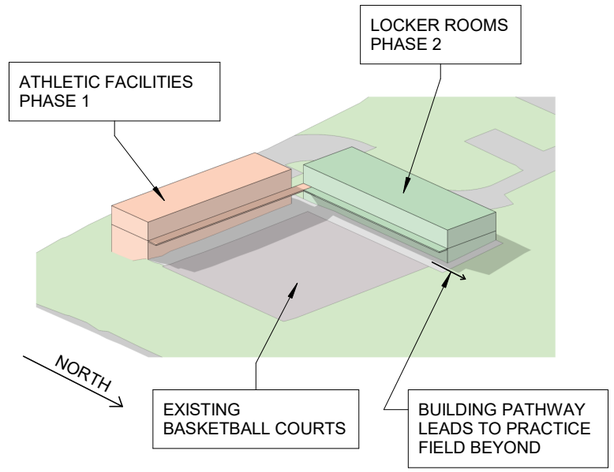


LEVEL 1



PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	952	PE Locker (per gender)	1,440	1,458
Trainers Room	1,300	1,300	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,800	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room	1,800	1,800	Office (per gender)	400	533
Total Athletic Facilities	5,240	5,859	Storage (per gender)	890	917
Classroom (x2)	980	986	Circulation (per gender)	600	442
Classroom (x2)	980	1,088	Total Locker Room (per gender)	6,520	6,656
Total Classrooms	3,920	4,148	Total Locker Room	13,040	13,312
			Common Area	780	750
Athletic Facilities and Classrooms	9,160	10,007	Total Locker Facilities	13,820	14,062

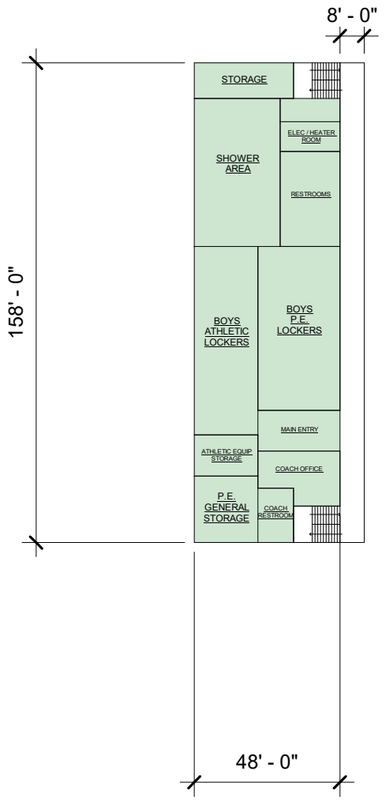
BASKETBALL COURTS SITE - OPTION 1
PROS
-Original design intent. -Provides 4 classrooms.
CONS
-Estimated cost is significantly over the initial budget.



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 2A

($6,083,450 rough cost estimate for the Athletic Facility)



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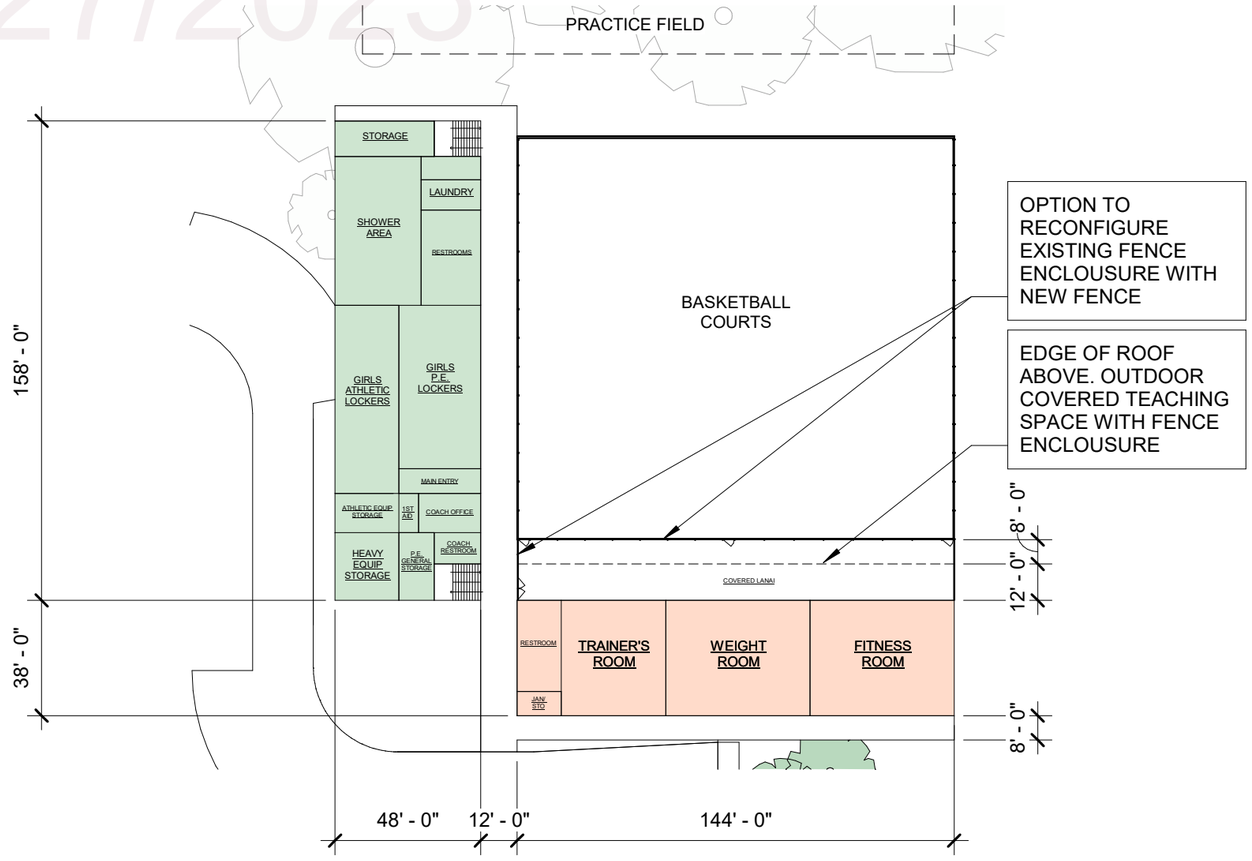

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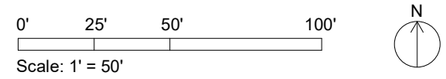
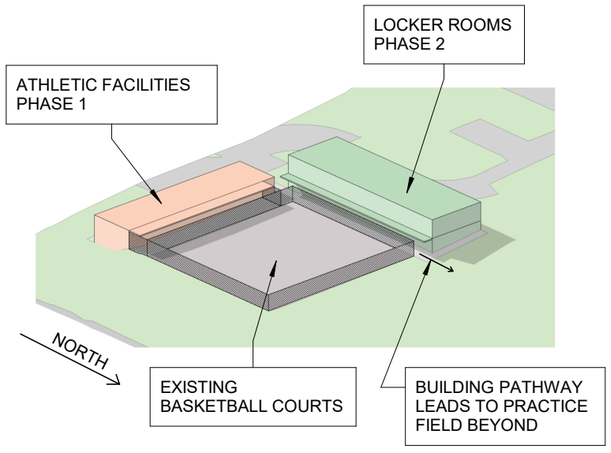


PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	551	PE Locker (per gender)	1,440	1,458
Trainers Room	1,300	1,311	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,805	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room	1,800	1,805	Office (per gender)	400	533
Covered Lanai		1,532	Storage (per gender)	890	917
			Circulation (per gender)	600	442
			Total Locker Room (per gender)	6,520	6,656
			Total Locker Room	**13,040**	**13,312**
			Common Area	780	750
Total Athletic Facilities	5,240	7,004	**Total Locker Facilities**	**13,820**	**14,062**

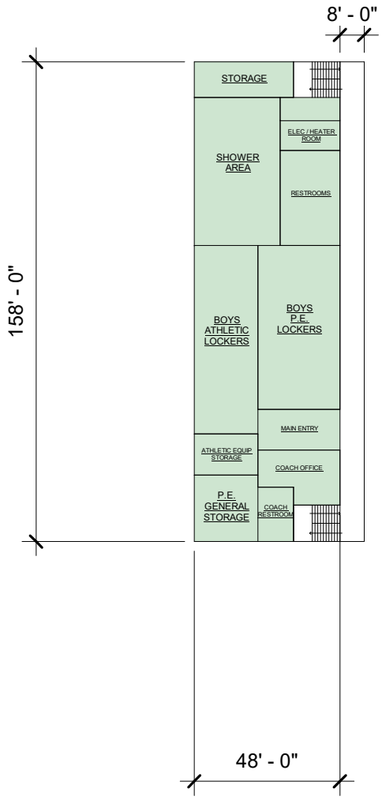
BASKETBALL COURTS SITE - OPTION 2A
PROS
-Uses covered lanai as additional cost effective teaching space
-2nd closest option to the original budget.
CONS
-Estimated cost is over the initial budget.
-Classroom space is outdoors.
-Classroom space is a narrow 12 feet wide



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 2B

($6,303,450 rough cost estimate for the Athletic Facility)



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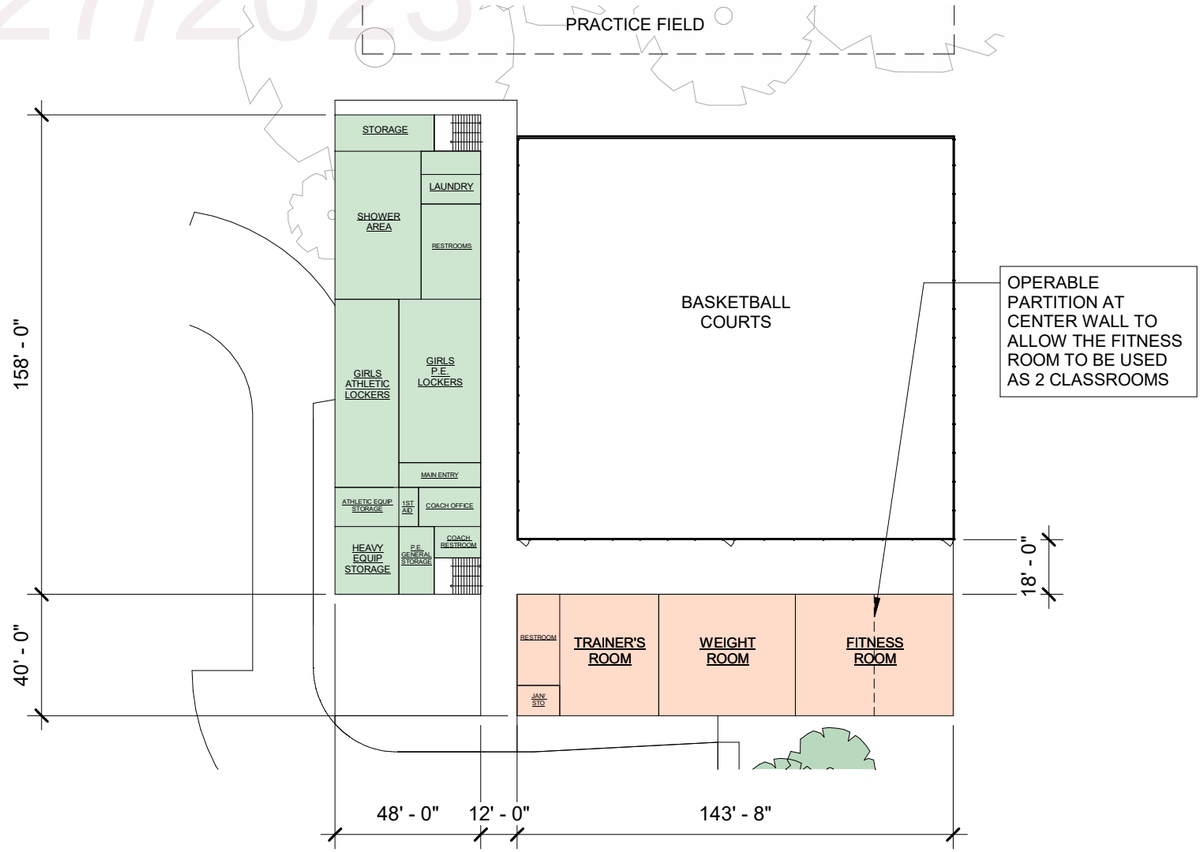

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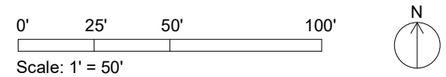
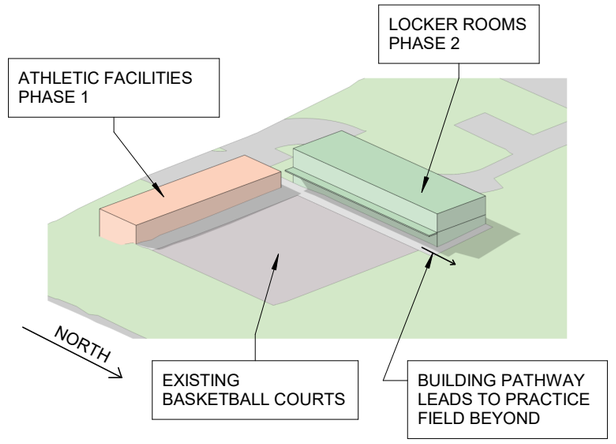


PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	560	PE Locker (per gender)	1,440	1’458
Trainers Room	1,300	1,307	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,800	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room (2x classrooms)	1,800	2,080	Office (per gender)	400	533
			Storage (per gender)	890	917
			Circulation (per gender)	600	442
			Total Locker Room (per gender)	6,520	6,656
			Total Locker Room	**13,040**	**13,312**
			Common Area	780	750
Total Athletic Facilities	5,240	5,747	Total Locker Facilities	13,820	14,062

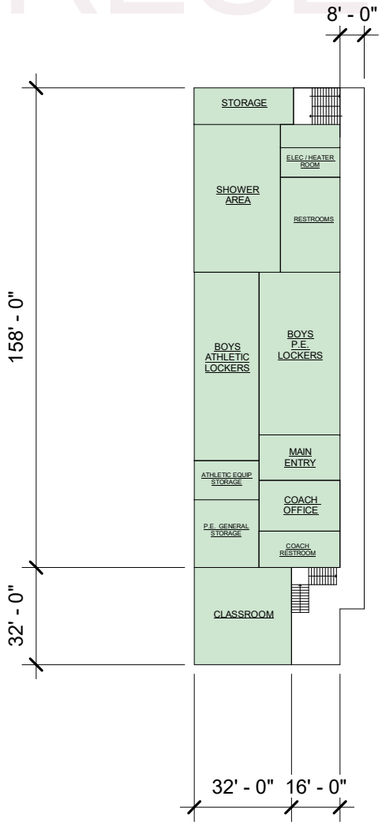
BASKETBALL COURTS SITE - OPTION 2B
PROS
-Provides the opportunity for two classroom spaces without a large increase in square footage. -Fitness Room can still be used when the operable partition at the middle of the space is open. -3rd closest option to the original budget.
CONS
-Estimated cost is over the initial budget. -Fitness Room would need to be shared with the 2 classrooms.



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 3

($6,030,450 rough cost estimate for the Athletic Facility)



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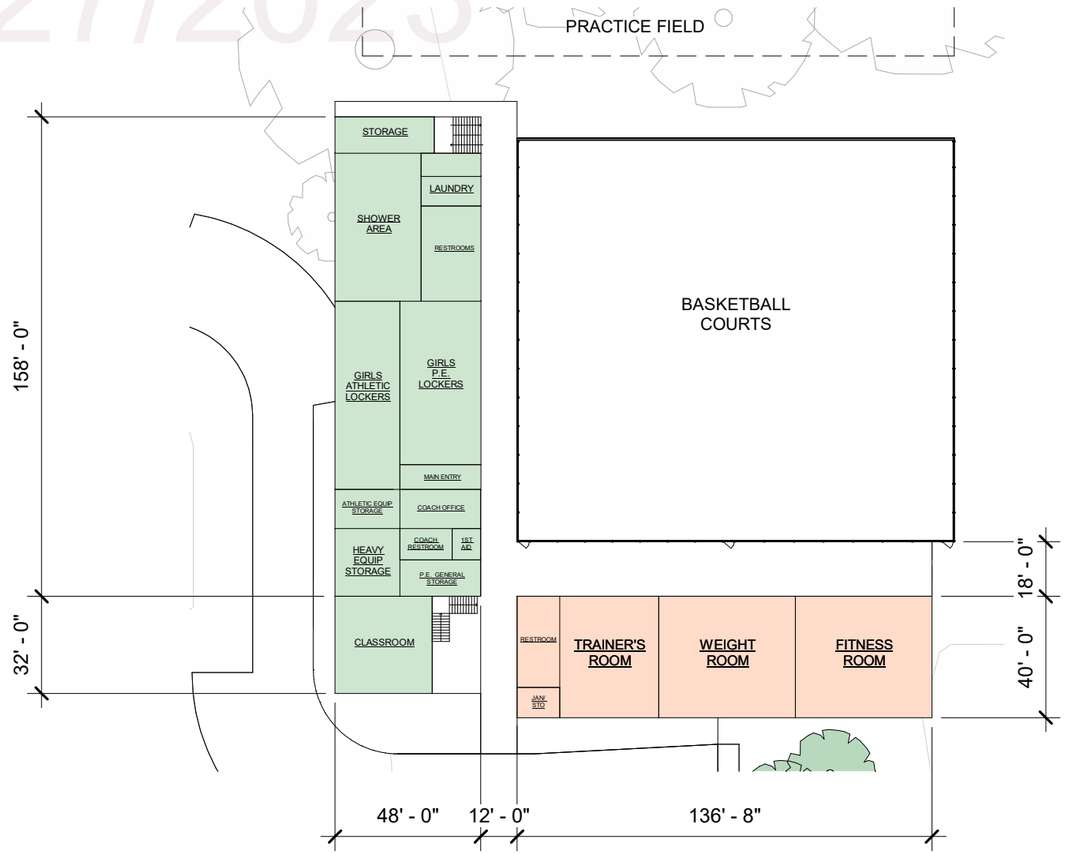

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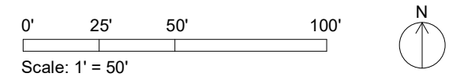
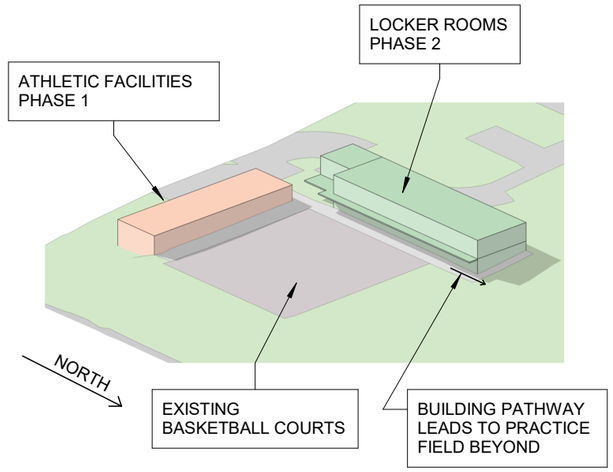


PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	560	PE Locker (per gender)	1,440	1,440
Trainers Room	1,300	1,307	Athlete Locker (per gender)	1,290	1,328
Weight Room	1,800	1,800	Toilet & Shower Area (per gender)	1,900	2,008
Fitness Room	1,800	1,800	Office (per gender)	400	642
Total Athletic Facilities	**5,240**	**5,859**	Storage (per gender)	890	1,070
PHASE 2			Circulation (per gender)	600	460
Common Area	**780**	**772**	Total Locker Room (per gender)	6,520	6,948
Classroom (x2)	980	1024	**Total Locker Room**	**13,040**	**13,896**
Total Classrooms	**1,960**	**2,048**	**Total Locker Facilities and Classrooms**	**15,000**	**16,716**

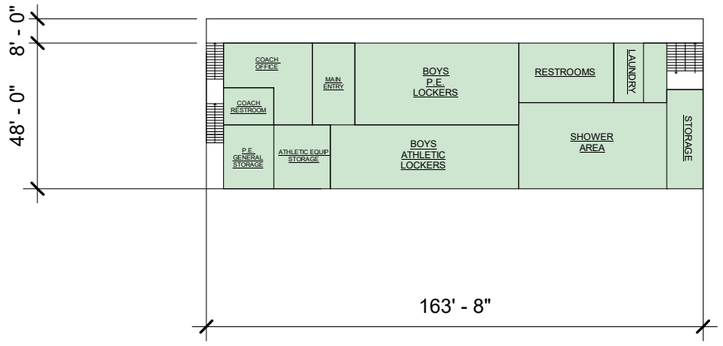
BASKETBALL COURTS SITE - OPTION 3
PROS
-Keeps the cost of the Athletic Facility low by moving the construction of the classrooms to phase 2. -Will provide two classrooms during Phase 2. -Closest option to the original budget.
CONS
-Estimated cost is over the initial budget. -Creates a 2 classroom deficit during the construction of the Athletic Building and creates a 4 classroom deficit while Phase 2 is being built.



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 4

($7,963,800 rough cost estimate for the Athletic Facility)



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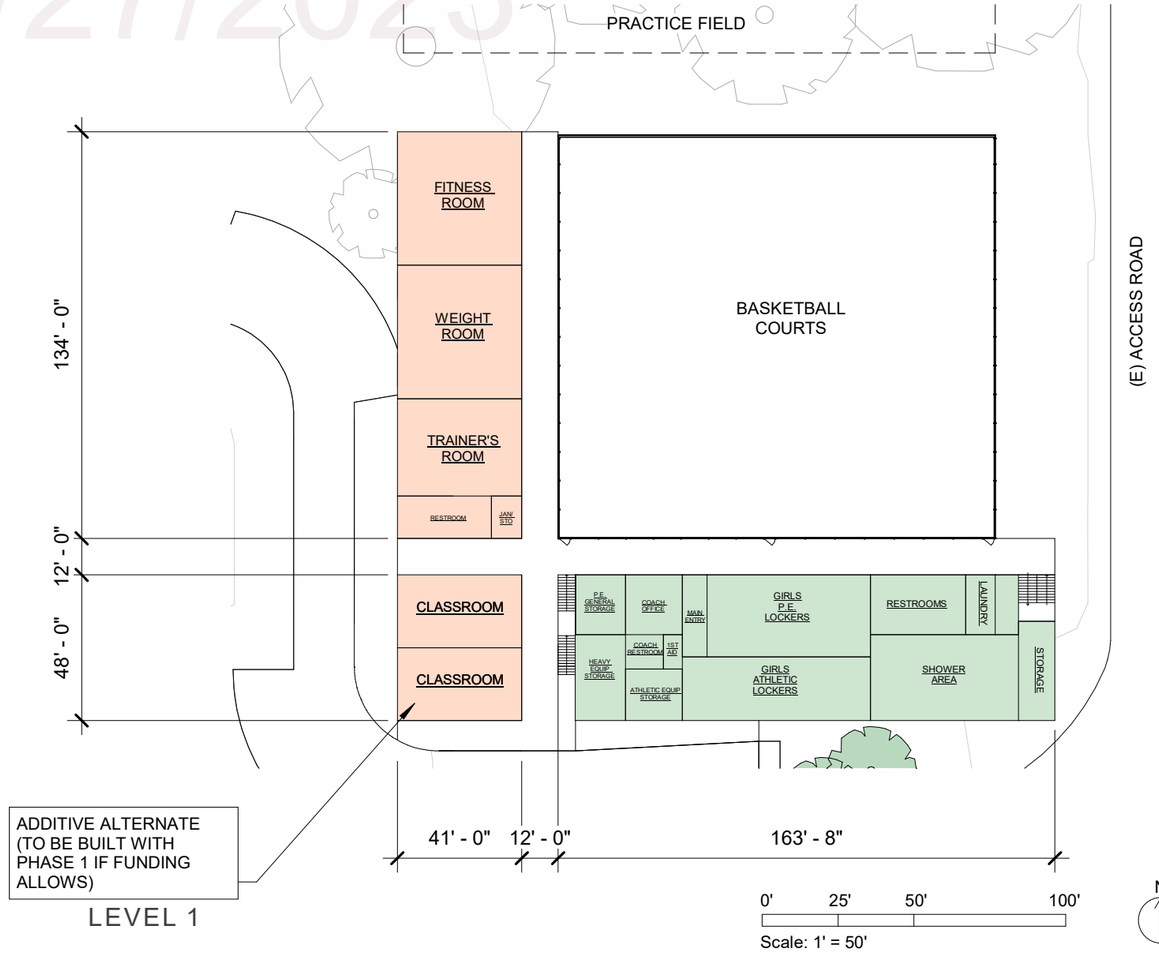
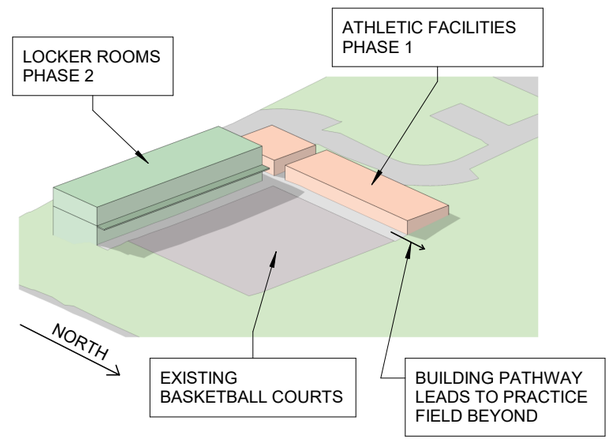


LEVEL 1

PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	560	PE Locker (per gender)	1,440	1,458
Trainers Room	1,300	1,312	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,804	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room	1,800	1,804	Office (per gender)	400	648
Total Athletic Facilities	5,240	5,872	Storage (per gender)	890	1,082
Classroom (x2)	980	984	Total Locker Room (per gender)	5,920	6,494
Total Classrooms	1,960	1,968	Total Locker Room	11,840	12,988
			Common Area	780	737
Athletic Facilities and Classrooms	7,200	7,840	Total Locker Facilities	12,620	13,725

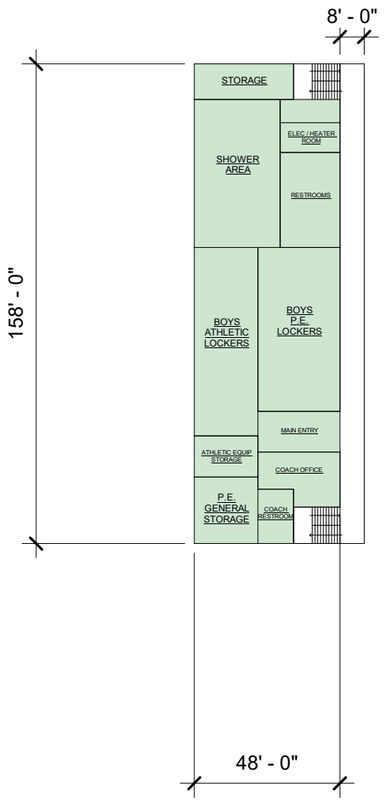
BASKETBALL COURTS SITE - OPTION 4
PROS
-Provides 2 formal classrooms that can be built with Phase 1, if funding can be secured, or during Phase 2.
CONS
-Estimated cost is over the initial budget. -Locker Room is further away from the softball field. -The building footprint extends close to the access road and past the drop in grade which will make it difficult to build.



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 5

($7,459,250 rough cost estimate for the Athletic Facility)



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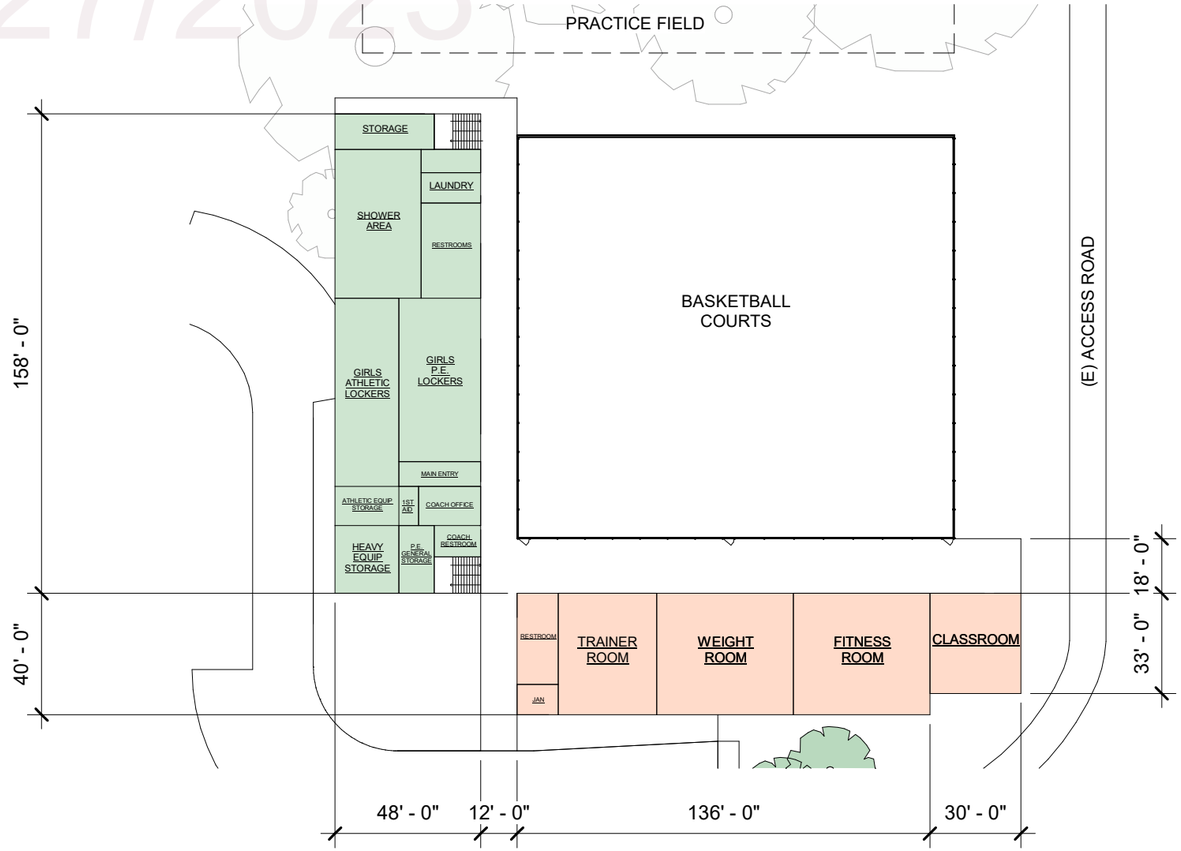
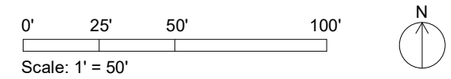
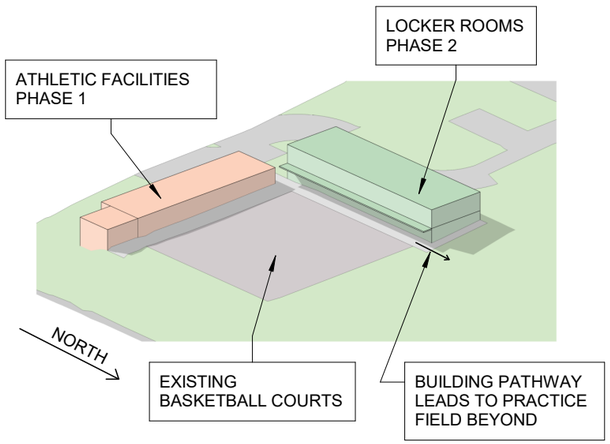


LEVEL 1



PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	540	PE Locker (per gender)	1,440	1,458
Trainers Room	1,300	1,300	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,800	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room	1,800	1,800	Office (per gender)	400	648
Total Athletic Facilities	5,240	5,440	Storage (per gender)	890	1,082
Classroom (x1)	980	990	Total Locker Room (per gender)	5,920	6,494
			Total Locker Room	11,840	12,988
			Common Area	780	737
Athletic Facilities and Classrooms	6,200	6,430	Total Locker Facilities	12,620	13,725

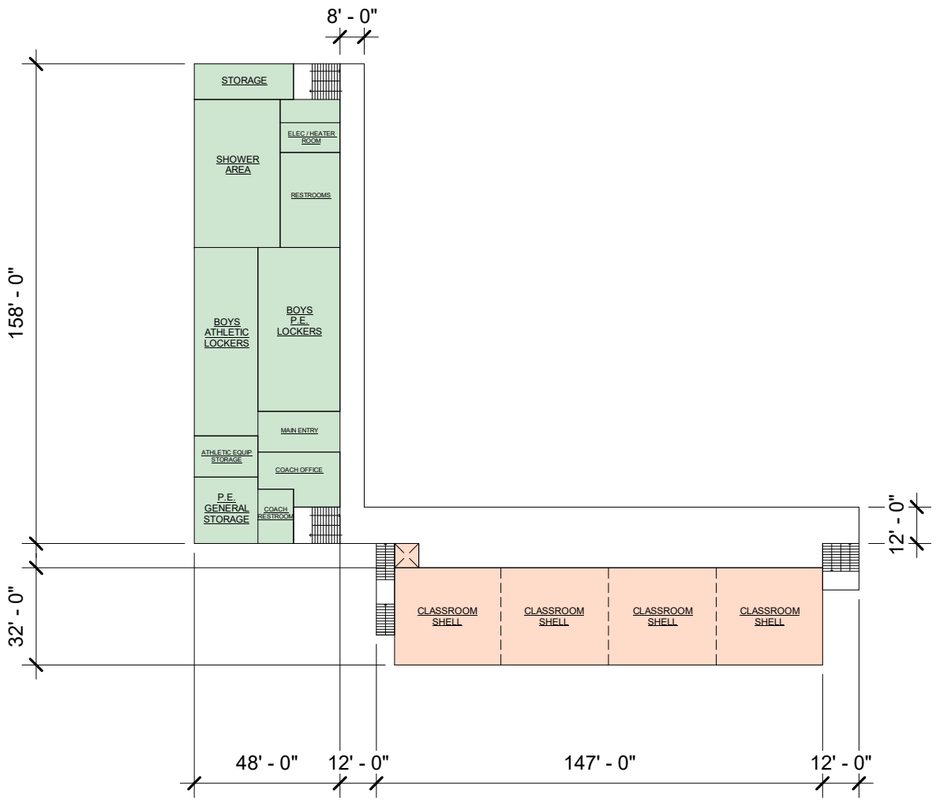
BASKETBALL COURTS SITE - OPTION 5
PROS
-Will provide 1 classroom.
CONS
-Estimated cost is over the initial budget. -The building footprint extends close to the access road and past the drop in grade which will make it difficult to build.



PRESENTED ON 1/27/2023

Basketball Courts Site - Option 6

($9,649,600 rough cost estimate for the Athletic Facility)



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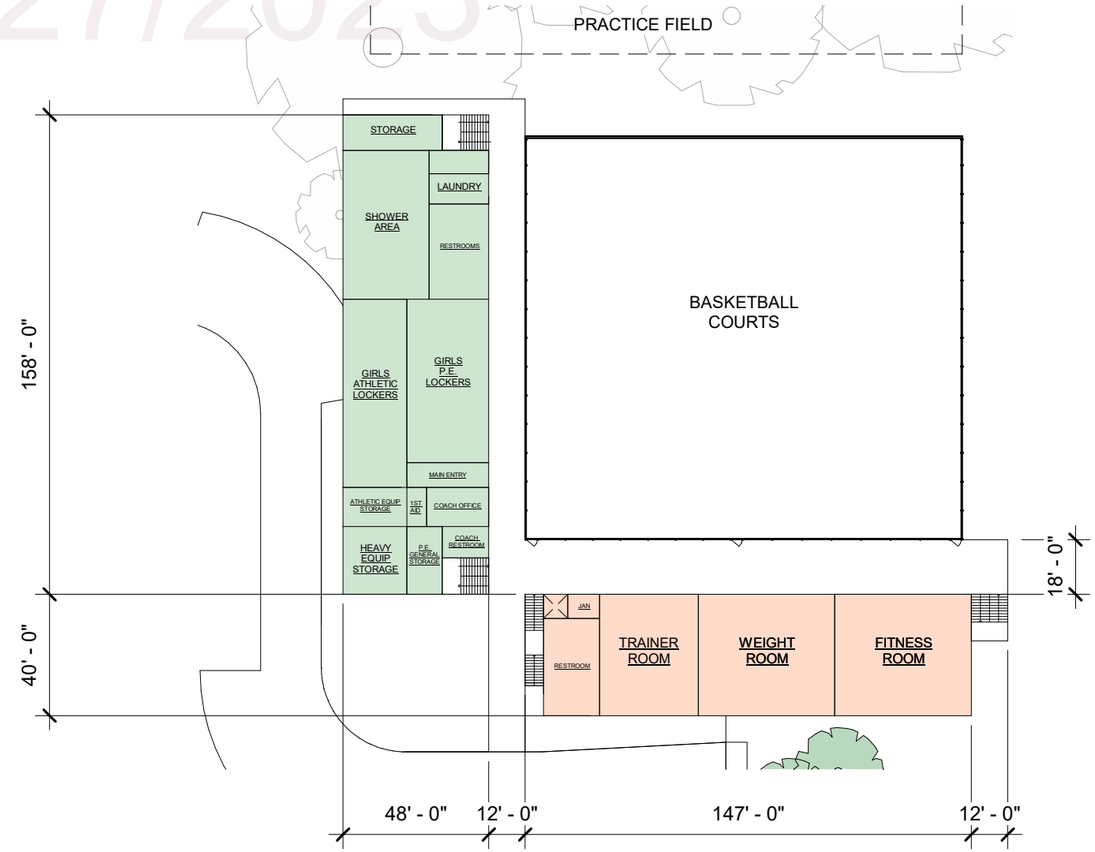
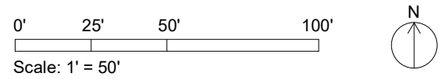
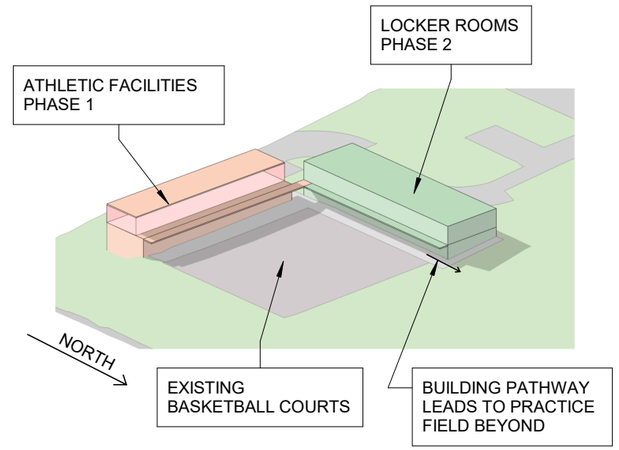


LEVEL 1



PROGRAM AREA					
PHASE 1			PHASE 2		
Room Name	EDSPEC Area (sqft)	Area (sqft)	Room Name	EDSPEC Area (sqft)	Area (sqft)
Common Area	340	676	PE Locker (per gender)	1,440	1,458
Trainers Room	1,300	1,300	Athlete Locker (per gender)	1,290	1,302
Weight Room	1,800	1,800	Toilet & Shower Area (per gender)	1,900	2,004
Fitness Room	1,800	1,800	Office (per gender)	400	533
Total Athletic Facilities	**5,240**	**5,576**	Storage (per gender)	890	917
Classroom (x4)	980	1,120	Circulation (per gender)	600	442
Total Classrooms	**3,920**	**4,480**	Total Locker Room (per gender)	6,520	6,656
			Total Locker Room	**13,040**	**13,312**
			Common Area	**780**	**750**
Athletic Facilities and Classrooms	9,160	10,056	**Total Locker Facilities**	**13,820**	**14,062**

BASKETBALL COURTS SITE - OPTION 6
PROS
-Similar to the original design intent. -Provides 4 classrooms when more funding is available.
CONS
-Estimated cost is significantly over the initial budget. -Building the classroom at a separate time will be more costly and will potentially require the Athletic Facilities to be vacant during construction.



23 Program

EDSPEC Program

EDSPEC / FADS PROGRAM COMPARISON

PHASE 1 PROGRAM - ATHLETIC FACILITIES AND CLASSROOMS (WITH VE UPDATES)			
Room	EDSPEC Area (sqft)	Area (sqft)	Comment
Common Area	410	906	
Restroom	300	503	Sizing based on code required plumbing fixture count.
Staff Restroom	70	76	Provided per DOE & School.
Janitor Closet	40	67	
Electrical and Telecom Room		260	Sizing based on School guidance and electrical needs.
Trainers Room	1,300	1,253	
Office	120	148	
Storage Area	320	155	Storage spaces included in therapy room.
Restroom	75	117	
Therapy / Work Area	785	833	
Weight Room	1,800	1,909	
Multi-Use Machine Area	800		
Squat Rack Area	50		
Power Bench Area	160		
Free Standing Rack Area	235		
Rehab Machine Area	555		
Fitness Room	1,800	1,909	
Fitness Room	1,800		
Total Athletic Facilities	5,310	5,977	
Classrooms	3,960	4,247	
Classroom (X4)	980	1,050	Replace 4 existing portable classrooms
Janitor Closet	40	47	Additional jan. closet provided per DOE & School.
Total Athletic Facilities and Classrooms	9,270	10,224	
Basement / Golf Cart Storage		542	Provided per DOE & School and based on slopping site.
Total Building	9,270	10,766	

PHASE 2 PROGRAM - LOCKER FACILITIES			
Room	EDSPEC Area (sqft)	Actual Area (sqft)	Comment
PE Locker (per gender)	1,440	786	
P.E. Locker Room	1,340	641	
Non Gender P.E. Locker Room (6 Lockers)	100	145	
Athlete Locker (per gender)	1,290	641	
Athlete Locker Room/Mtg Area	1,290	641	
Toilet and Shower Area (per gender)	1,900	988	
Toilet	150	196	
Non-Gender Toilet (2 stalls)	50	185	
Individual Shower Stalls (24 @ 40 SF)	960	354	Providing 11 shower stalls. Includes circulation between all stalls.
General Shower (3 @ 100 SF)	300		
General Drying Area	200	153	
Shower Booth (ADA - 4 @ 40 SF)	160	74	Only providing 2 ADA stalls per gender
Non-Gender Individual Shower Stall & Booth (ADA) (1 @ 40 SF & 1 ADA @ 40 SF)	80	26	Within Locker Room but separate from gender's Shower Stalls
Office (per gender)	310	614	
P.E. Office	100	196	
Faculty Locker/Shower/Toilet	100	187	Sharing between teacher and coach
Coach's Office	110	231	
Storage (per gender)	890	418	
P.E. General Storage	325	196	
Athletic Equipment Storage	250	162	
Janitor Closet	40	60	
Towel / Supply Storage	275		
Circulation	600	1,112	
Total Locker Room per Gender	6,430	4,559	
Total Locker Room	12,860	9,118	
Common Area	780	1,692	
Laundry Room	160	392	2 X 196 sf laundry room
Heavy Equipment Room	500	600	2 X 300 sf equipment storage
First Aid Room	120	212	2 X 106 sf first aid room
Heater/ Elec Room	0	276	"Utilities Overflow storage" in plans
IT	0	212	2 X 106 sf IT room
Total Locker Facilities and Classrooms	13,620	10,810	

25 Design

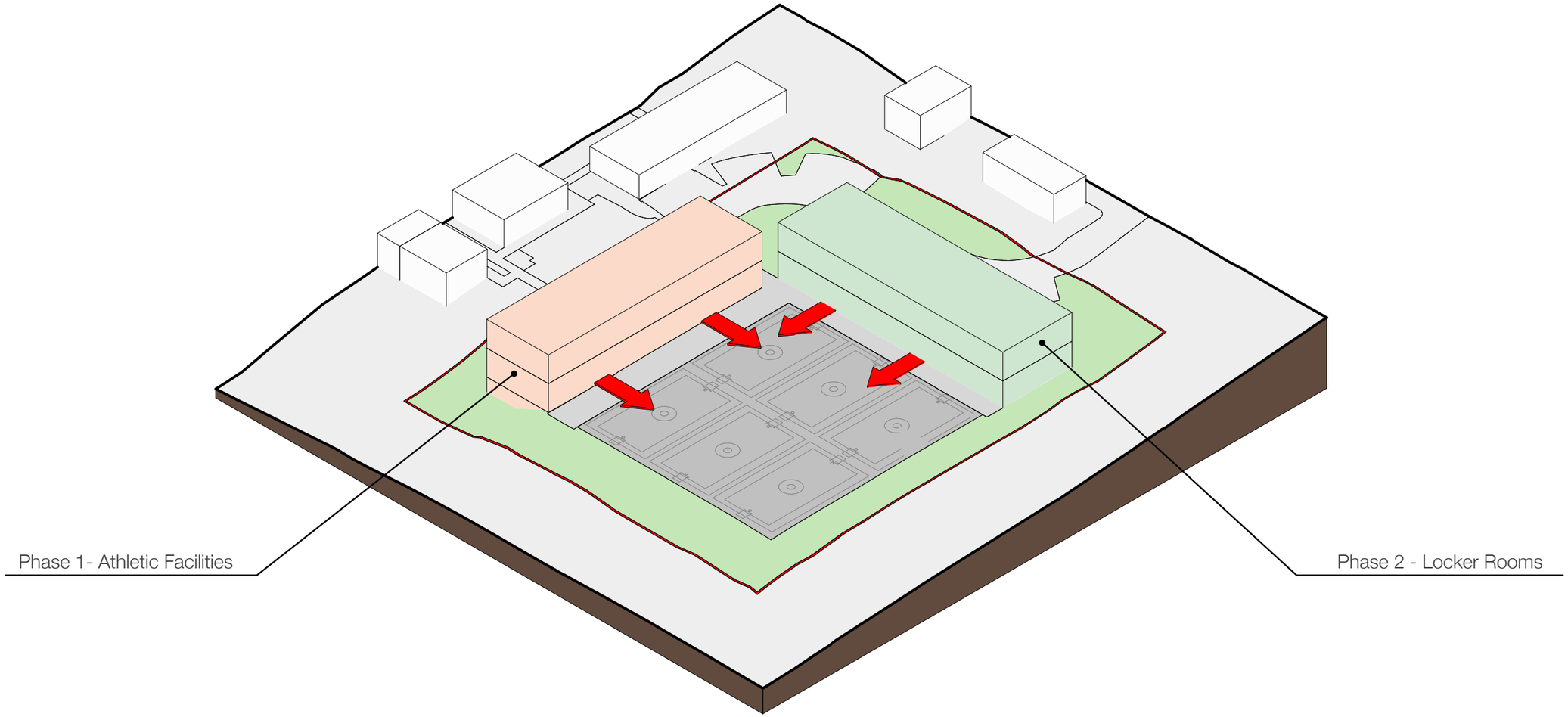
Design Breakdown

3D Views

Concept Site Plan

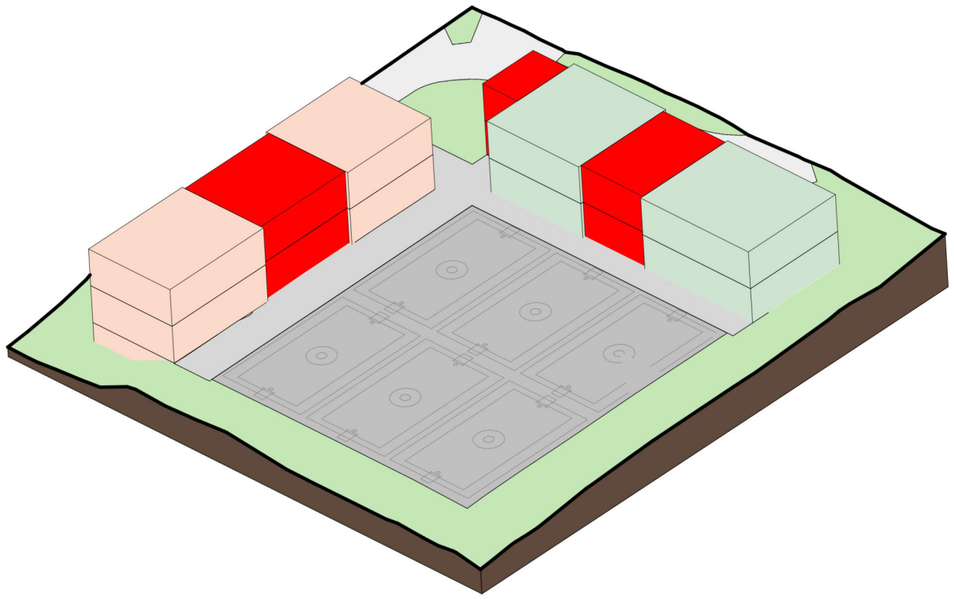
Creation of an Athletic Hub

The new Athletic and PE buildings have been strategically consolidated around the existing basketball courts to create a central hub for sports and physical activity at Baldwin High School. The efficient layout of the buildings provides a unique amphitheater-like atmosphere around the courts.



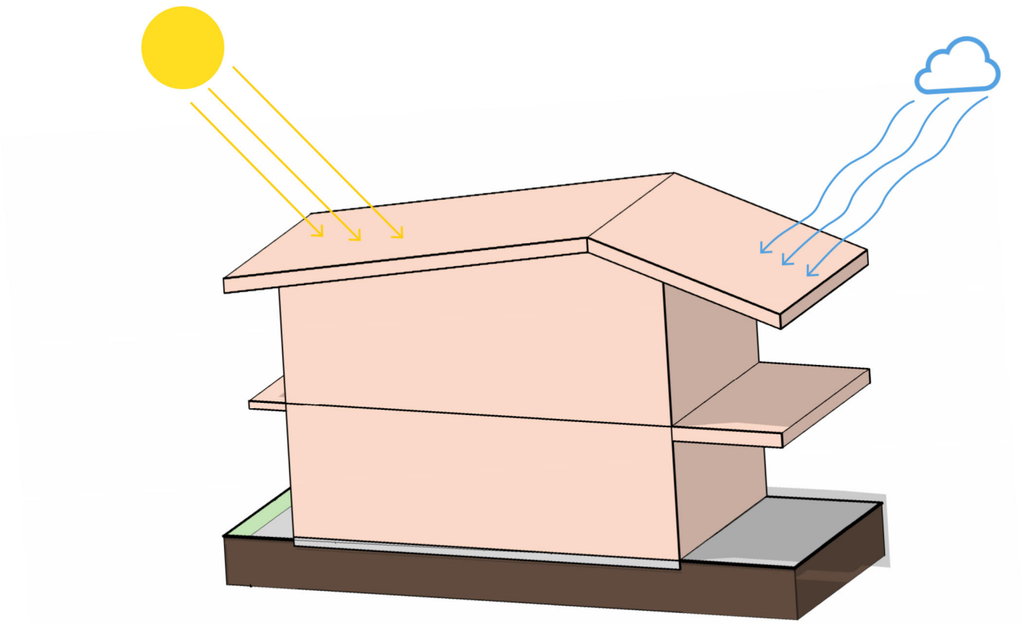
Expression of Program

Portions of each building are highlighted to (1) add relief to the buildings' mass and (2) to distinguish their unique program: the flexible fitness / classrooms at the Athletic Facility and the locker room + support facilities at the Locker Room building.



Building Orientation

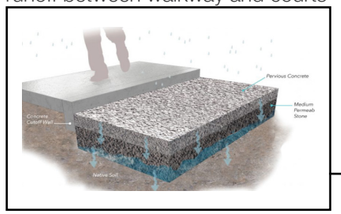
Both buildings utilize a roof that is sloped to accommodate south facing solar panels while still providing protection from the prevailing north-east storms.

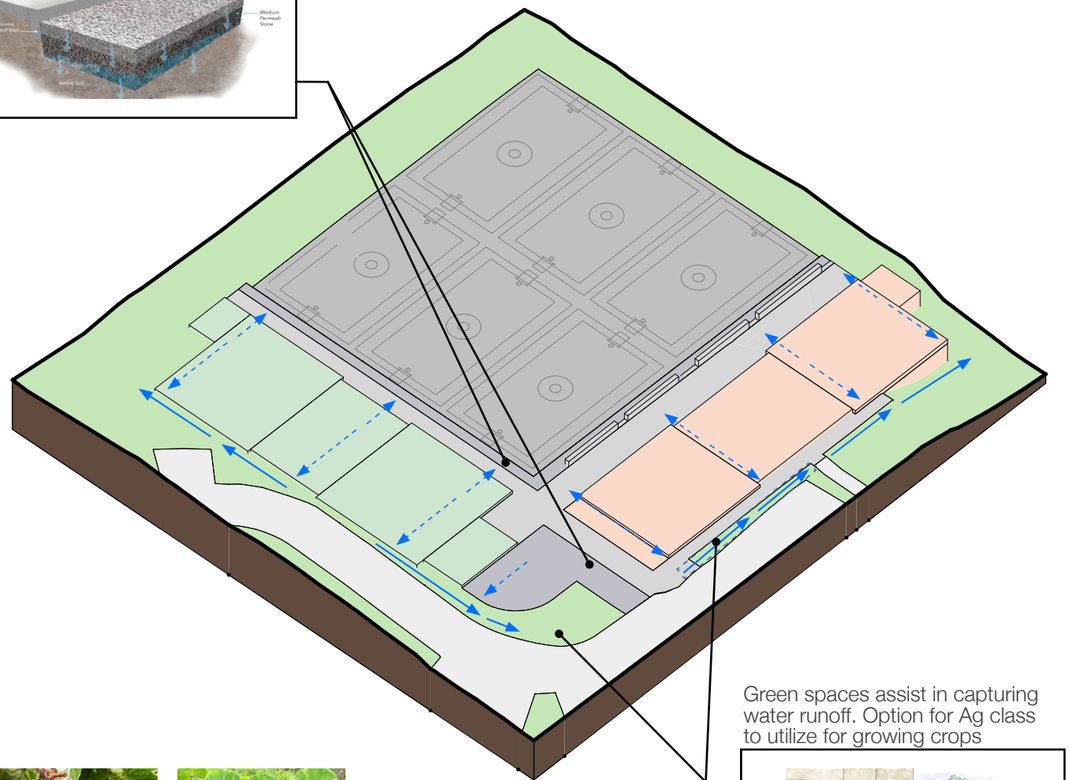


Management of Water

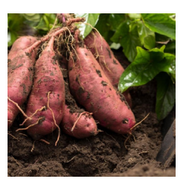
Acknowledging the historical and cultural importance of water in Wailuku the design highlights the buildings' management of rainwater and stormwater runoff. The design creates the opportunity for the agriculture class to utilize naturally irrigated green spaces for growing plants and crops.

Permeable concrete manages water runoff between walkway and courts





Green spaces assist in capturing water runoff. Option for Ag class to utilize for growing crops



Incorporation of Historical Elements

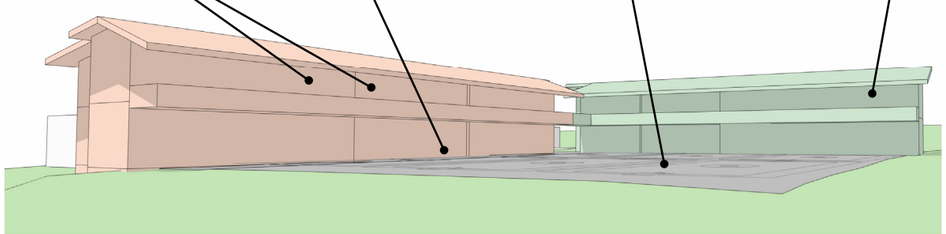
The new buildings pay homage to the rich architectural history of Baldwin High School by incorporating key design elements of the original buildings.

Geometric projections and reliefs

Generous lani / corridor widths

Public square defined / enclosed by layout of buildings

Horizontal mass / proportions

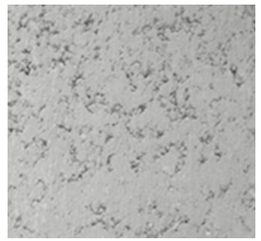


Material Selection

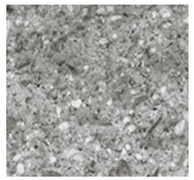
The materials selected are consistent between both buildings to help define the structures as Baldwin's athletics hub. The selection of materials were chosen to provide durability, functionality, and an aesthetic appeal.

1. CMU Standard

Basaltlime



Basaltlime Split Face

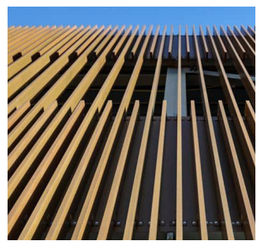


2. CMU Accent

Basaltlime

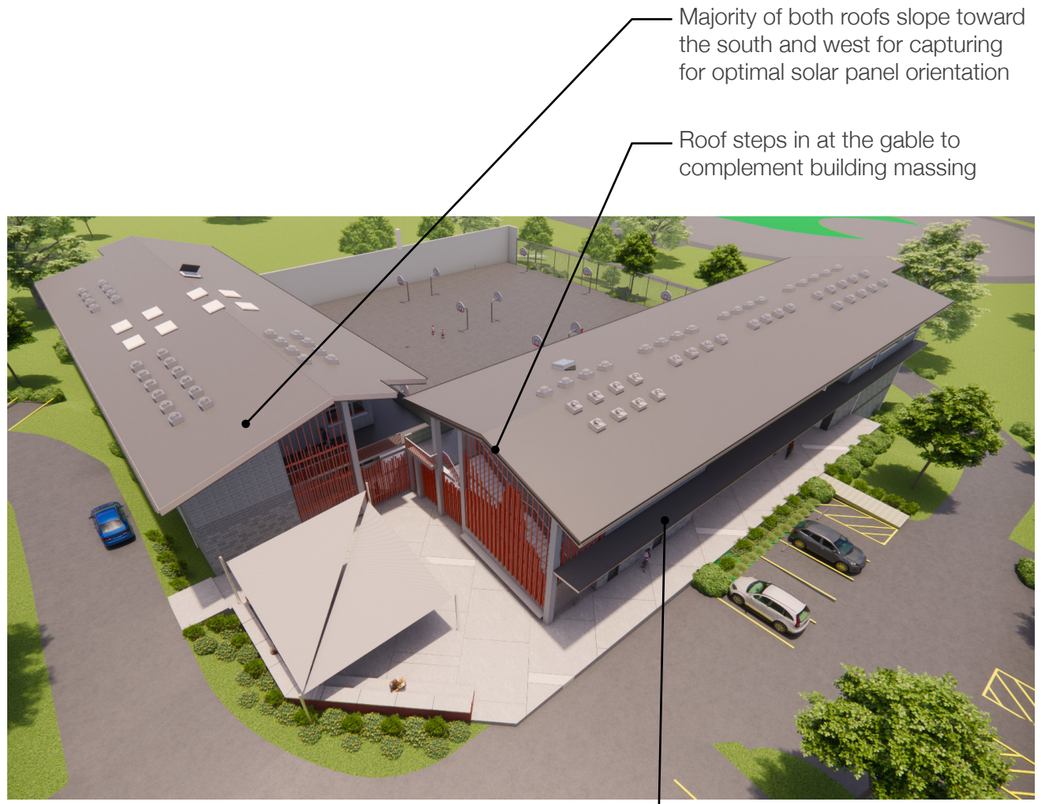
Basaltlime Split Face

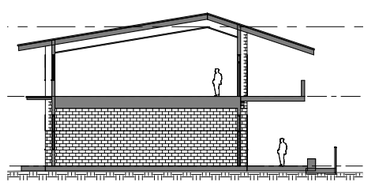
3. Slat wall



Roof Design

Both buildings utilize a straightforward gable roof to minimize cost and reduce future maintenance. The gable roof is strategically offset towards the courts to maximize the available roof surface for solar panels while also providing shelter for the 2nd floor walkways.



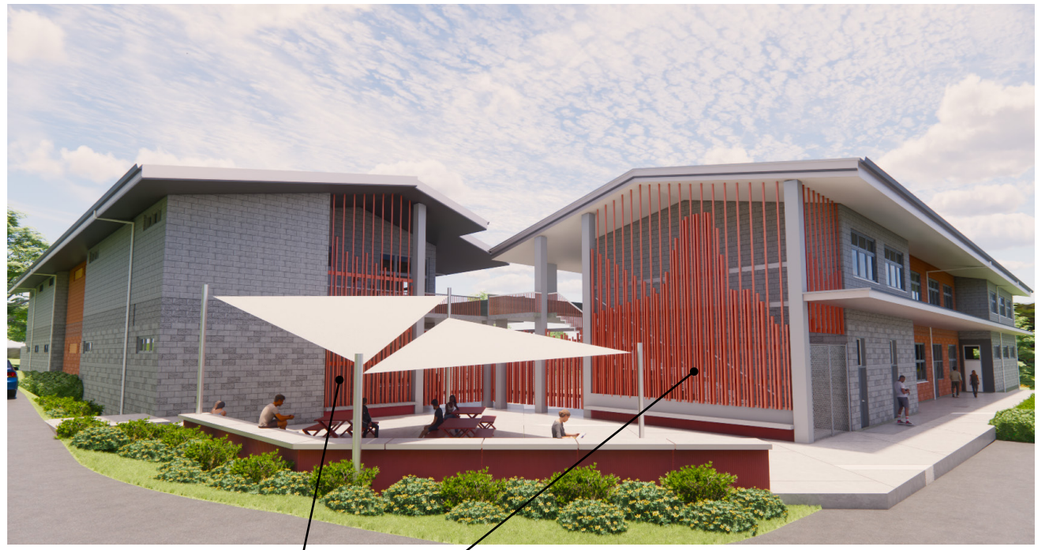


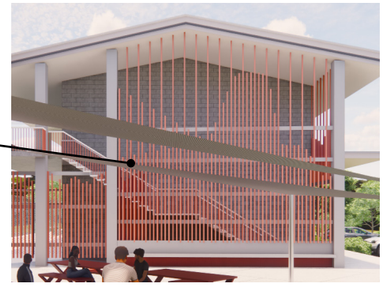
Gathering Space

A seating / gathering space is designed for the entrance of the athletic complex. Coaches or teachers can use the space as an informal instructional area. Student's can use the space as a hangout area at breaks.

School Identity

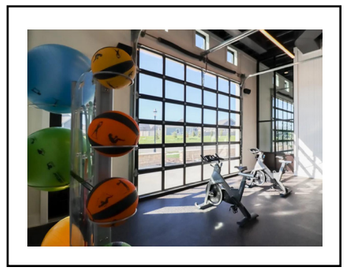
School spirit and pride are promoted in the building design through the accenting of school colors, decorative security slats, and school symbols. The slats secure the stairway while creating an impactful image based on Iao Valley.





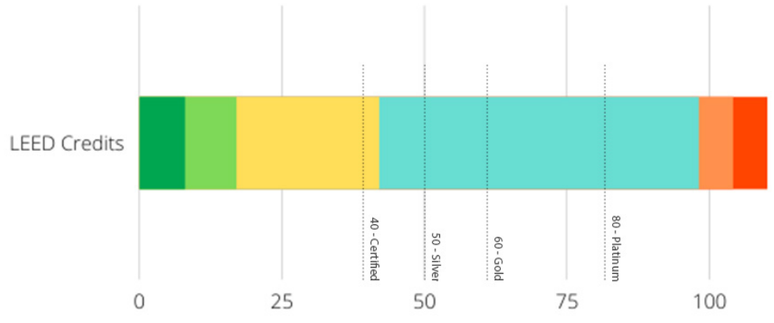
Encouragement of Athletic Activity

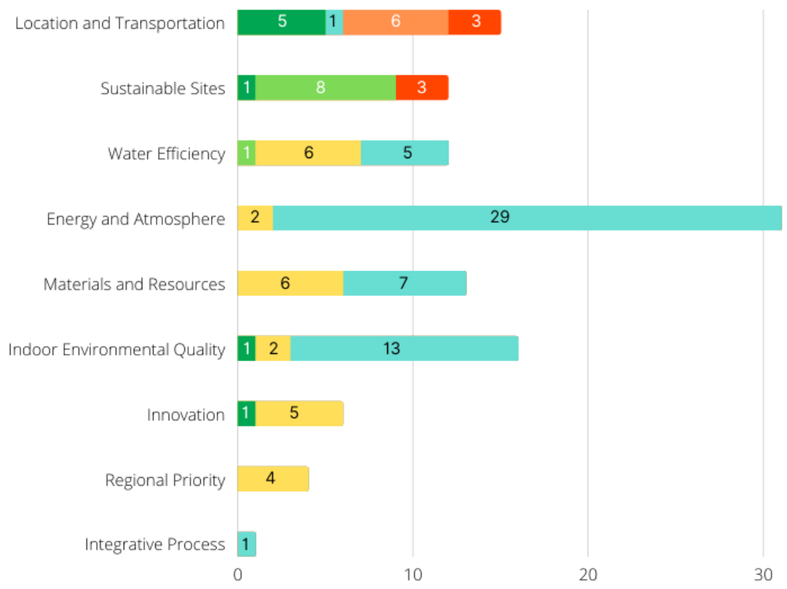
Athletic activity is promoted through the building design. Overhead sectional doors can be rolled up to expand the athletic rooms to the lanai. The large lanai provides ample space for shaded outdoor activity.



Project Sustainability - LEED

The building's are designed to serve the needs of the Baldwin High School and to do so in a sustainable manner. Using the green building certification Leadership in Energy and Environmental Design (LEED), the buildings aim to reach LEED's silver rating.





Anticipated	Likely	Possible	Possible & OOS	Unlikely	Not Pursuing	Available	LEED Credit
0	0	0	1	0	0	1	**Integrative Process**
5	0	0	1	6	3	15	**Location and Transportation**
1						1	Sensitive Land Protection
					2	2	High Priority Site and Equitable Development
2				3		5	Surrounding Density and Diverse Uses
1				3		4	Access to Quality Transit
					1	1	Bicycle Facilities
1						1	Reduced Parking Footprint
			1			1	Electric Vehicles

1	8	0	0	0	3	12	**Sustainable Sites**
			*			Req.	Construction Activity Pollution Prevention
	*					Req.	Environmental Site Assessment
	1					1	Site Assessment
					2	2	Protect or Restore Habitat
1						1	Open Space
	3					3	Rainwater Management
	2					2	Heat Island Reduction
	1					1	Light Pollution Reduction
	1					1	Site Master Plan
					1	1	Joint Use of Facilities

0	1	6	5	0	0	12	**Water Efficiency**
			*			Req.	Outdoor Water Use Reduction
	*					Req.	Indoor Water Use Reduction
		*				Req.	Building-Level Water Metering
			2			2	Outdoor Water Use Reduction
	1	6				7	Indoor Water Use Reduction
			2			2	Optimize Process Water Use
			1			1	Water Metering

0	0	2	29	0	0	31	**Energy and Atmosphere**
			*			Req.	Fundamental Commissioning and Verification
		*				Req.	Minimum Energy Performance
			*			Req.	Building-Level Energy Metering
		*				Req.	Fundamental Refrigerant Management
			6			6	Enhanced Commissioning
		1	15			16	Optimize Energy Performance
		1				1	Advanced Energy Metering
			2			2	Grid Harmonization
			5			5	Renewable Energy
			1			1	Enhanced Refrigerant Management

Anticipated	Likely	Possible	Possible & OOS		Not Pursuing	Available	LEED Credit
0	0	6	7	0	0	13	**Materials and Resources**
			*			Req.	Storage and Collection of Recyclables
			5			5	Building Life-Cycle Impact Reduction
		2				2	Environmental Product Declarations
		2				2	Sourcing of Raw Materials
		2				2	Material Ingredients
			2			2	Construction and Demolition Waste Management

1	0	2	13	0	0	16	**Indoor Environmental Quality**
			*			Req.	Minimum Indoor Air Quality Performance
*						Req.	Environmental Tobacco Smoke Control
		*				Req.	Minimum Acoustic Performance
		2				2	Enhanced Indoor Air Quality Strategies
			3			3	Low-Emitting Materials
			1			1	Construction Indoor Air Quality Management Plan
			2			2	Indoor Air Quality Assessment
			1			1	Thermal Comfort
			2			2	Interior Lighting
			3			3	Daylight
1						1	Quality Views
			1			1	Acoustic Performance

1	0	5	0	0	0	6	**Innovation**
		5				5	Innovation
1						1	LEED Accredited Professional

0	0	4	0	0	0	4	**Regional Priority**
		1				1	Regional Priority: Specific Credit
		1				1	Regional Priority: Specific Credit
		1				1	Regional Priority: Specific Credit
		1				1	Regional Priority: Specific Credit

8	9	25	56	6	6	110	**Totals**

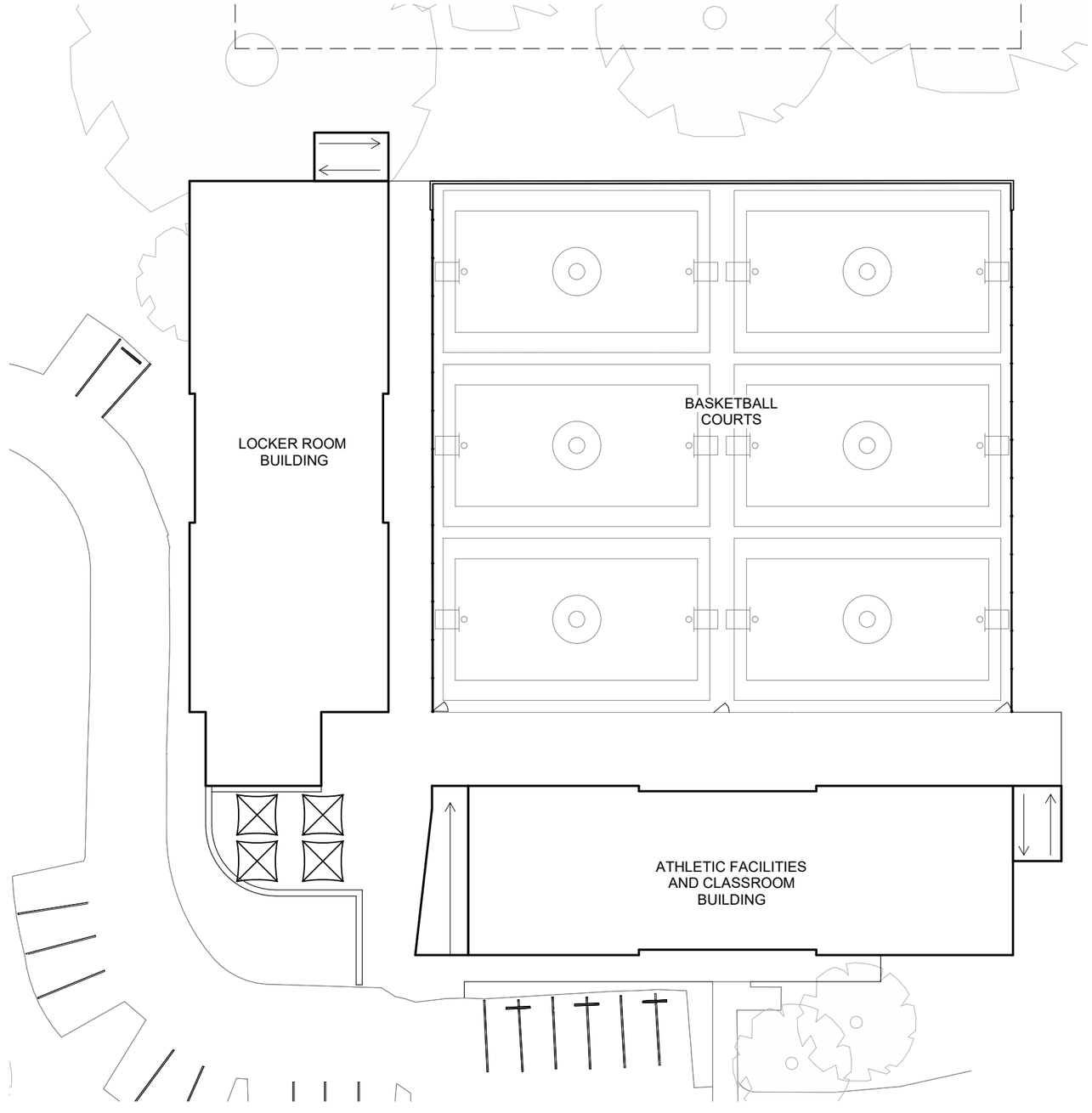
17	Likely Score
42	Possible Score
98	Out of Scope

Certified 40-49
Silver 50-59
Gold 60-79
Platinum 80+

3D Views

3D Views

Site Plan


LOCKER ROOM
BUILDING
BASKETBALL
COURTS
ATHLETIC FACILITIES
AND CLASSROOM
BUILDING

iNFORM

InForm Interiors & Architecture

1347 Kapiolani Blvd.
Suite 401
Honolulu, HI 96814

info@inform.design
www.inform.design
808.946.3676

APPENDIX

B

PRELIMINARY ENGINEERING AND DRAINAGE REPORT

DRAFT PRELIMINARY ENGINEERING AND DRAINAGE REPORT
BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT
WAILUKU, MAUI, HAWAII
TMK: (2) 3-8-007:004

October 2024

Prepared for:

InForm Design, Inc.
1347 Kapiolani Boulevard, Suite 401
Honolulu, Hawaii 96814

Prepared by:

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyorsp
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817-5031
Telephone: (808) 533-3646
Facsimile: (808) 526-1267
E-mail: atahnl@atahawaii.com
Honolulu • Wailuku, Hawaii

DRAFT PRELIMINARY ENGINEERING AND DRAINAGE REPORT
FOR
BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

WAILUKU, MAUI, HAWAII

TMK: (2) 3-8-007:004 and TMK: (2) 3-8-007:055

Prepared for:

InForm Design , Inc.

1347 Kapiolani Boulevard, Suite 401

Honolulu, Hawaii 96814

Prepared by:

Austin, Tsutsumi & Associates, Inc.

Civil Engineers • Surveyors

Honolulu • Wailuku, Hawaii

October 2024

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EXHIBITS

1. LOCATION AND VICINITY MAP
2. PRELIMINARY SITE PLAN AND UTILITY PLAN
3. SOILS MAP
4. FLOOD ZONE MAP: TMK (2) 3-8-007:004
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6. DRAINAGE AREA MAP: PRE-DEVELOPMENT CONDITIONS
7. DRAINAGE AREA MAP: POST-DEVELOPMENT CONDITIONS

APPENDICES

A. PRELIMINARY HYDROLOGY CALCULATIONS

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
FOR
BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

I. INTRODUCTION

The purpose of this report is to provide an overview of the preliminary civil engineering design in support of the Baldwin High School Athletic Master Plan and Boy's and Girl's Locker Room Project hereinafter referred to as the "Project". This report evaluates existing site conditions and presents proposed site grading, drainage, water, and wastewater improvements.

II. PROPOSED PROJECT

A. LOCATION

The Project is located at the Baldwin High School, 1650 West Kaahumanu Avenue, Wailuku, Maui, and includes Tax Map Keys (TMK) (2) 3-8-007:004 and portions of (2) 3-8-007:055. TMK (2) 3-8-007:004 is school land while (2) 3-8-007:055 is county land. The total area of the two parcels is approximately 81 acres in size and is bounded by Lunalilo Street to the west, existing residential subdivision to the north, Kanaloa Avenue to the east, and West Kaahumanu Avenue to the south. The United States Army Reserve Site is adjacent to the project site to the southwest. The proposed project development area is located within TMK (2) 3-8-007:004. The landowner of the Project is the Country of Maui and the developer is the State of Hawaii Department of Education. (See Exhibit 1 for Location and Vicinity Map.)

B. PROJECT DESCRIPTION

InForm Design Inc. (IFD) developed a master plan concept package dated August 2023. The master plan concept consists of the construction of a new practice field with a 400-meter track at the upper site, a practice field, a two-story athletic facilities building and a two-story locker room building at the lower

site surrounding the existing basketball courts, a two-story classroom building that includes 14 classrooms to replace the existing portables near the existing gymnasium, and two ADA access ramp.

III. EXISTING CONDITIONS

A. TOPOGRAPHY AND SOIL CONDITIONS

The majority of the Baldwin High School property slopes northwest to southeast. Elevation ranges from about 83 to 171 feet mean sea level (MSL) with slopes ranging from 1 to 45 percent.

The soil classification found within the Project is predominately classified as Puuone sand, 7 to 30 percent slopes (PZUE) and accounts for 100 percent of the Project. Puuone sand is characterized by excessively drained soil with medium runoff. The Puu soil series is classified under hydrologic soil group “A”.

Soils classifications and descriptions are taken from the United States Department of Agriculture Soil Conservation Services Publication entitled, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawai‘i, dated 1972 and the United States Department of Agriculture (USDA) Web Soil Survey. (See Exhibit 3, Soils Map)

B. FLOOD ZONE

The proposed project site has a flood zone classification of Zone X. Zone X is characterized as an area of minimal flooding, specifically areas determined to be outside the 0.2% annual chance floodplain. Flood zone classification is based on the Flood Insurance Rate Map (FIRM) number 1500030685E, effective September 25, 2009, as prepared by the Federal Emergency Management Agency. (See Exhibit 4, Flood Zone Map)

C. INFRASTRUCTURE

a. Water

Water service to Baldwin High School is provided by the County of Maui Department Water Supply through an existing 4-inch domestic water meter that connects to an existing 12-inch water main within Kaahumanu Avenue. The campus domestic water service lines are a mixture of ductile iron and copper pipes with sizes varying from 2-inch to 6-inch. The campus fire

system water is provided by an 8-inch double-check detector assembly that connects to an existing 12-inch water main within Kaahumanu Avenue. The fire water service lines are ductile iron 6-inch waterlines that service various fire hydrants throughout the campus.

b. Wastewater

Existing 8-inch sewerlines service Baldwin High School throughout the campus and outlets to an existing County of Maui 8-inch sewer line located within the adjacent County of Maui Department of Parks and Recreation property located on the southeast portion of campus.

c. Drainage

Baldwin High School is located on a continuously sloped area allowing stormwater to flow generally towards the adjacent County of Maui Department of Parks and Recreation property located on the east side of the campus. While some of the stormwater runoff sheet flows through the property towards the County of Maui Department of Parks and Recreation property, a few on-site drainage systems divert stormwater into above and underground basins. There are currently two above-ground basins and three underground basins in various locations around the campus. Runoff around the existing gymnasium is collected by existing drain inlets and eventually outfalls into the existing County of Maui drainage system. Pre-development onsite runoff is estimated to be 136.16 cubic feet per second (cfs), based on a 50-year, 1-hour storm recurrence interval. Refer to Appendix A for Preliminary Hydrology Calculations and Exhibit 6 for Existing Drainage Map.

IV. PROPOSED IMPROVEMENTS

A. GRADING PLAN

The Project will require excavation and/or embankment for the construction of the proposed upper practice field with track, lower practice field, locker room building, athletic facility building, ADA access ramps, proposed classroom building, and attempts will be made to balance “cuts” and “fills” to the best extent feasible in order to accommodate drainage and service utilities, while minimizing the import and/or export of earthwork materials.

Several retaining walls are anticipated in the concept master plan where graded embankments and not feasible. A retaining wall is anticipated along the west side of the upper practice field to accommodate a full-size practice field with a 4-lane track. Other retaining walls will be utilized for the athletic facility and locker room buildings. Feasible retaining wall systems and alternatives will be dependent on the design geotechnical study recommendations.

B. DRAINAGE PLAN

Under the proposed master plan build-out, the existing flow pattern will generally remain the same. Proposed total runoff flow rates for a 50-year, 1 hour design storm, is approximately 157.89 cfs, which is an increase of 21.73 cfs over pre-development conditions. Refer to Appendix A, Preliminary Hydrology Calculations and Exhibit 7, Proposed Drainage Map.

The Maui County Department of Public Works and Environmental Management Drainage Standards requires retention of the increase in stormwater runoff between the post-development flows and pre-development flows. To retain the difference, underground retention basins will be installed under the proposed upper practice field, lower practice field, and in the parking lot located adjacent to the proposed 2-story 14-classroom building. Stormwater runoff will be collected by drain inlets, area drains, or swales and conveyed for retention via the proposed underground retention basins.

C. WATER SYSTEM

The existing 4-inch domestic water meter and system will remain and be used to provide domestic water to the proposed building and facilities. According to the County of Maui Department of Water Supply Water Meter Sizing Worksheet – Non-Residential the maximum capacity flow through a 4-inch water meter is 500 gallons per minute. The projected maximum daily demand for the proposed master plan is 121,500 gallons per day (gpd). See Table 1 below for estimated water demands for the proposed project.

Table 1. Baldwin High School Estimate Water Demand

*Zoning Designation	**Occupancy	Unit	*Gallons Per Unit Per Day	Average Daily Demand (gpd)	Max Daily Demand (gpd)	Max Daily Demand (gpm)
Schools, Park	1,350	Student	60	81,000	121,500	85

*Zoning Designation and gpd per unit, based on Table 100-18 – Domestic Consumption of Section 111 of Division 100 of the County of Maui Department of Water Supply's Water System Standards.

**Occupancy is based on the DOE's projected enrollment for Baldwin High School.

The existing 8-inch double-check detector assembly and fire water system will remain and be used to provide fire protection for the proposed project.

D. SEWER SYSTEM

The proposed project will connect to and utilize the existing wastewater system. The wastewater flows that are expected to be generated by the master plan buildout were estimated using information provided by the DOE, as well as the County of Maui Wastewater Reclamation Division Wastewater Flow Standards. See Table 2 below for the estimated wastewater flows for the proposed project.

Table 2. Baldwin High School Estimated Wastewater Flows

*Type of Use	**Occupancy	Unit	*Gallons Per Unit Per Day	Average Wastewater Flow (gpd)	Design Peak Flow (gpd)
School, High	1,350	Student	25	33,750	218,000

*Type of Use and gpd per unit, based on County of Maui Wastewater Reclamation Division Wastewater Flow Standards.

**Occupancy is based on the DOE's projected enrollment for Baldwin High School.

E. EROSION CONTROL PLAN

Temporary erosion control measures are required during construction to minimize soil loss and erosion hazards. Best Management Practices (BMPs) include silt fences, dust fences, stabilized construction entrances, truck wash-down areas, and filter socks. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties.

Regular inspection and maintenance of the erosion control BMPs must be conducted during construction. Monitoring of the BMPs during construction is the responsibility of the selected contractor with general oversight by the owner or the owner's designated representative.

V. CONCLUSION

The Project will comply with the Maui County's "Rules for the Design of Storm Water Treatment Best Management Practices". In accordance with the rules, runoff mitigation and treatment are required to maintain water quality. Temporary erosion controls are required to minimize pollution during and after construction.

The proposed improvements for the Project will be designed in accordance with the applicable rules and regulations of the County of Maui. Based on the preceding information, the Project is expected to have no adverse effects on existing facilities or the surrounding environment.

VI. REFERENCES

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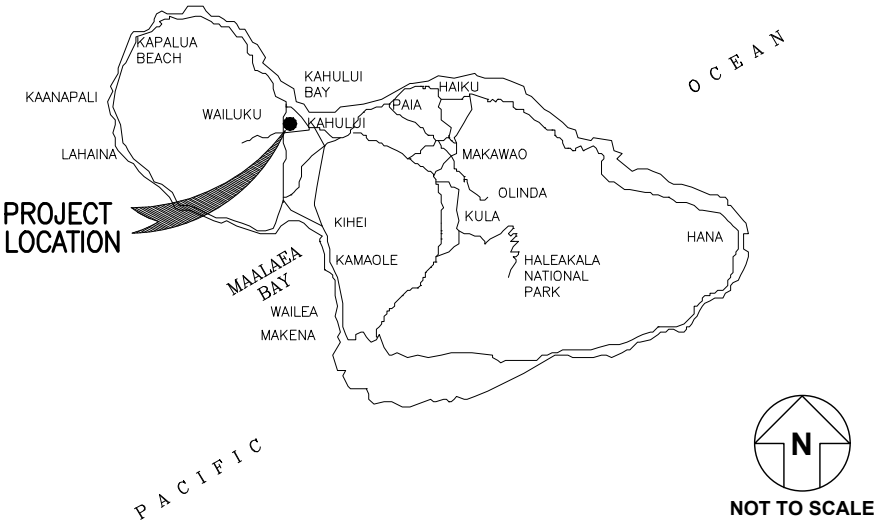
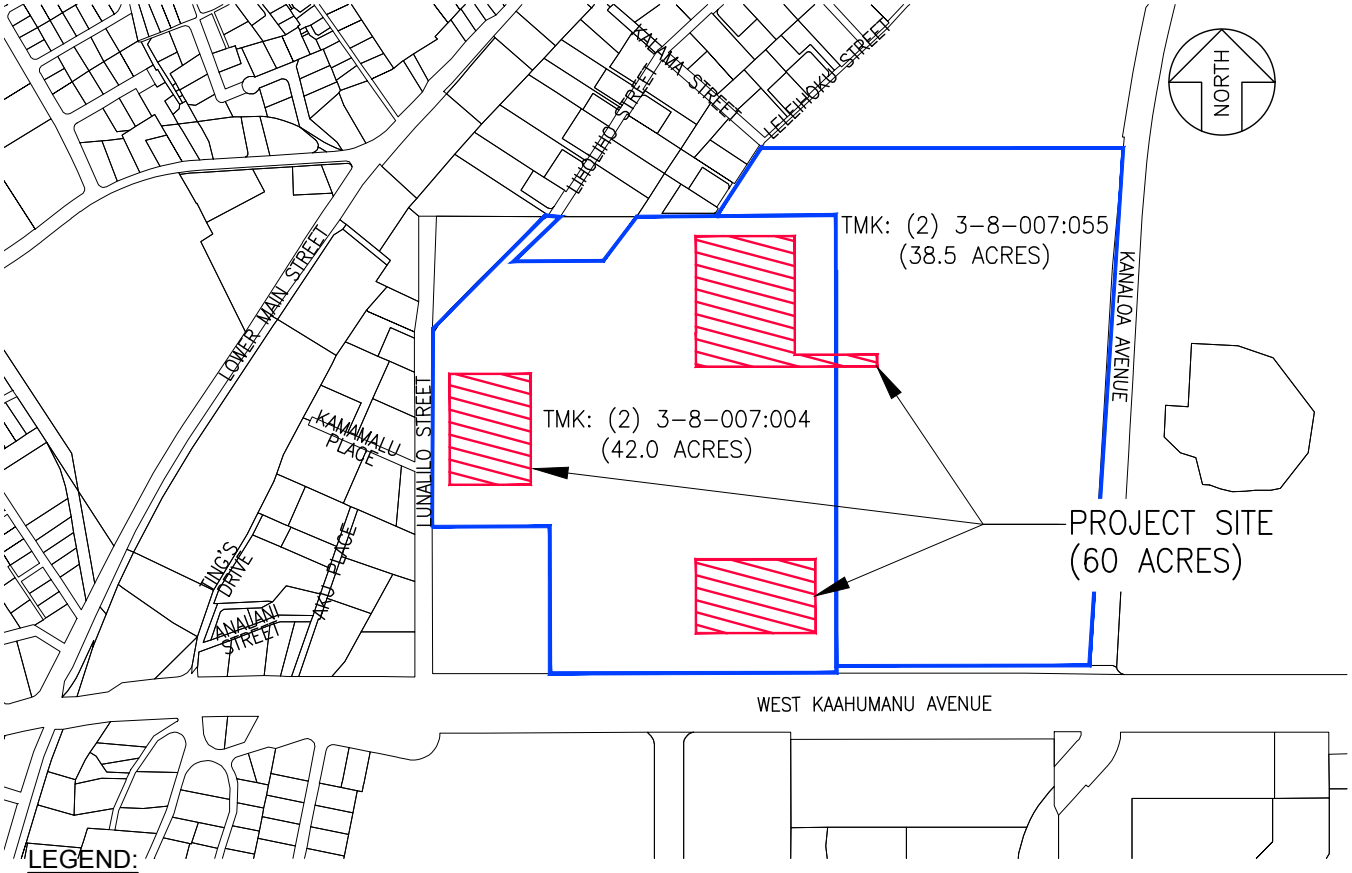
10. Maui County Department of Water Supply, *Draft Maui Island Water Use and Development Plan*, March 2019.

EXHIBITS



ISLAND OF MAUI

NOT TO SCALE



LEGEND:

- TMK BOUNDARY
- PROJECT AREA

LOCATION MAP

NOT TO SCALE

PRELIMINARY ENGINEERING AND DRAINAGE REPORT

BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055

WAILUKU, MAUI, HAWAII

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

LOCATION AND VICINITY MAP

EXHIBIT 1

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PROP. LOWER PRACTICE FIELD

PROP. UNDERGROUND RETENTION BASIN

SOFTBALL FIELD

BLDG. "T"

BLDG. "TT"

BATTING FACILITY

BLDG. "S"

BASKETBALL COURT

STO

BLDG. "M"

BLDG. "L"

P

PROP. LOCKER ROOM AND ATHLETIC FACILITY BLDGS.

K

PROP. UNDERGROUND RETENTION BASIN

PROP. UPPER PRACTICE FIELD W/ TRACK

BLDG. "G"

BLDG. "F"

BLDG. "E"

BLDG. "I"

BLDG. "N"

BLDG. "D"

BLDG. "J"

PROPOSED SEWER LINE

BLDG. "H"

BLDG. "R"

BLDG. "B"

BLDG. "C"

BLDG. "A"

PROP. UNDERGROUND RETENTION BASIN

PROP. CLASSROOM BLDG.

PROPOSED 6" FIRE WATER LINE

PROPOSED 2" WATER LINE

PROPOSED SEWER LINE

GYMNASIUM

TRUE NORTH
SCALE: 1"=100'

LEGEND:

- PROPOSED 2 INCH WATER LINE
- PROPOSED 6 INCH FIRE WATER LINE
- PROPOSED SEWER LINE
- PROPOSED UNDERGROUND RETENTION BASIN
- EXIST. BUILDING
- PROP. BUILDING

0 1 2
LINE IS 2 INCHES AT FULL SIZE
(If NOT 2-inches : Scale Accordingly)

PRELIMINARY ENGINEERING AND DRAINAGE REPORT

BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055

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Engineers & Surveyors

PRELIMINARY SITE AND XXXXXXXXXXXXXXX UTILITY PLAN

EXHIBIT

X2X

Y:\2021\21-043 Baldwin High School Athletic Master Plan and Boy's and Girl's Locker Room\ENGINEERING\PE & Drainage Report\Exhibits\EXH - 2 PRELIMINARY SITE AND UTILITY PLAN.dwg; August 17, 2022

NORTH

NOT TO SCALE

PZUE - PUUONE SAND, 7 TO 30 PERCENT SLOPES, HSG A

LEGEND:

TMK BOUNDARY

PROJECT AREA

0 1 2

LINE IS 2 INCHES AT FULL SIZE
(if NOT 2-inches : Scale Accordingly)

PRELIMINARY ENGINEERING AND DRAINAGE REPORT

BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055

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XXXXXXXXXXXXXXXX

EXHIBIT

X3X

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Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	MAUI
TMK NO:	(2) 3-8-007:004
WATERSHED:	IAO
PARCEL ADDRESS:	ADDRESS NOT DETERMINED WAILUKU, HI 96793

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 04, 2015
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL - EFFECTIVE DATE:	1500030391E - SEPTEMBER 25, 2009 1500030392E - SEPTEMBER 25, 2009

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

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

0 400 800 ft

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

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

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

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

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

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

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

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

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PRELIMINARY ENGINEERING AND DRAINAGE REPORT

BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055

WAILUKU, MAUI, HAWAII

Austin Tsutsumi & Associates, Inc.
Engineers & Surveyors

FLOOD ZONE MAP:
TMK (2) 3-8-007:004

EXHIBIT

4

Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	MAUI
TMK NO:	(2) 3-8-007:055
WATERSHED:	IAO
PARCEL ADDRESS:	ADDRESS NOT DETERMINED WAILUKU, HI 96793

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 04, 2015
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL - EFFECTIVE DATE:	1500030391E - SEPTEMBER 25, 2009 1500030392E - SEPTEMBER 25, 2009

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

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

0 400 800 ft

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- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

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PRELIMINARY ENGINEERING AND DRAINAGE REPORT

BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT

TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055

WAILUKU, MAUI, HAWAII

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

FLOOD ZONE MAP:
TMK (2) 3-8-007:055

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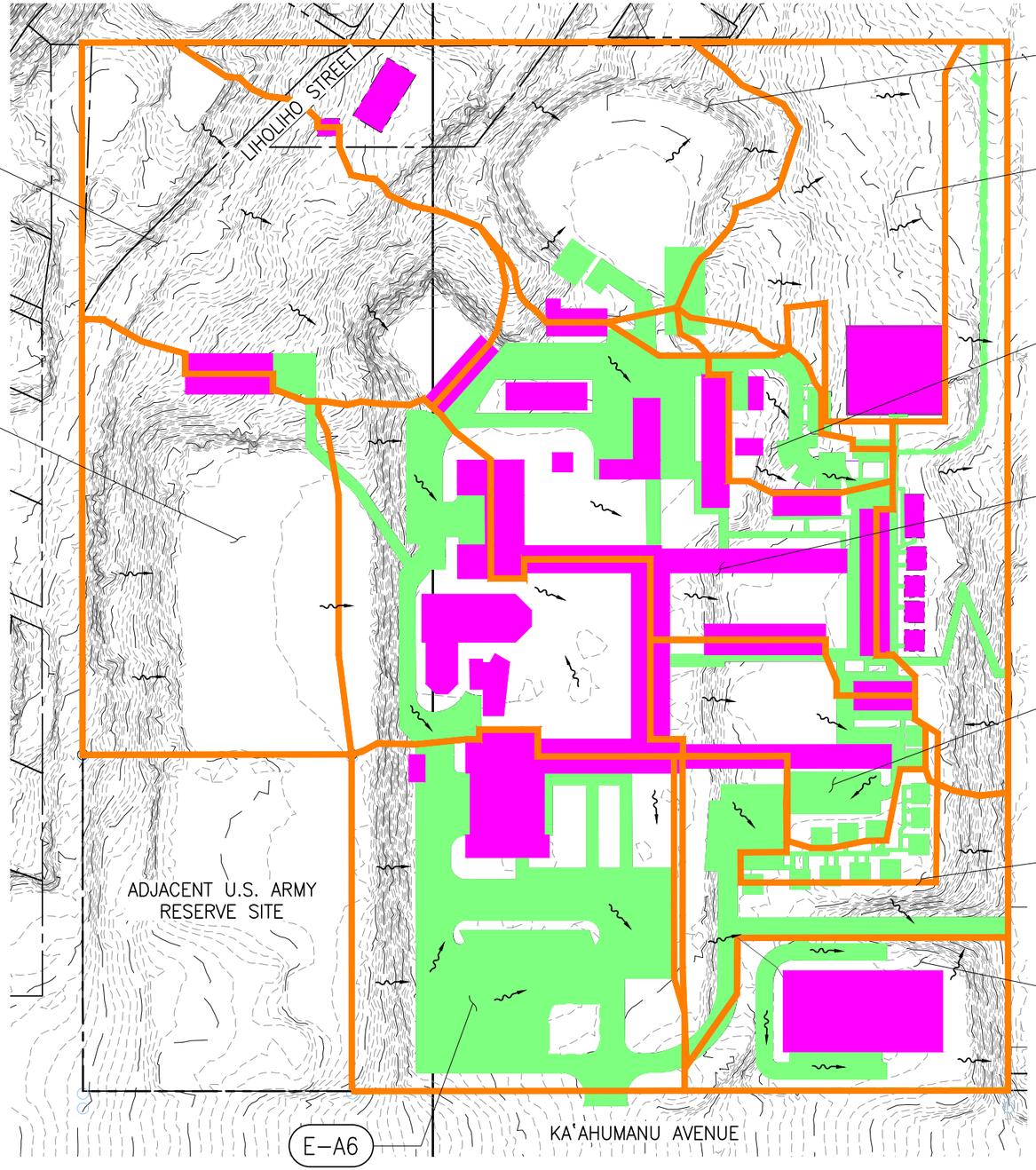

E-A2

DRAINS TO EXISTING FIELD
5.34 AC.
Q_{50}=10.69 CFS

E-A1

DRAINS TO UNDERGROUND RETENTION SYSTEM 1
9.14 AC
Q_{50}=21.49 CFS

E-A6

DRAINS TO UNDERGROUND RETENTION SYSTEM 2
5.53 AC
Q_{50}=26.09 CFS

E-A3

DRAINS TO EXISTING RETENTION BASIN 1
4.99 AC.
Q_{50}=8.77 CFS

E-A4A

DRAINS TO OFFSITE
7.04 AC.
Q_{50}=15.19 CFS

E-A7

DRAINS TO DI "E-1"
0.92 AC.
Q_{50}=3.63 CFS

E-A8

DRAINS TO UNDERGROUND RETENTION SYSTEM 3
4.62 AC.
Q_{50}=21.96 CFS

E-A9

DRAINS TO UNDERGROUND RETENTION SYSTEM 4
1.81 AC.
Q_{50}=10.95 CFS

E-A4B

DRAINS TO EXISTING OFFSITE
2.72 AC.
Q_{50}=10.25 CFS

E-A5

DRAINS TO EXISTING COUNTY DRAINAGE SYSTEM
2.26 AC.
Q_{50}=7.13 CFS

TRUE NORTH
SCALE: 1"=200'

LEGEND:

E-A1 DRAINAGE AREA

FLOW DIRECTION

EXISTING BLDG.

EXISTING ROAD

0 1 2
LINE IS 2 INCHES AT FULL SIZE
(If NOT 2-inches : Scale Accordingly)

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT
TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055
WAILUKU, MAUI, HAWAII

Austin Tsutsumi & Associates, Inc.
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EXISTING DRAINAGE MAP

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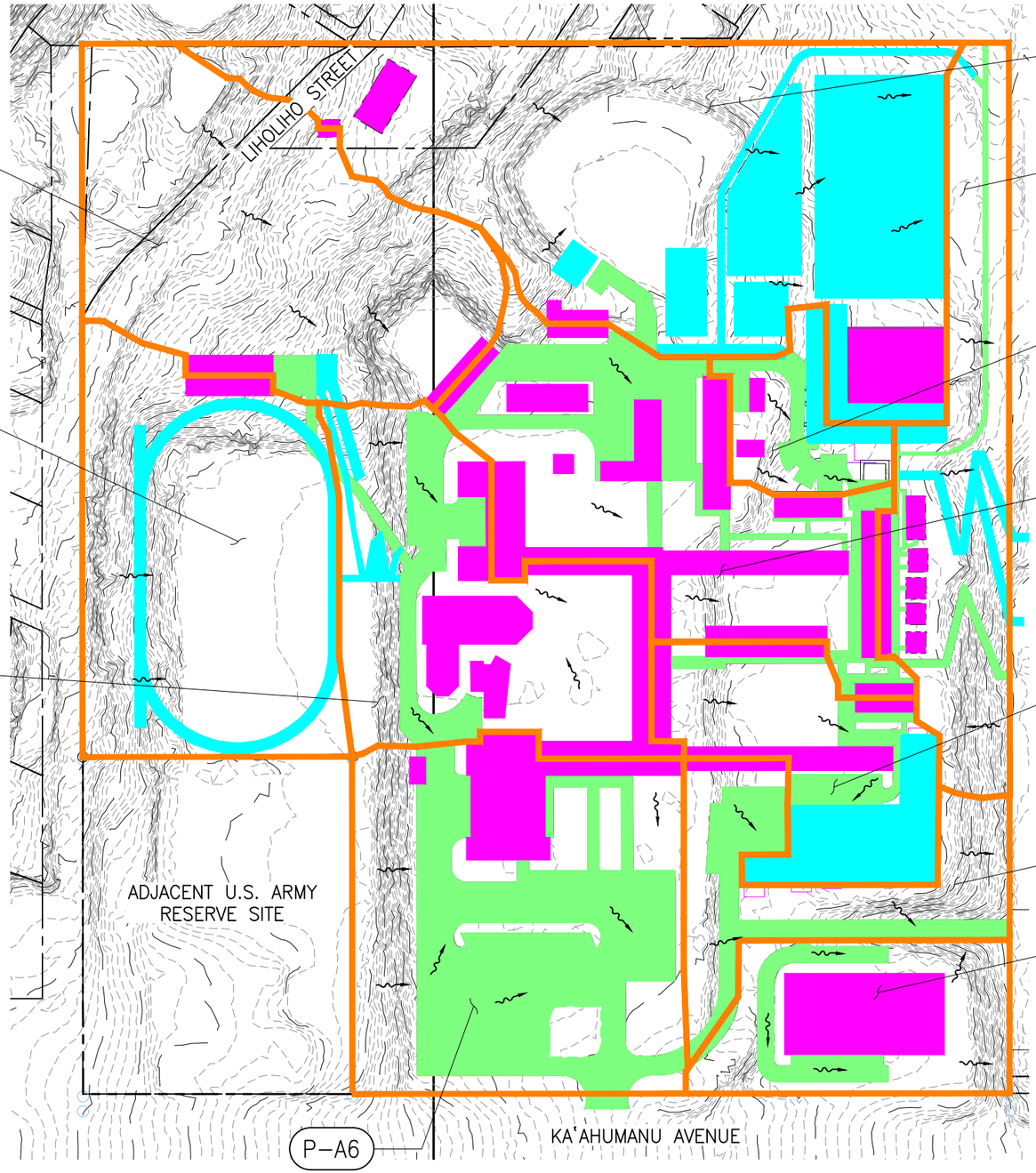
6

Y:\2021\21-043 Baldwin High School Athletic Master Plan and Boy's and Girl's Locker Room\ENGINEERING\PE & Drainage Report\Exhibits\EXH - 6 EXISTING DRAINAGE MAP.dwg; October 31, 2024



P-A2

DRAINS TO EXISTING FIELD
5.34 AC.
Q_{50}=10.69 CFS

P-A1

DRAINS TO PROPOSED UNDERGROUND RETENTION SYSTEM 1
5.06 AC
Q_{50}=7.45 CFS

P-A10

DRAINS TO PROPOSED UNDERGROUND RETENTION SYSTEM 2
4.08 AC
Q_{50}=17.67 CFS

P-A6

DRAINS TO EXISTING UNDERGROUND RETENTION SYSTEM 1
5.79 AC
Q_{50}=26.55 CFS

P-A3

DRAINS TO PROPOSED UNDERGROUND RETENTION SYSTEM 2
8.62 AC.
Q_{50}=26.19 CFS

P-A4A

DRAINS TO OFFSITE
3.25 AC.
Q_{50}=10.42 CFS

P-A7

DRAINS TO DI "E-1"
1.00 AC.
Q_{50}=6.67 CFS

P-A8

DRAINS TO EXISTING UNDERGROUND RETENTION SYSTEM 2
4.58 AC.
Q_{50}=21.02 CFS

P-A9

DRAINS TO EXISTING UNDERGROUND RETENTION SYSTEM 3
2.30 AC.
Q_{50}=16.65 CFS

P-A4B

DRAINS TO OFFSITE
2.09 AC.
Q_{50}=7.45 CFS

P-A5

DRAINS TO EXISTING COUNTY DRAINAGE SYSTEM
2.26 AC.
Q_{50}=7.13 CFS

TRUE NORTH
SCALE: 1"=200'

LEGEND:

- P-A1 — DRAINAGE AREA
- FLOW DIRECTION
- EXISTING BLDG.
- EXISTING ROAD
- PROPOSED IMPROVEMENTS

0 1 2
LINE IS 2 INCHES AT FULL SIZE
(If NOT 2-inches : Scale Accordingly)

PRELIMINARY ENGINEERING AND DRAINAGE REPORT
BALDWIN HIGH SCHOOL ATHLETIC MASTER PLAN AND BOY'S AND GIRL'S LOCKER ROOM PROJECT
TMK: (2) 3-8-007:004 AND TMK: (2) 3-8-007:055
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PROPOSED DRAINAGE MAP

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7

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APPENDICES

APPENDIX A – PRELIMINARY HYDROLOGY CALCULATIONS

50-YEAR RUNOFF SUMMARY

TABLE 1

RUNOFF CALCULATIONS - EXISTING CONDITIONS

Drainage Area	Discharge Area	Area (ac)	Tc (min)	I_{50} (in/hr)	C	Q_{50} (cfs)	Vol_{50} (cf)
E-A1	Existing Underground Retention System 1	9.14	17.3	6.1	0.39	21.49	38,680
E-A2	Existing Field	5.34	12.0	7.1	0.28	10.69	19,236
E-A3	Existing Retention Basin	4.99	16.5	6.2	0.28	8.77	15,795
E-A4A	Offsite	7.04	16.6	6.2	0.35	15.19	27,346
E-A4B	Offsite	2.72	10.6	7.5	0.51	10.25	18,451
E-A5	Existing County Drainage System	2.26	21.6	5.6	0.57	7.13	12,840
E-A6	Existing Underground Retention System 2	5.53	12.7	7.0	0.68	26.09	46,970
E-A7	DI "E-1"	0.92	11.6	7.2	0.55	3.63	6,538
E-A8	Existing Underground Retention System 3	4.62	11.5	7.2	0.66	21.96	39,531
E-A9	Existing Underground Retention System 4	1.81	5.0	10.3	0.59	10.95	19,706
Total		**44.37**			**Total**	**136.16**	**245,092**

TABLE 2

RUNOFF CALCULATIONS - POST DEVELOPMENT CONDITIONS

Drainage Area	Discharge Area	Area (ac)	Tc (min)	I_{50} (in/hr)	C	Q_{50} (cfs)	Vol_{50} (cf)
P-A1	Proposed Underground Retention System 1	5.06	11.2	4.3	0.34	7.45	13,405
P-A2	Existing Field	5.34	12.0	7.1	0.28	10.69	19,236
P-A3	Proposed Underground Retention System 2	8.62	15.4	6.3	0.48	26.19	47,146
P-A4A	Offsite	3.25	9.7	7.8	0.41	10.42	18,760
P-AAB	Offsite	2.09	11.6	7.2	0.50	7.45	13,411
P-A5	Existing County Drainage System	2.26	21.6	5.6	0.57	7.13	12,840
P-A6	Existing Underground Retention System 1	5.79	12.7	7.0	0.66	26.55	47,786
P-A7	DI "E-1"	1.00	5.0	10.3	0.65	6.67	11,999
P-A8	Existing Underground Retention System 2	4.58	11.5	7.0	0.66	21.02	37,840
P-A9	Existing Underground Retention System 3	2.30	5.0	10.3	0.70	16.65	29,962
P-A10	Proposed Underground Retention System 2	4.08	9.6	7.8	0.56	17.67	31,812
Total		**44.37**			**Total**	157.89	284,198
					Increase	**21.73**	**39,105**

Notes:

1. Adjusted Intensity interpolated from NOAA Atlas 14 data (see attached) based on duration equal to the Time of Concentration
2. Refer to Time of Concentration Calculations for determination of Tc value.
3. Refer to Runoff Coefficient Calculations for determination of weighted C value.
4. Runoff Volume determined using triangular Rational Method Hydrograph ending at 1-hour.

50-YEAR RUNOFF COEFFICIENT CALCULATIONS

LAND USES OR SURFACE TYPES AT SITE:

Grass Lawn, and Landscaping	C = 0.25
Pavement, Walkways, and other Impervious Surfaces	C = 0.95

WEIGHTED RUNOFF COEFFICIENT CALCULATIONS:

EXISTING

E-A1		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	80.6%	320,826	7.365
Pavement, Walkways, and other Impervious surfaces	C = 0.95	19.4%	77,105	1.770
	C = 0.39	100.0%		**9.135**

E-A2		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	95.5%	222,194	5.101
Pavement, Walkways, and other Impervious surfaces	C = 0.95	4.5%	10,546	0.242
	C = 0.28	100.0%		**5.343**

E-A3		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	95.2%	207,059	4.753
Pavement, Walkways, and other Impervious surfaces	C = 0.95	4.8%	10,397	0.239
	C = 0.28	100.0%		**4.992**

E-A4A		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	86.0%	263,417	6.047
Pavement, Walkways, and other Impervious surfaces	C = 0.95	14.0%	43,051	0.988
	C = 0.35	100.0%		**7.035**

E-A4B		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	63.6%	75,236	1.727
Pavement, Walkways, and other Impervious surfaces	C = 0.95	36.4%	43,111	0.990
	C = 0.51	100.0%		**2.717**

E-A5		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	54.5%	53,633	1.231
Pavement, Walkways, and other Impervious surfaces	C = 0.95	45.5%	44,838	1.029
	C = 0.57	100.0%		**2.260**

E-A6		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	38.8%	93,372	2.144
Pavement, Walkways, and other Impervious surfaces	C = 0.95	61.2%	147,561	3.388
	C = 0.68	100.0%		**5.532**

E-A7		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	57.6%	23,182	0.532
Pavement, Walkways, and other Impervious surfaces	C = 0.95	42.4%	17,047	0.391
	C = 0.55	100.0%		**0.923**

E-A8		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	41.5%	83,545	1.918
Pavement, Walkways, and other Impervious surfaces	C = 0.95	58.5%	117,855	2.706
	C = 0.66	100.0%		**4.624**

E-A9		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	51.8%	40,843	0.938
Pavement, Walkways, and other Impervious surfaces	C = 0.95	48.2%	37,989	0.872
	C = 0.59	100.0%		**1.810**

PROPOSED

P-A1		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	87.1%	192,088	4.410
Pavement, Walkways, and other Impervious surfaces	C = 0.95	12.9%	28,497	0.654
	C = 0.34	100.0%		**5.064**

P-A2		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	95.5%	222,194	5.101
Pavement, Walkways, and other Impervious surfaces	C = 0.95	4.5%	10,546	0.242
	C = 0.28	100.0%		**5.343**

P-A3		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	66.8%	250,855	5.759
Pavement, Walkways, and other Impervious surfaces	C = 0.95	33.2%	124,616	2.861
	C = 0.48	100.0%		**8.620**

P-A4A		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	76.9%	109,003	2.502
Pavement, Walkways, and other Impervious surfaces	C = 0.95	23.1%	32,741	0.752
	C = 0.41	100.0%		**3.254**

P-A4B		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	64.8%	58,920	1.353
Pavement, Walkways, and other Impervious surfaces	C = 0.95	35.2%	31,942	0.733
	C = 0.50	100.0%		**2.086**

P-A5		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	54.5%	53,633	1.231
Pavement, Walkways, and other Impervious surfaces	C = 0.95	45.5%	44,838	1.029
	C = 0.57	100.0%		**2.260**

P-A6		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	41.5%	104,763	2.405
Pavement, Walkways, and other Impervious surfaces	C = 0.95	58.5%	147,561	3.388
	C = 0.66	100.0%		**5.793**

P-A7		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	43.1%	18,731	0.430
Pavement, Walkways, and other Impervious surfaces	C = 0.95	56.9%	24,746	0.568
	C = 0.65	100.0%		**0.998**

P-A8		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	42.0%	83,732	1.922
Pavement, Walkways, and other Impervious surfaces	C = 0.95	58.0%	115,668	2.655
	C = 0.66	100.0%		**4.578**

P-A9		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	35.3%	35,351	0.812
Pavement, Walkways, and other Impervious surfaces	C = 0.95	64.7%	64,799	1.488
	C = 0.70	100.0%		**2.299**

P-A10		**Percent**	**Area (SF)**	**Area (AC)**
Grass Lawn, and Landscaping	C = 0.25	56.3%	100,008	2.296
Pavement, Walkways, and other Impervious surfaces	C = 0.95	43.7%	77,577	1.781
	C = 0.56	100.0%		**4.077**

Notes:
1. The project site contains a mix of open space, and impervious surfaces.
   Runoff coefficients are determined by composite coverage calculations.

50-YEAR TIME OF CONCENTRATION CALCULATIONS

EXISTING CONDITIONS

Drainage Area	Segment	OVERLAND FLOW							
		Cover	Type of Flow	Length (ft)	Elevation Top (ft)	Elevation Bot (ft)	Average Slope (ft/ft)	Vel. (ft/s)	Tc (min)
E-A1	A	Dense Grass	Sheet	100	218.50	205.00	0.1350	-	11.8
	B	Dense Grass	Shallow Conc	497	205.00	164.00	0.0825	4.0000	2.1
	C	Avg. Grass	Shallow Conc	271	164.00	161.45	0.0094	2.0000	2.3
	D	Paved	Shallow Conc	18	161.45	155.10	0.3528	18.0000	0.0
	E	Dense Grass	Shallow Conc	47	155.10	142.89	0.2598	4.5000	0.2
	F	Paved	Shallow Conc	67	142.89	138.00	0.0730	12.9000	0.1
	G	Avg. Grass	Shallow Conc	277	138.00	137.85	0.0005	5.0000	0.9
								TOTAL	**17.3**
E-A2	A	Dense Grass	Sheet	100	234.03	213.00	0.2103	-	10.5
	B	Avg. Grass	Shallow Conc.	312	213.00	165.00	0.1538	6.0000	0.9
	C	Dense Grass	Shallow Conc.	49	165.00	139.00	0.5306	4.5000	0.2
	D	Avg. Grass	Shallow Conc.	52.5	139.00	138.00	0.0190	2.0000	0.4
								TOTAL	**12.0**
E-A3	A	Dense Grass	Sheet	100	235.00	226.54	0.0846	-	13.0
	B	Avg. Grass	Shallow Conc.	312	226.54	208.83	0.0568	4.0000	1.3
	C	Paved	Shallow Conc.	192	208.83	191.86	0.0884	15.0000	0.2
	D	Dense Grass	Shallow Conc.	120	191.86	165.93	0.2161	4.5000	0.4
	E	Avg. Grass	Shallow Conc.	468	165.93	126.00	0.0853	5.0000	1.6
								TOTAL	**16.5**
E-A4A	A	Dense Grass	Sheet	100	146.00	140.62	0.0538	-	14.0
	B	Dense Grass	Shallow Conc.	470	140.62	112.20	0.0605	3.0000	2.6
								TOTAL	**16.6**
E-A4B	A	Avg, Grass	Sheet	50	137.41	136.01	0.0280	-	9.0
	B	Paved	Sheet	50	136.01	123.80	0.2442		0.6
	C	Paved	Shallow Conc.	59	123.80	122.26	0.0261	5.00	0.2
	D	Avg. Grass	Shallow Conc.	148	122.26	111.69	0.0714	4.14	0.6
	E	Paved	Shallow Conc.	231	111.69	88.44	0.1006	15.00	0.3
								TOTAL	**10.6**
E-A5	A	Avg, Grass	Sheet	49	122.55	122.00	0.0112	-	11.0
	B	Paved	Sheet	25	122.00	114.05	0.3180	6.40	0.9
	C	Avg. Grass	Sheet	25	114.05	113.95	0.0040	2.00	9.0
	D	Paved	Sheet	204	113.95	113.49	0.0023	5.00	0.7
								TOTAL	**21.6**
E-A6	A	Avg, Grass	Sheet	100	163.98	136.99	0.2699	-	11.9
	B	Paved	Shallow Conc.	54	136.99	135.29	0.0315	6.40	0.1
	C	Avg. Grass	Shallow Conc.	79	135.29	133.00	0.0290	2.00	0.7
								TOTAL	**12.7**
E-A7	A	Avg, Grass	Sheet	100	146.00	139.16	0.0684	-	10.5
	B	Avg, Grass	Shallow Conc.	25	139.16	136.79	0.0948	5.00	0.1
	C	Paved	Shallow Conc.	187	136.79	126.25	0.0564	12.00	0.3
	E	Avg. Grass	Shallow Conc.	68	126.25	123.69	0.0376	3.20	0.4
	F	Paved	Shallow Conc.	41	123.69	122.70	0.0241	5.00	0.1
	G	Avg. Grass	Shallow Conc.	24	122.70	122.00	0.0292	2.00	0.2
	H	Paved	Shallow Conc.	19	122.00	121.94	0.0032	5.00	0.1
								TOTAL	**11.6**

E-A8	A	Avg, Grass	Sheet	100	169.00	153.42	0.1558	-	8.5
	B	Avg. Grass	Shallow Conc.	50	153.42	141.99	0.2286	6.00	0.1
	C	Paved	Shallow Conc.	458	141.99	136.10	0.0129	5.00	1.5
	D	Avg. Grass	Shallow Conc.	320	136.10	122.40	0.0428	4.00	1.3
								TOTAL	**11.5**

E-A9	A	Paved	Sheet	100	138.00	137.17	0.0083	-	3.0
	C	Avg. Grass	Shallow Conc.	231	137.17	123.18	0.0606	4.00	1.0
	D	Paved	Shallow Conc.	162	123.18	122.31	0.0054	5.00	0.5
								TOTAL	**4.5**

PROPOSED CONDITIONS

Drainage Area	Segment	OVERLAND FLOW Cover		Length (ft)	Elevation Top (ft)	Elevation Bot (ft)	Average Slope (ft/ft)	Vel. (ft/s)	Tc (min)
P-A1	A	Dense Grass	Sheet	100	218.54	204.95	0.1359	-	10.0
	B	Dense Grass	Sheet	108	204.95	178.80	0.2421	4.5000	0.4
	C	Paved	Shallow Conc	17	178.80	173.37	0.3194	18.0000	0.0
	D	Avg. Grass	Shallow Conc	182	173.37	163.47	0.0544	4.0000	0.8
								TOTAL	**11.2**

P-A2	A	Dense Grass	Sheet	100	234.03	213.00	0.2103	-	10.5
	B	Avg. Grass	Shallow Conc.	312	213.00	165.00	0.1538	6.0000	0.9
	C	Dense Grass	Shallow Conc.	49	165.00	139.00	0.5306	4.5000	0.2
	D	Avg. Grass	Shallow Conc.	52.5	139.00	138.00	0.0190	2.0000	0.4
								TOTAL	**12.0**

P-A3	A	Dense Grass	Sheet	100	236.00	226.54	0.0946	-	12.0
	B	Dense Grass	Sheet	93	226.54	208.83	0.1904	4.5000	0.3
	C	Avg. Grass	Shallow Conc.	93	208.83	191.86	0.1825	6.0000	0.3
	D	Dense Grass	Shallow Conc.	192	191.86	165.93	0.1351	4.5000	0.7
	E	Avg. Grass	Shallow Conc.	362	165.93	136.22	0.0821	5.0000	1.2
	F	Paved	Shallow Conc.	10	136.22	135.94	0.0280	5.0000	0.0
	G	Avg. Grass	Shallow Conc.	215	135.94	120.92	0.0699	4.0000	0.9
								TOTAL	**15.4**

P-A4A	A	Avg. Grass	Sheet	100	121.94	112.34	0.0960	-	9.5
	B	Avg. Grass	Shallow Conc.	18	112.34	110.60	0.0967	5.0000	0.1
	C	Paved	Shallow Conc.	20	110.60	109.13	0.0735	13.2000	0.0
	D	Avg. Grass	Shallow Conc.	9	109.13	108.60	0.0589	4.0000	0.0
	E	Paved	Shallow Conc.	14	108.60	107.84	0.0543	12.0000	0.0
	F	Avg. Grass	Shallow Conc.	18	107.84	106.40	0.0800	5.0000	0.1
								TOTAL	**9.7**

P-A4B	A	Avg. Grass	Sheet	35	137.03	136.01	0.0291	-	9.5
	B	Paved	Sheet	65	136.01	123.66	0.1900		0.4
	C	Avg. Grass	Shallow Conc.	226	123.66	111.42	0.0542	4.0000	0.9
	D	Paved	Shallow Conc.	231	111.42	88.44	0.0995	5.0000	0.8
								TOTAL	**11.6**

P-A5	A	Avg, Grass	Sheet	49	122.55	122.00	0.0112	-	11.0
	B	Paved	Sheet	25	122.00	114.05	0.3180	6.40	0.9
	C	Avg. Grass	Sheet	25	114.05	113.95	0.0040	2.00	9.0
	D	Paved	Sheet	204	113.95	113.49	0.0023	5.00	0.7
								TOTAL	**21.6**

P-A6	A	Avg, Grass	Sheet	100	163.98	136.99	0.2699	-	11.9
	B	Paved	Shallow Conc.	54	136.99	135.29	0.0315	6.40	0.1
	C	Avg. Grass	Shallow Conc.	79	135.29	133.00	0.0290	2.00	0.7
								TOTAL	**12.7**

P-A7	A	Paved	Sheet	100	136.79	130.78	0.0601	-	1.1
	B	Paved	Shallow Conc.	166	130.78	123.67	0.0428	12.0000	0.2
	C	Avg. Grass	Shallow Conc.	64	123.67	122.04	0.0255	2.0000	0.5
	D	Paved	Shallow Conc.	9	122.04	121.92	0.0133	5.0000	0.0
								TOTAL	**1.9**

P-A8	A	Avg, Grass	Sheet	100	169.00	153.42	0.1558	-	8.5
	B	Avg. Grass	Shallow Conc.	50	153.42	141.99	0.2286	6.00	0.1
	C	Paved	Shallow Conc.	458	141.99	136.10	0.0129	5.00	1.5
	D	Avg. Grass	Shallow Conc.	320	136.10	122.40	0.0428	4.00	1.3
								TOTAL	**11.5**

P-A9	A	Paved	Sheet	100	138.00	137.17	0.0083	-	3.0
	C	Avg. Grass	Shallow Conc.	231	137.17	123.18	0.0606	4.00	1.0
	D	Paved	Shallow Conc.	162	123.18	122.31	0.0054	5.00	0.5
								TOTAL	**4.5**

P-A10	A	Paved	Sheet	38	178.00	175.22	0.0732	-	0.4
	B	Avg. Grass	Sheet	62	175.22	156.13	0.3079	-	6.0
	C	Avg. Grass	Shallow Conc.	31	156.13	145.19	0.3529	6.00	0.1
	D	Paved	Shallow Conc.	246	145.19	138.00	0.0292	5.00	0.8
	E	Avg. Grass	Shallow Conc.	276	138.00	137.85	0.0005	2.00	2.3
								TOTAL	**9.6**

Notes:

1. Sheet Flow time determined using Maui Stds. Plate 1
2. Shallow concentrated Flow time is determined using velocity from Table 4 of Maui Stds
3. *A minimum Tc of 5.0 minutes is used for Rational Method Calculations

NOAA Atlas 14, Volume 4, Version 3
Location name: Wailuku, Hawaii, USA*
Latitude: 20.8911°, Longitude: -156.4911°
Elevation: 161 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

S. Perica, D. Martin, B. Lin, T. Parzybok, D. Riley, M. Yekta, L. Hiner, L.-C. Chen, D. Brewer, F. Yan, K. Maitaria, C. Trypaluk, G. M. Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**3.32** (2.84-3.77)	**4.43** (3.80-5.18)	**6.00** (5.10-7.04)	**7.24** (6.07-8.54)	**8.93** (7.37-10.7)	**10.3** (8.36-12.4)	**11.7** (9.30-14.3)	**13.1** (10.2-16.3)	**15.2** (11.3-19.3)	**16.8** (12.1-21.7)
10-min	**2.47** (2.11-2.80)	**3.29** (2.82-3.84)	**4.45** (3.79-5.22)	**5.36** (4.51-6.33)	**6.62** (5.47-7.90)	**7.62** (6.20-9.20)	**8.66** (6.89-10.6)	**9.74** (7.57-12.1)	**11.2** (8.40-14.3)	**12.4** (8.98-16.1)
15-min	**2.06** (1.77-2.34)	**2.75** (2.36-3.22)	**3.72** (3.17-4.37)	**4.49** (3.77-5.30)	**5.54** (4.58-6.62)	**6.38** (5.19-7.70)	**7.25** (5.77-8.87)	**8.16** (6.34-10.1)	**9.41** (7.03-12.0)	**10.4** (7.52-13.5)
30-min	**1.45** (1.24-1.65)	**1.94** (1.66-2.26)	**2.62** (2.23-3.08)	**3.16** (2.65-3.73)	**3.90** (3.22-4.66)	**4.49** (3.65-5.42)	**5.10** (4.06-6.24)	**5.74** (4.46-7.13)	**6.62** (4.95-8.41)	**7.33** (5.29-9.49)
60-min	**0.956** (0.818-1.08)	**1.27** (1.09-1.49)	**1.72** (1.47-2.02)	**2.08** (1.75-2.45)	**2.57** (2.12-3.06)	**2.95** (2.40-3.57)	**3.36** (2.67-4.10)	**3.78** (2.94-4.69)	**4.36** (3.26-5.53)	**4.82** (3.48-6.24)
2-hr	**0.655** (0.572-0.756)	**0.884** (0.759-1.03)	**1.19** (1.01-1.40)	**1.43** (1.20-1.70)	**1.76** (1.46-2.11)	**2.02** (1.64-2.44)	**2.28** (1.81-2.79)	**2.55** (1.97-3.17)	**2.92** (2.17-3.71)	**3.21** (2.30-4.16)
3-hr	**0.497** (0.435-0.572)	**0.677** (0.581-0.790)	**0.916** (0.778-1.08)	**1.10** (0.925-1.30)	**1.36** (1.12-1.62)	**1.55** (1.26-1.88)	**1.75** (1.39-2.15)	**1.96** (1.52-2.44)	**2.24** (1.67-2.86)	**2.47** (1.77-3.20)
6-hr	**0.313** (0.271-0.363)	**0.424** (0.363-0.497)	**0.580** (0.491-0.681)	**0.701** (0.588-0.830)	**0.866** (0.714-1.04)	**0.996** (0.806-1.21)	**1.13** (0.894-1.38)	**1.26** (0.977-1.57)	**1.45** (1.08-1.85)	**1.60** (1.14-2.07)
12-hr	**0.194** (0.168-0.224)	**0.264** (0.225-0.308)	**0.363** (0.308-0.426)	**0.442** (0.371-0.522)	**0.553** (0.455-0.660)	**0.641** (0.518-0.774)	**0.732** (0.579-0.895)	**0.828** (0.638-1.03)	**0.961** (0.710-1.22)	**1.07** (0.760-1.38)
24-hr	**0.119** (0.104-0.138)	**0.164** (0.142-0.191)	**0.228** (0.197-0.265)	**0.281** (0.241-0.327)	**0.355** (0.301-0.415)	**0.415** (0.349-0.488)	**0.479** (0.397-0.567)	**0.547** (0.447-0.653)	**0.645** (0.515-0.777)	**0.724** (0.566-0.880)
2-day	**0.068** (0.060-0.078)	**0.094** (0.083-0.108)	**0.132** (0.116-0.151)	**0.163** (0.142-0.187)	**0.208** (0.179-0.239)	**0.244** (0.208-0.283)	**0.282** (0.238-0.329)	**0.323** (0.268-0.380)	**0.382** (0.309-0.454)	**0.430** (0.340-0.516)
3-day	**0.049** (0.043-0.055)	**0.068** (0.060-0.077)	**0.095** (0.084-0.108)	**0.118** (0.103-0.134)	**0.150** (0.130-0.173)	**0.177** (0.152-0.205)	**0.206** (0.174-0.240)	**0.237** (0.197-0.278)	**0.282** (0.229-0.334)	**0.318** (0.253-0.381)
4-day	**0.039** (0.035-0.044)	**0.054** (0.048-0.061)	**0.076** (0.067-0.087)	**0.095** (0.083-0.108)	**0.121** (0.105-0.139)	**0.144** (0.123-0.166)	**0.168** (0.142-0.195)	**0.194** (0.162-0.227)	**0.231** (0.188-0.274)	**0.263** (0.209-0.314)
7-day	**0.024** (0.022-0.028)	**0.034** (0.030-0.039)	**0.048** (0.042-0.055)	**0.060** (0.052-0.068)	**0.077** (0.066-0.088)	**0.091** (0.078-0.104)	**0.106** (0.089-0.123)	**0.122** (0.102-0.143)	**0.146** (0.119-0.172)	**0.165** (0.132-0.198)
10-day	**0.019** (0.017-0.021)	**0.026** (0.023-0.029)	**0.036** (0.032-0.041)	**0.045** (0.039-0.051)	**0.057** (0.050-0.066)	**0.068** (0.058-0.078)	**0.079** (0.067-0.091)	**0.091** (0.076-0.106)	**0.108** (0.088-0.128)	**0.122** (0.097-0.146)
20-day	**0.011** (0.010-0.013)	**0.016** (0.014-0.018)	**0.022** (0.019-0.025)	**0.027** (0.024-0.031)	**0.034** (0.030-0.039)	**0.040** (0.034-0.046)	**0.046** (0.039-0.053)	**0.052** (0.044-0.061)	**0.062** (0.050-0.073)	**0.069** (0.055-0.083)
30-day	**0.009** (0.008-0.010)	**0.012** (0.011-0.014)	**0.017** (0.015-0.019)	**0.021** (0.018-0.024)	**0.026** (0.022-0.030)	**0.030** (0.026-0.035)	**0.034** (0.029-0.040)	**0.039** (0.033-0.046)	**0.045** (0.037-0.054)	**0.051** (0.040-0.060)
45-day	**0.007** (0.006-0.008)	**0.010** (0.009-0.011)	**0.013** (0.012-0.015)	**0.016** (0.014-0.019)	**0.020** (0.018-0.023)	**0.023** (0.020-0.027)	**0.026** (0.022-0.031)	**0.030** (0.025-0.035)	**0.034** (0.028-0.040)	**0.037** (0.030-0.045)
60-day	**0.006** (0.005-0.007)	**0.008** (0.007-0.009)	**0.011** (0.010-0.013)	**0.014** (0.012-0.016)	**0.017** (0.014-0.019)	**0.019** (0.016-0.022)	**0.021** (0.018-0.025)	**0.024** (0.020-0.028)	**0.027** (0.022-0.032)	**0.029** (0.023-0.035)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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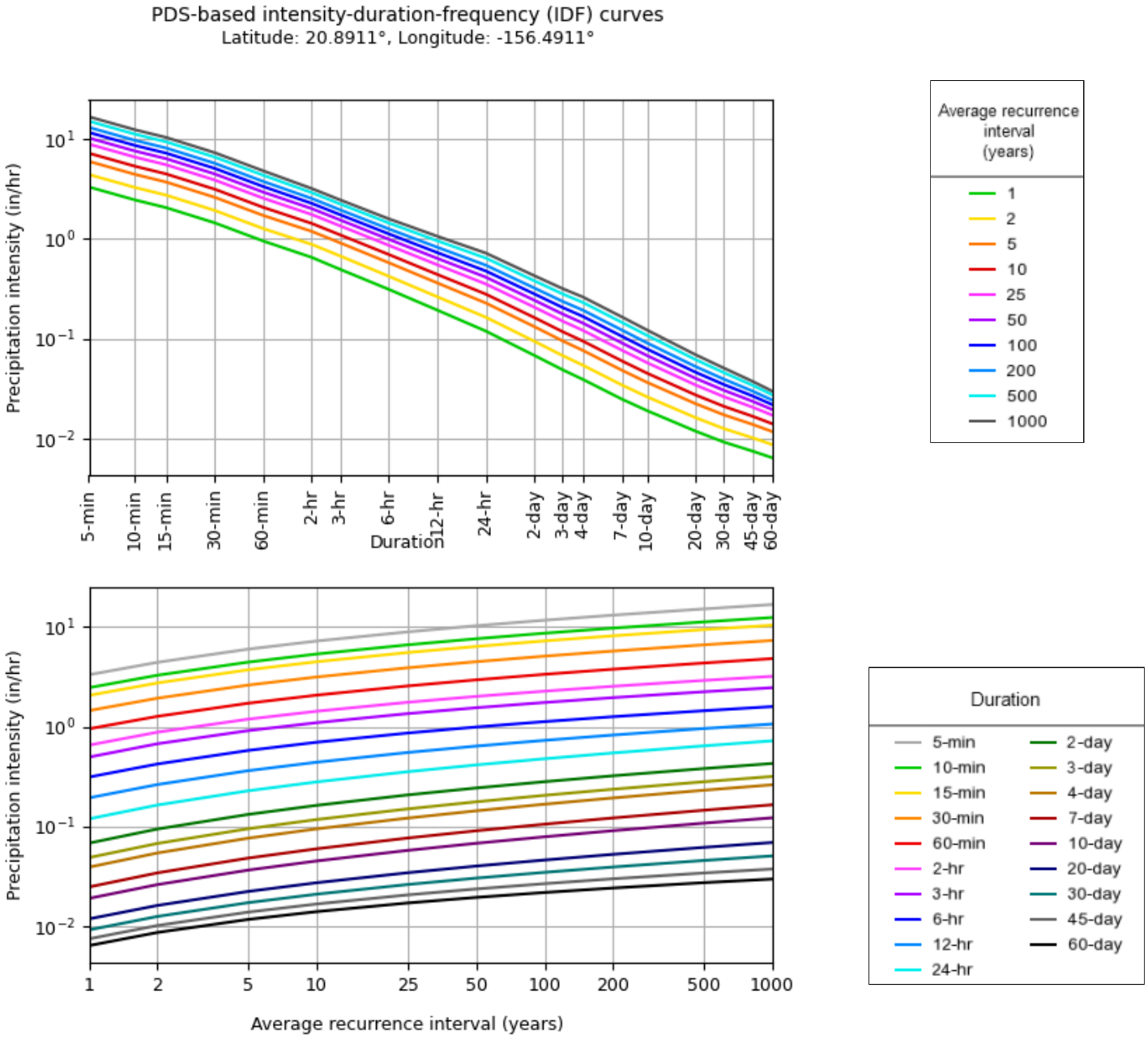
PF graphical



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Maps & aerials

Small scale terrain

APPENDIX C

U.S. FISH AND WILDLIFE SERVICE SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish And Wildlife Office
300 Ala Moana Boulevard, Box 50088
Honolulu, HI 96850-5000
Phone: (808) 792-9400 Fax: (808) 792-9580

In Reply Refer To: 07/12/2025 02:13:12 UTC
Project Code: 2024-0133743
Project Name: H.P. Baldwin High School Master Plan

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened and endangered species, as well as designated critical habitat that may occur within the boundary of your proposed project and that may be affected by project related actions. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Please contact the Service's Pacific Islands Fish and Wildlife Office (PIFWO) at 808-792-9400 if you have any questions regarding your IPaC species list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may adversely affect threatened and endangered species and/or designated critical habitat.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a Biological

Evaluation, similar to a Biological Assessment, be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment or Biological Evaluation are described at 50 CFR 402.12.

Due to the significant number of listed species found on each island within PIFWO's regulatory jurisdiction, and the difficulty in accurately mapping ranges for species that we have limited information about, your species list may include more species than if you obtained the list directly from a Service biologist. We recommend you use the species links in IPaC to view the life history, habitat descriptions, and recommended avoidance and minimization measures to assist with your initial determination of whether the species or its habitat may occur within your project area. If appropriate habitat is present for a listed species, we recommend surveys be conducted to determine whether the species is also present. If no surveys are conducted, we err on the side of the species, by regulation, and assume the habitat is occupied. Updated avoidance and minimization measures for plants and animals, best management practices for work in or near aquatic environments, and invasive species biosecurity protocols can be found on the PIFWO website at: https://www.fws.gov/office/pacific-islands-fish-and-wildlife/library.

If a Federal agency determines, based on the Biological Assessment or Biological Evaluation, that a listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/index.

Non-federal entities can also use the IPaC generated species list to develop Habitat Conservation Plans (HCP) in accordance with section 10(a)(1)(B) of the Act. We recommend HCP applicants coordinate with the Service early during the HCP development process. For additional information on HCPs, the Habitat Conservation Planning handbook can be found at https://www.fws.gov/sites/default/files/documents/habitat-conservation-planning-handbook-entire.pdf.

Please be aware that wind energy projects should follow the Service’s wind energy guidelines (http://www.fws.gov/windenergy) for minimizing impacts to migratory birds. Listed birds and the Hawaiian hoary bat may also be affected by wind energy development and we recommend development of a Habitat Conservation Plan for those species, as described above. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at:

- http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers
- http://www.towerkill.com
- http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow

Fish and Wildlife Coordination Act: Any modification to freshwater or marine waters of the U.S. including impounding, diverting, deepening, controlling, or modification for any other purpose requires a Fish and Wildlife Coordination Act (FWCA) consultation with the U.S Fish and Wildlife Service, State/ Territorial wildlife agency (State of Hawaii Division of Aquatic

Resources, American Samoa’s Department of Marine and Wildlife Resources, Guam’s Division of Aquatic and Wildlife Resources, or the Northern Mariana Island’s Division of Fish and Wildlife) and the National Marine Fisheries Service. The Pacific Islands Fish and Wildlife Office in Honolulu should be notified of a FWCA consultation request with a project description and any relevant biological information in order to expedite the appropriate level of coordination and consultation needs.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation actions that benefit threatened and endangered species into their project planning to further the purposes of the Act in accordance with section 7(a)(1). Please include the Consultation Tracking Number associated with your IPaC species list in any request for consultation or correspondence about your project that you submit to our office. Please feel free to contact us at PIFWO_admin@fws.gov or 808-792-9400 if you need more current information or assistance regarding the potential impacts to federally listed species and federally designated critical habitat.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pacific Islands Fish And Wildlife Office
300 Ala Moana Boulevard, Box 50088
Honolulu, HI 96850-5000
(808) 792-9400

PROJECT SUMMARY

Project Code: 2024-0133743
Project Name: H.P. Baldwin High School Master Plan
Project Type: Mixed-Use Construction
Project Description: Master Plan improvements to the existing H.P. Baldwin High School
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@20.89088285,-156.4914708062098,14z

Counties: Maui County, Hawaii

ENDANGERED SPECIES ACT SPECIES

There is a total of 21 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Hawaiian Hoary Bat *Lasiurus cinereus semotus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/770
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6477.pdf

BIRDS

NAME	STATUS
Band-rumped Storm-petrel *Hydrobates castro*	Endangered

Population: USA (HI)
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1226
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6939.pdf

Hawaiian Coot (alae Ke`oke`o) *Fulica alai* — Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7233
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6934.pdf

Hawaiian Duck *Anas wyvilliana* — Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7712
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6934.pdf

Hawaiian Goose *Branta (=Nesochen) sandvicensis* — Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1627
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6925.pdf

Hawaiian Petrel *Pterodroma sandwichensis* — Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6746
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6939.pdf

Hawaiian Stilt *Himantopus mexicanus knudseni* — Endangered

No critical habitat has been designated for this species.

NAME STATUS

Species profile: https://ecos.fws.gov/ecp/species/2082
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6934.pdf

Newell"s Shearwater *Puffinus newelli* — Threatened
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/2048
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6939.pdf

REPTILES

NAME STATUS

Hawksbill Sea Turtle *Eretmochelys imbricata* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/3656

INSECTS

NAME STATUS

Blackburn's Sphinx Moth *Manduca blackburni* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/4528
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/6926.pdf

FLOWERING PLANTS

NAME STATUS

`aiea *Nothocestrum latifolium* — Endangered
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1061

`ena`ena *Pseudognaphalium sandwicensium var. molokaiense* — Endangered
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5993

Awiwi *Schenkia sebaeoides* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7103

Carter's Panicgrass *Panicum fauriei var. carteri* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5578

Ihi *Portulaca villosa* — Endangered
No critical habitat has been designated for this species.

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/4886	
Ko`oko`olau *Bidens micrantha ssp. kalealaha* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7697	Endangered
Ko`oloa`ula *Abutilon menziesii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3268	Endangered
Ohai *Sesbania tomentosa* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8453 General project design guidelines: https://ipac.ecosphere.fws.gov/project/FYHA2WK7YFAPRFJ6SLGAP7G2PU/documents/generated/7050.pdf	Endangered
Round-leaved Chaff-flower *Achyranthes splendens var. rotundata* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4709	Endangered
Spermolepis hawaiiensis There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1670	Endangered
Vigna o-wahuensis There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8445	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: State of Hawaii
Name: Emily Murai
Address: 305 High Street
Address Line 2: Suite 104
City: Wailuku
State: HI
Zip: 96793
Email emily@munekiyohiraga.com
Phone: 8089831233

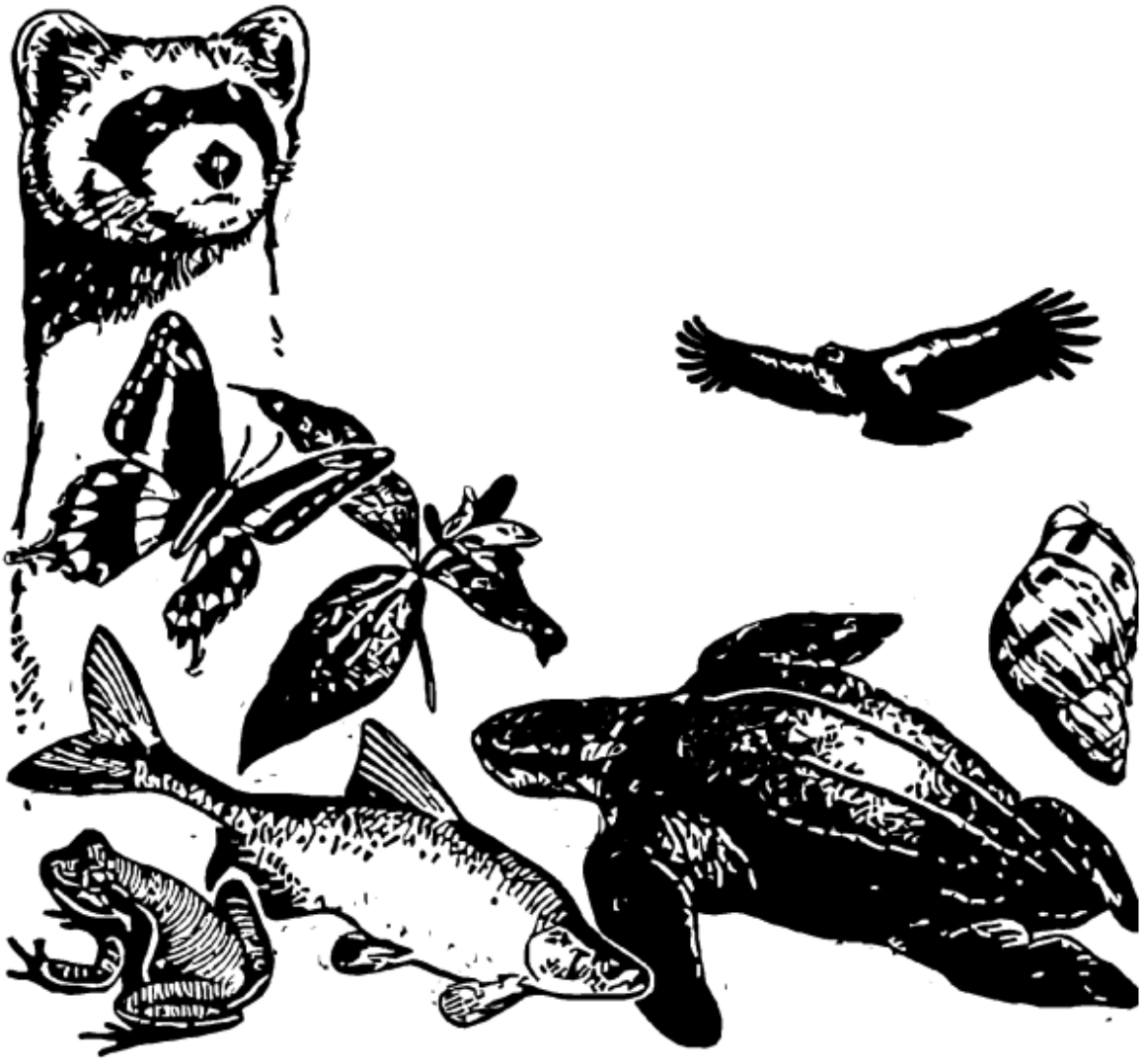
LEAD AGENCY CONTACT INFORMATION

Lead Agency: State of Hawaii

U.S. Fish & Wildlife Service

General Project Design Guidelines (10 Species)

Generated December 03, 2024 07:18 PM UTC, IPaC v6.114.0-rc2



IPaC - Information for Planning and Consultation (https://ipac.ecosphere.fws.gov/): A project planning tool to help streamline the U.S. Fish and Wildlife Service environmental review process.

Table of Contents

Species Document Availability 1

Hawaiian Coot (alae Ke`oke`o) and 2 more species - Pacific Islands Fish And Wildlife Office 2

Ohai - Pacific Islands Fish And Wildlife Office 4

Hawaiian Goose - Pacific Islands Fish And Wildlife Office 10

Band-rumped Storm-petrel and 2 more species - Pacific Islands Fish And Wildlife Office 12

Hawaiian Hoary Bat - Pacific Islands Fish And Wildlife Office 14

Blackburn's Sphinx Moth - Pacific Islands Fish And Wildlife Office 16

Species Document Availability

Species with general design guidelines

Band-rumped Storm-petrel Hydrobates castro

Blackburn's Sphinx Moth Manduca blackburni

Hawaiian Coot (alae Ke`oke`o) Fulica alai

Hawaiian Duck Anas wyvilliana

Hawaiian Goose Branta (=Nesochen) sandvicensis

Hawaiian Hoary Bat Lasiurus cinereus semotus

Hawaiian Petrel Pterodroma sandwichensis

Hawaiian Stilt Himantopus mexicanus knudseni

Newell"s Shearwater Puffinus newelli

Ohai Sesbania tomentosa

Species without general design guidelines available

`aiea Nothocestrum latifolium

`ena`ena Pseudognaphalium sandwicensium var. molokaiense

Awiwi Schenkia sebaeoides

Carter's Panicgrass Panicum fauriei var. carteri

Hawksbill Sea Turtle Eretmochelys imbricata

Ihi Portulaca villosa

Ko`oko`olau Bidens micrantha ssp. kalealaha

Ko`oloa`ula Abutilon menziesii

Round-leaved Chaff-flower Achyranthes splendens var. rotundata

Spermolepis hawaiiensis

Vigna o-wahuensis

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

- `aiea Nothocestrum latifolium
- Spermolepis hawaiiensis
- Hawaiian Duck Anas wyvilliana
- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
- Ko`oloa`ula Abutilon menziesii
- Round-leaved Chaff-flower Achyranthes splendens var. rotundata
- Band-rumped Storm-petrel Hydrobates castro
- Ihi Portulaca villosa
- Hawaiian Coot (alae Ke`oke`o) Fulica alai
- Hawaiian Hoary Bat Lasiurus cinereus semotus
- Hawaiian Petrel Pterodroma sandwichensis
- Newell"s Shearwater Puffinus newelli
- Carter's Panicgrass Panicum fauriei var. carteri
- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

Hawaiian waterbirds (Hawaiian stilt, *Himantopus mexicanus knudseni*; Hawaiian coot, *Fulica alai*; Hawaiian common gallinule, *Gallinula galeata sandvicensis*; Hawaiian duck, *Anas wyvilliana*):
Listed Hawaiian waterbirds are found in fresh and brackish-water marshes and natural or man-made ponds. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

The creation of standing or open water may result in the attraction of Hawaiian waterbirds to a site (creative nuisance or habitat sink). In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g. any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. Therefore, we recommend you work with our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

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

- In areas where waterbirds are known to be present, post and enforce reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- Incorporate the Service's Best Management Practices for Work in Aquatic Environments into the project design.
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys, where appropriate habitat occurs within the vicinity of the proposed project site, prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
    - Contact the Service within 48 hours for further guidance.
    - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
    - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: April 1, 2022 for the following species included in your project

- `aiea Nothocestrum latifolium
- Spermolepis hawaiiensis
- Hawaiian Duck Anas wyvilliana
- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
- Ko`oloa`ula Abutilon menziesii
- Round-leaved Chaff-flower Achyranthes splendens var. rotundata
- Band-rumped Storm-petrel Hydrobates castro
- Ihi Portulaca villosa
- Hawaiian Coot (alae Ke`oke`o) Fulica alai
- Hawaiian Hoary Bat Lasiurus cinereus semotus
- Hawaiian Petrel Pterodroma sandwichensis
- Newell"s Shearwater Puffinus newelli
- Carter's Panicgrass Panicum fauriei var. carteri
- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

Avoidance, Minimization, and Conservation Measures for listed plants in the Pacific Islands

Project activities may affect listed plant species by causing physical damage to plant parts (roots, stems, flowers, fruits, seeds, etc.) as well as impacts to other life requisite features of their habitat which may result in reduction of germination, growth and/or reproduction. Cutting and removal of vegetation surrounding listed plants has the potential to alter microsite conditions (e.g., light, moisture, temperature), damaging or destroying the listed plants and also increasing the risk of invasion by nonnative plants which can result in higher incidence or intensity of fire. Activities such as grazing, use of construction equipment and vehicles, and increased human traffic (i.e. trails, visitation, monitoring), can cause ground disturbance, erosion, and/or soil compaction which decrease absorption of water and nutrients and damage plant root systems and may result in reduced growth and/or mortality of listed plants. Soil disturbance or removal has the potential to negatively impact the soil seed bank of listed plant species if such species are present or historically occurred in the project area.

In order to avoid or minimize potential adverse effects to listed plants that may occur on the proposed project site, we recommend minimizing disturbance outside of existing developed or otherwise modified areas. When disturbance outside existing developed or modified sites is proposed, conduct a botanical survey for listed plant species within the project action area, defined as the area where direct and indirect effects are likely to occur. Surveys should be conducted by a knowledgeable botanist with documented experience in identifying native Hawaiian and Pacific Islands plants, including listed plant species. Botanical surveys should optimally be conducted during the wettest part of the year (typically October to April) when plants and identifying features are more likely to be visible, especially in drier areas. If surveys are conducted outside of the wet season, the Service may assume plant presence.

The boundary of the area occupied by listed plants should be marked with flagging by the surveyor. To avoid or minimize potential adverse effects to listed plants, we recommend adherence to buffer distances for the activities in the **Table below**. Where disturbed areas do not need to be maintained as an open area, restore disturbed areas using native plants as appropriate for the location. Whenever possible we recommend using native plants for landscaping purposes. The following websites are good resources to use when choosing landscaping plants: Landscape Industry Council of Hawai‘i Native Plant Poster (http://hawaiiscape.wpengine.com/publications/), Native Hawaiian Plants for Landscaping, Conservation, and Reforestation (https://www.ctahr.hawaii.edu/oc/freepubs/pdf/of-30.pdf), and Best Native Plants for Landscapes (https://www.ctahr.hawaii.edu/oc/freepubs/pdf/OF-40.pdf).

If listed plants occur in a project area, the avoidance buffers are recommended to reduce direct and indirect impacts to listed plants from project activities. However, where project activities will occur within the recommended buffer distances, additional consultation is required. The impacts to the plants of concern within the buffer area may be reduced by placing temporary fencing or other barriers at the boundary of the disturbance, as far from the affected plants as practicable.

The above guidelines apply to areas outside of designated critical habitat. If project activities occur within designated critical habitat unit boundaries, additional consultation is required.

All activities, including site surveys, risk introducing nonnative species into project areas. Specific attention needs to be made to ensure that all equipment, personnel and supplies are properly checked and are free of contamination (weed seeds, organic matter, or other contaminants) before entering project areas. Quarantines and or management activities occurring on specific priority invasive species proximal to project areas need to be considered or adequately addressed. This information can be acquired by contacting local experts such as those on local invasive species committees (Kauai: https://www.kauaiisc.org/; Oahu: https://www.oahuisc.org/; Maui Nui: https://mauiinvasive.org/; and Hawaii: https://www.biisc.org/

Table 1. Recommended buffer distances to minimize and avoid potential adverse impacts to listed plants from activities listed below.

Action	Buffer Distance (feet (meters)) - Keep Project Activity This Far Away from Listed Plant	
	Grasses/Herbs/Shrubs and Terrestrial Orchids	Trees and Arboreal Orchids
Walking, hiking, surveys	3 ft (1 m)	3 ft (1 m)
Cutting and Removing Vegetation By Hand or Hand Tools (e.g., weeding)	3 ft (1 m)	3 ft (1 m)
Mechanical Removal of Individual Plants or Woody Vegetation (e.g., chainsaw, weed eater)	3 ft up to height of removed vegetation (whichever greater)	3 ft up to height of removed vegetation (whichever greater)
Removal of Vegetation with Heavy Equipment (e.g., bulldozer, tractor, "bush hog")	2x width equipment + height of vegetation	820 ft (250 m)

Use of Approved Herbicides (following label)	**Ground-based Spray Application; hand application (no wand applicator; spot treatment)**	10 ft (3 m)	Crown diameter
	Ground-based Spray Application; manual pump with wand, backpack	50 ft (15 m)	Crown diameter
	Ground-based Spray Application; vehicle-mounted tank sprayer	50 ft (15 m)	Crown diameter
	Aerial Spray (ball applicator)	250 ft (76 m)	250 ft (76 m)
	Aerial Application – herbicide ballistic technology (individual plant treatment)	100 ft (30 m)	Crown diameter
	Aerial Spray (boom)	Further consultation required	Further consultation required
Use of Insecticides (pollinators, seed dispersers)		Further consultation required	Further consultation required
Ground/Soil Disturbance/Outplanting/Fencing (Hand tools, e.g. shovel, `ō`ō; Small mechanized tools, e.g., auger)		20 ft (6 m)	2x crown diameter
Ground/Soil Disturbance (Heavy Equipment)		328 ft (100 m)	820 ft (250 m)
Surface Hardening/Soil compaction	**Trails (e.g., human, ungulates)**	20 ft (6 m)	2x crown diameter
	Roads/Utility Corridors, Buildings/Structures	328 ft (100 m)	820 ft (250 m)
Prescribed Burns		Further consultation required	Further consultation required
Farming/Ranching/Silviculture		820 ft (250 m)	820 ft (250 m)

Definitions (Wagner *et al*. 1999)

Crown: The leafy top of a tree.
Herb: A plant, either annual, biennial, or perennial, with the non-woody stems dying back to the ground at the end of the growing season.
Shrub: A perennial woody plant with usually several to numerous primary stems arising from or relatively near the ground.
Tree: A woody perennial that usually has a single trunk

References Cited

USFWS. 2010. Endangered and threatened wildlife and plants; determination of endangered status for 48 species on Kauai and designation of critical habitat. Federal Register 75: 18960–19165.

. 2012. Endangered and threatened wildlife and plants; endangered status for 23 species on Oahu and designation of critical habitat for 124 species; final rule. Federal Register 77: 57648–57862.

. 2013a Endangered and threatened wildlife and plants; determination of endangered status for 38 species from Molokai, Lanai, and Maui. Federal Register 78: 32014–32065.

. 2013b. Endangered and threatened wildlife and plants; determination of endangered species status for 15 species on Hawaii Island. Federal Register 78: 64638–64690.

. 2016. Endangered and threatened wildlife and plants; determination of endangered status for 49 species from the Hawaiian Islands. Federal Register 81: 67786–67860.

. 2016. USFWS Rare plant database. Unpublished.

Wagner, W.L., Sohmer, S., and D.R. Herbst. 1999. Manual of the flowering plants of Hawaii, revised edition. Honolulu, Hawaii. University of Hawaii and Bishop Museum Press. 1,919 pp.

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

- `aiea Nothocestrum latifolium
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- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
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- Ihi Portulaca villosa
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- Newell"s Shearwater Puffinus newelli
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- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

Hawaiian goose (nene), (*Branta (Nesochen) sandvicensis*): Nene are found on the islands of Hawaii, Maui, Molokai, and Kauai. They are observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to nene we recommend you incorporate the following measures into your project description:

- Do not approach, feed, or disturb nene.
- If nene are observed loafing or foraging within the project area during the breeding season (September through April), have a biologist familiar with nene nesting behavior survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
- Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed project, or a previously undiscovered nest is found within the 150-foot radius after work begins.
- In areas where nene are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

nene 4(d) rule: A 4(d) rule was established at the time the nene was downlisted to threatened status. Under the 4(d) rule, the following actions are not prohibited under the Act, provided the additional measures described in the downlisting rule are adhered to:

- Take by landowners, or their agents, conducting intentional harassment in the form of hazing or other deterrent measures not likely to cause direct injury or mortality, or nene surveys.
- Take that is incidental to conducting lawful control of introduced predators or habitat management activities for nene.
- Take by authorized law enforcement officers for the purpose of aiding or euthanizing sick, injured, or orphaned nene; disposing of dead specimens; and salvaging a dead specimen that may be used for scientific study.

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

- `aiea Nothocestrum latifolium
- Spermolepis hawaiiensis
- Hawaiian Duck Anas wyvilliana
- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
- Ko`oloa`ula Abutilon menziesii
- Round-leaved Chaff-flower Achyranthes splendens var. rotundata
- Band-rumped Storm-petrel Hydrobates castro
- Ihi Portulaca villosa
- Hawaiian Coot (alae Ke`oke`o) Fulica alai
- Hawaiian Hoary Bat Lasiurus cinereus semotus
- Hawaiian Petrel Pterodroma sandwichensis
- Newell"s Shearwater Puffinus newelli
- Carter's Panicgrass Panicum fauriei var. carteri
- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

Endangered Hawaiian petrel (*Pterodroma sandwichensis*), Threatened Newell's shearwater (*Puffinus auricularis newelli*), and Endangered Hawaii Distinct Population Segment of the band-rumped storm-petrel (*Oceanodroma castro*):
Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

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

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

Listed seabirds have been documented colliding with communication towers, particularly in areas of high seabird passage rate. In general, self-supporting monopoles are the least likely to result in collisions, whereas lattice towers, particularly those that rely on guy-wires, have a greater risk.

To avoid and minimize the likelihood that towers will result in collisions by listed seabirds we recommend you incorporate the following measures into your project description:

- The profile of the tower should be as small as possible, minimize the extent of the tower that protrudes above the surrounding vegetation layer, and avoid the use of guywires.
- If the top of the tower must be lit to comply with Federal Aviation Administration regulations, use a flashing red light verses a steady-beam red or white light.
- If possible, co-locate with existing towers or facilities.

Seabirds have been known to collide with fences, powerlines, and other structures near nesting colonies. To avoid and minimize the likelihood of collision we recommend you incorporate the following measures into your project description:

- Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.
- For powerlines, guywires and other cables, minimize exposure above vegetation height and vertical profile.

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: March 1, 2020 for the following species included in your project

- `aiea Nothocestrum latifolium
- Spermolepis hawaiiensis
- Hawaiian Duck Anas wyvilliana
- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
- Ko`oloa`ula Abutilon menziesii
- Round-leaved Chaff-flower Achyranthes splendens var. rotundata
- Band-rumped Storm-petrel Hydrobates castro
- Ihi Portulaca villosa
- Hawaiian Coot (alae Ke`oke`o) Fulica alai
- Hawaiian Hoary Bat Lasiurus cinereus semotus
- Hawaiian Petrel Pterodroma sandwichensis
- Newell"s Shearwater Puffinus newelli
- Carter's Panicgrass Panicum fauriei var. carteri
- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

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

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

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

General Project Design Guidelines - `aiea and 20 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

- `aiea Nothocestrum latifolium
- Spermolepis hawaiiensis
- Hawaiian Duck Anas wyvilliana
- Awiwi Schenkia sebaeoides
- Ko`oko`olau Bidens micrantha ssp. kalealaha
- Ohai Sesbania tomentosa
- Hawaiian Stilt Himantopus mexicanus knudseni
- Hawaiian Goose Branta (=Nesochen) sandvicensis
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- `ena`ena Pseudognaphalium sandwicensium var. molokaiense
- Hawksbill Sea Turtle Eretmochelys imbricata
- Blackburn's Sphinx Moth Manduca blackburni
- Vigna o-wahuensis

Blackburn's sphinx moth (*Manduca blackburni*):
Adult Blackburn's sphinx moths feed on nectar from native plants, including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), and maiapilo (*Capparis sandwichiana*); larvae feed upon non-native tree tobacco (*Nicotiana glauca*) and native aiea (*Nothocestrum* sp.). To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soil disturbance can result in death of the pupae.

We offer the following survey recommendations to assess whether the Blackburn's sphinx moth is within the project area:

- A biologist familiar with the species should survey areas of proposed activities for Blackburn's sphinx moth and its larval host plants prior to work initiation.
    - Surveys should be conducted during the wettest portion of the year (usually November-April or several weeks after a significant rain) and within 4-6 weeks prior to construction.
    - Surveys should include searches for eggs, larvae, and signs of larval feeding (chewed stems, frass, or leaf damage).
    - If native aiea or tree tobacco over 3 feet tall, or adult Blackburn's sphinx moths are found during surveys, do not disturb them and contact the Service for additional guidance to avoid take.

If no Blackburn's sphinx moth, aiea, or tree tobacco are found during surveys, it is imperative that measures be taken to avoid attraction of Blackburn's sphinx moth to the project location and prohibit tree tobacco from entering the site. Tree tobacco can grow greater than 3 feet tall in approximately 6 weeks. If it grows over 3 feet after surveys have been completed, the plants may become a host plant for Blackburn's sphinx moth larvae. We therefore recommend that you:

- Remove any tree tobacco less than 3 feet tall.
- Monitor the site every 4-6 weeks for new tree tobacco growth before, during, and after the proposed ground-disturbing activity. This monitoring for can be completed by any staff, such as groundskeeper or regular maintenance crew, if they are provided with picture placards of tree tobacco at different life stages.

LITERATURE REVIEW AND FIELD INVESTIGATION REPORT

APPENDIX

D

SCS Project 2760 LRFI-1.2

ARCHAEOLOGICAL LITERATURE REVIEW AND FIELD INSPECTION FOR THE BALDWIN HIGH SCHOOL – MASTERPLAN ATHLETIC FACILITIES AND LOCKER ROOMS PROJECT (DOE JOB NO: Q51215-19), WAIEHU AHUPUA‘A, WAILUKU (PŪ‘ALI KOMOHANA) DISTRICT, ISLAND OF MAUI, HAWAI‘I [TMK: (2) 3-8-007:004 por.]

Prepared by
Chong Jin, B.A.
and
Michael F. Dega, Ph.D.

March 2023
DRAFT

Prepared for
Office of Facilities and Operations
Facilities Development Branch
Hawai‘i State Department of Education
P.O. Box 2360
Honolulu, HI 96804

SCIENTIFIC CONSULTANT SERVICES, Inc.

1357 Kapiolani Blvd., Suite 910 Honolulu, Hawai‘i 96814

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INTRODUCTION

At the request of the Hawaii State Department of Education, Scientific Consultant Services, Inc. (SCS), has prepared this archaeological Literature Review and Field Inspection (LRFI) for the Baldwin High School – Masterplan project (DOE Job No. Q51215-19). The project area consists of portions of the campus of Henry Perrine Baldwin High School in Waiehu Ahupuaʻa, Wailuku (Pūʻali Komohana) District, Maui [tax map key (TMK): (2) 3-2-013:006 por]. The project area is shown on portions of a U. S. Geological Survey (USGS) topographical map, a TMK map, and a Google Earth aerial photograph (Figures 1 through 3).

The project (DOE Job No. Q51215-19) proposes construction of athletic facilities, classroom area facilities, sports fields, and support facilities at Henry Perrine Baldwin High School. The masterplan covers multiple proposed locations across the school campus. Accordingly, the field inspection covered all potential locations. Excerpts from the masterplan are included as Appendix A. Henry Perrine Baldwin High School is listed on the Hawaiʻi and National Registers of Historic Places as State Inventory of Historic Places (SIHP) Site 50-50-04-01630, NR # 667; Appendix B).

This report is not intended to meet HAR §13-276 requirements for an Archaeological Inventory Survey (AIS), but aims to identify potential cultural resources in the project area and its vicinity and to provide in brief the history of relevant archaeological research in Wailuku Ahupuaʻa. Thus, the scope of work for the current investigation includes the following:

- Literature review consisting of a study of previous archaeological reports pertaining to the project area and its vicinity. This research is conducted in order to determine what type of archaeological sites have been recorded in the project area environs, broadly construed, and what features or sites are likely to be documented on the subject property or the terrain adjacent to it, if any.

- Field inspection via pedestrian survey of the project area. This inspection is conducted in order (1) to identify any surface archaeological features and (2) to investigate and assess the potential for impact to such sites. This assessment will also identify any sensitive areas that may require further investigation or mitigation before work on the project proceeds.

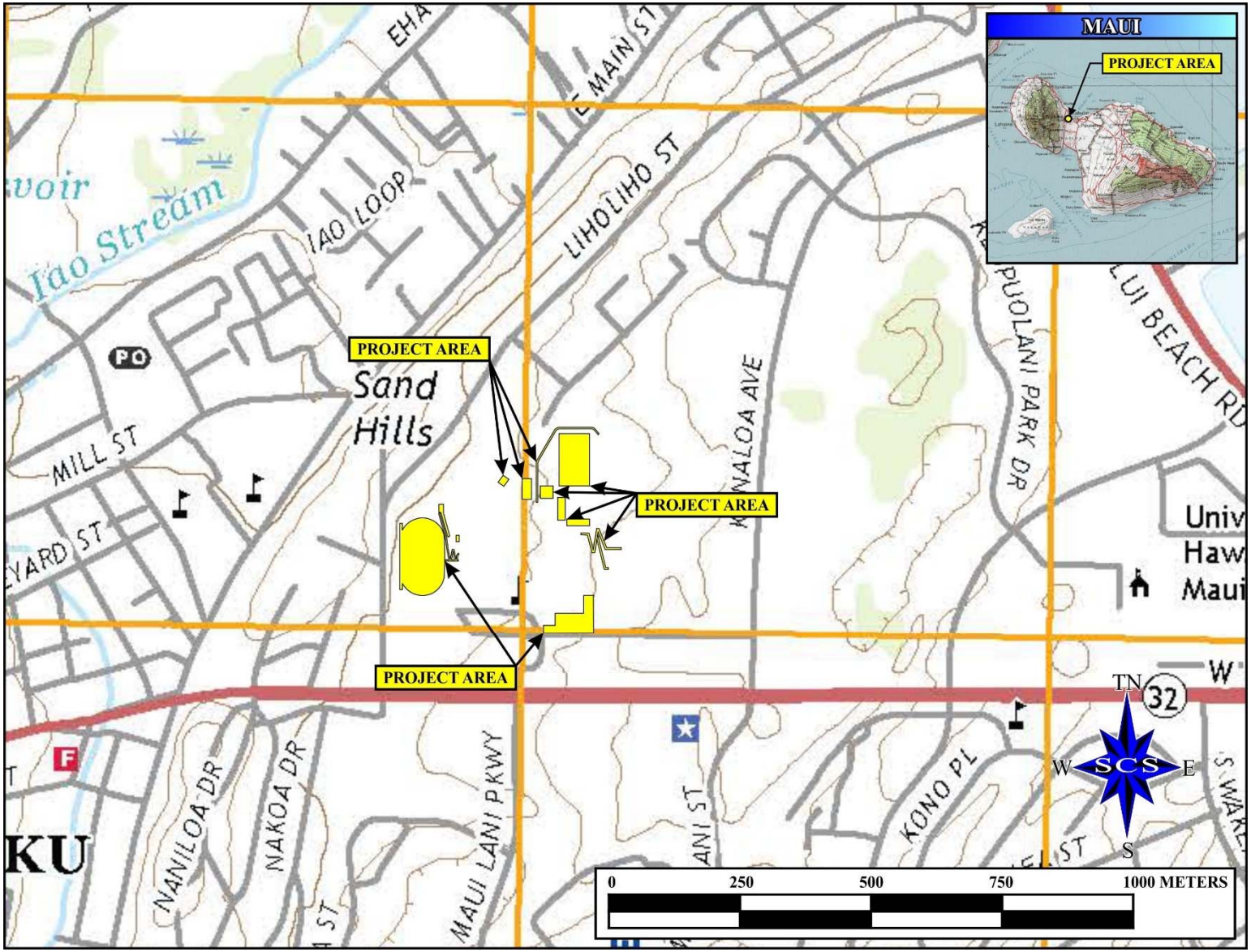

Figure 1: A portion of a 2017 USGS topographic map (Wailuku quadrangle) showing the project area location

Figure 2: TMK map showing the location of the project area within the context of TMK plat: (2) 3-8-013 (County of Maui Property Assessment Division 2008). Note that the map may not be to scale.

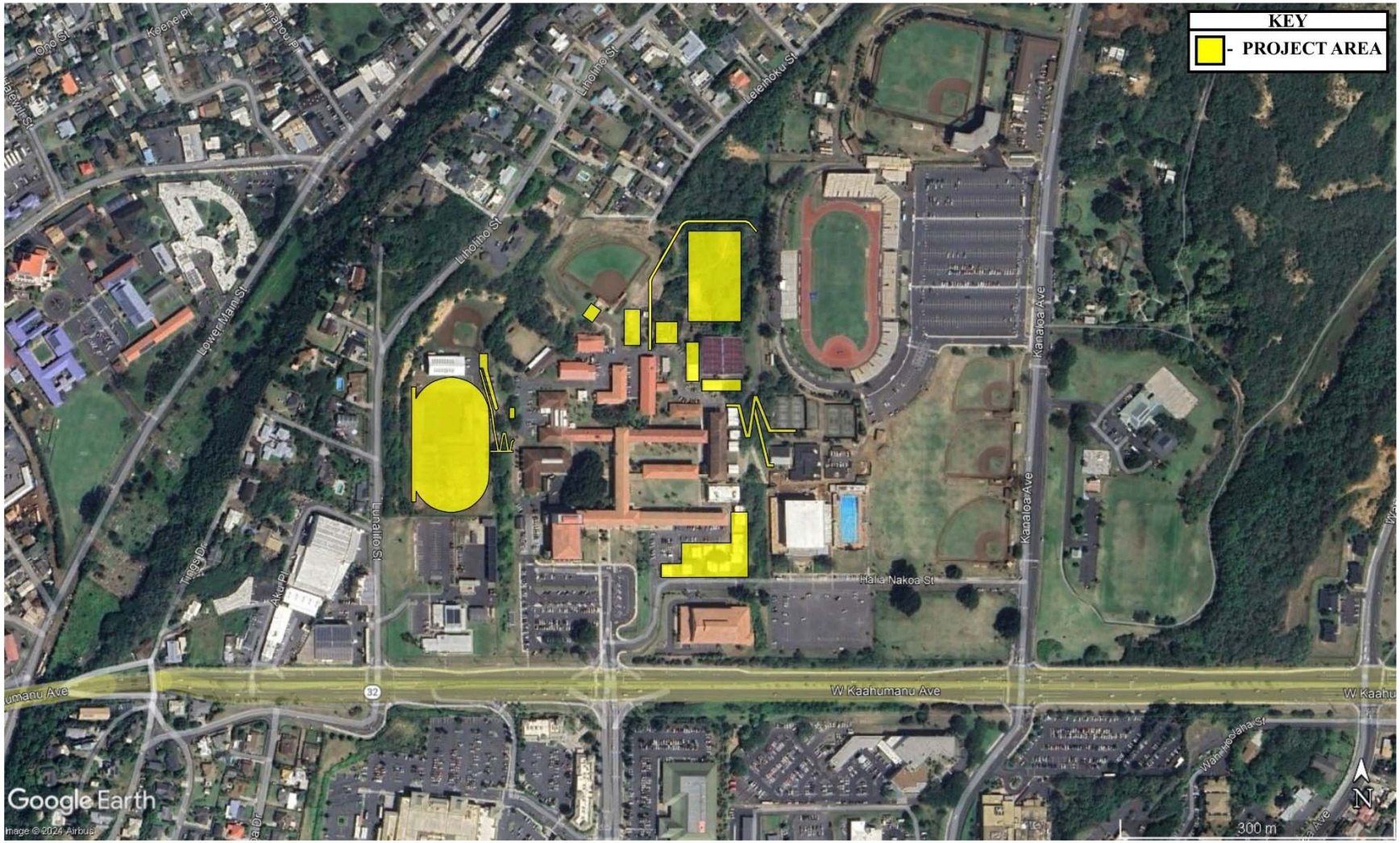

Figure 3: Google Earth aerial photograph (imagery date: 6/15/2019) showing the location of the project area

ENVIRONMENTAL SETTING

LOCATION

The project area consists of several regions on the campus of Henry Perrine Baldwin High School (generally referred to as "Baldwin High School") at 1650 West Kaʻahumanu Ave, Kahului [TMK: (2) 3-8-007:004 por.]. In addition to the proposed locations for the new buildings, two locations for athletic practice field improvements on campus were also visited during the field inspection.

The project parcel [TMK: (2) 3-8-007:004] is bounded on the south by West Kaʻahumanu Avenue (State Highway 32), on the east by the War Memorial Complex and Keōpūolani Regional Park, and on the north and west by residential and light industrial zones. The project area is approximately 1.3 kilometers west of Kahului Harbor, and 1.2 km south of Wailuku River. The project area is located in the contemporary Waikapū Ahupuaʻa in the judicial district of Wailuku (Hawaii State Office of Planning 2021a, b). Wailuku District is one of the six districts into which the County of Maui is divided, comprising the eastern half of West Maui, the isthmus between East and West Maui, and a strip along the western coast of East Maui roughly corresponding to the Northern Kīhei urban zone.

GEOLOGY AND TOPOGRAPHY

Maui is the second largest island of the Hawaiian Archipelago. It has been formed by two volcanoes: the older and smaller Mauna (mountain) Kahālāwai ("house of waters") on the western end and the younger and larger Haleakalā ("house of the sun") to the east. The former reaches 1,754 meters (5,788 ft) above mean sea level (amsl) at Puʻu Kukui ("candlenut peak"), the latter soars to 3,055 m (10,023 ft) amsl at Puʻu ʻUlaʻula ("red peak"). The Isthmus of Maui that joins the two volcanoes was formed by erosional deposits from Haleakalā against the slopes of Mauna Kahālāwai (Macdonald et al. 1986:380). Mauna Kahālāwai's drier southern and western slopes make up the majority of West Maui, while its wet eastern coastline and most of the east face make up Central Maui. Haleakalā's eastern slopes constitute East Maui, while its elevated areas are Upcountry Maui. The northern coastline of Haleakalā is Maui's North Shore, while the sunny coastline from Māʻalaea Bay to Kaupō is South Maui. Elevation in the project area ranges from 44 to 60 m amsl.

CLIMATE

With the prevailing winds blowing from the northeast, Baldwin High School does not fall into the rain shadow of either Haleakalā or the West Maui Mountains, but because of its low elevation it also does not benefit from increased precipitation due to orographic lift like upland regions do. This suggests that the project area should expect moderate rainfall as much atmospheric moisture passes over it unimpeded. Mean annual rainfall over the project area is 526 mm (20.7 in) (Giambelluca et al. 2014). Most of it occurs over the winter and spring months, with mean monthly rainfall peaking at 102 mm (4.02 in) in January. The summer months are dry, with the lowest monthly average rainfall of about 6.7 mm (0.26 in) in June (Giambelluca et al. 2014).

Average annual air temperature in the project area is 23.6 °C (74.4 °F). August is the hottest month with an average of 25.5 °C (78.0 °F), while January is the coolest with an average at 21.5 °C (70.7 °F) (Giambelluca et al. 2014).

HYDROLOGY

Wailuku River (formerly "'Īao Stream") lies approximately 700 m northwest of the project area. This perennial river flows down from Puʻu Kukui, carving ʻĪao Valley into the mountain. The upland portion of the valley has been designated as both a National Natural Landmark and a State Park (ʻĪao Valley State Monument) in order to preserve its natural beauty. There was likely considerable Pre-Contact agricultural activity along the stream. Wailuku River empties into the ocean at Nehe Point approximately 2.1 km to the north-northeast of the project area.

The state Division of Aquatic Resources (Parham et al. 2008) places the project area in the "Unnamed Watershed #62029," which covers an area of 7.4 sq. mi (19.2 km2; approx. 4740 acres) and includes Kahului Harbor and much of the urban area south of it. This watershed features a single non-perennial stream on the uplands of Puʻu Kukui, named Kaiapaokaʻīlio Stream. Sugarcane cultivation near the project area during the 19th century was fed by an extensive man-made irrigation network rather than natural streams.

SOILS

According to Foote et al. (1972: Map Sheet 104) and the U. S. Department of Agriculture Natural Resource Conservation Service, and University of California, Davis California Soil Resource Lab (2017), the project area is located in a region of Puuone sand, 7 to 30 percent slopes (PZUE). Figure 4 is a soil map of the project area and its vicinity, and Table 1 is a list of soil types shown on that figure.

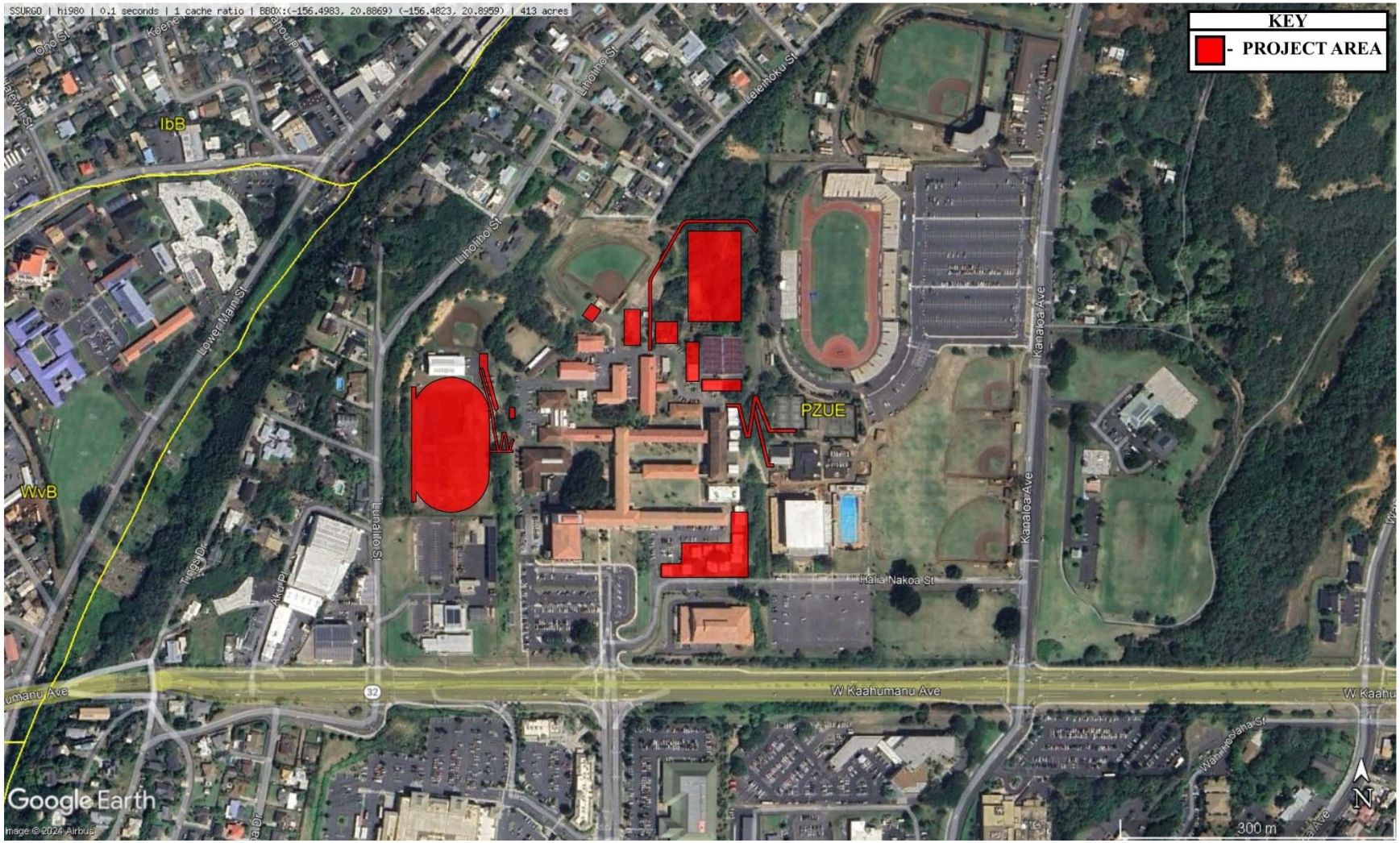

Figure 4: Google Earth aerial photograph (imagery date: 6/15/2019) showing the soil series in the area of potential effects and in its vicinity (U. S. Department of Agriculture Natural Resource Conservation Service, and University of California at Davis Soil Resource Lab 2017)

Table 1: Soil type abbreviations used in the soil map (Figure 4 above)

Map	Full Soil Name	Map	Full Soil Name
Fd	Fill land	PZUE	Puuone sand, 7 to 30 percent slopes
IaA	Iao silty clay, 0 to 3 percent slopes	rSM	Stony alluvial land
IbB	Iao cobbly silty clay, 3 to 7 percent slopes	W	Water
IcB	Iao silty clay, 0 to 3 percent slopes	WvB	Wailuku silty clay, 3 to 7 percent slopes

Foote et al. (1972:117) describe PZUE (the only soil type of the Puuone series) as consisting "of somewhat excessively drained soils on low uplands" that are "developed in material derived from coral and seashells." PZUE has slow runoff and moderate to severe wind erosion hazard. Foote et al. (1972:117) note that "in places roots penetrate to the cemented layer" and that the soil is typically "used for pasture and homesites."

VEGETATION

According to Juvik and Juvik (1998:122, 127–28) before human settlement the native ecosystem of the area would have been "lowland dry and mesic forest, woodland, and shrubland." Indigenous flora that may persist in this environment include *ʻaʻaliʻi* (hopbush, *Dodonaea viscosa*), *ʻākia* (*Wikstroemia* sp.), *ēlama* (*Diospyros hillebrandii*), *kāwelu* (variable lovegrass, *Eragrostis variabilis*), *koa* (*Acacia koa*), *koʻokoʻolau* (*Bidens* sp.), *ʻohiʻa* (*Metrosideros macropus*), *pili* (black speargrass, *Heteropogon contortus*), *ʻūlei* (Hawaiian hawthorn *Osteomeles anthyllidifolia*), and *wiliwili* (*Erythrina sandwicensis*). Today, relatively little of the original ecosystem remains, as the land in the project area has been extensively modified for school use, with manicured lawn grass and other decorative plants.

HISTORICAL SETTING

TRADITIONAL POLITICAL BOUNDARIES

Tradition has it that Maui was divided into *moku* (districts) and *ahupuaʻa* (subdistricts) by the *kahuna* (priest) Kalaihaʻōhia at the time of Kakaʻalaneo at the end of the 15th or the beginning of the 16th century (Beckwith 1970:383; Fornander 1919-20, Vol. 6:248). Many of these divisions are still in common use to refer to geographical features despite the intervening changes in land tenure (Sterling 1998:3). The etymology of "*ahupuaʻa*" may be traced to the practice of marking boundaries with a heap (*ahu*) of stones surmounted by an image of a pig (*puaʻa*) or of laying a pig or other tribute on the altar as a tax to the chief. The divisions were meant to provide access to ecosystems at various elevations, incorporating natural resources from the ocean to the mountain peaks (Lyons 1875a:111).

Ahupua‘a were often subdivided into smaller land divisions called "*‘ili*" administered by *ali‘i* (chiefs, nobles), but unlike the larger units the *‘ili* were not meant to encompass a broad selection of resource areas (Lucas 1995:40). Finally, the *mo‘o‘āina* were narrow strips of land within an *‘ili*. The land holding of a *hoa‘āina* (tenant) under an *ali‘i* was called a *"kuleana*" (right, privilege), a term that also came to mean "property" or "title" (Lucas 1995:61).

The land divisions discussed above are generalized, and the actual place names used in Pre- and Early Post-Contact Hawai‘i did not always fall within neat categories, with Gonschor and Beamer (2014:56) noting other land divisions such as *‘okana* and *kalana*. Furthermore, usage of place names was often inconsistent in the records remaining from the Kingdom of Hawaii, and contemporary maps using *ahupua‘a* as drawn by the State of Hawaii do not necessarily match even those records. Kamehameha Schools' (n.d.) *Aloha ‘Āina Project* places the project area within the traditional boundaries of Wailuku Ahupua‘a, but indicates that the border with Waikapū Ahupua‘a is not far south from the project area, and does not show a *moku* (or any other land division) named "Pū‘ali Komohana."

This incongruity can be explained by the changing administrative needs in the 19th century, as attempts were made to formalized land divisions and survey property claims, especially during the Māhele (see section The Māhele below). Curtis Lyons (1875b:119) states that the *ahupua‘a* of "Wailuku, Waikapu, Waiehu and Waihee were independent, belonging to no Moku. On the map it was necessary to form a new district and call it Wailuku, Nawaieha, the four waters, being too cumbersome and ill understood." According to Lyons, Waiehu Ahupua‘a was grouped with other independent *ahupua‘a* after Contact to form an administrative district equivalent to a *moku*. Robert King (1935:215) substantiates Lyon's claim, indicating that "the ahupuaas of Waihee and Waiehu were independent of any moku and are listed in the Book of the Mahele as being in "Puali Komohana," i.e., West Isthmus." It appears that the independent *ahupua‘a* on the isthmus and in the valleys immediately west of it came to be collectively referred to as "Pū‘ali Komohana," and treated as a *moku*. This does not appear to reflect the political landscape prior to Contact.

Mary Pūku‘i et al. (1974:225) indicates that "Wailuku" means "water of destruction."

PRE-CONTACT SETTLEMENT AND ECONOMY

Archaeological data indicate that the initial settlement of the Hawaiian Islands by Polynesians occurred on the windward shores around the 10th century, with populations gradually extending into less resource rich areas in later periods (Kirch 2011:22). It is likely that settled human presence in the project area can be traced to the early period of agricultural development, which on Maui began approximately 1200 (Kirch 1985:142).

Pre-Contact Hawaiian economy was based on agricultural production, marine exploitation, and raising livestock, in addition to collecting wild plants and birds. Patrick Kirch (1985:3) notes that the economy was productive and diverse enough to support "considerable craft specialization … canoe-makers, adz-makers, bird-catchers, wood-carvers and tattooing experts." This description suggests a sophisticated society with a bounty of both surplus food and spare labor to support considerable non-subsistence activities. Settlements were often concentrated in river valleys most amenable to wet kalo (taro, Colocasia esculenta) cultivation, incorporating loʻi (pond field, irrigated terrace) and irrigation canals. Areas with higher precipitation permitted cultivation of kō (sugarcane, Saccharum officinarum) and maiʻa (banana, Musa spp.). Dryland agriculture centering on ʻuala (sweet potato, Ipomoea batatas) as the staple crop was also prevalent, especially in upland regions and on the drier leeward sides of the islands.

Edward S. C. Handy and Elizabeth G. Handy (1972:496) describe the region of Nā Wai ʻEhā, which means "The Four Streams" and encompasses the whole of the four valleys cut by the streams (equivalent to Pūʻali Komohana Moku), as rich agricultural land, "which in ancient times was the largest continuous area of wet-taro cultivation in the islands." While Pre-Contact Maui was not in economic (effectively agricultural) terms the richest of the islands, the concentrated nature of its productive lands may have been a significant military and political advantage:

> Maui as a whole is an enigma historically. Its motto, *Maui no ka ʻoi*, "Maui is the best," was both geographic in its significance (because of its majestic grandeur) and historical in view of its large domain, including Lanai and Molokai and its rulers' conquests of Hawaii and Oahu.…
>
> The enigma referred to is this: Of the four larger islands. Oahu had by far the greatest acreage devoted to continuous. production of wet taro; Kauai was second; and Hawaiʻi came in third in taro production, most of it mulched or forest grown. Maui produced the least taro.… Taken altogether in terms of areas cultivated and number of communities, Maui certainly ranked last. In comparison with the other islands, it must have had a smaller population. There were two areas, however, in which population was concentrated. One was in "The Four *Wai*" (Streams) – Waikapu, Wailuku, Waiehu, Waiheʻe- the four largest streams and *loʻi* areas on windward West Maui, which were contiguous. The other was on the southwest and west coast of West Maui, with Lahaina at its center. No doubt this factor of concentration of population was what enabled Maui's courageous and ambitious chiefs to conquer and dominate great neighboring island areas as they did. [Handy and Handy 1972:488]

At the time of Contact, Maui and its *aliʻi* appeared to be politically and militarily ascendant, with the eventual unification of the islands under Hawaiʻi chief Kamehameha I (c. 1758–1819) being something of an upset (see Early Post-Contact History).

PRE-CONTACT POLITICAL HISTORY

Although settled by the 10th century, Maui's population growth and the increase in social stratification allowed the formation of political blocs managed by larger and more complex societies. Michael Kolb et al. (1997:14–15) refer to 1200–1400 as a formation period, noting that the archaeological record shows the building of temples in this timeframe, which is an indicator of sizeable populations and complex organization. By the 1400s, Maui had largely consolidated into two polities: one in Hāna on windward East Maui, and one ruled at different times from Wailuku on the eastern shore of West Maui, or from Lāhainā on the west.

Abraham Fornander (1880, Vol. 2:78–79) says that the *aliʻi* of East Maui traced their origins to Kalahuimoku, a Hawaiʻi Island chief who had emigrated to Hāna, while those in West Maui originate from an older Maui line. Wailuku *aliʻi* Piʻilani is credited with not only unifying Maui, but also with increasing its political status using his connections with the reigning chiefly families of Oʻahu and Hawaiʻi (Fornander 1880, Vol. 2:87). Samuel Kamakau (1992:22–24) relates the *moʻolelo* (story, oral history) of the succession fight between Piʻilani's sons Lono-a-Piʻilani and Kiha-a-Piʻilani. After quarreling between the brothers escalated to violence, Kiha traveled to Hawaiʻi Island, then ruled by his brother-in-law ʻUmi-a-Līloa, in order to convince ʻUmi to send an army to Maui to dethrone Lono. Fornander (1918-19, Vol. 5:178–80) claims that the invasion was known in the oral tradition as the "sailing of the numberless canoes" since they were said to stretch across the Maui channel from Kohala on Hawaiʻi Island, allowing ʻUmi's army to march across them as if on a bridge. According to Kamakau (1992:28–30), while this invasion represented a massive logistical effort involving a "whole year of the making of canoes and war implements," multiple landing attempts failed before a successful invasion at Wailua-iki installed Kiha as Maui's sole ruler. Kiha also oversaw the completion of a stone-lined path begun by his father and named "Alaloa" (main road) or "King's Trail," which circled the entire island (Beckwith 1970:387).

This *moʻolelo* show the consolidation of political power as rulers of larger and more populous domains had the resources to project military power interisland and command massive infrastructure projects. Patrick Kirch (2010:102) argues that these oral traditions also signify a transition in the political tradition, as the *aliʻi nui* (great chiefs) acquired "direct control over economic production." "Prior to the advent of these powerful rulers," Kirch (2010:102) claims, "*aliʻi nui* … occupied roles that were more ceremonial in nature."

Cummins Speakman (1978:9–13) records that while Maui Island remained politically unified under the line of Piʻilani, the precedent of wars of succession had been established and such wars would recur in the 18th century, when Maui's increasing political and military power gave rise to military rivalry between its *aliʻi* and those of Hawaiʻi Island.

The 18th century was marked by warfare between Maui and Hawaiʻi Island. Kamakau (1992:68) notes that even though it "was the custom from ancient times … for the chief of one island to give a child to the chief of another island," this practice did not prevent fighting between the rulers. The *aliʻi* Alapaʻi (also called Alapaʻinui; died 1754) was raised in Wailuku at the court of Piʻilani's descendant Kekaulike (c. 1700–1736). After the death of his uncle and chief of Hawaiʻi Island Keaweʻīkekahialiʻiokamoku (c. 1665–1725), Alapaʻi returned there and won the civil war to succeed him. Despite having fostered Alapaʻi, Kekaulike fought against him frequently, limiting the latter's ability to consolidate control over the island (Kamakau 1992:65).

When Kekaulike died, right after returning from a raid on Kohala on Hawaiʻi Island, he was succeeded by Kamehameha-nui, the son of a half-sister of Alapaʻi. Arriving on Maui bent on retaliation for the raid, Alapaʻi instead had "a friendly meeting" with his sister and her son (Kamakau 1992:70). Subsequently, Kamehamehanui faced a civil war with his older half-brother, Kaʻuhi, and Alapaʻi lent his support to his nephew (Fornander 1880, Vol. 2:141). Kamehameha-nui eventually defeated Kaʻuhi and established his reign over Maui (Kamakau 1992:74). Kamehameha-nui's successor was his brother Kahekili II (c. 1737–1794), who eagerly attempted to expand his kingdom, waging war on Oʻahu and challenging the rule of Hawaiʻi *aliʻi* Kalaniʻōpuʻu (c. 1729–1782), who had usurped Alapaʻi's son.

EARLY POST-CONTACT HISTORY

The Post-Contact Period on Maui began on November 26, 1778, with British Explorer Captain James Cook's passing by the island on his way back from the extreme Northern Pacific (Daws 1974:8). David Samwell, a surgeon on the *Discovery* (one of Cook's ships), described the north coast of Maui: "This Island is mountainous, the sides of the Hills are covered with Trees, from thence to the Water side are large open plains on which stand their houses & where they have their plantations of sweet potatoes, Taroo (*sic*) & c." (Beaglehole 2017:1151–52). Cook's visit occurred in the wake of a war between Hawaiʻi Island *aliʻi* Kalaniʻōpuʻu and Maui's Kahekili II (circa 1737–1794), a descendant of Piʻilani (Speakman 1978:26). Samwell also recorded his impressions of Kahekili as "a middle aged man ... rather of a mean appearance" (Beaglehole 2017:1151).

At first, the internal affairs on Maui proceeded independently of any significant Western influence. The island reached the height of its political influence under Kahekili II who in addition to his native island was also able to bring Oʻahu, Lānaʻi and Molokaʻi under his rule. Kahekili also exerted hegemony over Kauaʻi through family ties, *de facto* unifying all major islands except for Hawaiʻi by 1783. Nonetheless, the warring *aliʻi* soon found ways to acquire gunpowder weapons and even recruit foreigners to operate them. Captain George Vancouver (1757–1798) noted that by the time of his own voyages as a captain in the 1790s (rather than when he had sailed as a junior officer under Cook), there was an active firearms trade in the Hawaiian Islands. Speakman and Rhoda Hackler (1989) write:

> Vancouver was also concerned about the apparent drop in the Hawaiian population since his earlier visit with Captain Cook. He acknowledged the fact that foreigners were no longer a novelty, able to attract great crowds of curious Hawaiians to the beach, but he doubted if that was the complete answer to the evident depopulation….
>
> Vancouver does not seem to have been conscious of disease among the Hawaiian people, but he was aware of the arms trade and interisland warfare and attributed the decrease in the population to the deplorable sale of arms by avaricious European traders to "ambitious and enterprising chieftains." [Speakman and Hackler 1989:42]

Hawaiʻi Island *aliʻi* Kamehameha I (r. 1782–1819), who had usurped the son of Kalaniʻōpuʻu, had acquired a significant arsenal of foreign gunpowder weapons, including a canon (called "Lopaka"), which may have allowed him to win a major battle in 1790 at Wailuku. Traces of this conflict were present as late as 1854:

> These sand-hills constitute a huge "Golgotha" for thousands of warriors who fell in ancient battles. In places laid bare by the action of the winds, there were human skeletons projecting, as if in the act of struggling for resurrection from their lurid sepulchers. In many portions of the plain who cart-loads were exposed in this way. Judging of the numbers of the dead, the contest of the old Hawaiians must have been exceedingly bloody. [Bates 1854:313–14]

The battle was called "Kepaniwai ("the damming of waters" – since the many dead bodies temporarily blocked ʻIao Stream) or "Kaʻuwaʻupali" ("clawed off the cliff" – for the many who died by falling down the precipices). The defeated *aliʻi* were able to flee over a mountain trail to Olowalu Ahupuaʻa on the opposite side of the West Maui Mountains, from which they could travel to Molokaʻi and then Oʻahu (Fornander 1918-19, Vol. 5:470; Kamakau 1992:148–49).

One party of *aliʻi* making this trek included Kahekili's sister Kalola and several younger female relatives of high rank, with whom Kamehameha caught up with on Molokaʻi (Kamakau 1992:149). Securing marriages with these young noblewomen (including Keōpūolani, the mother of Kamehameha's heirs Liholiho and Kauikeaouli) significantly bolstered his legitimacy as a ruler since he was not of the highest *aliʻi* rank. Because of this, Kamehameha's dynasty could claim lineage of the highest *nīʻau piʻo* (brother-sister pairing) rank (Tregaskis 1973:166, 201).

Kamehameha's bid for conquest and unification, nonetheless, had to wait until Kahekili's death in 1794 and the weakening of Maui in the subsequent succession war won by Kahekili's son Kalanikūpule (1760–1795). Kamehameha I went on to defeat Kalanikūpule, first on Maui, then striking the final blow to the Kahekili line at the battle of Nuʻuanu on Oʻahu in 1795. In the following years, the chiefly Maui families were largely dispossessed of their lands unless they surrendered (Fornander 1919-20, Vol. 6:310). Kamehameha completed his unification of the islands in 1810, when Kauaʻi chief Kaumualiʻi (c. 1778–1824) formally agreed to become his subordinate (Daws 1974:43–44).

During the time of King Kamehameha I the buying and selling of produce to provision sailing ships was strictly regulated (Daws 1974:44). His successors gave into social and political pressure from the lesser chiefs, who wanted a share of the bounty, especially exotic merchandise brought in by foreign merchants. During the reign of Liholiho (Kamehameha II, r. 1819–1824), chiefs imported foreign goods on credit, promising payment in sandalwood (*Santalum*) cut from the mountains. This practice caused famine in some parts of the islands as workers levied for this task were taken away from subsistence agriculture and also exhausted the supply of sandalwood within a few decades (Rhodes and Greene 1993: Chapter V: Section H; Kuykendall 1938, Vol 1:88–92). By the time of the reign of Kauikeaouli (Kamehameha III, r. 1825–1854), free enterprise dominated commerce in the islands, and supplying the booming whaling industry had become the main non-subsistence economic activity.

The increase in foreign visitors brought new cultural ideas along with demographic changes from immigration and introduced infectious diseases. Christian missionaries not only preached their faith but also developed a writing system for the Hawaiian language. Robert Schmitt (1973:18) records that U.S. missionaries conducted the first census of Maui in 1832 recording 2,256 persons in Wailuku Ahupuaʻa. Only four years later another census in 1836 would record only 1,364, suggesting substantial population decline (Schmitt 1973:18, 36). The native population was predisposed to Western introduced diseases as it had no natural immunity. Thus, "an illness that was considered to be relatively mild could cause severe or fatal consequences" (Schmitt and Nordyke 2001:3)

The question of the number of Hawaiians at Contact is a controversial topic for both scholarly and ideological reasons. Schmitt (1968:43) argues that by 1850 the Hawaiian and part-Hawaiian population had fallen from approximately 300,000 in 1778 to 82,593, giving an estimate of the population at Contact on the low end of the range. On the high end, David Stannard (1989:50) estimated 800,000 to 1 million Hawaiians at time of Contact. A more recent account using the demographic methodology of "backcasting" places the number of Hawaiians in 1778 at 683,200 (Swanson 2019:208).

THE MĀHELE

In the 1840s, during the reign of Kauikeaouli, consequential changes in land tenure occurred. The change is commonly referred to as the "Māhele" (division). Prior to the changes, a *konohiki*, usually a lower ranking chief, acted as superintendent of an *ahupua'a* under a higher ranking *ali'i* and was responsible for the management of resources. After the Māhele, lands were distributed among the *ali'i*, the position of *konohiki* was replaced by a land commissioner, or "*komikina ho'on'āina*" (Lucas 1995:56).

Introducing Western style land ownership had long been advocated by foreign advisors to the *mō'ī* (king) and his *ali'i*. The five-month occupation of the islands by British naval officer George Paulet in 1843 showed that Hawaiian sovereignty was precarious, and those advisors "pointed out to Kauikeaouli that by granting others the right to own land, he would give himself the same privilege … to assign lands to his personal ownership" (Moffat and Fitzpatrick 1995:50), theoretically allowing him to retain land as private property even if national sovereignty were lost. Jon Chinen (1958:25) also notes that the *mō'ī* "did not want his lands to be considered public domain and subject to confiscation by a foreign power in the event of a conquest."

Chinen (1958:8) reports that the Board of Commissioners to Quiet Land Titles (often shortened to "the Land Commission") was established in 1845 for "the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any land property." The parcels awarded by the Land Commission were called "Land Commission Awards" (LCAs). Initially, this only established crown lands owned by the *mō'ī*, *aupuni* (government) lands, and private lands owned by the *ali'i* (also known as "*konohiki* lands"). Chinen explains:

> Except for the government's right of commutation, a Land Commission Award gave complete title to the lands confirmed. The commutation was satisfied by the payment of cash or the return of land of equal value … generally one third of the value of the unimproved land as of the date of the award. [Chinen 1958:10]

The Kuleana Act of 1850 allowed *maka'āinana* to file claims for the land parcels and house lots on which they had been living or cultivating. In order to file claims, however, they first had to be aware of the awarding of *kuleana* lands and LCAs, procedures that were largely foreign to them. Many *maka'āinana* could not afford the costs associated with filing, and in some cases, the *ali'i* or *konohiki* may have discouraged their *hoa'āina* from filing claims (McGrath et al. 1973:27). People claiming house lots in Honolulu, Hilo, and Lāhainā were in addition required to pay commutation to the government before obtaining a Royal Patent on their awards (Chinen 1971:16). Rural *kuleana* claims required a survey that could be quite costly, assuming the services of one of the few surveyors in the islands could be obtained (Moffat and Fitzpatrick 1995:50). Surveys (and thus, awards) of rural *kuleana* lands often only encompassed land under active cultivation, without including locations such as fallow lands, stream fisheries, *'okipu'u* (swidden gardens), and others (Kame'eleihiwa 1992:295; Kirch and Sahlins 1992:23, 110). These factors may have contributed to the relatively low number and size of claims, as only 8421 *kuleana* awards were issued, totaling only 28,658 acres (Moffat and Fitzpatrick 1995:50).

Kamanamaikalani Beamer and N. Wahine'aipohaku Tong (2016:130) dispute the claim that the Māhele was the chief instrument of dispossession of the *kanaka maoli* (native people). Although the claims system appears to have awarded them little, records show that the *maka'āinana* were able to purchase an estimated 167,290 acres of land between 1850 and 1893, often *aupuni* lands sold to them at relatively low cost. Beamer and Tong (2016:136) also argue that many *ali'i* leased or sold land to *hui* (associations) of *kanaka maoli* in keeping with the former *ali'i* - *hoa'āina* relationship. In these ways, lands not awarded to *maka'āinana* during the Māhele were still made available.

With land ownership established in law, foreigners gained the long-demanded right to own land in the Kingdom of Hawaii through the Alien Land Ownership Act of 1850 and would eventually acquire "almost two-thirds of the total land area" (Van Dyke 2009:51). This land acquisition allowed foreign residents to establish commercial agricultural plantations and ranching on a large scale. Some of these plantations were operated in partnership with the *ali'i*, at least in the early years after the Māhele.

According to the Office of Hawaiian Affairs (n.d.) *Kipuka* online database and Waihona 'Āina (n.d. a, c), the project area falls within LCA No. 420, consisting of 670 acres of land awarded to Kuihelani and confirmed by Royal Patent Grant No. 1996 in 1885. The LCA claim also included 73 acres of ocean for a fishery, for a total grant of 743 acres.

LATE POST-CONTACT TO PRESENT

Whaling declined in the late 19th century, and commercial agriculture and ranching came to the forefront of Hawaiian economy, in part because the Māhele had allowed the consolidation of lands into vast and now privately owned plantations and ranches. Although sugar had been grown on Maui as early as 1828 (Speakman 1978:114), the Reciprocity Treaty of 1875 permitting duty free trade of agricultural products between the Kingdom of Hawaii and the United States turned Hawaiian sugar into an immensely profitable commodity that would become a mainstay of the economy (Kuykendall 1967, Vol 3:46–48).

A total of 24,000 acres comprising the majority of Wailuku Ahupua‘a, were conveyed to sugar magnate Claus Spreckels as Land Grant No. 3343 in 1882 (Waihona ‘Āina n.d. b). Spreckels gained this land by paying Princess Ruth Ke‘elikōlani $10,000 for her supposed interest in the crown lands. The princess did not have clear legal right to the lands at the time, but Spreckels was able to parlay his claim into a Land Grant of 24,000 acres from the kingdom’s legislature in exchange for relinquishing his claimed interest, a profitable return on what Ralph Kuykendall (1967:61) called “investment in blackmail.” While most Land Grants were (despite the name) purchases, some were offered in exchange for quitclaims of interests.

In order to make large scale sugarcane cultivation practical on the 40,000 acres he had assembled from this and other acquisitions, Spreckels arranged for the construction of the Haiku Ditch in 1878-79 to carry water from mountain streams in East Maui to his plantation fields in Wailuku, and followed this with another massive ditch carrying water from Waihe‘e in West Maui in 1882, the eponymous Spreckels Ditch (Wilcox 1996:62–63). Spreckels’s Hawaiian Commercial and Sugar Company (HC&S) was the only sugar producer to draw from the watersheds of both East and West Maui. Spreckels Ditch and the 1905-07 Waihe‘e Ditch constructed by rival Wailuku Sugar Company remain the major features of the West Maui irrigation system (Wilcox 1996:124).

HC&S was officially incorporated in 1882 (Dorrance and Morgan 2000:69). Jacob Adler (1966:72, 99–100) reported that with its 40,000 acres, by 1892 Spreckelsville had become the largest sugar plantation in the world and had in effect monopolized the market in Hawai‘i. Adler (1966:12) noted that “between 1876 and 1898, sugar exports increased from 13,000 to 229,000 tons a year.” The portion of Wailuku near Kahului Harbor substantially developed to serve the sugar industry in the later 19th century, with warehouses, stores and railroads springing up. Thomas Hobron built the first western style building, a warehouse, near the shoreline of Kahului in 1863 (Clark 1980:7). HC&S built the Kahului Railroad, which delivered sugarcane from the mills to the harbor at Kahului in addition to carrying passengers (Condé and Best 1973:208–09). Contemporary Lower Main Street follows the path of this railroad.

The sugar industry propelled the so called "Big Five" corporations into a dominant position in the economy, such that they eventually "took over bodily the wholesaling of goods coming into the Islands; ninety percent of retail stock came from their warehouses" (Young 2017). Even after agriculture eventually gave way to tourism as the main economic activity in Hawai‘i, many of these companies continued to be important in the real estate business. The coastal portion of Waiehu does not appear to have been highly valued or sought by the corporations. Some of the modern residential developments in Wailuku town or the growing suburbs to the south occupy land formerly used to grow sugarcane or to house the plantation workers who cultivated it.

NEARBY HISTORIC PLACES

HENRY PERRINE BALDWIN HIGH SCHOOL

The Henry Perrine Baldwin High School (of which the project area is a part) was included on the Hawai‘i Register of Historic Places (HRHP) as a part of Maui Public Schools, which collectively constitute State Inventory of Historic Places (SIHP) Site 50-50-04-01630, on June 2, 1992. It was also listed on the National Register of Historic Places (NRHP) with Reference Number 667 on June 30, 2000. According to the NRHP Registration Form (Penkiunas 1992; Appendix B), "the main buildings of Henry Perrine Baldwin High School were built in Kahului between 1938 and 1940," and the school "is significant for its use of Modern style architecture for a school building and for its role in the history of the education in Maui."

KA‘AHUMANU AVENUE-NANILOA DRIVE OVERPASS

The Ka‘ahumanu Avenue-Naniloa Drive Overpass (approximately 450 m west-southwest of the project area) was listed on the HRHP as SIHP Site 50-50-04-01541, on July 30, 2005, and on the NRHP with Reference Number 8001065 on November 11, 2008. The overpass is located approximately 400 m west of Baldwin High School. According to the NRHP Registration Form (Duesing 2004), the "rigid frame concrete bridge" of the overpass was built in 1936, and "achieves state and local significance in the areas of engineering and transportation" since it "represents the advances in engineering technology being achieved in Hawaii during the early twentieth century."

WAI‘ALE DRIVE BRIDGE

The Wai‘ale Drive Bridge (approximately 600 m west-southwest of the project area) was listed on HRHP as SIHP Site 50-50-04-01633, on July 19, 1997, and on NRHP with Reference Number 98001287 on October 30, 1998. According to the NRHP registration form (Shideler and Yoklavich 1996), the bridge was built in 1936 to "provide a grade separation for the now-defunct Wailuku Sugar Company railroad," is "significant for its contributions to the fields of engineering and transportation," and "evidence[s] a refined aesthetic sensibility" that makes it distinctive.

PREVIOUS ARCHAEOLOGY

The earliest archaeological studies on Maui occurred in the early 20th century, but most research is more recent, generally occurring after legal requirements for protection of significant cultural, historical, and archaeological properties were increasingly implemented and enforced in the 1980s. Archaeological work in the vicinity of the project area is shown on Figure 5.

EARLY ARCHAEOLOGY (THRUM 1909, STOKES 1909–16, WALKER 1931)

The earliest archaeological endeavors on Maui were undertaken by Thomas G. Thrum (1909), John F.G. Stokes (1909–16), Kenneth P. Emory (1921), and Winslow Walker (1931). These studies identified a number of *heiau* (traditional Hawaiian temples) and other religious features. Walker's survey listed a total 14 of *heiau* in Wailuku Ahupua'a: Pihana, Haleki'i, Kaluli, Keahuku, Olokua, Olopio, Malena, Pohakukahi, Lelemako, Kawelowelo, Kaulupala, Palawaihiki, Olo'olakalani, and Papanene (Sterling 1998:75-79). Pihana and Haleki'i Heiau are located close together and are the only two of the 14 *heiau* that remain to the present day. A 10-acre park, the Haleki'i-Pihana Heiau State Monument, was developed around the two, and was designated as SIHP Site 50-50-04-00592. This park is located north of Wailuku River and well north of the current project area (not shown on Figure 5 below).

HAMMATT 1985

In 1985, Cultural Surveys Hawai'i, Inc. (CSH) (Hammatt 1985) conducted an archeological reconnaissance of approximately 3.4 acres for a proposed post office building on the site of Wailuku Sugar Mill [then TMK: (2) 3-4-020:075 por.; now TMK: (2) 3-4-020:077 and 084]. No historic properties were identified.

MAUI ARTS & CULTURAL CENTER (KENNEDY 1988, KENNEDY 1990A, PERZINSKI AND DEGA 2011B, WOLF ET AL. 2017 [DRAFT])

In 1988, Archaeological Consultants of Hawaii, Inc. (ACH) (Kennedy 1988), conducted a reconnaissance survey for a location [then TMK: (2) 3-7-001:002 por.; now TMK: (2) 3-7-001:127 por.] proposed for the Maui Community Arts & Cultural Center [now the Maui Arts & Cultural Center (MACC)]. No historic properties were identified.

Subsequently, in 1990 ACH (Kennedy 1990a) conducted a program of subsurface testing at the location and submitted a letter report of the results. After an excavation of 51 backhoe trenches there was "no evidence of human burials [or other features] whatsoever as well as a marked absence of stratigraphy beyond the duff level" (Kennedy 1990a:no page numbers).

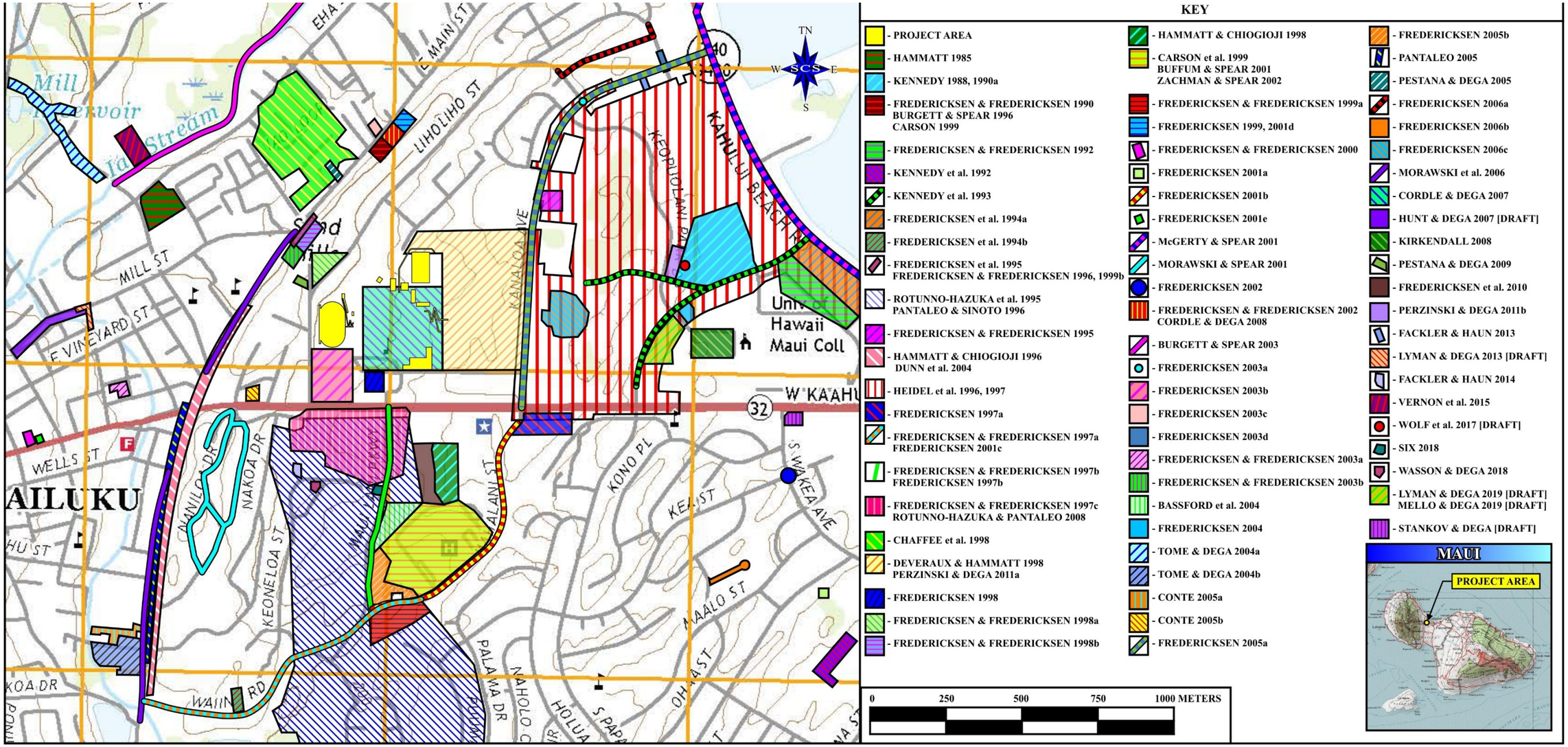

Figure 5: A portion of a 2017 USGS topographic map (Wailuku quadrangle) showing previous archaeology near the project area

Kennedy (1990a) concluded that the absence of any cultural resources was likely due to "large scale terracing in order to level" the sand dune that had previously covered the project area, possibly performed "by the military in the l940's."

In 2011, SCS (Perzinski and Dega 2011b) monitored grading to 2 meters below ground surface (mbgs) over a roughly 1-acre parcel at MACC [TMK: (2) 3-7-001:127 por.] for the construction of a photovoltaic facility (a solar panels bank). No historic properties were identified.

In 2017, SCS (Wolf et al. 2017 [Draft]) conducted archaeological monitoring during drilling of an exploratory well for (future) irrigation at the MACC [TMK: (2) 3-7-001:127 por.]. No historic properties were identified during monitoring.

MAUI LANI DEVELOPMENT (ROTUNNO-HAZUKA ET AL. 1995, PANTALEO AND SINOTO 1996)

In 1990, Bernice Pauahi Bishop Museum (BPBM) conducted test excavations at four locations in an approximately 1,000-acre parcel [TMK: (2) 3-8-007:002 & 110] owned by Maui Lani Partners south of West Ka'ahumanu Ave (Rotunno-Hazuka et al. 1995). A burial site was found at a sand dune and designated as Bishop Museum Site 50-Ma-C9-40 (later SIHP Site 50-50-04-02797). Initially, scattered skeletal remains were assessed to represent a minimum number of three individuals (MNI = 3) at this site. Further testing in 1992 identified ten additional burial features associated with SIHP Site -02797 (MNI = 12). Six burial features were preserved *in situ*.

Subsequently, the State Historic Preservation Division (SHPD), Maui, requested a more intensive survey of the Maui Lani parcel [TMK: (2) 3-8-007:002 & 110] previously investigated by Rotunno-Hazuka et al. (1995). Subsurface testing conducted by Aki Sinoto Consulting, LLC, included 90 machine-excavated trenches, two shovel scrapes, and one manually excavated trench (Pantaleo and Sinoto 1996). Excavation identified two burial sites that were designated as features of SIHP Sites 50-50-04-04146 and 50-50-04-04147. The four isolated individual burials on the SIHP Site -02797 sand dune that were designated as additional features of SIHP Site -02797.

FREDERICKSEN AND FREDERICKSEN 1990, BURGETT AND SPEAR 1996, CARSON 1999

In 1990, Xamanek Researches, LLC (Fredericksen and Fredericksen 1990) conducted an archeological survey on an approximately 0.9-acre commercial property located on Lower Main Street across from where Kawaipuna Place intersects it [then TMK: (2) 3-4-039:077; now TMK: (2) 3-4-039:077, 110 & 111]. Fredericksen and Fredericksen (1990:6) noted that the old Kahului Railroad once passed through the project area, adding that the "railings and wooden ties were removed shortly after the system was closed down." No historic properties were identified.

In 1994, SCS (Burgett and Spear 1996) conducted an archeological survey of the same parcel [then TMK: (2) 3-4-039:077] previously surveyed by Fredericksen and Fredericksen (1990). A pedestrian survey, four shovel probes and the excavation of a single test unit resulted in the identification of SIHP Site 50-50-04-04004. The site was interpreted as a remnant of a cultural layer extending along the cliff edge of a sand dune, from which a number of both Pre- and Post-Contact artifacts were recovered. Radiocarbon analysis of a sample from SIHP Site -04004 returned a result at 2-sigma (95% confidence) of 1420 to 1640.

Subsequently, in 1999 SCS (Carson 1999) conducted archeological monitoring during construction activities on the same property [then TMK: (2) 3-4-039:077] previously surveyed by Burgett and Spear (1996). No historic properties were identified.

KENNEDY ET AL. 1992

In 1992, ACH (Kennedy et al. 1992) conducted a survey on 2.4 acres proposed for an extension to the Hale Makua facility at 472 Laau Street [then TMK: (2) 3-8-007:097 por.; now TMK: (2) 3-8-007:084 por., & 097] adjacent to Kahului Community Center Park. Full pedestrian survey and excavation of nine backhoe trenches did not identify historic properties.

RETENTION BASIN AT MAUI COMMUNITY COLLEGE (FREDERICKSEN AND FREDERICKSEN 1992, FREDERICKSEN ET AL. 1994A)

In 1992, Xamanek (Fredericksen and Fredericksen 1992) conducted a survey on approximately 5 acres adjoining Maui Community College (MCC) [then TMK (2) 3-8-007:040 & 043 pors.; now TMK: (2) 3-8-007:040 & 125 pors.] for a parking lot extension and a retention basin construction. The excavation of 22 test trenches did not identify cultural deposits, and the soils were noted as "very disturbed" by previous projects (Fredericksen and Fredericksen 1992:10–11). Several features not old enough to be considered historic at the time were noted, including "the Kahului Railroad tracks," for which "ties remained until the 1970's," the "roadway leading into the 18th Marine camp," and "features … associated with the military operations in World War II" including "three poured concrete foundations" (Fredericksen and Fredericksen 1992:11). These features likely correspond to archaeological sites discussed by Heidel et al. (1997).

In 1994, Xamanek (Fredericksen et al. 1994a) conducted an archeological survey for the Maui Central Park Parkway project on TMK: (2) 3-8-007:125, a 10-acre parcel that had been partially surveyed during the prior survey (Fredericksen and Fredericksen 1992) for MCC. The study area comprised the portion of the parcel not already surveyed; since the retention basin construction on the previously surveyed portion was already complete. Full pedestrian survey and excavation of 23 backhoe trenches did not identify any historic properties.

KENNEDY ET AL. 1993

In 1993, ACH (Kennedy et al. 1993) conducted a survey investigation of a proposed road project along a corridor that would separate Maui Central Park and MCC [then TMK: (2) 3-8-007:001, 040, 117 & 125 pors., and (2) 3-7-001:002 por.; now TMK: (2) 3-8-007:001 & 117 pors., and Right-of-Way (ROW) between parcels 040 and 125]. The full pedestrian survey and excavation of 54 trenches did not result in the identification of any historic properties.

FREDERICKSEN ET AL. 1994B

In 1994, Xamanek conducted a survey (Fredericksen et al. 1994b) on an 0.68-acre parcel owned by Maui Memorial Park, Inc. [TMK: (2) 3-8-046:030]. Pedestrian survey and excavation of 14 backhoe trenches did not identify any historic properties or cultural deposits. Fredericksen et al. (1994b:6) interpreted "a tombstone with Asian writing on it …. surrounded by modem refuse and was part of a fill soil layer" as modern and not archaeologically sensitive.

WAIʻALE ROAD (HAMMATT AND CHIOGIOJI 1996, DUNN ET AL. 2004, PANTALEO 2005, MORAWSKI ET AL. 2006)

In 1995, SCS (Dunn et al. 2004) monitored the installation of a sewer pipeline along Waiʻale Rd and Lower Main St [then TMK: (2) 3-4-002:036, 3-4-003:019, and 3-4-010:002, now TMK: (2) 3-4-009:999, 3-4-010:999, and 3-4-018:999]. Monitoring identified a disturbed burial (SIHP Site 50-50-04-04005), an isolated hearth (SIHP Site 50-50-04-04067), and a Pre-Contact burial ground associated with a cultural layer (SIHP Site 50-50-04-04068). Both the cultural layer (including pit features, post holes, and artifacts, mostly basalt and volcanic glass flakes, and tools) and the burials (MNI = 18) at SIHP Site -04068 were located 1.0 to 1.5 mbgs. Charcoal samples sent for radiocarbon dating returned results consistent with Pre-Contact occupation.

In 1996, CSH (Hammatt and Chiogioji 1996) conducted an LRFI along Waiʻale Road and Lower Main Street from the intersection of Waiʻinu Road with Waiʻale Road to the intersection of Mill Street with Lower Main Street [TMK: (2) 3-4-010:999 and 3-4-018:999]. Hammatt and Chiogioji (1996:23) reported that "no surface archaeological sites were observed."

In 2004, Archaeological Services Hawaiʻi, LLC (ASH), conducted an Archeological Inventory Survey (AIS) along Waiʻale Road from Waiʻinu Rd to West Kaʻahumanu Ave [TMK: (2) 3-4-003:007, 008, 021, and 038; (2) 3-4-009:008; & (2) 3-4-010:027, 029, 037, 040, and 043] for placement of new steel electric poles (Pantaleo 2005). Full surface survey and excavation of 11 trenches corresponding to pole locations identified a single cultural deposit interpreted as a probable *imu* (underground oven) remnant containing porcine bone, charcoal, and fire cracked rock. This deposit was designated as SIHP Site 50-50-04-05656.

From 2003 to 2005, SCS (Morawski et al. 2006) conducted archaeological monitoring along Waiʻale Rd and Lower Main St for the proposed Kehalani Mauka Subdivision [TMK: (2) 3-5-002:001 por. and (2) 3-5-001:017 por.]. Monitoring identified five sites: a complete *in situ* human burial (SIHP Site 50-50-04-05965), two locations containing incomplete and previous disturbed burials (SIHP Sites 50-50-04-05965 and 50-50-04-05966), the historic roadbed of Waiʻale Road (SIHP Site 50-50-04-05963), and a portion of a Post-Contact sugarcane irrigation flume (SIHP Site 50-50-04-05964).

INTERSECTION OF LOWER MAIN AND MILL STREETS (FREDERICKSEN ET AL. 1995, FREDERICKSEN AND FREDERICKSEN 1996, 1998B, 1999B, 2003B)

In 1995, Xamanek (Fredericksen et al. 1995) conducted an archeological survey along Lower Main St over an approximately 450 ft. long and 20 ft wide (127 m long and 6 m wide) stretch from the Mill St intersection northeastward [then TMK: (2) 3-4-039:081, 082, & 083 pors.; now TMK: (2) 3-4-039:51, 081, & 082 pors.] for the County of Maui Department of Public Works (DPW). A cultural deposit was identified approximately 0.3 to 0.4 m below street level and designated as SIHP Site 50-50-04-04127.

A follow-up data recovery was conducted in 1996 (Fredericksen and Fredericksen 1996). The initial assessment of SIHP Site -04127 as a cultural layer under fill was determined to be incorrect because the upper layer also had cultural material, and the site was reassessed as a disturbed cultural layer.

In 1997-98, archeological monitoring took place within the same project area [TMK: (2) 3-4-039:081 and 082 pors.], and was documented along with mitigation measures in an archeological mitigation report (Fredericksen and Fredericksen 1999b). Several new features were identified and recorded as part of SIHP Site -04127, including a single burial that was inadvertently disturbed and subsequently reinterred in its original location. It was confirmed that Site -04127 extended beyond the project area, including under Lower Main Street.

Additionally, in 1997 Xamanek also conducted an archeological survey (Fredericksen and Fredericksen 1998b) of the entire 1.34-acre property parcel at TMK: (2) 3-4-039:082 for a proposed Texaco service station, overlapping with the project area for the earlier DPW survey (Fredericksen et al. 1996). This survey found further subsurface cultural deposits interpreted as part of the previously identified SIHP Site -04127, demonstrating that the site extended further than what had previously been thought. Additionally, a second Pre-Contact subsurface cultural deposit, along with an associated burial, were identified to the south of Site -04127 and designated as SIHP Site 50-50-04-04414.

In 2002, Xamanek (Fredericksen and Fredericksen 2003b) conducted monitoring during work on a Maui Electric Company substation at TMK: (2) 3-4-039:051, a 0.82-acre parcel immediately to the southwest of the parcel [TMK: (2) 3-4-039:082] previously surveyed by Fredericksen and Fredericksen (1998b). Monitoring identified an additional portion of SIHP Site 50-50-04-04127, which extended into this parcel as well (Fredericksen and Fredericksen 2003b).

FREDERICKSEN AND FREDERICKSEN 1995

In 1995, Xamanek (Fredericksen and Fredericksen 1995) conducted an archeological survey on approximately 4 acres in TMK: (2) 3-8-007:001 por. for the proposed Keiki Zoo Maui. Full pedestrian survey and excavation of nine backhoe trenches for subsurface testing did not identify any historic properties or cultural deposits.

MAUI CENTRAL PARK (HEIDEL ET AL. 1996 & 1997)

In 1996, CSH (Heidel et al. 1996) conducted a reconnaissance survey of 110 acres for the Maui Central Park (now Keōpūolani Regional Park) [then TMK: (2) 3-7-001:002 por. and (2) 3-8-007:001 por.; now TMK: (2) 3-8-007:001 por., 040 por., 117, 125, 127, & 158] east of the project area. Subsurface testing was conducted with 21 backhoe trenches, but no archaeological sites were identified during the reconnaissance. Heidel et al. (1996:15) noted that CSH had been notified by Xamanek of "some scattered human remains … reportedly present on the boundary of the southwestern corner of the Maui Community Arts and Cultural Center within the … project area" by fax (August 16, 1996).

Subsequently, in 1997 CSH (Heidel et al. 1997) conducted an archeological survey of Maui Central Park, as a continuation of the prior reconnaissance (Heidel et al. 1996), surveying the same project area. Additional testing was conducted with another 31 backhoe trenches, and complete surface survey was performed. No archaeological sites were newly identified during the survey, but three previously identified sites in the project area were listed in the report. SIHP Site 50-50-04-03112 consisted of the "remnants of the berm of the former Kahului Railroad" that "pass through the makai [i.e., seaward] eastern side of the Kahului Beach Road" (Heidel et al. 1997:46). SIHP Site 50-50-04-04211 consisted of the "scattered human remains" previously mentioned by Heidel et al. (1996). SIHP Site 50-50-04-04232 consisted of four concrete pads that were "the remains of the 18th Service Battalion camp of the U.S. Marine Corps," and Heidel et al. (1997:43) state that the site "was originally identified as an archaeological site in 1992 by Xamanek Researches," likely referring to Fredericksen and Fredericksen 1992 (see Maui Community College above).

MAUI LANI PARKWAY (FREDERICKSEN AND FREDERICKSEN 1997B, FREDERICKSEN 1997 B, FREDERICKSEN AND FREDERICKSEN 1997C, BASSFORD ET AL. 2004, ROTUNNO-HAZUKA AND PANTALEO 2008)

In 1996, Xamanek (Fredericksen and Fredericksen 1997b) conducted an archeological survey of an approximately 2500-ft- (762-m)-long corridor for the Maui Lani Parkway Road Corridor project [then TMK: (2) 3-8-007:121 pors. and 136, now TMK: (2) 3-8-007:171 and 141 por.]. A scatter of disturbed human remains was found approximately 40 m west of the corridor and designated as SIHP Site 50-50-04-04368.

Subsequently, in 1997 Xamanek (Fredericksen 1997b) conducted archeological monitoring for the Maui Lani Parkway Road Corridor [TMK: (2) 3-8-007:171 and 141]. During monitoring, a Pre-Contact burial (designated as SIHP Site 50-50-04-04435) was disturbed by project excavations. Additionally, a skull fragment was found during fill spreading, and other human remains were subsequently located near a World War II Era cinder road; these findings were collectively designated as SIHP Site 50-50-04-04419. Based on the pattern of burial finds and the lack of cultural deposits identified during additional archeological work in the vicinity, it was concluded that while this section of Puuone dunes was used for burials, it was likely not in use for Pre-Contact habitation because of the arid conditions and the long distance from water sources.

In 1997, Xamanek (Fredericksen and Fredericksen 1997c) conducted an archeological survey of the 20.7-acre Maui Lani Lot 11-A [then TMK: (2) 3-8-007:121]. Full pedestrian survey and the excavation of 53 backhoe trenches and two test units did not identify cultural deposits, but one *in situ* Hawaiian burial was found in an unfinished access ramp approximately 30 m west of the aforementioned parkway corridor running between the two portions of Lot 11-A. The remains were designated as SIHP Site 50-50-04-04401.

According to Fredericksen (1997b), mitigation work for the burials found in the vicinity of the Maui Lani Parkway Road Corridor was originally assigned to Aki Sinoto Consulting. However, it appears that ASH took responsibility for both producing burial treatment plans and conducting additional monitoring in the area. ASH's *Summary of Historic Properties* (Rotunno-Hazuka and Pantaleo 2008) indicated that intermittent monitoring was conducted in the area between 1999 and 2005, with "19 localities … containing human skeletal remains from 21 individuals" documented in this period, although a final archaeological monitoring report does not appear to have been submitted to the SHPD Library.

In 2004, ASH conducted an AIS of 3.7 acres then "designated as Maui Lani Large Lot 11-1-P within the Maui Lani Development" [TMK: (2) 3-8-007:140], just east of the Maui Lani Parkway ROW (Bassford et al. 2004:1). Although no historic properties or cultural materials were found within the project area, a single human phalanx (finger or toe bone) was found on an adjacent lot [then TMK: (2) 3-8-007:044] to the north (Bassford et al. 2004:24).

MAHALANI STREET EXTENSION (FREDERICKSEN AND FREDERICKSEN 1997A, FREDERICKSEN 2001C & E)

In 1997, Xamanek (Fredericksen and Fredericksen 1997a) conducted an archeological survey along an approximately 990 m (3250 ft) long corridor for the proposed Mahalani Street extension [then TMK: (2) 3-8-046:001 por. through 004, 017, 018, 030 & 032; and (2) 3-8-007:121 por.]. No historic properties were identified.

Subsequently, in 1998-2001 Xamanek (Fredericksen 2001c) monitored the corridor surveyed by Fredericksen and Fredericksen (1997a). No historic properties were identified. Based on the Rights-of-Way (ROWs) shown on the County of Maui Planning Department (2022) *Land Use Viewer*, it appears that the extended portion of Mahalani Street associated with this project was subsequently replaced by an extension of Maui Lani Parkway connecting with Wai'inu Road, and that the project corridor no longer corresponds to any ROW for a road.

In 2001, while monitoring was ongoing, Xamanek (Fredericksen 2001e) was notified of a "previously unidentified sandstone wall … down slope of the existing Mahalani street" [TMK: (2) 3-8-046:026] and documented it in a separate report. The approximately 180-m-long wall was assessed as "a possible animal containment wall or a possible boundary marker" and designated as SIHP Site 50-50-04-05113.

NĀ LEO PŪLAMA O MAUI (FREDERICKSEN AND FREDERICKSEN 1998A)

In 1997, Xamanek (Fredericksen and Fredericksen 1998a) conducted an archeological survey on a 1.679-acre property [TMK: (2) 3-8-007:047] northwest of Baldwin High School and across from Liholiho St for the Nā Leo Pūlama O Maui Hawaiian Immersion Preschool and Family Language Resource Center. The survey identified a subsurface cultural deposit that was interpreted as a Pre-Contact habitation site and assigned SIHP Site 50-50-04-04418. Radiocarbon analysis of charcoal from SIHP Site-04418 returned a date range of 1425 C.E. to 1665.

Another Xamanek report (Fredericksen 1998:3; see Baldwin High School below) mentions archeological monitoring associated with "Na Leo Pulama O Maui Hawaiian Preschool," during which the "previously disturbed human remains of 2 individuals" were identified and designated as SIHP Site 50-50-04-04493. However, no monitoring report was on file at the SHPD Library.

FREDERICKSEN 1997A

In 1997, Xamanek (Fredericksen 1997a) conducted archeological monitoring on an approximately 4-acre area for Phase II of the Kaiser Permanente Parking Expansion project [TMK: (2) 3-8-046:008 por.]. No historic properties were identified during monitoring.

J. WALTER CAMERON CENTER EXPANSION (HAMMATT AND CHIOGIOJI 1998)

In 1997, CSH (Hammatt and Chiogioji 1998) conducted an archeological survey for the proposed expansion of the existing J. Walter Cameron Center at 95 Mahalani Street onto an adjacent parcel of 3.7 acres [then TMK: (2) 3-8-046:027; now TMK: (2) 3-8-046:027 & 040], located to the west. Pedestrian survey and two manually excavated trenches did not identify any historic properties or cultural deposits.

Fredericksen et al. (2010:17) state that Lisa Rotunno Hazuka of ASH told them (pers. comm. 12.9.2009) that ASH conducted archaeological monitoring for the construction work on the expansion, but that a monitoring report was produced due to lack of funds. Fredericksen et al. (2010:17) relate that ASH archaeologists encountered the remains of two individuals during monitoring, which were placed in a preservation area and designated as SIHP Site 50-50-04-04728.

KEŌPŪOLANI REGIONAL PARK (DEVERAUX AND HAMMATT 1998, PERZINSKI AND DEGA 2011A)

In 1998, CSH (Deveraux and Hammatt 1998:1) conducted archeological monitoring during constriction of an "approximately 12,000 square ft. [1115 m^2] television and communication compound" created as part of renovations to the War Memorial Stadium in Keōpūolani Regional Park [TMK: (2) 3-08-007: por. 055]. No historic properties were identified during monitoring.

In 2011, SCS (Perzinski and Dega 2011a) conducted archeological monitoring for a cesspool replacement at the War Memorial Complex and baseball fields in Keōpūolani Regional Park [TMK: (2) 3-08-007:055 por.]. Although the project only involved installation of 115 ft (35 m) of sewer line, the entire 38.492-acre parcel was listed as the project area. No historic properties were identified during monitoring.

CHAFFEE ET AL. 1998

In 1998, SCS (Chaffee et al. 1998) conducted an archeological survey of 24.64 acres in the proposed Wailuku Parkside property [then TMK: (2) 3-4-030:019, 020 por., & 023 por.; now TMK plats (2) 3-4-046, (2) 3-4-047, and (2) 3-4-048]. Full pedestrian survey and excavation of 40 backhoe trenches did not identify any historic properties or cultural deposits.

BALDWIN HIGH SCHOOL (FREDERICKSEN 1998; CORDLE AND DEGA 2007)

In 1998, Xamanek (Fredericksen 1998) monitored approximately 3 acres within the Baldwin Highschool grounds for the Baldwin High School Gymnasium project [TMK: (2) 3-8-007:004 por.]. No historic properties were identified during monitoring.

In 2004-05, SCS (Cordle and Dega 2007) conducted archeological monitoring during the construction of an eight-classroom building at Baldwin High School [TMK: (2) 3-4-007:004 por.]. No historic properties were identified during monitoring.

A letter received by SCS from SHPD on April 27, 2022 (Project No.: 2022PR00418, Doc No.: 2204IK13) indicated that Xamanek (Pickett and Fredericksen 2011) conducted an AIS for a proposed softball field on the Baldwin Highschool campus in 2010-11, and filed an Archaeological Assessment (AA) report after 17 backhoe trenches and 2 manually excavated trenches did not identify any historic properties or cultural deposits. Unfortunately, no copy of this report could be located at the SHPD Library, and it was not cited by any other report reviewed.

BURGETT AND SPEAR 2003

In 1998, SCS (Burgett and Spear 2003) conducted an archeological reconnaissance survey with limited subsurface testing of an approximately 13-acre corridor in ʻĪao Valley for the alternative channel alignment of ʻĪao Stream. Full pedestrian survey identified one site (SIHP Site 50-50-04-04755) composed of three features: a concrete foundation with a concrete trough, a soil-filled terrace and retaining wall, and a wall remnant. According to local residents, the wall remnant was once part of a pigsty. Three test units excavated at Site -04755 yielded a modest assemblage of glass and ceramic artifacts dating to the late 19th to early 20th century. SIHP Site -04755 was interpreted as a former Post-Contact habitation site.

MAUI MEMORIAL MEDICAL CENTER (CARSON ET AL. 1999, BUFFUM & SPEAR 2001, ZACHMAN & SPEAR 2002)

In 1999, SCS (Carson et al. 1999) conducted an archeological survey on a 2.5-acre portion of the grounds of the Maui Memorial Medical Center (MMMC) [then TMK: (2) 3-8-046:013 & 029; now TMK: (2) 3-8-046:013, 024, & 029]. Pedestrian survey and five manually excavated trenches did not identify any historic properties.

In 2000-01, SCS (Buffum and Spear 2001) conducted archaeological monitoring during construction activities at MMMC [then TMK: (2) 3-8-046:013 & 029; now TMK: (2) 3-8-046:013, 024, & 029]. No archaeological sites were identified during monitoring, and Buffum and Spear (2001:10) noted that there was “evidence of intensive land modifications” having occurred previously.

In 2002, SCS (Zachman and Spear 2002) conducted archaeological monitoring during installation of water lines and fire hydrants at MMMC. No historic properties were identified during monitoring.

FREDERICKSEN AND FREDERICKSEN 1999A

In 1999, Xamanek (Fredericksen and Fredericksen 1999a) conducted an archeological survey of 3.956 acres for Hospice Maui at 400 Mahalani St [TMK: (2) 3-8-046:017]. Pedestrian survey accompanied by nine auger core samples and ten backhoe trenches did not identify any historic properties or cultural deposits.

CAMPOS AUTO BODY & TOWING (FREDERICKSEN 1999 & 2001D, FREDERICKSEN AND FREDERICKSEN 2002, CORDLE AND DEGA 2008)

In 1999 and again in 2000, Xamanek (Fredericksen 1999 & 2001d) conducted archaeological monitoring (in two phases) of a 0.89-acre parcel at 1191 Lower Main St [TMK: (2) 3-4-039:075] for Campos Auto Body & Towing, Inc. No historic properties were identified during either phase.

Subsequently, in 2002 Xamanek (Fredericksen and Fredericksen 2002) conducted an AIS of 1215 Lower Main St [TMK: (2) 3-4-039:076], an adjacent 0.86-acre parcel also used by Campos Auto Body & Towing, Inc. The survey identified a single site (SIHP Site 50-50-04-04730) consisting of a habitation layer with boulder alignments, a posthole, marine food midden, charcoal, and a pit with at least one *in situ* Hawaiian burial. Radiocarbon dating indicated an either Late Pre- or Early Post-Contact timeframe, but the site was assessed as Pre-Contact based on the lack of Post-Contact artifacts (Fredericksen and Fredericksen 2002:33).

In 2004-06, SCS (Cordle and Dega 2008) monitored the construction of a retaining wall on the same property parcel [TMK: (2) 3-4-039:076] previously surveyed by Fredericksen and Fredericksen (2002). During monitoring, several additional features of Site -04730 were identified, including two burials, hearths, and a coble alignment. Radiocarbon analysis returned comparable results to the previous study, and the site continued to be interpreted as Pre-Contact. The concrete retaining wall protects the *in situ* preserved burials (Cordle and Dega 2008:23-24).

CALIS AND DEGA 2000

SCS (Calis and Dega 2000) conducted archeological monitoring for two phases of construction on the ILWU Office Building on approximately 0.47 acres of land at 896 Lower Main St [then TMK: (2) 3-4-026:006 & 049 por.; now TMK: (2) 3-4-026:006]. No historic properties were identified during monitoring.

MAIN STREET PROMENADE (FREDERICKSEN AND FREDERICKSEN 2000, FREDERICKSEN 2001A)

In 2000, Xamanek (Fredericksen and Fredericksen 2000) conducted an archeological survey of a 14,870-sq.-ft. (0.34-acre) property [TMK: (2) 3-4-013:096 & 100] for the development of the Main Street Promenade, a three-story commercial building. Two historic properties were located: the old Horita Building (SIHP Site 50-50-04-01636), and a subsurface site (SIHP Site 50-50-04-04834), including a post hole and Post-Contact cultural materials, found under the Horita Building foundation and thought to be associated with the former estate of Judge Noa Kepoikai.

Subsequently, also in 2000, Xamanek (Fredericksen 2001a) conducted a Phase 2 archeological survey for the Main Street Promenade on a neighboring parcel of 0.39 acres to the east [TMK: (2) 3-4-013:076]. A single site consisting of three trash pits or deposits containing Post-Contact cultural material from the late 1800s through the early 1900s was identified and assigned SIHP Site number 50-50-04-05200.

FREDERICKSEN 2001B

In 2001, Xamanek (Fredericksen 2001b) monitored the construction of a tennis court at Kahului Community Center [TMK (2) 3-8-007:097 por.]. No historic properties were identified.

MCGERTY AND SPEAR 2001

SCS (McGerty and Spear 2001) conducted an archaeological assessment (in current terminology, an LRFI) for the Wailuku Force Main Project, with a project corridor along Kahului Beach Road and West Kaʻahumanu Avenue [TMK plats (2) 3-4-027; (2) 3-7-001, through -004; (2) 3-7-007 through -011; and (2) 3-08-007]. Excavation was conducted only "in a 10-acre parcel in the southwestern section" [TMK: (2) 3-8-007:125], and no archaeological sites were identified during the assessment (McGerty and Spear 2001:15-16).

MORAWSKI AND SPEAR 2001

In 2001, SCS (Morawski and Spear 2001) monitored waterline replacement totaling "approximately 3,300 linear feet" (1006 m) in the Fleming Tract [TMK plats: (2) 3-4-001, and (2) 3-4-002]. The utility lines ran under portions of several roadways: Halenani Drive, Kainani Street, Leilani Drive, Naniloa Drive, Naniluna Place and Kaʻahumanu Highway. Monitoring identified two historic properties: a Post-Contact refuse dump (SIHP Site 50-50-04-05083) and a previously disturbed, disarticulated burial (SIHP Site 50-50-04-05125) documented at a depth between 35 and 60 centimeters below surface. The former site was dated to the late 19th or early 20th century, while the burial was dated to the Pre-Contact Period. ASH took temporary possession of the remains until an appropriate reinterment location was agreed upon (Morawski and Spear 2001:21)

FREDERICKSEN 2002

In 2002, Xamanek (Fredericksen 2002) monitored the construction of traffic signals for South Wakea Ave at the Kea St intersection [TMK: (2) 3-8-029:999 por., (2) 3-8-033:999 por., and (2) 3-8-052:999 por.]. No historic properties were identified.

FREDERICKSEN 2005A

In 2002-04, Xamanek (Fredericksen 2005a) conducted an AIS for the planned Kanaloa Ave improvements from Kahului Beach Rd to Ka‘ahumanu Ave. The report covered the initial fieldwork for an approximately 1-km-long corridor along the Kanaloa Ave ROW [TMK plat (2) 3-8-025] (Phase I) and an expansion of scope to include the monitoring results and a further inventory survey in the northeastern portion of Keōpūolani Park [TMK: (2) 3-7-001:002 por.] (Phase II). Five sites were identified. The Phase I fieldwork included excavation of 11 backhoe trenches and identified one site, SIHP Site 50-50-04-05660, a “partly intact cultural deposit” interpreted as “a possible late precontact to early post-contact habitation area” (Fredericksen 2005a:19, 26). Two sites were identified during Phase II monitoring. SIHP Site 50-50-04-05471 consisted of human remains (one adult) inadvertently encountered during monitoring and thought to have been *in situ*. SIHP Site 50-50-04-05472 was another inadvertent find, also of an adult that may have been displaced by sewer line work. Additional Phase II fieldwork was conducted because of the need to lower an existing waterline to install a drain line, which was an unplanned addition to the work. The resulted in identification of two additional sites. SIHP Site 50-50-04-05495 consisted of “four finds of human remains … interpreted as Native Hawaiian” (Fredericksen 2005a:58). SIHP Site 50-50-04-05496 was “a site remnant consisting of … sand, associated subsurface features and a waterworn pavement” composed “of basalt (90%) and coral (10%) waterworn pebbles,” interpreted as a Pre-Contact habitation area (Fredericksen 2005a:29-30).

FREDERICKSEN 2003A

In 2003, Xamanek (Fredericksen 2003a) monitored the installation of sewer laterals in the Kanaloa Ave ROW, at the intersection with Lihi St [TMK: (2) 3-8-025:999 por.; erroneously given as TMK: (2) 3-8-025:061 in the report, likely in reference to the adjacent parcel 016]. No historic properties were identified.

FREDERICKSEN AND FREDERICKSEN 2003A

In 2003, Xamanek (Fredericksen and Fredericksen 2003a) conducted an AIS of an approximately 1 acre at TMK: (2) 3-4-012:045, 047, 048, 083 & 086 for Lokenani Gardens Wailuku elderly housing. Full pedestrian survey and excavation of six backhoe trenches identified the concrete foundations of the old Nashiwa Bakery located on TMK parcel 45. The foundations were designated as SIHP Site 50-50-04-05484 (Fredericksen and Fredericksen 2003a:28).

FREDERICKSEN 2003C

In 2003, Xamanek (Fredericksen 2003c) monitored work on a 0.15-acre parcel at 1234 Lower Main St [TMK: (2) 3-4-023:024]. No historic properties were identified.

FREDERICKSEN 2003D

In 2003, Xamanek (Fredericksen 2003d) monitored emergency sewer line replacement at North Wakea and Kanaloa Ave [TMK: (2) 3-8-025:999 por.]. No historic properties were identified.

FREDERICKSEN 2003B

In 2003, Xamanek (Fredericksen 2003b) monitored grease interceptor installation at the U.S. Army Reserve Wailuku USAR Center [TMK: (2) 3-8-007:057]. No historic properties were identified.

FREDERICKSEN 2004

In 2004, Xamanek (Fredericksen 2004) monitored recycling center construction on 15,668 sq ft. (0.36 acres) at MCC [TMK: (2) 3-8-007:040 por.]. No historic properties were identified.

TOME AND DEGA 2004A

In 2004, SCS (Tome and Dega 2004a) conducted an AIS of 29 acres for the planned Imi Kala St and Neki Place Extension routes [then TMK: (2) 3-3-001:016 & 039, and (2) 3-4-032:001]. Full pedestrian survey and excavation of 11 stratigraphic trenches identified a portion of Spreckels Ditch (SIHP Site 50-50-04-01508) and three newly documented sites. SIHP Site 50-50-04-05564 is a Post-Contact bridge over Wailuku River (ʻĪao Stream) about 30 m north of the Imi Kala St cul-de-sac and occupying an area of 186 m^2. SIHP Site 50-50-04-05565 consists of *loʻi* sediment located via three trenches under at least 2 m of imported fill. Based both on the excavation and on oral accounts of local informants, it was estimated that the site encompassed an area of at least 75 m^2. SIHP Site 50-50-04-05566 is an unnamed concrete irrigation ditch measuring 75 cm wide by 35 cm deep and extending beyond the project area. A single soil sample containing organic material from SIHP Site -05565 was submitted for radiocarbon dating and returned a result of 1180 to 1290 at 2-sigma (95% confidence), indicating a relatively early period of use.

TOME AND DEGA 2004B

In 2004, SCS (Tome and Dega 2004b) conducted an AIS of 4.3 acres of former agricultural land [TMK: (2) 3-4-003:005, 006, 011, 014, 026, & 033 through 042] used as an informal trash repository and considered for residential development. Full pedestrian survey and 15 stratigraphic trenches identified a portion of Spreckels Ditch (SIHP Site -01508) and a single cultural deposit consisting of three Post-Contact glass bottles found in the sand (SIHP Site 50-50-04-05569).

FREDERICKSEN 2005B

Xamanek (Fredericksen 2005b) conducted a field inspection (FI) of approximately 3.15 acres at 325 Mahalani Rd [then TMK: (2) 3-8-046:018; now TMK: (2) 3-8-046:018 & 037] owned by Lokahi Pacific, Inc., for proposed renovations to the Hale O Mana O Lana Hou housing facilities. No historic properties were identified.

CONTE 2005A

In 2005, CRM Solutions, Hawai‘i, Inc. (CRMSH), conducted an AIS (Conte 2005a) on a 1.69-acre property at 1862 Makahala Pl [TMK: (2) 3-4-003:004]. Full pedestrian survey and excavation of six backhoe trenches did not identify any historic properties or cultural deposits, and the results of the survey were accordingly reported in an AA.

PESTANA AND DEGA 2005

In 2005, SCS (Pestana and Dega 2005) conducted an AIS of 0.45 acres at 709 Uluhea Way [TMK: (2) 3-4-022:005]. Full pedestrian survey and subsurface testing via excavation of nine backhoe trenches did not identify any historic properties or cultural deposits, and the report was accordingly completed as an AA.

CONTE 2005B

In 2005, CRMSH conducted an AIS (Conte 2005b) of a property of less than half an acre along West Ka‘ahumanu Ave [then TMK: (2) 3-4-038:023 and 026; now TMK: (2) 3-4-038:023]. Full pedestrian survey and excavation of four backhoe trenches did not identify any historic properties or cultural deposits, and the results of the survey were accordingly reported in an AA.

FREDERICKSEN 2006A

In 2005-06, Xamanek (Fredericksen 2006a) conducted archaeological monitoring for sewer line replacement along the Nihoa St ROW [TMK: (2) 3-8-025:999 por.] No historic properties were identified during monitoring.

FREDERICKSEN 2006B

In 2006, Xamanek (Fredericksen 2006b:3) monitored improvements to Ale‘o Place [TMK: (2) 3-8-032:999 por.], including “installation of an injection well and a drainage force main … to help mitigate chronic flood problems.” No historic properties were identified during monitoring.

FREDERICKSEN 2006C

Xamanek (Fredericksen 2006c) monitored improvements to the Boys and Girls Club of Maui - Central [then TMK: (2) 3-8-007:001 por.; now TMK: (2) 3-8-007:158]. No historic properties were identified during monitoring (Dagher and Dega 2017:13).

PESTANA AND DEGA 2009

In 2006, an isolated *iwi* (bone) fragment was inadvertently encountered during work on a residence remodelling project at 101 Lunalilo St [TMK: (2) 3-4-038:037]. SCS (Pestana and Dega 2009) subsequently provided mitigation for the find in the form of a burial site component of an archaeological data recovery plan. Screening of the back dirt and manual subsurface testing found additional portions of the remains (Burial 1), and also identified a second set of remains (Burial 2). These burials were collectively designated as SIHP Site 50-50-04-06584.

HUNT AND DEGA 2007 [DRAFT]

In 2006, SCS (Hunt and Dega 2007 [Draft]) conducted archaeological monitoring in a corridor along Mill St between Market Ave and Central Ave [TMK: (2) 3-4-17:038, 039, 048, 050, 052, 091 through 098, 109 through 117, 140, 148, 149, & 999 pors.]. No historic properties were identified during monitoring.

KIRKENDALL 2008

In 2008, Pacific Legacy, Inc. (Kirkendall 2008), conducted an AIS of a 40,095 sq ft. (0.92 acre) area for a proposed new science building at MCC [TMK (2) 3-8-007:040 por.]. Excavation of 12 backhoe trenches did not identify any historic properties or cultural deposits, and the results of the survey were reported in an AA.

FREDERICKSEN ET AL. 2010

In 2009-10, Xamanek (Fredericksen et al. 2010) conducted an AIS of approximately 2 acres at 127 Mahalani St [TMK: (2) 3-4-046:016] for the proposed Ka Lima O Maui Affordable Housing project. No historic properties were identified, and the report was accordingly presented as an AA.

LYMAN AND DEGA 2013 [DRAFT]

In 2013, SCS (Lyman and Dega 2013 [Draft]) conducted an AIS for the planned replacement of a stone retaining wall running along Mill St and Central Ave [TMK: (2) 3-4-07:051, 067, 147]. The wall was documented as SIHP Site 50-50-04-07721 through fieldwork (including photographs) and archival research.

FACKLER AND HAUN 2013

In 2013, Haun & Associates (H&A) conducted archeological monitoring on a 0.258-acre property at 412 Kanaloa Ave [TMK: (2) 3-8-025:005] (Fackler and Haun 2013). No historic properties were identified.

SANDHILLS ESTATE SUBDIVISION (FACKLER AND HAUN 2014, SIX 2018, WASSON AND DEGA 2018)

In 2014, H&A (Fackler and Haun 2014) conducted archeological monitoring at Lot 32 of the Sandhills Estate subdivision [TMK: (2) 3-8-089:032], a 0.246-acre undeveloped parcel. No historic properties were identified.

In 2015, SCS (Wasson and Dega 2018) conducted archeological monitoring of an 8,7595 sq. ft. (0.2 acre) residential parcel [TMK: (2) 3-8-089:055] at 14 Kamakoa Loop in the Sandhills Estate subdivision. No historic properties were identified.

In 2017, Sixth Sense Archaeological Consultants, LLC (Six 2018), conducted archeological monitoring for the 8,872 sq. ft. (0.20 acre) Lot 45 of the Sandhills Estates subdivision [TMK (2) 3-8-089:045]. No historic properties were identified.

VERNON ET AL. 2015

In 2014, Pacific Consulting Services, Inc. (Vernon et al. 2015), conducted an AIS of approximately 1.7 acres for the ʻĪao Stream Flood Control project on the north bank of ʻĪao Stream (now Wailuku River) [TMK: (2) 3-4-032:001 por.]. Although it had been anticipated that remnants of *loʻi* would be present, no historic properties were identified.

SOLAR PANELS AT MAUI COMMUNITY COLLEGE (MELLO AND DEGA 2019 [DRAFT], LYMAN AND DEGA 2019 [DRAFT])

In 2018, SCS conducted an AIS (Mello and Dega 2019 [Draft]) of 3.89 acres on the MCC campus [TMK: (2) 3-8-007:040 por.] for a photovoltaic panel installation project. Full pedestrian survey and excavation of nine trenches did not identify any historic properties or cultural deposits, and the report was accordingly presented as an AA (Mello and Dega 2019).

Subsequently, in 2019, SCS (Lyman and Dega 2019 [Draft]) conducted archeological monitoring for the same project. Once again, no historic properties were identified.

STANKOV AND DEGA [DRAFT]

In 2021, SCS conducted an archeological monitoring (Stankov and Dega 2021 [Draft]) during demolition of a "76" gas station on the 0.45-acre parcel at 9 South Wākea Avenue [TMK: (2) 3-8-052:001 por.]. No historic properties were identified.

METHODOLOGY

FIELD METHODS

The archaeological field inspection was conducted on February 15, 2023, by SCS archaeologist Derek Butler, B.A., under the supervision of principal investigator Michael F. Dega, Ph.D. Field methods consisted of a 100% pedestrian survey of the project area and documentation via digital photographs taken at various locations throughout the project area.

LABORATORY METHODS AND CURATION

As no culturally significant sites or artifacts were identified during this project, laboratory work consisted of cataloging field notes and photographs. All field notes and digital photographs have been curated at the SCS laboratory in Honolulu. All measurements were recorded in metric and true north compass orientation was employed.

RESULTS AND RECOMMENDATIONS

No cultural materials or archaeologically significant sites were identified during the field inspection. The field archaeologist visited the "Upper Site Proposed Practice Field Improvements," "Softball Field 2," "Basketball Courts," and "Lower Site Proposed New Practice Field" areas from the Masterplan (Appendix A), in that order. The "Lower Site Proposed New Practice Field" does not seem be to in use by the school and has become overgrown with vegetation. Butler noted some points of interest near the "Softball Field" area, but concluded that none of them were archaeologically significant. A basalt and concrete culvert found at Universal Transverse Mercator Zone 4Q 761008m Easting, 2312299 m Northing, was assessed as being of contemporary provenance (Figure 6). An agricultural science teacher at Baldwin High School served as an informant and reported that there were buried aquaponic tanks (also of contemporary origin) in the vicinity. The teacher also noted that students gardening in the area had excavated remains that had been confirmed to be animal bones by the Maui Lanaʻi Island Burial Council. Additional photographs of the project area taken by the archaeologist are included in Appendix B.

No historic properties were identified during the current field inspection. Previous archaeological work on the Baldwin High School campus (e.g., Fredericksen 1998, Cordle and Dega 2007) has not identified any historic properties on the school grounds. However, it should be noted that the school is part of the same region of culturally sensitive PZUE sand dunes as the numerous burial sites found along Lower Main Street to the northwest. Therefore, archeological monitoring is recommended for any ground disturbing work associated with this project.

Figure 6: A basalt and concrete culvert near the softball field (view to southwest)

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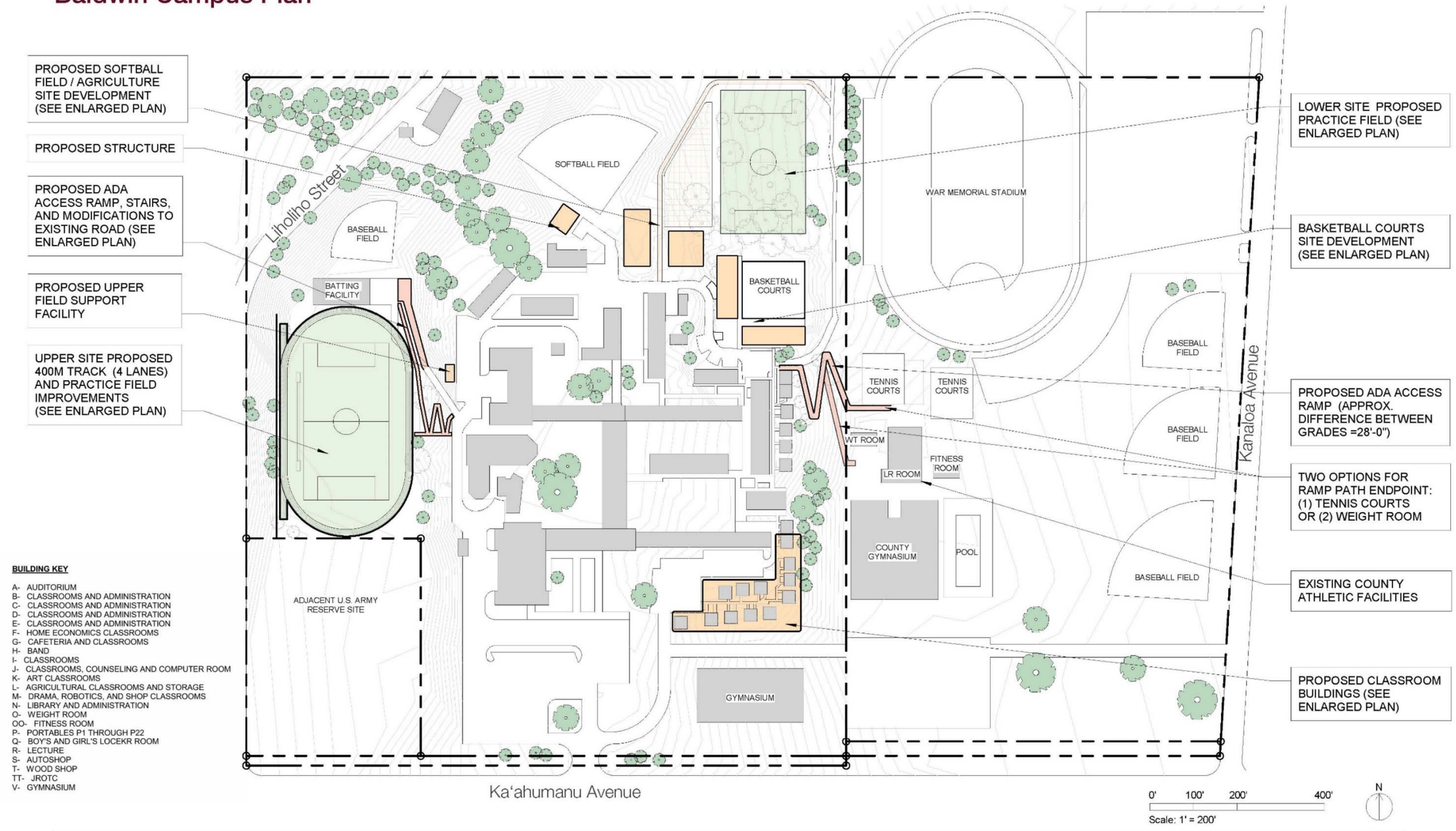
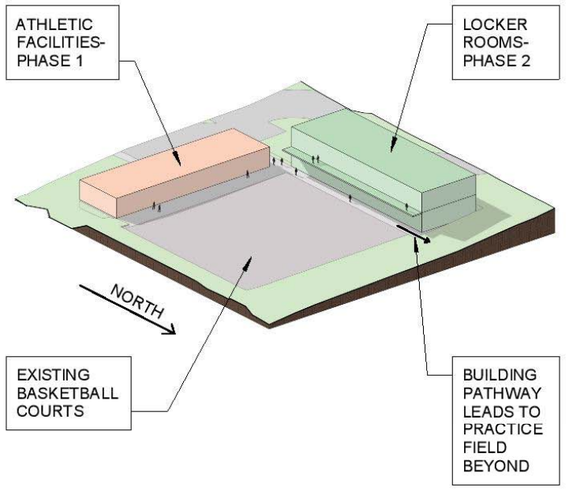
APPENDIX A: PORTIONS OF THE MASTERPLAN

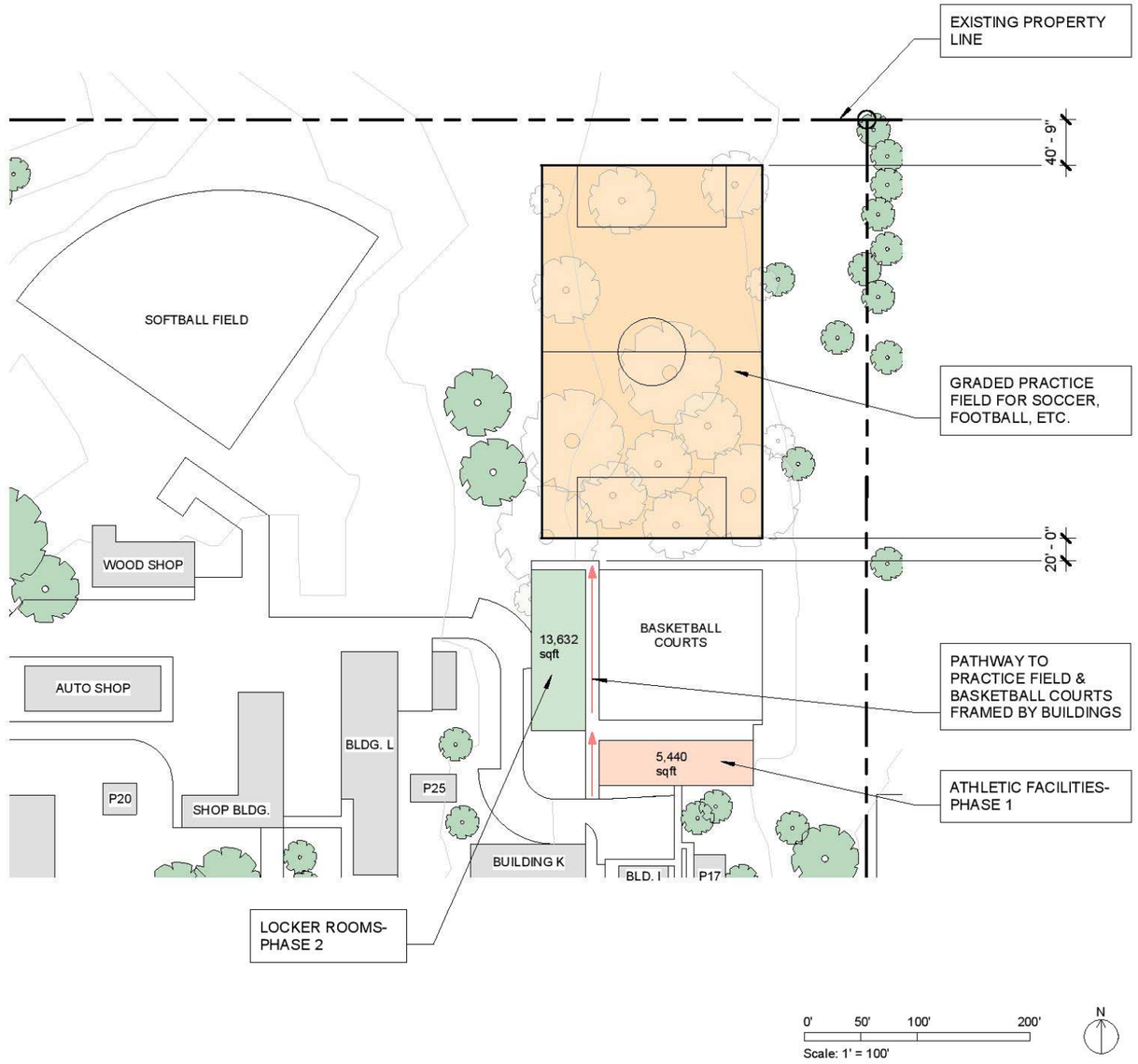
Baldwin Campus Plan



Basketball Courts Site - Option 1

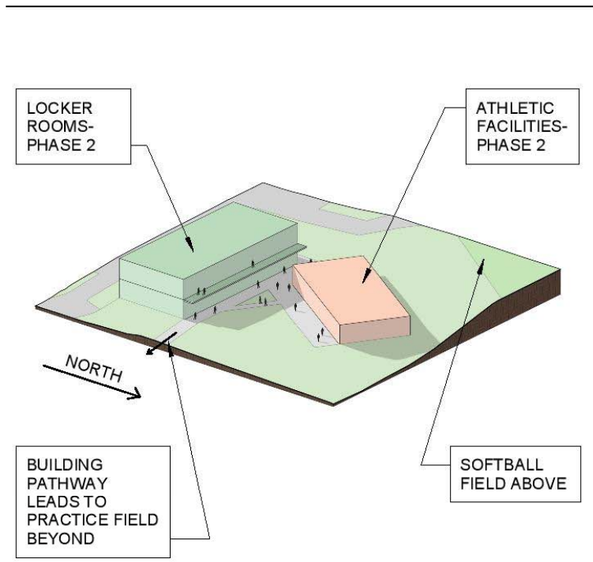
SITE AREA DASHED

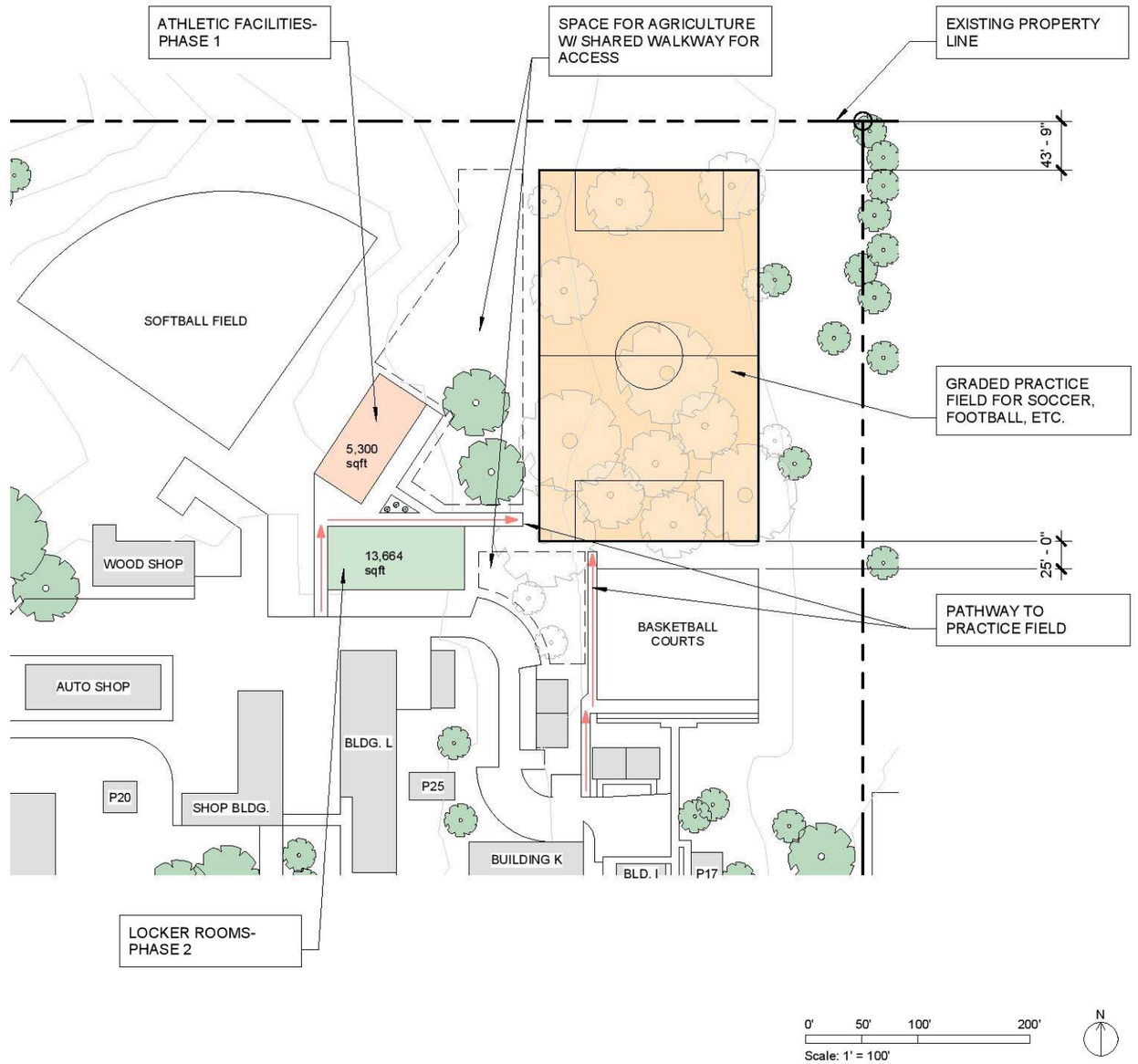




Softball Field Site - Option 1

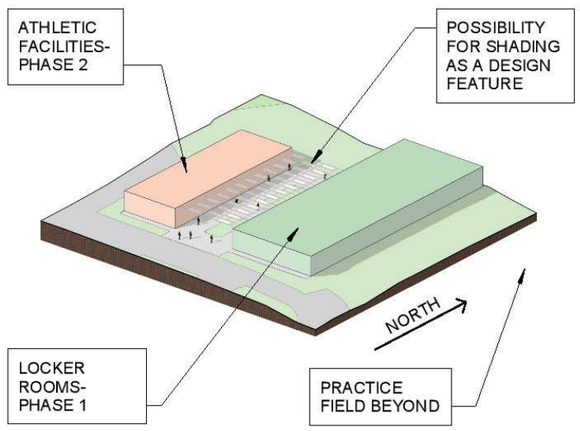
SITE AREA DASHED

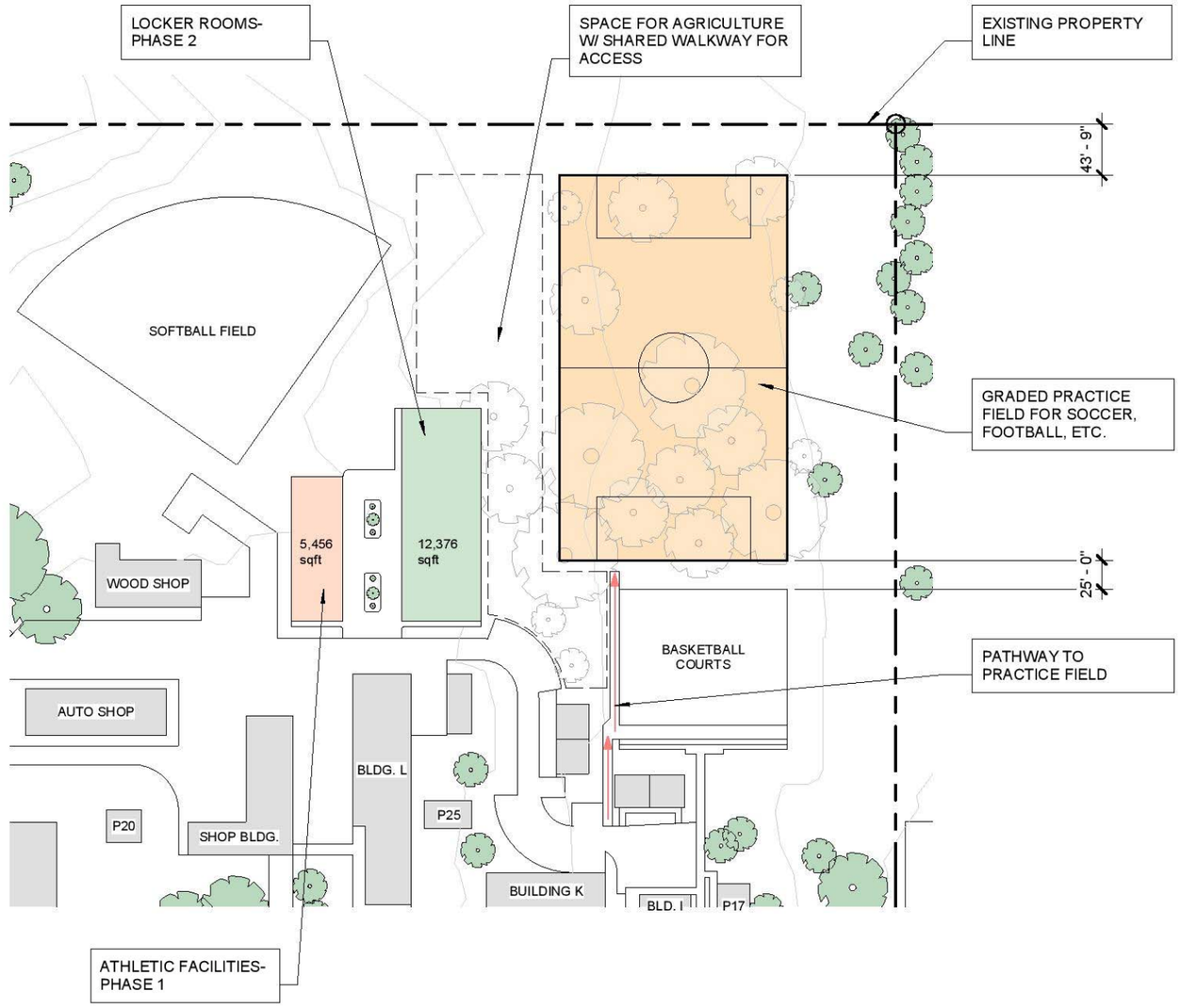




Softball Field Site - Option 2A

SITE AREA DASHED





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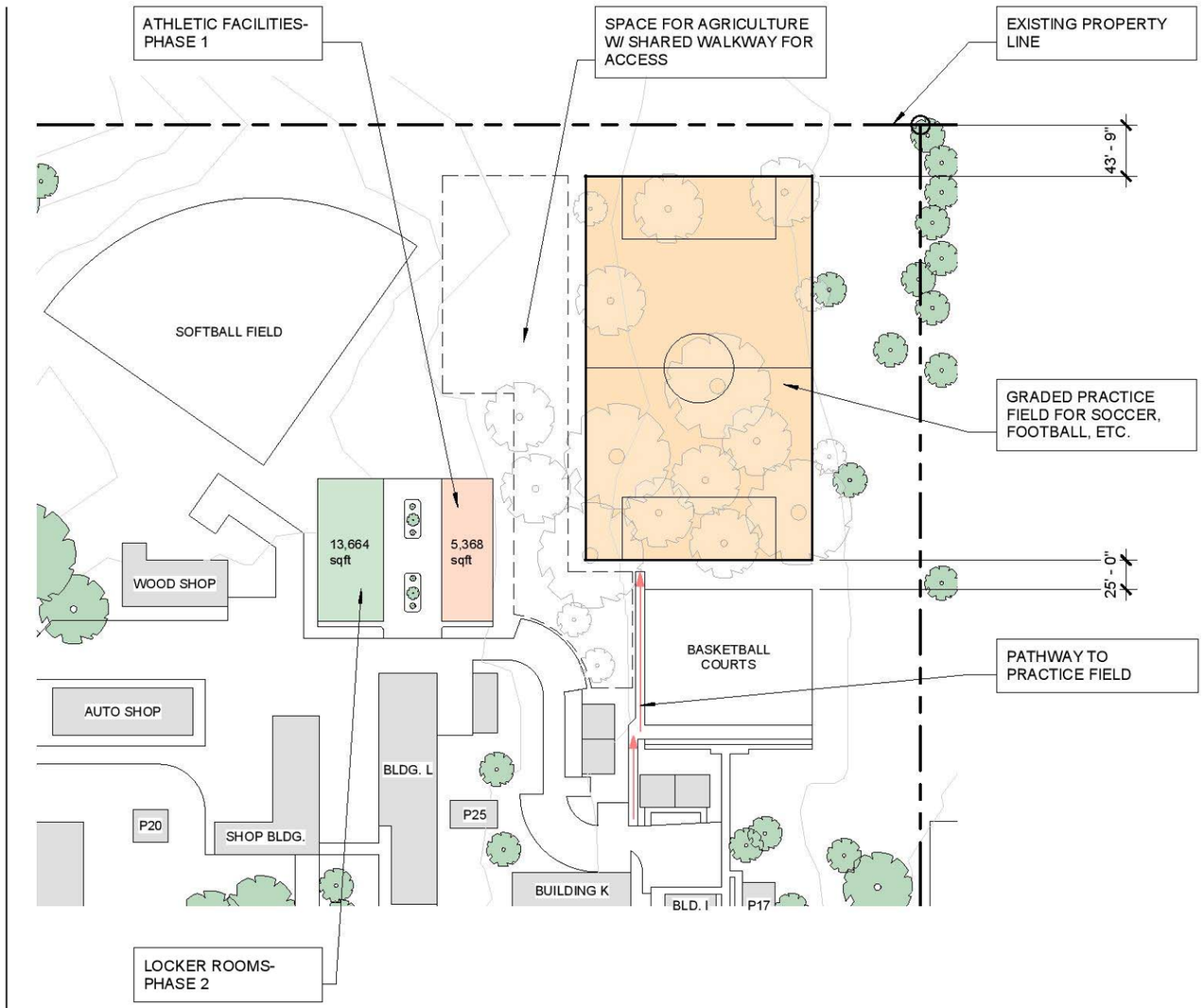
Softball Field Site - Option 2B

SITE AREA DASHED



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APPENDIX B: ADDITIONAL PHOTOGRAPHS FROM THE FIELD INSPECTION

“Upper Site Proposed Practice Field Improvements” area, view to west.

B2

“Softball Field Side Option 2” area, view to north-northeast.

“Basket Ball Courts Side Option 1” are, view to south.

B4

“Lower Site Proposed New Practice Field” area, view to east.

CULTURAL IMPACT ASSESSMENT AND KA PA‘AKAI O KA ‘ĀINA ANALYSIS

APPENDIX

E

— Final —

Cultural Impact Assessment and Ka Paʻakai O Ka ʻĀina Analysis in Support of an Environmental Assessment for Improvements to the H. P. Baldwin High School Campus, Wailuku Ahupuaʻa, Moku of Wailuku (Pūʻali Komohana), Mokupuni of Maui

TMK (2) 3-8-007:004

Prepared by:
Hannah Kaumakamanōkalanipō Anae

Prepared for:
State of Hawaiʻi Department of Education
1390 Miller Street
Honolulu, Hawaiʻi 96813

Under Contract to:
Inform Interiors and Architecture
1347 Kapiolani Boulevard, Suite 401
Honolulu, Hawaiʻi 96813

International Archaeology, LLC

April 2025

— FINAL —

CULTURAL IMPACT ASSESSMENT AND KA PA‘AKAI O KA ‘ĀINA ANALYSIS IN SUPPORT OF AN ENVIRONMENTAL ASSESSEMENT FOR IMPROVEMENTS TO THE H. P. BALDWIN HIGH SCHOOL CAMPUS, WAILUKU AHUPUA‘A, MOKU OF WAILUKU (PŪ‘ALI KOMOHANA) MOKUPUNI OF MAUI, TMK (2) 3-8-007:004

Prepared by:
Hannah Kaumakamanōkalanipō Anae, M.A..

Prepared for:
State of Hawai‘i Department of Education
1390 Miller Street
Honolulu, Hawai‘i 96813

Under Contract to:
Inform Interiors and Architecture
1347 Kapiolani Boulevard, Suite 401
Honolulu, Hawai‘i 96813

International Archaeology, LLC
2081 Young Street
Honolulu, Hawai‘i 96826

April 2025

ABSTRACT

At the request of State of Hawai‘i Department of Education (DOE), and under contract to Inform Interiors Architecture, International Archaeology, LLC (IA) has prepared this cultural impact assessment (CIA) and Ka Pa‘akai O Ka ‘Āina analysis in support of proposed improvements to the Henry Perrine (H. P.) Baldwin High School at 1650 West Ka‘ahumanu Avenue, Wailuku, Hawai‘i, 96793, Tax Map Key (TMK) (2) 3-8-007:004. The H. P. Baldwin High School campus is a historic property (State Inventory of Historic Properties number 50-50-04-01630) significant for its architecture and association with the development of education in Maui. The project will involve the construction of a new two-story building that will include four classrooms, a weight room, a fitness room, and a trainer room. Two existing wooden portable classrooms will be demolished and replaced by the new building. The existing project site was previously graded to accomodate the two existing portable facilities and the sidewalk leading to the adjacent basketball court. Additional ground disturbing activities are planned within the footprints of the new building and related walkway. Trenches for utility connections to service the new building (water, sewer, electrical, and storm water) will also be installed.

The CIA examines the possible impacts the construction project may have on cultural beliefs and practices in and around the approximate 17,890 square feet [approximate 1,662.04 square meters] project area and surrounding areas. It includes a cultural and historical archival literature review of the study area and an ethnographic study incorporating oral history interviews with five local consultants. The collected ethnographic data and oral histories were analyzed for relevant patterns to identify specific concerns for the project area. Data analysis examined land resources, water resources, cultural practices and beliefs and the community. A Ka Pa‘akai O Ka ‘Āina analysis is also included following the data analysis.

The primary concern for most consultants is the possibility of disturbance to *iwi kupuna* (ancestral bones) during project construction work, as numerous *iwi kupuna* are known to exist in areas around the school campus. The school, as well as the surrounding roads, shopping areas, police station, and homes, were built on former sand dunes that were traditionally used as grave sites during the pre-Contact Period.

In addition to these concerns, in general the interviewees also endorse the project’s goal of providing much-needed education and sports facilities for the students. These improved facilities have the potential to also be used for traditional Hawaiian practices such as *hula* and the making of *lei* and therefore may foster continuity of the past with the present.

The interviewees suggested that the State of Hawai‘i take the following actions:

1. Conduct a blessing of the construction area and the *pōhaku piko* before ground disturbance begins and after the project is completed. The blessing shoud be performed by a knowledgeable cultural practitioner and/or *kahu* to ensure the spiritual safety of students, teachers, staff, construction workers, and visitors.

2. Consider hiring a Hawaiian Studies teacher with a strong knowledge of spiritual encounters who can educate the children about the *pōhaku piko* (central stone) on campus as well as other aspects of Hawaiian culture.

3. Work with an archaeological firm to prepare a burial treatment plan for the possible *iwi kūpuna* that may be encountered during construction.

4. Work with an archaeological firm to monitor all ground-disturbing project work to mitigate impacts to cultural resources such as *iwi kūpuna* and develop a plan to protect these resources in consultation with cultural stakeholders/organizations and appropriate government agencies.

ACKNOWLEDGEMENTS

The sharing of *ʻike* and *manaʻo* between people is precious, and it is the *leo* that brings *ola* to the *moʻolelo.* It is the *leo* of the ethnographic consultants that is required to make this Cultural Impact Assessment (CIA) possible, and therefore *mahalo nui loa* all of you: Arthur Stephen Kuakini Spenser, Clare Helen Apana, Aunty Iris Teruko (Fujie) Nita, Aunty Grace Yuk Yin (Low) De Porter, and Aunty Nancy Joyce (Dolan) Vorhies.

A special *mahalo* to Cindy Kaauamo and Heather Snipes for connecting me with our consultants. Mahalo to Cindy for taking me on a tour of the whole *ahupuaʻa* of Wailuku, and pointing out the numerous sites of *iwi kūpuna* adjacent to H. P. Baldwin High School in the shopping center where Safeway is located. Mahalo to Aunty Iris, her daughter, Trish Roy (Digital Media Teacher), and the staff of H. P. Baldwin High School for allowing me to use the Digital Media classroom and present *hoʻokupu* and *oli* at the *pōhaku piko* and the potential construction site.

It is important to acknowledge that, despite all sincere efforts, it is impossible to document **all** traditional customs and traditional practices outside the project area or across the broader Wailuku study area.

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I. INTRODUCTION

At the request of State of Hawai‘i Department of Education (DOE), and under contract to Inform Interiors Architecture, International Archaeology, LLC (IA) has prepared this cultural impact assessment (CIA) in support of the proposed the construction project within the confines of the Henry Perrine (H. P.) Baldwin High School at 1650 West Ka‘ahumanu Avenue, Wailuku, Hawai‘i, 96793, Tax Map Key (TMK) (2) 3-8-007:004 (Figure 1 and Figure 2). The H. P. Baldwin High School campus is a historic property (State Inventory of Historic Properties [SIHP] number 50-50-04-01630) significant for its architecture and association with the development of education in Maui (Figure 3). The project will involve the construction of a new two-story building that will include four classrooms, a weight room, a fitness room, and a trainer room. Two existing wooden portable classrooms will be demolished and replaced by the new building. The existing project site was previously graded to accomodate the two existing portable facilities and the sidewalk leading to the adjacent basketball court. Additional ground disturbing activities are planned within the footprints of the new building and related walkway. Trenches for utility connections to service the new building (water, sewer, electrical, and storm water) will also be installed. The newly constructed building, walkway, and associated infrastructure will support student physical education and sports activities.

SCOPE OF WORK

In accordance with the State of Hawai‘i CIA guidance document (Office of Environmental Control [OECQ], Environmental Council 1997) this CIA has collected ethnographic and ethnohistorical documentary information for the study area for the purpose of identifying the impacts the proposed land acquisition will have on cultural practices and features associated with the area. The documentary information was obtained through a combination of archival research, including Hawaiian-language sources, and an ethnographic study using oral history interviews with Native Hawaiians and other community members who have expertise about the study area. The information compiled through archival research and consultant interviews was subsequently evaluated to determine the cultural impacts of the proposed project. A Ka Pa‘akai O Ka ‘Āina analysis was also conducted.

The area evaluated by the CIA deliberately extends beyond the H. P. Baldwin High School campus project area to account for cultural practices that may overlap the boundaries of the projects , or which may be affected by actions occurring in nearby areas. To this effect, a portion of the Wailuku ahupua‘a is included in the CIA.

The CIA evaluated cultural practices and beliefs related to subsistence (e.g., gathering and agriculture), habitation, commercial activities, access issues, recreation, and religious/spiritual activities and customs. The locations essential to these cultural practices and beliefs were documented.

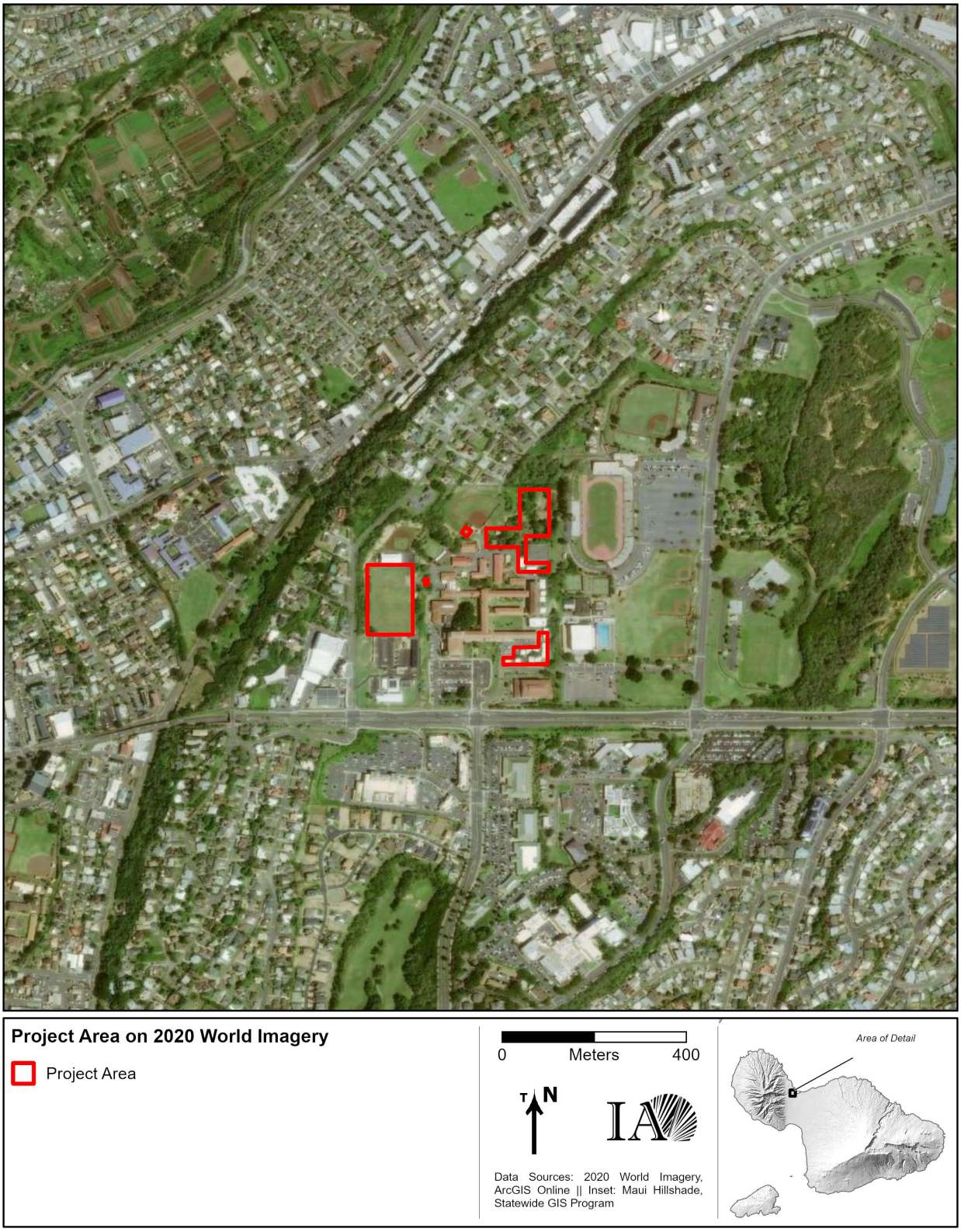

Figure 1. The project area at the campus of H. P. Baldwin High School.

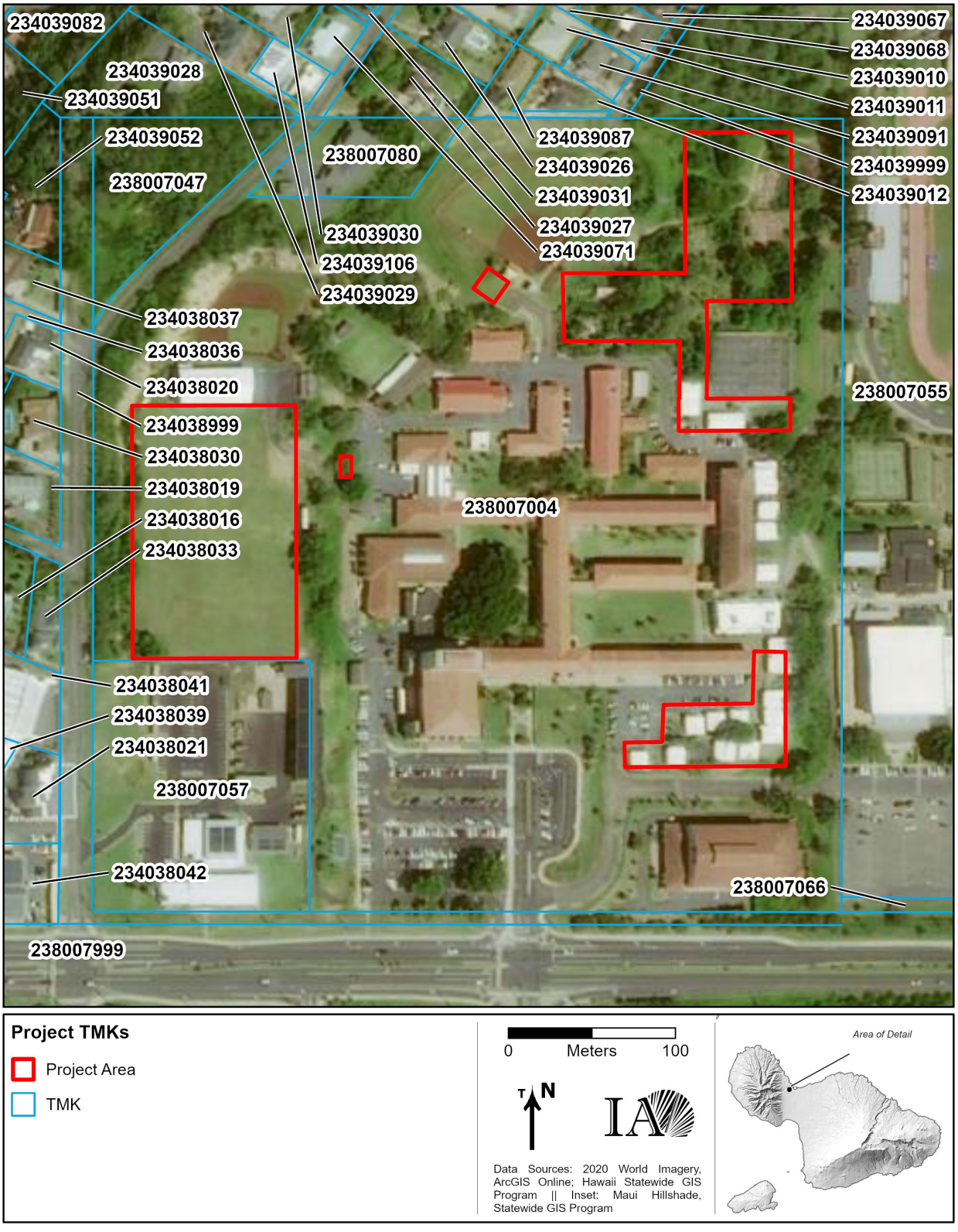

Figure 2. TMKs for the H. P. Baldwin High School campus and surrounding areas.

LEGISLATIVE CONTEXT

The CIA follows the methods and recommendations presented in the Office of Environmental Quality Control's[1] *Guidelines for Assessing Cultural Impacts* (1997):

> 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 ahupua'a;
>
> 2. identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
>
> 3. receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
>
> 4. conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research:
>
> 5. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
>
> 6. assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.
>
> In addition, 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

[1] Currently designated the Environmental Review Program within the State of Hawai'i, Office of Planning and Sustainable Development.

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.

Further, the CIA was conducted to fulfill the requirements of a Ka Paʻakai Analysis. In 2000, the Hawaiʻi Supreme Court, in rulings on the case of Ka Paʻakai o Ka ʻĀina v. Land Use Commission (2000), prescribed a three-pronged framework that addressed failures by the State and its agencies to adequately identify and consider cultural resources, particularly in the form of native Hawaiian customary and traditional practices. The framework is guided by Article XII, Section 7 of the Hawaii Constitution, which obligates that the state and its agencies:

> … shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupuaʻa tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

The analytical framework created a three-part process relative to evaluating potential impacts, and requires specific findings and conclusions regarding (Ka Paʻakai o Ka ʻĀina v. Land Use Comm. 2000:25):

> (1) the identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
>
> (2) the extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action; and
>
> (3) the feasible action, if any, to be taken by the LUC [Land Use Commission] to reasonably protect native Hawaiian rights if they are found to exist.

PROJECT AREA

The project area on the H. P. Baldwin High School campus is approximately 17,890 square feet [1,662.04 square meters] in total and includes a planned athletic facility with a building footprint of roughly 5,300 to 5,400 square feet [490 to 500 square meters], and planned locker rooms with a footprint of roughly

12,400 to 13,700 square feet [approximately 1,150 to 1,270 square meters]. Two atheletic practice fields were inspected for possible improvements (Jin and Dega 2023).

The oldest buildings on campus were built between 1938 and 1940, and are components of the H.P. Baldwin High School historic property (SIHP 50-50-04-01630). These architecturally- and historically-significant buildings, which are located on the southern and western end of the campus, include the school auditorium, administration building, cafeteria, homemaking building, and front classroom building. Other areas around the campus are also registered as historic resources, including the Waiʻale Drive Bridge (SIHP 50-50-04-01633), the Kaʻahumanu Avenue Naniloa Drive Overpass (SIHP 50-50-04-01541); a Historic Bridge (SIHP 50-50-04-05564), the Robert Lee-Ah Yet Wong House (SIHP 50-50-04-08844), the Wailuku Hongwanji Mission Property (SIHP 50-50-04-08903), Iao Intermediate School (SIHP 50-50-04-08991), the Ichiro "Iron" Maehara Baseball Stadium and Baseball Field (SIHP 50-50-04-09016), the Coach Soichi Sakamoto Pool (SIHP 50-50-04-09017); and the Thomas "Cheena" Lau Hee Little League Field #1/Toshio "Tata" Fujimoto Baseball Field/Little League Fields' Restroom (SIHP 50-50-04-09018) (see Figure 3).

H. P. Baldwin High School is located in the *ʻili ʻāina* of ʻOwā, in the *ahupuaʻa* of Wailuku and *moku* of Wailuku (Pūʻali Komohana). Wailuku (Pūʻali Komohana) is one of 12 *moku* on Maui and occupies the northwest side of the island. ʻOwā, the nearby *ʻili ʻāina* of Kalua and the larger *ʻahupuaʻa* of Wailuku experienced several large-scale battles during the reign of Kahekili and his son Kalanikūpule. The tumultuous battles between these Maui chiefs and the Hawaiʻi island chiefs Kalaniōpuʻu and Kamehameha from 1775 to 1779 are perhaps a contributing factor to the numerous heiau or temples in Wailuku (see Table 1) and the multitudinous burials within the nearby Kahaluʻu Sand Dunes/Hills (Puʻu One ʻO Kahaluʻu) (Kamakau 1992:84).

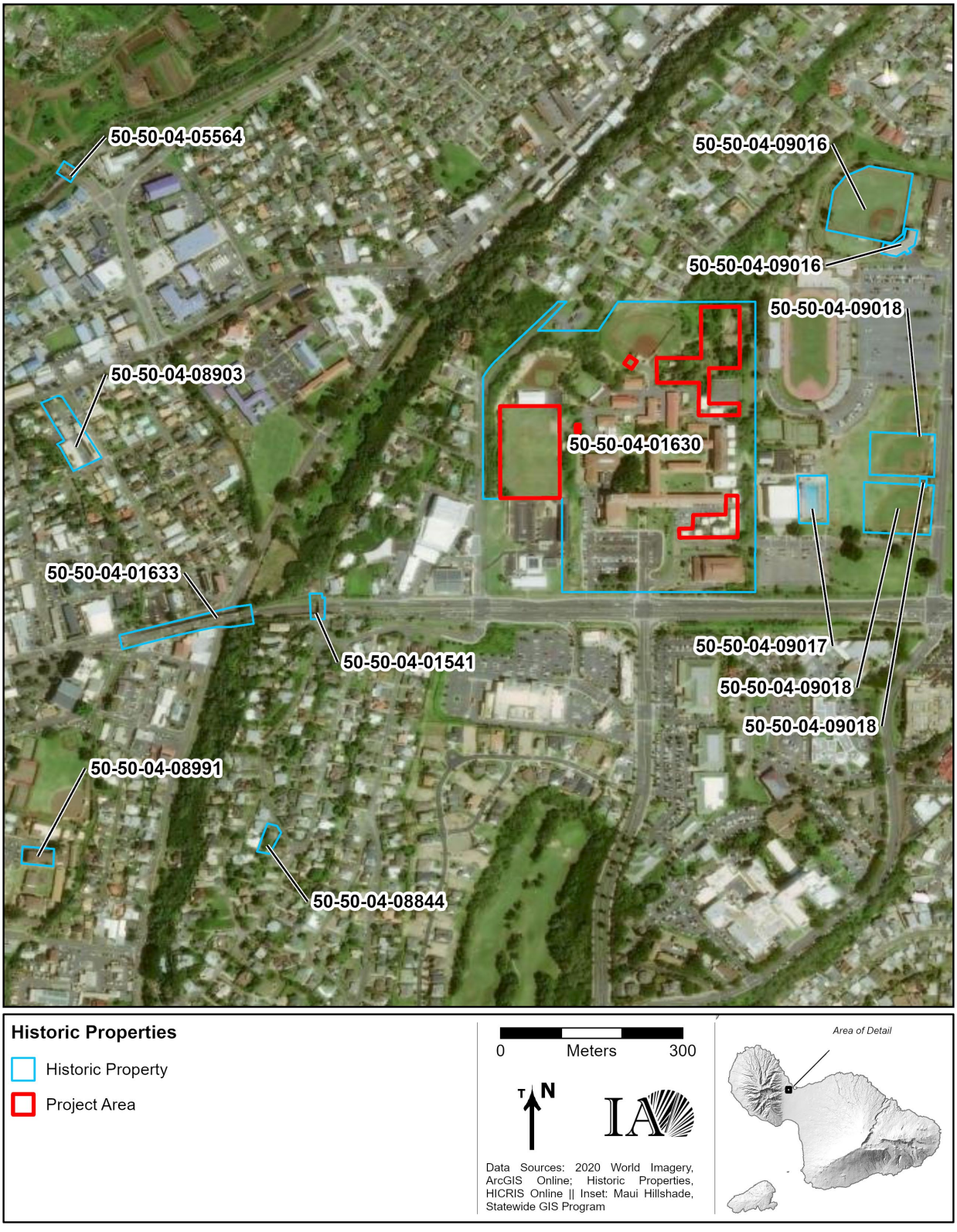

Figure 3. Archaeological sites in the vicinity of the project area.

DISPOSITION OF FILES

Digital copies of the biographical data sheets, signed consent forms, interview recordings, and interview transcripts will be permanently curated at the IA office in Honolulu, Hawai‘i.

ORGANIZATION OF THE REPORT

This document includes six sections. Section I introduces the project and presents the scope of work, the legislative context of the CIA, the study area, and the disposition of files. Section II describes the cultural context for the study, including the results of genealogical research, place names, and a review of traditional and historical land and resource use for the study area. Section III presents the methods used to conduct the CIA, including a cultural and historical archival review, an ethnographic study including oral interviews, and data synthesis. Section IV presents the results of the ethnographic review, highlights pertinent excerpts of the oral interviews, and provides a data summary. Section V summarizes the results of the CIA and presents recommendations for future actions. Section VI is the A Ka Pa‘akai O Ka ‘Āina analysis. Following Section VI is a list of references cited in the document and a glossary of Hawaiian words. Appendix A contains the interview consent forms.

II. BACKGROUND

This section presents an overview of the physical environment and the cultural and historical context of the project area. The information in this section includes *moʻokūʻauhau* (genealogies), *wahi* (places), *moʻolelo* (traditional literature), traditional land use, and historical land use intended to provide a general background context for the CIA results.

PHYSICAL ENVIRONMENT

The project area is in the *ʻili āina* of ʻOwā, within the very large *ahupuaʻa* of Wailuku in the *moku* of Wailuku. H. P. Baldwin High School is bounded by West Kaʻahumanu Avenue to the south, the War Memorial Complex and Keōpulani Regional Park to the east, and residential and light industrial zones to the north and west (Jin and Dega 2023). Elevations in the project area range from 44 to 60 meters above sea level, with scenic views of Kahului Bay to the northeast and ʻĪao Valley to the southwest (Juvik and Juvik 1998:14; Jin and Dega 2023:5; Macdonald et al 1986:380).

The project area is on the isthmus known as Pūʻali Komohana that connects west Maui with east Maui. West Maui is dominated by the 1.3-million-year-old extinct volcano known as the West Maui Mountains or Mauna Kahālāwai, which rises to an elevation of 5,788 feet [1,764 meters] at Puʻu Kukui, one of the rainiest places on Earth. Haleakalā, a 750,000-year-old volcano, dominates east Maui with its magnificent height of 10,023 feet [3,055 meters] at Puʻu ʻulaʻula. Haleakalā remains an active volcano that last erupted in 1790 above La Pérouse Bay. Pūʻali Komohana, formed by the erosional deposits from Haleakalā, bridges the two volcanoes. Maui is the second largest island in *Ka Pae ʻĀina o Hawaiʻi* (the Hawaiian Archipelago).

Project area soils are classified as Puʻuone Series or Sand Hill Series (PZUE), consisting of well-drained soils with 7 to 30 percent slopes on sandhills near the ocean on the low uplands of Maui. The Puʻuone Series contains calcareous sand developed in material formed from coral and seashells, as well as small areas of ʻĪao and Jaucas soils where cementation has taken place less than 20 inches [50.8 centimeters] below the surface. Absorbency above the cemented layer is rapid, therefore runoff is slow, and the hazard of wind erosion is moderate and sometimes severe. Puʻuone Series soils are commonly used for homesites and pastures. Natural vegetation includes bermudagrass, *kiawe*, and lantana, all plants which flourish in the sandy soils (Foote et al. 1972:117). Other vegetation observed on the H. P. Baldwin High School campus includes manicured grass, ornamental plants, plumeria trees, *niu*, *pōhinahina* near the *pōhaku piko*, *kī*, *lilikoʻi*, mango, *koa haole*, *milo*, *kiawe*, and *ʻulu* (the final four plants are in the student agricultural garden within the vicinity of the project area).

Hawaiians have traditionally recognized (and frequently continue to observe) two seasons, *kau wela* (summer or hot season) and *hoʻoilo* (winter or rainy season). During *kau wela*, the sun is almost directly overhead, and the trade winds known as Moaʻe reliably whisk off Kahului Bay to H. P. Baldwin High School. During the season of *hoʻoilo* temperatures are cooler, the sun sits lower in the sky with variable winds, and rains tend to be extensive. *Kau wela* is usually defined as the months between May through September and *hoʻoilo* from October through April (Juvik and Juvik 1998:49). In Wailuku, heavy rains can occur during the winter months of December through February, reaching approximately 15 inches [38.1 cm] per year. From June through August, there is little to no rain (Giambelluca et al. 1996; Hill et al. 2009:5).

MOʻOKŪʻAUHAU

This section provides a genealogy for the important ruling chiefs of Maui. The genealogies, handed down by oral tradition and later recorded for posterity, not only give a glimpse into the depth of the Hawaiian culture of old, but provide a permanent record of the links of notable Hawaiian family lines. *Poʻe kūʻauhau* or genealogy *kahuna* (experts) were very important people in the days of old. They not only kept the genealogical histories of chiefs "but of *kahuna*, seers, land experts, diviners, and the ancestry of commoners and slaves … an expert genealogist was a favorite with a chief" (Kamakau 1992:242). During the time of ʻUmi-a-Līloa, genealogies became *kapu* (forbidden) to commoners, which is why there "were few who understood the art; but some genealogists survived to the time of Kamehameha and even down to the arrival of the missionaries" (Kamakau 1992:242).

Several chants from Hawaiʻi and other Polynesian islands referred to as migration chants expand on the travels of ancient Polynesians, and not only explain where and why they traveled, but provide genealogies showing how families from different Polynesian island-nations are connected to one another. Examples include the chants and stories by Kamakau and Kepelino about Hawaiʻi-loa, a famous ancient navigator who discovered the Hawaiian Islands that were later named after him (PVS 1999).

According to the chants, the *mokupuni* (island) of Maui was once called Mauiloa. Mauiloa was conceived by a union between Papa (or Papahānaumoku, meaning Papa who births islands) and Wākea (Sky Father). The islands of Niʻihau, Lehua, and Kaula were also conceived by Papa (Fornander 1920:360).

An ancient Maui chief, Kamaluohua, is the subject of a famous Hawaiian *moʻolelo* (story). Kamaluohua was captured by the Hawaiʻi island chief Kalaunuiohua, who made Kamaluohua governor of Maui; Kalaunuiohua also captured Kahakuohua of Molokaʻi and Huaipouleilei of Oʻahu and made them governors of their respective islands. In time, Kalaunuiohua led the three governors to wage war on Kukona of Kauaʻi, but Kukona defeated them and imprisoned the four chiefs for several years but treated them kindly. On one occasion while Kukona slept, all of the captive chiefs except for Kamaluohua talked of hurting Kukona while he was vulnerable. Kukona was aware of the plot, but also knew that Kamaluohua appreciated Kukona and did not want to hurt him. Inspired by Kamaluohua's kindness, Kukona displayed a similar mercy and released all four men. The five chiefs subsequently enjoyed an era of peace and prosperity in both their own homelands and throughout the Hawaiian Islands, a peace known as *ka laʻi loa ia Kamaluohua*, the long peace of Kamaluohua. When Kamehameha I later allowed Kaumualiʻi (a rival chief who surrendered Kauaʻi to Kamehameha) to live peacefully in Honolulu, he was directly inspired by the *moʻolelo* of Kukona and Kamaluohua (Malo 1898:330–332).

Piʻilani was a high chief born about five generations after Kamaluohua, and to this day Maui is known as Nā Hono Aʻo Piʻilani, or "the bays acquired by Piʻilani" (referring to the many bays along the west side of Maui). The east Maui chiefs acknowledged the line of Piʻilani as the rightful possessors of the grandeur, supremacy and power needed to become *mōʻī* or sovereigns of Maui (Fornander 1920:65). Piʻilani ruled with wisdom and morality, and traveled frequently across his kingdom to demonstrate his power, enforce order and encourage the industry of the people. His connection with the reigning chiefly families of Oʻahu and Hawaiʻi increased Maui's political standing across the islands, leading to a peaceful reign until the conquest of Kamehameha I (Fornander 1880:87).

Kiha-a-Piʻilani, the son of Piʻilani and the Oʻahu chiefess Lāʻieloheloheikawai, was raised by his mother's family on Oʻahu and returned to Maui during the reign of his brother Lono-a-Piʻilani. Both Kiha-a-Piʻilani and Lono-a-Piʻilani began farming in the *ahupuaʻa* of Waiheʻe about 2.5 miles northwest of Kahului, where Lono-a-Piʻilani cared for Kiha-a-Piʻilani while Kiha-a-Piʻilani provided food for the people. Lono-a-Piʻilani soon grew angry with Kiha-a-Piʻilani, jealous that his brother's taro patch was larger than his own and becoming convinced that Kiha-a-Piʻilani was trying to win the favor of the people

and seize the kingdom. Lono-a-Piʻilani attempted to have Kiha-a-Piʻilani put to death, but Kiha-a-Piʻilani instead fled with his wife Kumaka (a chiefess of Kīpahulu and Hāna) into exile and destitution. Kiha-a-Piʻilani and Kumaka soon sailed to Hawaiʻi Island to seek out the help of ʻUmi-a-Līloa, a powerful chief of Hawaiʻi Island who had married Kiha-a-Piʻilani's sister, Piʻikea. Kiha-a-Piʻilani and ʻUmi-a-Līloa eventually waged a long victorious war against Lono-a-Piʻilani, and Kiha-a-Piʻilani became the *mōʻī* of Maui (Kamakau 1992:22–42).

Kahekilinuiʻahumanu (also known as Kahekili II, and Kahekili) was born around 1719 to the *mōʻī* of Maui Kekaulikekalaninuikuihonoikamoku and high chiefess, Kekuʻiapoiwa I. Kahekili became a fierce warrior who spent most of his life on the battlefield, and had half of his body (except for his teeth and eyeballs) tatooed black (Kameʻeleihiwa 1992:47). This warlike *mōʻī* came to briefly control all of the islands from Maui to Niʻihau, excluding only Hawaiʻi Island (Kameʻeleihiwa 1992:21). During his reign, the Hawaiʻi Island chief Kalaniʻōpuʻu made many attempts to conquer Maui, and succeeded in establishing a foothold in the *moku* of Hāna. During one of his final offensives, Kalaniʻōpuʻu landed an impressive army on the shores of Maʻalaea Bay and marched over the low sandy isthmus to meet Kahekili II's forces in the vicinity of Wailuku. The battle lasted for two days, and ended with the near annihilation of Kalaniʻōpuʻu's army. In 1781, through a well planned campaign, Kahekili II was able to regain possession of the Hāna *moku*, which marked the beginning of the collapse of Kalaniʻōpuʻu's own kingdom (Kuykendall 1965:31). Kahekili II died in July 1793 (Family Search 2024).

WAHI

This section discusses the important *wahi* (places) around H. P. Baldwin High School and within the *ahupuaʻa* of Wailuku from ancient to modern times. Wailuku translates as "water of destruction".

ʻOwā (the name of the *ʻili ʻāina* where the project area is located) has several meanings, including the cry of the *ʻaukuʻu* or heron, to talk loudly back and forth, or to roar. ʻOwā is perhaps an appropriate name given the many cries and roars that occurred during the epic battles in the area.

Ka poʻe kahiko (the ancient people) had a very intimate relationship with their environment, and this bond is apparent in the names they used in everyday life for nearly everything, including people, land divisions, roads, *kauhale* (buildings, houses), *heiau* (temples), *kiʻi* (war images), *lāʻau pālau* (warclubs), *loko iʻa* (fishponds), rocks, fauna, flora, gardens, and *loʻi*. Many names were also given to the *ʻili ʻāina* and *heiau* of Wailuku *ahupuaʻa*, as recorded in the Māhele land documents of 1848 and other historic sources (Sterling 1998; Thrum 1908a).

Table 1 includes place names, translations, information, and locations that were derived from various sources. Much of this information is from the records of the Māhele of 1848, which include land documents (land commision award [LCAw], indices [IN], land commission award books [AB], land commission foreign testimonies [FT], board certificate numbers [BC], Māhele books [MB], board commission testimonies [BCT], the land commission native registers [NR], and the Interior Department, Land Letters—Incoming—Archives of Hawaiʻi [IDLL]) (OHA Kipuka 2024). The translations of the names were taken from the 1964 *Hawaiian Dictionary* by Pukui and Elbert (PE), the 1974 *Place Names of Hawaiʻi* by Pukui, Elbert and Moʻokini (PEM), the Ulukau Online Dictionary, and the Ulukau Online Hawaiian Place Names web site. Land documents were also provided by the Ulukau Online Māhele Data Base. Place locations were obtained from registered maps (RM), USGS maps, and Google Maps.

The names of *wahi* along with their meaning, sources, location (if available), land claim testimonies, and a few accompanying *moʻolelo* (stories), are presented in Table 1.

Table 1. Place Names and Cultural Sites Within Wailuku and Surrounding Areas†.

Place Name	Meaning* and Source	Location
Ae	stream (USGS 1955).	Wailuku *ahupua'a.* The stream rises at about 2000 ft. [60,960 cm] elevation, meeting to join Iao Stream at about 850 ft. [25,908 cm].
Ahu'ena	*'ili āina.* Lit., red-hot heap. LCAw 3254 to Hana1: "Apana 1. Kalo ma ka ili o Ahuena … 1.17 eka. Apana 2 … 0.66 eka." ("Parcel 1. Taro at the land division of Ahuena … 1.17 acres [4,734.82 square meters]. Apana 2 … 0.66 acres [2,670.93 square meters)." Also LCAw 3261 to Leoiki, 3290 to Mahoe 2, 3385 to Pahoa, 3465 to Keawe, 3477 to Kekaona, 3487 to Kaulii (PEM; IN 653; AB 7:463; TM3400; OHA Kipuka 2024).	Wailuku *ahupua'a.* Northwest from H. P. Baldwin High School.
Auhaka	*'ili āina.* Lit., spindle-legged. LCAw 3500 to Kaina: " ... ma ka ili o Auhaka ... 1.01 eka." (" ... at the land division of Auhaka ... 1.01 acres [4,087.32 square meters])." Also LCAw 4378 to Kawaha, 4386 to Kaiole, 4463 to Kalaehaeha (IN 653; AB 5:329; OHA Kipuka 2024).	Wailuku *ahupua'a.* Northwest from H. P. Baldwin High School.
Haliau	*'ili āina.* LCAw 2459 to Wahinekuapuu: " Apana 1. Kalo ma ka ili o Haliau ... 1.64 eka." ("Parcel 1. Taro at the land division of Haliau ... 1.64 acres [6,636.84 square meters])" (IN 655; AB 7:496; OHA Kipuka 2024).	Wailuku *ahupua'a.* Northwest from H. P. Baldwin High School.
Hi'iwela	*'ili āina.* LCAw 2618 and 4917 to Kamaka and Poki: " ... ma ka ili o Hiiwela, i Wailuku ... 4.83 eka." (" ... at the land division of Hiiwela, in Wailuku ... 4.83 acres [19,546.32 square meters])" (IN 655; AB 4:374; OHA Kipuka 2024).	Wailuku *ahupua'a.* Less than two miles north from H.P. Baldwin High School.
Hobron Point	point. A point on the northeast side of Kahului Harbor extending northwesterly out to a breakwater; it is named after Coit Hobron, a sea captain who settled in Hawai'i during the time of the Hawaiian Kingdom (PEM; USGS 1955).	Wailuku *ahupua'a.* Less than three miles northeast from H.P. Baldwin High School.

Place Name	Meaning* and Source	Location
ʻĪao	stream, valley, peak (685.80 meters high). Lit., cloud supreme. The stream begins at the junction of Poʻonahoahoa and Nakalaloa streams located at approximately the 1100 ft. [335.28 meters] elevation, and flows to the sea. Within the land commission awards it sometimes is referred to as the Wailuku River. The Valley is the site of the Battle of Kepaniwai and at one time a sacred burial place for distinguished chiefs (Kalākaua1888:199). ʻĪao Valley is at the center of Mauna Kahalawai mountain range (West Maui Mountains). Facing the entrance of ʻĪao, Mauna Kāne is to the right and Mauna Leo is to the left of the highway. In the Hawaiian Trinity of religion, Kāne is the creator, and the word *leo* means voice, and the voice of Kāne created ʻIao Valley. ʻIao valley is a sacred place for Maui chiefs who possessed the *kapu* [special privilege or exemption from ordinary taboo] or restriction of the rising sun. Because the status of these Maui chiefs was so great, they usually traveled at night, because if a shadow was cast on a commoner, the commoner would be put to death. The name ʻĪao also means "of the dawn." referring to the rising sun giving new life each day to the spirits of mankind and to the earth. ʻĪao is also the name of the morning star (Jupiter) (PEM; (Sterling 1998:84; Orr 2014:48; USGS 1955).	Wailuku *ahupuaʻa.* Less than four miles southwest from H.P. Baldwin High School.
Imiau	*ʻili āina.* LCAw 407 to Z. Kaauwai: "Apana 14. Aina ma Imiau … 0.95 eka." ("Parcel 14. Land at Imiau … 0.95 acres [3,844.51 square meters])" (IN 655; AB 5:73; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Kaʻahumanu Church	Church. Lit., the bird [feather] cloak. Congregational church at Wailuku, Maui. (Pem 59; Maui Historical Society 2024; Google Maps 2024).	Wailuku *ahupuaʻa.* A mile southwest from H.P. Baldwin High School.
Kahului	town, bay, harbor. Lit., the winning. Kahului Bay was a rich source of seafood during the pre-Contact period, and the Kahului shoreline was lined with coconut trees. The area surrounding Kahului Harbor likely contained a fishing village, with residents using the shore to store and launch their fishing canoes and collect shellfish from the coastal flats. (PEM; Tomonari-Tuggle and Welch 1995:13; Paradise of the Pacific, September 1900, in Silva n.d.:10; USGS 1955).	Wailuku *ahupuaʻa.* H.P. Baldwin is sometimes considered to be located within Kahului town.

Place Name	Meaning* and Source	Location
Kaihuwa‘a	*‘ili āina.* LCAw 3257-C to Nahuina: “Apana 1. Pahale ma ka ili o Kaihuwaa ... 0.27 eka.” (“Parcel 1. House lot at the land division of Kaihuwaa … 0.27 acres [1,092.65 square meters])” (IN 655; AB 3:736).	Wailuku *ahupua‘a.*
Kalua	*‘ili kū.* Lit., the pit. Received by Kamāmalu during the Māhele, LCAw 7713:23. LCAw 3214 to Ehu: “ … ili o Kalua, Wailuku … 2027 eka.” (“ … land division of Kalua, Wailuku … 2027 acres [8,202,978 square meters].” Also LCAw 407 to Z. Kaauwai, 2420 to Kaai, 2532 to Kamakahanohano, 2621 to Palaoanui, 2881 to Kumaiku, 3209 to Uwe, 3223 to Ohule, 3233 to Hoaai, 3234 to Hinakahua, 3235 to Haleola, 3295 to Maaha, 3339 to Napue, 3509 to Kamakona, 3512 to Haumanalau, 3513 to Kamakaha, 3514 to Kamoku, 5228 to Kuihelani, 5373 to Eli, 8076 to Hiolo, 8465 to Kamakauahoa. Mentioned in the battle of Kakanilua (MB 9; IN 655, 656; TM 3400, 3409; Kamakau 1992:85; OHA Kipuka 2024).	Wailuku *ahupua‘a.* Less than two miles southwest from H.P. Baldwin High School.

Place Name	Meaning* and Source	Location
Kamaʻauwai/ Bailey House	agricultural ditch; museum; a place of history. It is a ditch built around 1660 by Kamalālāwalu, grandchild of chief Piʻilani. It is the home of the Maui Historical Society, the Bailey House. The grounds of the museum were also the compound of Kahekilinuiʻahumanu in 1794. In 1832, the first thatched school was built by Chief Auwae and Johnathan Smith Green of the third company of ABCFM (American Board of Commissioners for Foreign Missions). In 1937, Ulumaheihei Hoapili, governor of Maui allowed the establishment of the original Central Wailuku Female Seminary. Edward Baily was sent to work at the Wailuku Female Seminary replacing Mr. Armstorng as Headmaster of the School. 1842 Edward Bailey and Caroline Bailey were in charge of the Seminary. For lack of funds by the ABCFM, in 1848 the seminary was converted into a day school for both Hawaiian boys and girls unitl it closed in 1849. In 1849, Edward Bailey establishes Bailey and Son's Sugar Plantation. In 1878 Edward Bailey's son, William Bailey sells the house to Wailuku Sugar Company. In 1920, the home is converted to a kindergarten. During WWII, in 1943, the home was Maui headquarters for the Office of Civil Defense. In 1946, the home was briefly occupied by the family of Ezra Crane (editor of Maui News) after his home was destroyed by the 1946 tsunami. On November 23, 1951 the Maui Women's Club established the Maui Historical Society. On May 1, 1956, the Maui Historical Society was chartered. The Maui Historical Society opened Hale Hōʻikeʻike on July 6, 1957 on the 120th anniversary for the opening of the Seminary School. In 1992, after purchasing property in 1991, Masaru "Pundy" Yokouchi gifted to Maui Historical Society, Hale Hōʻikeʻike and 0.7 acres [2,832.80 square meters], the property which is occupied by the museum (Maui Historical Society 2024; Google Maps 2024).	Wailuku *ahupuaʻa.* It cuts through the back lawn of the Maui Museum, the Bailey house which is 1.1 miles southwest of H.P. Baldwin High School. Address: 2375A Main Street, Wailuku, HI 96793.
Kamamao	*ʻili āina.* LCAw 430 and 5336 to Polokuua: "Kamamao, Wailuku ... 2.22 eka." ("Kamamao, Wailuku ... 2.22 acres [8, 984.02 square meters])" (IN 656; AB 5:337; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than three miles southwest from H.P. Baldwin High School.
Kamaʻomaʻo	Place. Lit., the greeness."Plain near Puʻunēnē, Maui. Ghosts are believed to have wondered here" (PEM 81).	Wailuku *ahupuaʻa.*
Kaʻohe	*ʻili kū.* Lit., the bamboo, or several other plants. Received by H. Kalama during the Māhele, LCAw 4452:6. Also LCAw 2452 to Kane (PE; MB 153; IN 656; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.

Place Name	Meaning* and Source	Location
Kaopuohe	*ʻili āina.* LCAw 3534 to Kauakiiwai: " … ma ka ili o Kaopuohe i Wailuku … 2.38 eka." (" … at the land section of Kaopuohe in Wailuku … 2.38 acres [9,631.52 square meters])" TMK 3501:11, 13x (IN 656; AB 4:359; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* North from H. P. Baldwin High School.
Kapaʻaiki	*ʻili āina.* LCAw 405 to Kaili: "ka pahale o Kaili ma Kapaaiki … 5.81 eka." ("the houselot of Kaili at Kapaaiki … 5.81 acres [23,512.24 square meters])" (IN 657; AB 1:442; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H. P. Baldwin High School.
Kapaʻaloa	*ʻili āina.* Lit., distant Kapaʻa (the solid or the closing). LCAw 3468 to Kaama: "Apana 2. ili o Kapaaloa … 1.7 eka." ("Parcel 2. land section of Kapaaloa … 1.7 acres [6,879.66 square meters])." Also LCAw 435 & 7742 to Kahale, 3217-C to Kamaka, 3294-B to Moomooiki, 333 to Nika, 3389 to Pinao, 3475 to Koanaole, 3492 to Kanalulu, 5672-D to Kealoha (PE; IN 657; AB 5:331; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* North from H. P. Baldwin High School.
Kāpalaʻalaea	*ʻili āina.* Lit., stained with red ochre; the daub of red ochre. LCAw 3335 to Naonohi: "Kalo & Pahale ma ka ili o Kapalaalaea … 0.97 eka." ("Taro & Houselot at the land division of Kapalaalaea … 0.97 acres [3,925.45 square meters]. Also LCAw 377 to John Pillitier, 3388 to Paiwi (P.E.; IN 657; AB 7:494; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest and southwest from H. P. Baldwin High School.
Kapanui	*ʻili āina.* Lit., the large enclosure. LCAw 3487 to Kaulii: "Apana 1. Kalo ma ka ili o Kapanui … 0.62 eka." ("Parcel 1. Taro at the land division of Kapanui … 0.62 acres [2,509.05 square meters])." Also LCAw 3473 and 3466 to Kaiea, 3261 to Leoiki (PE; IN 657; AB 7:497; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Kapilau Ridge	ridge. Lit., the stench. (USGS 1955; TM 3502).	Between Iao Valley and Waikapu Valley.
Kaʻulupala	*heiau.* Lit., the ripe breadfruit. "Kaulupala Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801" (PE; Sterling 1998:79).	Wailuku *ahupuaʻa.*
Kaʻulupala	*ʻili āina.* Lit., the ripe breadfruit. LCAw 3255 to Hoopuaina: "ma ka ili o Kaulupala, Wailuku … 5.80 eka." (at the land division of Kaulupala, Wailuku … 5.80 acres [20,558.03 square meters])." Also LCA 3257-C to Nahuina (PE; IN 657; AB 5:326; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* North from H. P. Baldwin High School.

Place Name	Meaning* and Source	Location
Kaupali	*ʻili āina.* LCAw 3291 to Makaena: “ma ka ili o Kaupali, Wailuku … 2.0 eka.” (“at the land division of Kaupali, Wailuku … 2.0 acres [8,093.71 square meters])” (IN 657; AB 4:367; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than two miles southwest from H.P. Baldwin High School.
Kawelowelo	*heiau.* Lit., the flying streak, as of the tail of a comet or of a firebrand. “Kawelowelo Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801” (Sterling 1998:79).	Wailuku *ahupuaʻa.*
Keahukū	*heiau.* Lit., the slaughter by stoning. “Keahuku, Wailuku. No particulars ... named among those consecrated by Liholiho ... preceeding the peleleu (very large canoe) fleet” (PE; Thrum 1908a:38; Sterling 1998:79; Kamakau 1992:188).	Wailuku *ahupuaʻa.*
Keahupio	*ʻili āina.* Lit., the arched heap. LCAw 3489 to Kauakahi: “Kalo ma ka ili o Keahupioi … 1.35 eka.” (“Taro at the land division of Kauakahii … 1.35 acres [5,463.26 square meters]).” Also LCAw 3231 to Opunui, 3491 to Kuapuu, 3496 to Kekiiapahipahi (PE; IN 657; AB 7:480; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Keahupu	*ʻili āina.* LCAw 453 to Kuihelani: “Apana 1. Ma ka ili o Keahupu … 16.76 eka.” (“Parcel 1. At the land division of Keahupu … 16.76 acres [67,825.31 square meters])” (IN 657; AB 3:715; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Kealakapehu	*ʻili āina.* LCAw 3511 to Kalaione: “ma ka ili o Kealakapehu … 0.30 eka.” (“at the land division of Kealakapehui … 0.30 acres [1,214.06 square meters])” Also LCAw 3338 to Namailou. (IN 657; AB 4:369; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H. P. Baldwin High School.
Kōloa	*ʻili āina.* Lit., native duck (PEM); long cane with a crook and tall sugarcane (PE). LCAw 1742to Z. Kaauwai: “Apana 2. Pahale me aina i puni i ka pa ma ka ili o Koloa … 15.25 eka.” (“Parcel 2. Houselot with land surrounded by the wall at the land division of Koloa … 15.25 acres [61,714.56 square meters]”) (PEM; PE; IN 658; AB 3:740).	Wailuku *ahupuaʻa.* Less than two miles southwest from H.P. Baldwin High School.
Kepaniwai Park	battle ground; park. Lit., the water dam (ʻĪao was dammed up with bodies of slain warriors). The park commemorate the Battle of Kepaniwai, a place where Kamehameha defeated Kalanikupule and became ruler of Maui (PEM:109; USGS 1955).	Wailuku *ahupuaʻa.* Three miles southwest from H.P. Baldwin High School.

Place Name	Meaning* and Source	Location
Kepukakeeo	*ʻili āina.* LCAw 3220 to Ahulau: "Hale & Pa ma ka ili o Kepukakeeo & Puako … 2.69 eka." ("House and wall at the land division of Kepukakeeo & Puako … 2.69 acres [10,886.04 square meters])." Also LCAw 458 to S. B. Kapawa, 1759 to Kaupa, 2425 to A. Kaumu, 9032 to Kikane (IN 657; AB 3:703; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* West from H. P. Baldwin High School.
Kuipa	*ʻili āina.* LCAw 5272-C to Kaneiaula: "Ma na ili o Kuipa & Laie … 5.72 eka." ("At the ili[s] of Kuipa & Laie … 5.72 acres [23,148.02 square meters]") (In 658; AB 3:731).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Kūkaemoku	*puʻu.* Lit., broken excreta. "Old name for Iao Needle, West Maui" (PEM).	Wailuku *ahupuaʻa.*
Kukalepa	*ʻili āina.* LCAw 397 to H. Kuihelani: "Ke kai o ka pa o Kuihelani ma Kukalepa i Wailuku … 3.23 eka." ("The sea of the wall of Kuihelani at Kukalepa in Wailuku … 3.23 acres [13,071.35 square meters]") (IN 658; AB 5:212; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than a mile southwest from H.P. Baldwin High School.
Kumuwiliwili	*ʻili āina.* Lit., wiliwili (*Erythrina sandwicensis*) tree. LCAw 2414 to Kailihuna: "ma ka ili o Kumuwiliwili, Wailuku … 1.27 eka." (" at the land division of Kumuwiliwili, Wailuku … 1.27 acres [5, 139.51 square meters].") Also LCAw 406 to Napela (PE; IN 658; AB 5:336; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H. P. Baldwin High School
Kunaheana	*ʻili āina*. LCAw 2567 to Kaawa: "ma ka ʻili o Kunaheana … 1.41 eka." (" at the land division of Kunaheana … 1.41 acres [4,046.86 square meters].") Also LCAw 504 to Kolii, 643 to George Macy for Lydia Anne [in Kunaheananui], 2600 to Poholowai, 5505 to Kuahine. (IN 658; AB 4:365; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H. P. Baldwin High School.
Lāʻie	*ʻili āina*. Lit., ʻie leaf. LCAw 5272-C to Kaneiaula: "Ma na ʻili o Kuipa & Laie… 5.72 eka." (" at the land divisions of Kuipa & Laie … 5.72 acres [23,148.02 square meters]"). LCAw 3221 to Aki: "Ma ka ʻili o Laie… 2.84 eka." (" at the land division of Laie … 2.84 acres [11,493.07 square meters]"). Also LCAw 3217-D to Keawe, 5272-C to Kaneiaulu, 6409 to Kupanihi. (IN 658; AB 3:731; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.

Place Name	Meaning* and Source	Location
Lamali‘i	*‘ili āina*. Lit., small lama tree or torch. LCAw 4463 to Kalaehaeha: “Apana 3. Pahale i Lamalii … 0.33 eka.” (“Parcel 3. Houselot in Lamalii … 0.33 acres [1,335.46 square meters]”). Also LCAw 3465 to Kaama, 4441 to Kapahi, 5334 to Pupuka; LCAw 3722 to Moanalua in Lamaliinui, 3890 to Pooa in Lamaliiki (misspelt “Lamalunui” and “Lamaluiki”) (PE; IN 658; AB 5:334; OHA Kipuka 2024).	Wailuku *ahupua‘a.* Northwest from H. P. Baldwin High School.
Lelemākō	*heiau.* Lit., rough leaping. “Lelemako Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801” (Sterling 1998:79).	Wailuku *ahupua‘a.*
Lelemākō	*‘ili āina.* Lit., rough leaping. LCAw 3225 to Opunui: “ … ma ka ‘ili o Lelemako & Pohakupukupu … 15 eka.” (“ … at the land division of Lelemako & Pohakupukupu … 15 acres [60,702.80 square meters].”) Also LCAw 8461:2 to Kaihumau (IN 658; AB 5:543; OHA Kipuka 2024).	Wailuku *ahupua‘a.* Southwest from H.P. Baldwin High School.
Lemuke‘e	*‘ili kū.* Received by H. Kalama during the Māhele, LCAw 4452:8. 3.98 acres [16,106.49 square meters] (MB 153; IN 658; TM 3400, 3423; OHA Kipuka 2024).	Wailuku *ahupua‘a.* Northwest from H. P. Baldwin High School.
Mālena	*heiau.* L”Malena, Wailuku. No particulars ... named among those consecrated by Liholiho ... preceeding the peleleu fleet” (Thrum 1908a:38; Sterling 1998:79).	Wailuku *ahupua‘a.*
Malumaluakua	*heiau.* Lit., shelter or protection of the gods.“Malumaluakua, Wailuku. No particulars ... named among these consecrated by Liholiho ... preceeding the peleleu fleet” (PE; Thrum 1908a:38; Kamakau 1992:188).	Wailuku *ahupua‘a.*
Manienie	*‘ili kū.* Lit., Bermuda grass. Received by H. Kalama at the time of the Māhele, LCAw 4452:10. 8.50 acres [34.398.30 square meters] (PEM; MB 153; IN 659).	Wailuku *ahupua‘a.* Less than three miles northwest from H.P. Baldwin High School.
Mill Reservoir	Reservoir. Perhaps used during the time of the sugar plantation era (USGS 1955).	Wailuku *ahupua‘a.* Approximately 1.5 miles northeast from H.P. Baldwin High School. At the 260 ft [79.25 meter] elevation/

Place Name	Meaning* and Source	Location
Mokuhau	*ʻili āina.* LCAw 1759 to Kaupa: "Apana 1. Ili o Mokuhau … 1.2 eka." (Parcel 1. Land division of Mokuhau … 1.2 acres [4,856.23 square meters]") (IN 659; AB 8:227; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* West from H.P. Baldwin High School
Nāwaiʻehā	region. Lit., the four waters. "… the four waters, a poetic name for Wailuku, Waiehu, Waiheʻe, and Waikapū, Maui" (PE). " … with reference to the ahupuaas of Waihee, Waiehu, Wailuku and Waikapū, on the map it was necessary to form a new district and call it Wailuku, Nawaieha, 'the four waters,' being too cumbersome and ill understood." It was once (King) Nā Wai ʻEhā contained the "largest continuous region of wet taro cultivation in Hawaiʻi," and supported the second largest population center on Maui behind Lahaina (King 1935:215; PE 1986:377; Bartholomew 1994:127).	Wailuku, Waiehu, Waiheʻe, and Waikapū *ahupuaʻa.*
Olokua	*heiau.* "Olokua, Wailuku. No particulars ... named among those consecrated by Liholiho ... preceeding the peleleu fleet" (Thrum 1908a:38; Sterling 1998:79).	Wailuku *ahupuaʻa.*
Oloolokalani	*heiau.* "Oloolokalani Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801" (Sterling 1998:79).	Wailuku *ahupuaʻa.*
Olopio	*heiau.* "Olopio, Wailuku. No particulars ... named among those consecrated by Liholiho ... preceeding the peleleu fleet" (Thrum 1908a:38; Sterling 1998:79; Kamakau 1992:188).	Wailuku *ahupuaʻa.*
Oukea	*ʻili āina.* LCAw 7907 to Kuke: " … ma ka ʻili o Oukea, Wailuku … 4.40 eka." (" … at the land division of Oukea, Wailuku … 4.40 acres [17,806.20 square meters]") (IN 659; AB 5:325; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than two miles southwest from H.P. Baldwin High School.
ʻOwā	*ʻili āina.* ʻOwā seems to be a large ʻīli ʻāina (see Figure 4). Lit., cry of the *ʻaukuʻu,* heron, which suggest ʻowā means to cry the cry of the *ʻaukuʻu*, heron, which suggests *ʻowā* means to cry LCAw 420 to Kuihelani: "Aina o Kuihelani, o Owa ka inoa, aia I Wailuku, Maui … 743.4 eka … " (Land of Kuihelani, Owa is the name, at Wailuku, Maui … 743.4 acres [3,008,028.4 square meters] …") including a sea fishery of 73.4 acres. Also, LCAw 407:8, 9, 10 to Z. Kaauwai, 1742:1 t o Z. Kaauwai, 5287 to Kahauolapua, 8512:2 to Keoni Ana (IN 659; Ab 5:210; TM 3800).	Wailuku *ahupuaʻa.* H.P. Baldwin High School is located in the *ʻili ʻāina* of ʻOwā, and so is Safeway and some of the residences in the area.

Place Name	Meaning* and Source	Location
Pāiki	*ʻili āina.* Lit., small enclosure or wall. LCAw 1742:1 to Z Kaauwai: "Apana 1. Kalo & kula ma ka ili o Paiki, ma Owa … 5.26 eka. " ("Parcel 1. Taro & field at the land division of Paiki, at Owa … 5.26 acres [21,286.46 square meters].") Because ʻOwā is an *ʻili* and there can be no *ʻili* within an *ʻili*, Pāiki may not be an *ʻili* in ʻOwā. Perhaps Pāiki was an *ʻili ʻāina* and ʻOwā was once its *ahupuaʻa* (PE; IN 659; AB 7:748; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than two miles southwest from H.P. Baldwin High School.
Palamaihiki	*heiau.* "Palamaihiki Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801" (Sterling 1998:79).	Wailuku *ahupuaʻa.*
Pāpōhaku	*ʻili āina.* Lit., stone fence. LCAw 1742 to Z. Kaauwai " … ma Papohaku, Wailuku, Maui …" (" … at Papohaku, Wailuku, Maui.") 18.28 acres [73,976.54 square meters] in 4 apana (parcels). Also LCAw 515 and 2627 to Pepee, 2337 to Ihuole, 2403 to Kaiaiki, 3256 to Holoua, 3256-B to Ehu, 3289 to Moo, 3294-D to Kahue, 3495 to Kawahie, 3497 to Kaulahea, 4674 to Pookee, 8459 to Kuaele (PEM; IN 659; AB 5:71; TM 3400; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than two miles southwest from H.P. Baldwin High School.
Pauniu	*ʻili āina.* LCAw 6314 to Kekipi " Apana 1. Kula ma ka ili o Pauniu … 7.92 eka." ("Parcel 1. Field at the land division of Pauniu …. 7.92 acres [32,051.10 square meters])." Also LCAw 2409 to Kaolulo, 2949 to Nawai, 3232 to Ohakee, 3380 to Popoki, 3389 to Pinao, 3467 to Kenoii, 3891 to Paia, 5272-B to Muli (IN 660; AB 7:466; TM 3400, 3431; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H.P. Baldwin High School.
Peʻepeʻe	*ʻili kū.* Lit., to hide oneself. Land held by Lunalilo at the time of the Māhele, LCAw 8559-B:22. 255.7 acres [1,034,781.20 square meters]. LCAw5228 to Kuihelani: "Apana 1. Mahele 1. Ma ka ili o Peepee, Wailuku … 4.45 eka. Mahele 2 … 0.3 eka." ("Parcel 1. Part 1. At the land division of Peepee, Wailuku … 4.45 acres [18,008.51 square meters]. Part 2 … 0.3 acres [1,214.06 square meters].") Also LCAw 436 to Kapau, 2459 to Wahinekuapuu (PE; MB 27; IN 660; 3:717, 7:496; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H.P. Baldwin High School.

Place Name	Meaning* and Source	Location
Pihana Heiau/Hale Kiʻi	*heiau.* Lit., fullness. "Pihana Heiau, Walker Site 43. West [sic, North] side of Iao Stream on the sand ridge about half a mile from the sea ... A large heiau partly eroded away by the action of Iao Stream ... its floor being about 70 feet [21.336 meters] above the stream bed on the Southeast ... The undistrubed side of the heiau proper is about 300 feet [91.44 meters]." (Sterling.) "Its construction is credited to the traditional Menehunes who are said to have all the stones therefor from Paukukalo beach and erectted it in one night." Mentioned as one of the *heiau* consecrated by Liholiho preceeding the *peleleu* fleet (Thrum) (PEM; Sterling 1998:76; Thrum 1908a:38, 1908b:46; USGS 1955; Kamakau 1992:188; Google 2024).	Wailuku *ʻahupuaʻa.* Less than three miles southwest from H.P. Baldwin High School.
Pōhakuokahi	*heiau.* Lit., stone of Kahi. "Pohakuokahi Heiau. Vicinity of Wailuku. Said to have been among those consecrated by Liholiho in his tour of Maui for that purpose about 1801" (PE; Sterling 1998:79).	Wailuku *ʻahupuaʻa.*
Pōhaluuli	*ʻili āina*. Lit., dark stone. LCAw 3891 to Paia: "Apana 1. Ma ka ʻili o Pohakuuli … 0.89 eka." ("Parcel 1. At the land division of Pohakuuli … 0.89 acres [3,601.70 square meters]"). LCAw 3222 to Auimakalani. (IN 661; AB 7:426; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Puakea	*ʻili āina.* Lit., white blossom. LCAw 490 to Kapaweuweu: " … ma ka ili o Puakea i Wailuku … " 3.42 acres in 2 apana." (" … at the land section of Puakea in Wailuku … 3.42 acres [13,840.25 square meters] in 2 parcels") (PEM; IN 661; AB 4:358; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest from H. P. Baldwin High School.
Puakō	*ʻili āina.* Lit., sugarcane blossom. LCAw 457 to Kawailiilii: "Kalo & pahale ma ka ili o Puako … " 2.46 eka." ("Taro & houselot at the land section of Puakō … 2.46 acres [9,955.27 square meters]"). Also LCAw 398, 413, 454 to Naleipuleho, 402 to Nuiakaukau, 453 to Kuihelani, 1759 to Kaupa, 2208 to Manu, 3496 to Kekuapahipahi (PEM; IN 661; AB 7:471; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* West from H. P. Baldwin High School.
Pūʻali Komohana	*moku*, west isthmus of Maui. Lit., west isthmus. HICRIS map lists the *ahupaʻa* of Wailuku in part of Pūali Komohana. The Buke Māhele refers to Pūʻali Komohana as a district. "The ahupuaas of Waihee and Waiehu were independant of any moku and are listed in the Book of the Mahele as being in 'Puali Komohana,' i.e., West Isthus" (PE; SHPD HICRIS 2024; King 1935:215; MB 18, 25, 26, 211; AB 10:481).	West Isthmus on the *mokupuni* of Maui.

Place Name	Meaning* and Source	Location
Puhiawāwa	*ʻili kū.* Land held by H. Kalama at the time of the Māhele, LCAw 4452:7. 2.54 acres [10,279.02 square meters]. Also LCAw 406 to Napela, 453 to Kuihelani, 3210 to UU, 3290 to Mahoe 2 (MB 153; IN 661; TM 3400, 3432; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Puʻu Kī	*ʻili āina.* Lit., ti plant hill. LCAw 3488 to Kaawa: " Kalo ma ka ili o Puuki … " 3.96 eka." ("Taro at the land division of Puuki … 3.96 acres [16,025.55 square meters]") (PE; IN 661; AB 7:501; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Northwest from H. P. Baldwin High School.
Puʻunēnē	cinder pit, town, hospital, and elementary school. lit., goose hill. Puʻunēnē is composed of villages created during the Plantation Era—Yung Hee Village, Alabama Village, Spanish B Village, Sam Sing Village, and McGerrow Village (PEM; USGS 1954, 1955).	Wailuku *ahupuaʻa*
Puʻuohala	village, park. Lit., hill of pandanus. During the Plantation Era it was a residential area which was called "Puuohala Camp" (PE; PEM; TM 3300; USGS 1955).	Wailuku *ahupuaʻa.* Elevation 360 feet [109.73 meters].
St. Anthony (Padua) Catholic Church Cemetery	cemetery (Google Maps 2024).	Wailuku *ahupuaʻa.* Less than a mile west from H. P. Baldwin High School.
ʻUmiʻeu	*ʻili āina.* LCAw 1759 to Kaupa: "Apana 4. Ili o Umieu … 1.30 eka." ("Parcel 4. Land section of Umieu … 1.30 acres [5,260.91 square meters])." Also LCAw2425 to Kaumu, 2428 to Kawao, 2458 to Kawaiohia, 2503 to Ohule, 2527 to Mauhili, 10639 to Pa (IN 662; AB 8:227; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than a mile west from H. P. Baldwin High School.
Waiaka	*ʻili āina.* Lit., reflection water or shadowy water; laughing water. LCAw 8314 to Kekipi: "Apana 2. Kalo ma ka ili o Waiaka … 4.84 eka." ("Parcel 2. Taro at the land section of Waiaka … 4.84 acres [19,586.79 square meters])" (PE; IN 662; AB 7:467; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than a mile north from H. P. Baldwin High School.
Waiʻale	reservoirs. Lit., rippling water. Consists of two reservoirs at the 220 ft. [67.06 meters] elevation. The south reservoir coordinates: N-196,300, E-557,600 (PEM; USGS 1955).	Wailuku *ahupuaʻa.* Less than a mile southwest from H. P. Baldwin High School.

Place Name	Meaning* and Source	Location
Waiauiki	*ʻili āina.* Lit., small Waiau. LCAw 2455 to Kahiki: "Kalo ma ka ili o Waiauiki … 2.79 eka." ("Taro at the land division of Waiauiki … 2.79 acres [11,290.73 square meters]. Also LCAw 377 to Kahooke, (P.E.; IN 662; AB 7:500; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Southwest of H.P. Baldwin High School.
Waiehu	*ʻahupuaʻa; kalana;* point, streams, village, beach, park, and golf course. Lit., water spray. Held by Lunalilo at the Māhele, LCAw 8559-B:20. Waiehu resembles a *kalana* because it contains several small *ahupuaʻa*, including Ahikuli, Polipoli, Kapoino and others in the "Waiehu Section 2" awarded by Lunalilo (TM 3217) (PE; PEM; MB25; IN 76; AB 10:481; TM 3200, 3217; Google Maps 2024).	In the Wailuku quadrangle and Pūʻali Komohana. Less than three miles north of H.P. Baldwin High School.
Waiheʻe	*ʻahupuaʻa;* village, school, canal, point, reef, river, sugar company, farm, trail, park, canyon, and water tunnels. Lit., squid liquid. Returned by Alapai at the Māhele, held by the Gov 27 kuleana are listed in the Indices (PE; PEM; MB 86, 225; IN 812-814; PEM 221; USGS 1954	In the Wailuku quadrangle. Less than three miles north of H.P. Baldwin High School.
Waikani	*ʻili āina.* Lit., sounding water; laughing water. LCAw 428 to Kaonohimaka: "15 loi kalo ma ka ili o Waikani … 0.99 eka." ("15 taro pondfields at the land section of Waikani … 0.99 acres [4,006.39 square meters])." Also LCAw 406:3,4 to Napela, 428 to Kaonohimaka, 2424 to Kawaapalaole, 9032 to Kikane; 4450 to Keani in Waikaniki; 436 to Kapau, 2436 to Kahaiki, 2502 to Ihumai, 3292 to Mua, 3330 to Lonohiwa in Waikaninui (PE; IN 662; AB 3:696; OHA Kipuka 2024).	Wailuku *ahupuaʻa.* Less than five miles northwest from H. P. Baldwin High School.
Wailuku	*moku, ahupuaʻa*, town. Lit., water of destruction. "Wailuku, Waikapu, Waiehu and Waihee were independent, belonging to no Moku. On the map it was necessary to form a new district and and call it Wailuku, Nawaieha, the four waters, being too combersome and ill understood." (PEM; Lyons 1874 (3).) Wailuku was claimed by the Crown at the Māhele. Later, sold to Claus Spreckels in 1882 as RPG 3343, 24,000 acres [97.12 square meters] excluding the *ʻili* claimed by the chiefs and the *kuleana* claimed by the tenants (MB 210; IN 27,662; GR 66; RPG 3343; USGS 1955). Wailuku is the primary town on Maui where the government seat is located (USGS 1955).	Wailuku *ʻahupuaʻa* and town. H.P. Baldwin High School is located in this town.

Place Name	Meaning* and Source	Location
Waikapū	land section, village, ditch, stream, park, sugar company, water tunnels, and valley. Lit., water [of] the conch. There is a story of a cave at Waikapū where a conch was stored and the conch could be heard everywhere in the Hawaiian Islands until it was stolen by Puapualenalena, a supernatural dog with yellow tail feathers. During the Māhele, the land of Waikapō was returned by Kamāmalu and retained by the government; set aside as school land in 1850; sold to W. H. Cornwell in 1875 as RPG 3152, 15,690 acres [63,495,177 square meters]. (PEM; MB 8, 211; GR 64; IDLL 1850 Dec. 23; BC 230 (3:997); USGS 1955; Google Maps 2024).	In the Wailuku quadrangle. Three miles southwest of H.P. Baldwin High School.

Places of names sourced mainly from USGS maps unless otherwise noted.

* Adapted from Ulukau: Hawaiian Electronic Library (https://ulukau.org/index.php?l=en).

† Most of these place names and translations were derived information and collected from Ulukau (Online): Hawaiian Dictionary (Pukui 1969), Hawai‘i Place Names (Pukui and Elbert 1986) and Place Names (Clark 2002) unless noted in the Meaning and Source column.

MOʻOLELO, OLI, AND ʻŌLELO NOʻEAU

The ethnographic works of the late 19th and early 20th centuries preserve a wealth of *ʻike* about traditional literature—the *moʻolelo*, *oli*, and *mele*—and provide glimpses into fragments of time and parts of the Hawaiian culture often forgotten. The *moʻolelo* allow *kūpuna* (ancestors, elders), including the *kaʻpoʻe kahiko*, to be revived as their personalities, loves, and struggles are realized. The *oli* (chants) and the *mele* (songs) not only give light to the past, special people, and *wahi pana* (legendary places or sites), they also support the breadth of the *ʻike* and *manaʻo* of the *pūlama* (cherished) *kūpuna* (Orr 2014:20). The *ʻāina* is considered one of the oldest *kūpuna* and beloved not just for its mere beauty but especially for the appreciation in providing sustenance for the Hawaiian people. There are a plethora of *moʻolelo*, *oli* and *mele* naming and honoring the different *ʻāina.*

MOʻOLELO NO HEKILI (KĀNEHEKILI)

The gods who belonged to the upper and lower strata of firmament—including Kānehekili, Kanewawahilani, Kahoʻaliʻi, and Kauilanuimakehaikalanil—were called "gods of the heavens." Hekili (Thunder) (who became deified as Kānehekili) was the first *kahu* to observe the different *kapu* of these gods. Hekili lived at Papaʻaea in Hamākuloa, Maui, known as a land where loud and often double thunderclaps occurred, and where lightning flashes smashed the forest of Oʻopuloa to pieces. Hekili was reknowned as a man with divine power or *mana*, and everything he said came to fruition. If Hekili spoke to the thunder and lightning, they avenged him by bringing down his enemies and killed those who cursed or abused him. Even when his enemies plotted to kill him in secret they were struck down by thunder, so they ceased to conspire or even think evil thoughts against him. People feared Hekili, and as a man of great *mana*, they called him Kānehekili.

Kānehekili's *heiau* for the "gods of the heaven" was named Pakanaloa[2] and stood above Keʻanae in Koʻolau *moku*. Kānehekili eventually died there below the *kuapala* offering stand. When his brother-in-law found the body, he cut off Kānehekili's head and gifted it to the people of Lānaʻi as an object of great *mana*. The people of Lānaʻi worshipped through Kānehekili's head and eyes—called "the mouth of the god" and "the eyeball of the god"— and became the seers and prophets of the god of thunder. Kānehekili was also missed in Hamākualoa, and when the men there found his headless body, they divided it into small pieces to distribute to various places around Maui. It would eventually became their *kuleana* to worship thunder. (Kamakau 1968:69; Maly and Maly 2006:14-15). Chiefs of the Hekili line were also dedicated at Pāpaʻaʻea (Kamakau 1968:69-70; Maly and Maly 2006:14-15).

One side of Kānehekili's body was colored a deep black , and for this reason the famous ruler of Maui, Kahekilinuiʻahumanu (Kahekili), who was a dedicated disciple of Kānehekili, tattooed his right side from head to foot solid black (*kākau pāʻele*). His dedicated warrior chiefs and household companions also tattoeed themselves in the same way (Kamakau 1968:70, Maly and Maly 2006:15).

[2] Beckwith (1970:48), mentions an account naming the heiau "Pakana-loa." Which was "erected back of Keanae on Maui at a place where violent thunderstorms occur ... "

MOʻOLELO NO KAUA O KAKANILUA (AHULAU)

From 1775 to 1779, there were recurring battles between Kalaniʻōpuʻu of Hawaiʻi and Kahekili of Maui. In Kaupo on Maui, Kalaniʻōpuʻu (brother-in-law of Kahekili) and his warriors launched a savage attack and abused the innocent country people by beating them over the head with war clubs; this battle was later named Ka-lae-hohoa, or "the forehead beaten with clubs." The young warrior Kamehameha I made his mark during this battle by saving Kekūhaupiʻo, the fearless warrior who taught Kamehameha the tactics and strategies of warfare (Kamakau 1992: 84); Kahekili reputedly allowed the Hawaiʻi Island forces to escape while admiring his *hānai* son Kamehameha on the battlefield. After the battle, East Maui was firmly in the hands of Kalaniʻōpuʻu, and Kamehameha was given the nickname Paiʻea (hard-shell crab) by the Maui forces.

After the defeat, Kalaniʻōpuʻu returned to Hawaiʻi and prepared a year for another invasion of Maui. He enlisted an army comprising of the six districts of the island with six warrior chiefs to head each district. The six divisions also had names: I, Ahu, Mahi, Palena, Luahine, and Paʻia. The main war chief was called Keawe. His personal attendants who he selected were outstanding warrior chiefs who he called the ʻĀlapa and the Piʻipiʻi. Kaʻili (Kūkaʻilimoku), his war god had been built houses—ʻŌhiʻamukumuku at Kahaluʻu and Keikipuʻipuʻi at Kailua (in the *moku* of Kona on Hawaiʻi Island) which were *heiau* against sedition and retribution for his defeat by Kahekili's forces of Maui. Kahekili prepared for battle after hearing of Kalaniʻōpuʻu's fortitude in preparation for battle. The success of Kahekili surviving the most combat of any supreme leader in the history of Hawaiʻi was his knowledge of the game of war and his faithfulness of adhering to the advice of his *kahuna* (priest). To prepare for his war with Kalaniʻōpuʻu with the guidance of his *kahuna*, Kaleopuʻupuʻu, he built the *heiau* of Kaluli at Puʻuohala on the north side of Wailuku. After the *heiau* was erected, Kaleopuʻupuʻu said to Kahekili, "This is the house of your god; open the sluice gate that the fish may enter." The message from Kaleopuʻupuʻu had two parts equaling success: (1) it assured Kahekili he was ready for battle; and (2) the strategy was to trap the enemies like fish in a pond (Kamakau 1992:85; Desha 2000:41).

The 1776 Battle of Kakanilua (Ahulau) was a devastaing blow for Kalaniʻōpuʻu and his *pūʻali* or army. "*Ahulau ihola nā kamana i ka make*, slaughter bodies were heaped up" (Pukui 1986:8). Unlike Kahekili, Kalaniʻōpuʻu did not listen to the guidance of his *kahuna*, Holoʻae (great-grandfather of Hewahewa and father-in-law-of Kekūhaupiʻo), and was not sucessful—it will be revealed, Kamehameha on the other hand, was victorious when following the instruction of Holoʻae during his rule. Before the battle, Kalaniʻōpuʻu got ready to send the armies of the ʻĀlapa and Piʻipiʻi at dawn, and at the same time Kamehameha I and Kekūhaupiʻo were off shore in the vicinity of Papawai Point (near Maʻalaea) at the starting location were the fight with the Maui troops were to begin. Kalaniʻōpuʻu spoke the following words (Desha 2000:42-444):

> *ʻAuhea ʻoukou* [hear ye], sons of my blood, I am sending you inland to Wailuku to fight the warriors of Kahekili and my word of hope to you is you will have great strength and drink the water of ʻĪao [Stream].

Afte the motivated words of Kalaniʻōpuʻu were spoken, the armies shouted, and a great number of warriors joined the gathering fronting Kalaniʻōpuʻu. The two armies of Kalaniʻōpuʻu equaled 800 warriors. Kahekili added to his army the warriors of Oʻahu after sending a request to Kahahana (his nephew, and adopted son), *aliʻi nui* of Oʻahu. The shouting of the Hawaiʻi warriors was an unwise decision because it was heard by the spies of Kahekili who were nearby, and it signified the Hawaiʻi people were heading to battle. One of the spies dashed to Kahekili and alerted him, the Hawaiʻi armies were headed toward them. Joined by the Oʻahu warriors under Kahahana, Kahekili's warriors waited at the sand dunes of Waikapū and to the seaward sand dunes of Wailuku. The Maui warriors hid like sand crabs in holes awaiting the

invasion of Kalani‘ōpu‘u and his relatively few warriors who was expected to move inland to Wailuku clueless of the death that awaited them (Desha 2000:42-43).

At the time parallel to Kalani‘ōpu‘u’s ‘Ālapa and Pi‘ipi‘i armies were advancing to the plains of Pu‘u‘ainako and Kama‘oma‘o, Kamehameha I continued slaying Kahekili’s troops who were attempting to prevent him from coming ashore at Papawai Point. The ‘Ālapa were led by Inaina, Kua‘ana, Kaneha‘ilua, and Keawehano. The 800 warriors were all “expert spear-point breakers,” whose spears were as accurate as arrows shot by a profession marksman with a bow. Across the two plains of Pu‘u‘ainako and Kama‘oma‘o the warriors were gallant in their apparel of feathered cloaks with the “ancient pattern and colored like the hues of the rainbow in red, yellow, and green, with helmets on their heads whose arcs shone like a night in summer when the crescent lies within the moon” (Kamakau 1992:85). Kahekili’s war party was like a dark cloud suspended over the ‘Ālapa on the sandhills of Kahalu‘u, the “smoke head and the red coconut divisions.” Kalani‘ōpu‘u’s men were on the plains of Kama‘oma‘o as if in a fishpond, and they were the mullet being driven into the sluice gate with the sea rising to the walls. The ‘Ālapa were slain on the sandhills southeast of Kalua like fish surrounded by a net. The imaged presented of the dead, “heaps strewn like kukui branches; the corpses lay heaped in death.” As mentioned previously, it was called *Ahulau ka Pi‘ipi‘i i Kakanilua* (Kamakau 1992:86-87).

If it were not for one of the two only survivors of Kalani‘ōpu‘u’s men, he would not have been notified quickly of the great slaughter of his armies. He thought his warriors would be drinking from the waters of Wailuku. Kalani‘ōpu‘u uttered a dreadful wail for the dead, he strongly believed his warriors would annihilate Kahekili’s militia. His unheeding to the advice of his *kahuna* was regretfully useless after the slaughter of his prized warriors (Kamakau 1992:86-87).

MO‘OLELO NO KAUA O KEPANIWAI

In 1780 Kalani‘ōpu‘u assembled a council of chiefs in Waipio Valley where he designated his son Kīwala‘ō as his successor and gave Kamehameha I custody of the war god, Kūkai‘imoku. In the early part of 1782 King Kalani‘ōpu‘u passed away. There was an incident and the result was Kīwala‘ō, Keawemauhili, and Keōua (Kamehameha’s uncle) plotting against Kamehameha I. A battle was fought at Moku‘ohai in 1782 and with the death of Kīwala‘ō, Kamehameha was the victor and a leading *ali‘i*. The island of Hawai‘i at the time was divided into three kingdoms. In 1785, Kamehameha started a new campaign against Keōua and Keawemauhili to unite the island of Hawai‘i, but he was unsuccessful at the time (Kuykendall 1965:32-34).

In the meantime, Kahekili had gained control of the leeward islands, even gaining rule over O‘ahu by killing his adopted son Kahahana who helped him in the Battle of Kakanilua. Kahahana and his brother Ka‘eokulani who had control over Kaua‘i, formed a great alliance, but Kahekili was the dominant brother. In 1786 Kamehameha tried to regain control over Hāna, Maui, and to avenge the aid Kahekili had given to Keōua and Keawmauhili when Kamehameha had fought them earlier. Peace prevailed for about four years, and in that time foreign trading trips arrived in the islands for base supplies, and the Hawaiian chiefs familiarized themselves with the weapons of the foreigners. Ka‘iana a young chief from Kaua‘i returned on an English trading vessel in 1788, and was invited by Kamehameha to live with him instead of returning to Kaua‘i. Ka‘iana was a high ranking warrior who had a established a positive reputation of foreign travel, and he became a principal lieutenant and adviser of Kamehameha. In early 1790, Kamehameha acquired a sloop called the Fair American and also the services of John Young and Isaac Davis. Then in spring of the same year, Kamehameha made an attempt to return to Wailuku for another battle. At the time Keawemauhili reconciled with Kamehameha and supplied him with canoes and warriors. During this time, Kahekili was living on O‘ahu and left his son Kalanikūpule to govern Maui in his absence with Ka‘eokulani on Kaua‘i (Kuykendall 1965:32-34).

Keliʻimaikaʻi (sacred name: Kalanimālokulokuikepoʻokalani), was sent by Kamehameha to govern the east Maui colonies in 1778. Keliʻimaikaʻi had a battle with one of Kalanikūpule's chiefs, Kamohomoho. The conflict bothered Kamehameha because Keliʻimaikaʻi was one of the most treasured people in the life of Kamehameha. In the Makaliʻi season of 1790, four years after Keliʻimaikaʻi's fight with Kamohomoho, Kamehaemeha went to punish Kalanikūpule at Maui. The Battle of Kepaniwai (water dam) was a tremendous loss for Kahekili, his son Kalanikūpule, and all of Maui—the major toll of death and control of Maui to Kamehameha I. The ʻĪao Stream "was choked with human bodies after the slaughter there" (Pukui et al. 1974:109). The water receded upward and did not flow downward due to the many bodies in the stream and valley of ʻĪao. Kepaniwai was the third battle led by Kamehameha, and one of the most epic battles in history. Kamehameha was prepared with 32,000 warriors in his militia, and there were a copius number of canoes in his fleet, called the Great Fleet. It had been said, the canoes were so numerous, the whole landing area from Keoneʻōʻio to Olowalu had no space between canoes (Fornander 1919:70; Desha 2000:172).

OLI: UA MAKE KE ALIʻI A OLA KE ALIʻI

The *oli* or chant entitled, *Ua Make Ke Aliʻi A Ola Ke Aliʻi* was one among the plethora of chants in the book of King David Kalākaua. The chant was composed by Geo. (perhaps George) Kaiwiʻaeʻa Koaliʻi. There was not anything written about the composer, though Kalākaua respected the composition of this *oli* enough to include it in his compilation of chants. This *oli* mentions several of the numerous *aliʻi* in *Ka Pae ʻĀina o Hawaiʻi.* Kalaninui-ia-mamao is the father of Hawaiʻi chief Kalaniʻōpuʻu. Kamehameha I (known as Paiea taking the name Kamehameha I) was said to be a favorite warrior of Kalaniʻōpuʻu. Kīwalaʻō, son of Kalaniʻōpuʻu was killed at the Battle of Mokuʻōhai (on Hawaiʻi Island) by Kamehameha I and his warriors, and Kamehameha I became ruler in his place. The Battle of Kepaniwai and Kakanilua on Maui is highlighted here, mentioning the "famous warrior, Kahekili" of Maui. Reference to Aliʻiōlani Hale, built in 1874 (about a century after the battles of Kakanilua and Kepaniwai) upon the reign of King Kalākaua during much turmoil, and it stimulates the mind of the reader in regard to the *kaona* or hidden meaning within the lines of this *oli* (Koaliʻi 2001:106-109).

(Translation By: Keao NeSmith, October 2024)

UA MAKE KE ALII A OLA KE ALII	THE KING DIES AND THE KING LIVES
E Kalaninui ia Mamao e,	O, Kalaninuiʻīā mamao
E Kamaehameha I e	Oh, Kamehameha I
Ke Alii Nui o makou nei,	The Great King of ours
Ua Make oe a Ola hou mai,	You have died and live again
Ma ka la 1 o Feberuari,	On the 1st of February
Ke koa kaulana i Mokuohai,	The famous warrior of Mokuʻōhai
Hee ai ka Kalani Kiwalao,	From whom Chief Kīwalaʻō fled
Ka Moamahi o Hawaii nei,	The farming rooster of Hawaiʻi
E ono moku ia Paiea,	Six moku fall under Paiʻea

Puni ai Hawaii ia Kalani,	All of Hawai‘i falls under the Chief
Oki kalaina ia Kipikona,	A portion is given to Shipman
Pahee i Kaliae na Olelo,	Words slipped the tongue of [Kalia‘e?]
Kuhikuhi Puuuone o ke Aupuni,	Chief Engineer of the government
Haleluia, Hipa, hipa, hipa huro.	Hallelujah, Hip, Hip, Hooray
E Kalaninui ia Mamao,	O, Kalaninui‘īā mamao
E Kamehameha I e,	O, Kamehameha I
Ke Alii nui o makou nei,	The Great King of ours
Ua make a ola hou mai,	You have died and live again
Ka nai aupuni kaulana,	The famous conqueror of the nation
Liona wiwo ole o ka Pakipika,	Fearless lion of the Pacific
Ke koa kaulana o Hawaii,	The famous warrior of Hawai‘i
Pani ia na wai o Iao,	The waters of ‘Īao were dammed up
Hee na hono a Piilani,	Those of the bays of Pi‘ilani have fled
Ke kahua kaua i Kakanilua,	The battlefield at Kakanilua
Na ala maa a Oulu,	The sling stones of ‘Oulu
Ke koa kaulana o Kahekili,	The famous warrior, Kahekili
Haule ka maa i mea ole,	The sling stone falls and is nothing
Oniu laau palau,	The battle club is twirled
Ua Ola ka Lani Mehameha,	The Lonely Chief survives
Ma Aliiolani Hale,	At Ali‘iōlani Hale
Oki kalaina ia Kipakona,	A portion is given to Shipman
Pahee i Kaliai na olelo,	Words slipped the tongue of [Kalia‘e?]
Kuhikuhi Puuone o ke Aupuni,	Chief Engineer of the government
Haleluia, hipa, hipa, huro.	Hallelujah, Hip, Hip, Hooray
Kalaninui ia Mamao,	O, Kalaninui‘īā mamao

E Kamehameha I e,	O, Kamehameha I
Ke Kini nui o Hawaii nei,	Great King of Hawai‘i
Ua make oe a Ola hou mai,	You have died and live again
Ke Koa Hiena o Hawaii nei,	The Hyena Warrior of Hawai‘i
Hee ai o Kaiama ma,	From whom Chief Ka‘iama fled
Pau pu me Kalanikupule,	Kalanikūpule as well
Puni ai Hawaii ia Kalani,	All of Hawai‘i falls under the Chief
Haawi wale ia mai Kauai,	Kaua‘i was given freely
Kuu ka luhi ia Kalani,	The Chief gave all his energy
Kuhikuhi like na Paemoku,	The archipelagos direct together
Mai Hawaii a Niihau,	From Hawai‘i to Ni‘ihau
Oniu laau Palau,	The battle club is twirled
Oki kalaina ia Kipikona,	A portion is given to Shipman
Pahee I Kaliai na olelo,	Words slipped the tongue of [Kalia‘e?]
Kuhikuhi Puuone o ke Aupuni,	Chief Engineer of the government
Haleluia, hipa, hipa, huro.	Hallelujah, Hip, Hip, Hooray
Kalaninui ia Mamao.	Kalaninui‘īāmamao
O ka Keawehiapokapu no ia	Belongs to Keawehiapokapu
E Kamehameha I e,	O, Kamehameha I
Ke alii nui o makou nie,	The Great King of ours
Ua make oe a ola hou mai,	You have died and live again
Ma ka la 14 o Feberuari,	On the 14th of February
Ma Aliiolani Hale,	At Ali‘iōlani Hale
Kau ka iwa I ka la Hoike,	The ‘iwa bird soars on the day of showing
Ko aahu Hulu Mamo,	Your mamo-feather cape

Papale Mahiole Ahuula,	Your feather helmet
Ko Ihe oniu laau Palau,	Your battle club spear
E kau ka weli maluna ou,	Fear falls upon you
E ke koa kaula nui o Hawaii nei,	Great prophet warrior of Hawai‘i
Hiki ai ka lohe I Pelekane,	The word reached Britain
A me Amerika Huipuia,	And the United States of America
Kahaha mai la o Farani,	France is astonished
Ninau mai la o Rukini,	Russia inquires about it
Hai aku la I ka lia,	Italy states
Aia ke koa I Hawaii,	The warrior is in Hawai‘i
E na mokupuni o ka moana,	O, island of the ocean
Aukekelalia,	Australia
Polunesia,	Polynesia
Ua ola o Kalani nui Mehameha,	The Great Chief, Mehameha, lives
E na Kuhina o ka Moi,	O, Ministers of the King
A me ka Hale Ahaolelo,	And the Legislature
Na makaainana a pau loa,	All the people of the land
Mai Hawaii a Niihau,	From Hawai‘i to Ni‘ihau
He Umi Tausani na Dala,	Ten thousand dollars
Ua ola o Kalani nui Mehameha,	The Great Chief, Mehameha, lives
Oki kalaina ia Kipikona,	A portion is given to Shipman
Pahee I kaliai na olelo	Words slipped the tongue of [Kalia‘e?]
Kuhikuhi Puuone o ke Aupuni,	Chief Engineer of the government
Haleluia, hipa, hipa hulo.	Hallelujah, Hip, Hip, Hooray
GEO. KAIWIAEA KOALII.	GEO. KAIWI‘AE‘A KOALI‘I.

ʻŌLELO NOʻEAU

ʻŌlelo noʻeau, or proverbial/traditional sayings, usually have several layers of meaning. They reflected the wisdom, observations, poetry, and humor of ancient Hawaiʻi, and often referenced real people, events, or places. Many *ʻōlelo noʻeau* were compiled by Pukui between 1910 and 1960 with both translations and explanations of their meanings (Williamson et al. in Pukui 1983:vii), and often contain more *kaona* (hidden, as in poetry) than obvious at first glance. Several *ʻōlelo noʻeau* related to places near the project area and broader area are presented below.

Wailuku

Wehe I ka mākāhā I komo ka iʻa (Open the sluice gate that the fish may enter). The *ʻōlelo noʻeau* were the words spoken by Kaleopuʻupuʻu, priest of Kahekili, when the dedication of the Kaluki heiau was over, at Puʻuohala on the north side of Wailuku, Maui. It was expected for Kalaniʻōpuʻu to invade Maui for the second time, and the priest assured they were ready to trap the invaders like fish inside a pond. "The saying refers to the application of strategy to trap the enemy" (Pukui 1983:704 #2923).

Ahulau ka Piʻipiʻi iI Kakanilua (a slaughter of the Piʻipiʻi at Kakanilua). The source of the proverb culminates from a "battle between Kahekili of Maui and Kalaniʻōpuʻu of Hawaiʻi, on the sand dunes of Wailuku, Maui, there was a great slaughter of Hawaiʻi warriors who were called the Piʻipiʻi. Any great slaughter might be compared to the slaughter of the Piʻipiʻi" (Pukui 1983:29 #19).

Ke inu aku la paha aʻu ʻĀlapa I ka wai o Wailuku (my ʻĀlapa warriors must now be drinking the water of Wailuku). Referring to the same battle (of Ahulau) in the previous *ʻōlelo noʻeau*, this is "said when an expected success has turned into a failure. This was a remark made by Kalaniʻōpuʻu to his wife Kalola and son Kiwalʻō, in the belief that his selected warriors, the ʻĀlapa, were wining in their battle against Kahekili. Instead, they were utterly destroyed" (Pukui 1983:404 #1711).

Pili ka hanu o Wailuku (Wailuku holds its breath). The saying is a play on *luku* (destruction) referring to Wailuku, Maui. It highlights a person "who is speechless or petrified with either fear or extreme cold" (Pukui 1983:638 #2647).

Wailuku i ka malu he kuawa. (Wailuku, Maui, reposes in the shelter of the clouds and the valley). "Wailuku, Maui, reposes in the shelter of the clouds and the valley" (Pukui 1983:1711 #2912).

Nā wai ʻehā. A poetic term for these places on Maui: Wailuku, Waiehu, Waiheʻe, Waikapū, each having flowing *wai* or water (Pukui 1983:551 #2300).

NAMES OF THE WINDS, RAINS, AND CLOUDS

The names of the winds, clouds, and rains are often mentioned in the *moʻolelo.* The "Four Winds of Wailuku Moku" are described in Sterling (1998:62) as follows: Wailuku's wind is the Makani-lawe-malie, the wind that takes it easy; Waiehu's wind is the Makahi-hoʻoʻehaʻili, the wind that hurts the skin; Waikapū's wind is the Makani-ko-kolokio, the gusty wind; and Waiheʻe's wind is the Makani-kili-ʻoʻopu, the *kiliʻoʻopu* (grasslike sedges [*Cyperus rotundus*] wind. The *kiliʻoʻopu* flower stalk head was used for stringing small fish, and fish is usually dried by the sun and a special wind. ʻAkipohe are the names of rains, the latter falling in Waiheʻe. The "Flying Clouds of Wailuku" are also noted in Sterling (1998:63); Wailuku is described as the source of the flying clouds, and as a broad plain where councils are held.

LAND USE

There is a popular saying about Maui, *Maui Nō Ka ʻOi,* Maui excels, but most modern Hawaiians refer to as, "Maui is the best." The term dates back to the 1800s when Reverend S. K. Paʻaluhi (served 1885-1887) and Samuel Kapū Sr (served 1893-1899) of Kaʻahumanu Church in Wailuku began to write songs coining the phrase (Ainsworth 2016; Kaʻahumanu Churh.org 2024). One of the songs written by Reverend Samuel Kapū Sr is *Maui Nō Ka ʻOi* (Huapala 2024). The *ahupuaʻa* of Wailuku has surely excelled of its population growth within a century.

The Māhele of 1848 suggests a big portion of the Wailuku ʻahupuaʻa was transferred to Kuihelani including the *ʻili ʻāina* of ʻOwā the land of the H.P. Baldwin High School campus. Lands for cultivation lie closer to the foothills and valley where soils are rich with silty clay. The streams and ocean once were viable sources of sustenance (see Table 1).

PRE-CONTACT AND EARLY CONTACT LAND USE

The settlement of Maui and *Ka Pae ʻĀina o Hawaiʻi* involved long voyages across open oceans, transporting Polynesians by way of canoes between Hawaiʻi and Kahiki (ancestral homeland). The voyagers brought with them intangible items, such as their beliefs, ideas, and skills; and they also stocked their canoe with plants and animals for example, *kalo* (taro)*, ʻuala* (sweet potato)*, ʻulu* (breadfruit), *maiʻa* (banana), *ko* (sugarcane); *kī* (ti leaf), *ʻawa* (kava), *moa* (chicken)*, ʻīlio* (dog), and *puaʻa* (pig).

In ca. 1500, during the reign of father and son (respectively), Piʻilanai and Kiha-a-Piʻilani, the *mokupuni* of Maui was divided into 12 *moku*, (Wailuku, Kāʻanapali, Lāhainā, Kula, Honuaʻula, Kahikinui, Kaupō, Kipāhulu, Hanā, Koʻolau, Hāmākualoa, and Hāmākuapoko) and political components with kuleana (responsibilities, rights, and privileges) assigned to several aliʻi—sometimes solitarily and at other times in union with other *moku*. Wailuku was once called Nāpoko. The *ahupuaʻa* were land divisions less than *the moku*, were marked by an *ahu* or altar accompanied with an image or representation of a *puaʻa* or pig placed upon the altar where hoʻokupu or tribute for taxes could be collected by the *konohiki* (*headman of the ahupuaʻa*) for the *aliʻi* (Tomonari-Tiggle and Welch 1995:15; and Malo 1951:16, Fornander 1919:313, Beckwith 1970:383, in Maly and Maly 2001:7). The *ahupuaʻa* was divided within the *moku* or district in a way that would utilize the distribution of water and biotic natural resources to create a high-yielding food production system. The reign of Piʻilani was peaceful and his power extended from Hāna on one end of the island to the six West Maui bays, collectively named Hono-a-Piʻilani or the bays of Piʻilani. Piʻilani is responsible for constructing the Alaloa or long road in West Maui, and his son Kiha-a-Piʻilani laid out the East section—establishing Maui as the only completed ancient highway to encircle any Hawaiian island (Bartholomew 1994:2).

In the *ʻahupuaʻa* of Wailuku as previously mentioned, there were tumultuous battles fought with many lives lost in the sand hills. The sand hills in Wailuku (including the *ʻili ʻāina* of Kalua and ʻOwā) were areas where people lived, and much was not grown because the soil was too poor for planting. Agriculture was found in the foothills and valleys of ʻĪao were there are silty clay soils. The rivers of Nā Wai ʻEhā provided water and stream life to cultivate *loʻi kalo*, *iʻa* (fish), *ʻōpae* (shrimp), *hīhīwai* (grainy snail) and other freshwater resources. In ancient times, the area from Waiheʻe to Wailuku was recognized as the largest continuous system of wetland taro cultivation in the islands (Handy and Handy 1972:496). The chiefs of Maui could easily access the resources provided by the Nā Wai ʻEhā region in times of war (Bartholemew 1994:3). The modern Kahului Bay and coastal regions is where ancient Hawaiians would gather shellfish, seaweed and fish for marine resources to supplement their diets. This type of subsistence lifestyle of the Hawaiian people continues today throughout different areas of *Ka Pae ʻĀina o Hawaiʻi*. The

people of Wailuku enjoyed the many surfing spots along the coastal areas of Maui. Canoe paddling is another ancient sport which traditionally continues at Kahului Bay.

THE MĀHELE ʻĀINA OF 1848

By the mid-1840s, the land tenure system of Hawaiʻi was drastically being altered, which sequentially led to the Hawaiian system of land and fishery rights to be defined and codified. The laws set the foundation for executing the Māhele ʻĀina of 1848[3], allowing fee simple ownership rights to the *hoaʻāina* (native tenants).

King Kamehameha III (Kauikeaouli) distributed lands across *Ka Pae ʻĀina o Hawaiʻi* to the *aliʻi* class as recorded in the Māhele Book of 1848, and two years prior, the Land Commission had begun receiving claims from the *makaʻāinana* or common people. The *aliʻi* who received *ʻāina* paid a commutation fee of one-third the value of his or her ʻ*āina*, satisfying the government's interest in all the *ʻāina*. The *makaʻāinana* was not required to pay a commutation fee (except for house lots in Honolulu, Lāhainā and Hilo), but were required to pay for the survey of their *kuleana* claims (Kameʻeleihiwa 1992:211, 295).

The Buke Māhele or the Māhele Book of 1848 displays the record of land distribution in the Hawaiian Kingdom by listing the lands and claimants. It refers to the *ahupuaʻa* of Wailuku (including Waikapū, Waiheʻe, and Waiehu) as being in the district of Pūʻali Komohana (Kamehameha III, 1848).

The documents from the Land Commission Award and Survey for the 1848 Māhele indicates Kuihelani (LCAw 420; Royal Patent 1996; In Book 5, Page 210) held 743 acres and 4 square chains [little over 3 square kilometers][4] (Waihona Aina 2024) (See Figure 4, Kuihelani). The Land Commission Award 420 or Helu 420 includes the campus of H. P. Baldwin High School which is in the *ʻili ʻāina* of ʻOwā. Kuihelani held one of the largest areas of land in Wailuku. Many different names of lands are documented in the survey (Kamehameha III, 1848).

During the years 1849 to 1866 Edward Bailey, a missionary purchased a total of 2,235 acres [9.04 square kilometers] of land in Wailuku and Waikapū for his venture of Wailuku Plantation. He was once the owner of the Bailey House in Wailuku which is now the headquarters of the Maui Historical Society.

19TH TO 20TH CENTURY LAND USE: EARLY CHINESE, MISSIONARY INFLUENCE, SUGAR INDUSTRY AND H. P. BALDWIN, RAILROAD, THE PLAGUE, AND WORLD WAR II

Early Chinese

In 1791, a British captain named William Douglas arrived on a schooner called, Grace. Douglas dropped off two Chinese men who sought out *ʻiliahi* or sandalwood. Then in 1828, two other Chinese men by the names of Ahung and Atai established a sugar mill in Wailuku. Subsequently, other Chinese businesses started emerging in Lāhainā who started growing Irish potatoes in Kula for the whaling and California Gold Rush commerce. Kula had 700 Chinese people at the turn of the century.

[3] This was the legal process, initiated in 1845, that turned Hawaiʻi's traditional land system into a system of European-style fee-simple ownership.

[4] According to Waihona Aina, when surveyors used chains during the Māhele, the measure of a chain is equal to 100 feet or 30.5 meters.

Kamehameha III (Kauikeaouli) started the King's Mill in Wailuku Maui around 1839-1840. He employed a Chinese manager who ran the mill and contracted with Hawaiians to plant sugar, and then sold the raw sugar to a Chinese merchant (Hung and Company) in Wailuku (MacLennan 2014:84).

Chinese laborers were imported to work on sugar plantations by the companies Brewer and East Maui in 1852. The Chinese endured long hours, low wages, and were treated poorly but they had nowhere to turn but serve their repressive contracts. When contracts expired, workers either returned to China or sought other occupations (Bartholomew 1994:49).

Missionary Influence

In 1832, missionaries stationed a Lāhainā were planning to assimilate the people of Hawai‘i to "elevate the character of the people" so they can reach a "state of enlightened and independent nations." They started by suggesting the missionary board sponsor a plan for raising cotton to manufacture cloth substituting the traditional kapa (tapa or cloth made from the bark of plants). They believed, once it got started, the people could sustain the business with the help of the chiefs who could commission the necessary buildings. It was to start off as a domestic industry with Hawaiian women spinning and weaving the cotton at their homes. A women named Miss Lydia Brown was sent to the islands with several domestic spinning apparatuses. In the summer of 1835, the experiment started in Wailuku where they started farming cotton. There was immediate success—carding, spinning, knitting, and finally weaving. The missionaries feared the chiefs would seize the industry and exploit the time and labor of the people (Kuykendall 1965:174). In 1836, the first girls boarding school was opened in Wailuku.

Among the missionaries arriving in 1831 and 1841were William P. Alexander, Dwight D. Baldwin and Edward Bailey. The missionaries who arrived after 1835 found a different society from their predecessors. There was an increase in international commerce and diplomatic relations with other nations. A nation was forming in Hawai‘i with literate citizens and a developing constitutional monarchy. The missionaries focused on education of all Hawaiians and the adoption of agriculture into an export economy. The Māhele of 1848 allowing the ownership of fee simple property and successful business practices enabled missionaries to have dominate the economy of Hawai‘i including Wailuku. Missionary settlers appeared to draw marital and educational boundaries separating them from Hawaiian culture. Missionaries were advantageously familiar with different people, districts, climates, and tropical soils, a result of their teaching and preaching at different mission stations. After the Māhele, the Hawaiian government sought to promote export agriculture to increase the treasury, and it offered an opportunity for the missionaries. Missionary residents became powerful businessmen, owners of plantations and many became government officials.

Missionaries born after 1840 established a special bond with each other from childhood while attending Punahou School (in Honolulu), and as adults they "formed the backbone of the sugar industry and were the organizers of the political revolt against the Hawaiian monarchy." The families who entered Punahou became settlers in Hawai‘i. Punahou encouraged close ties between these colonized missionary families "forming a lifetime cohort of business and political ties out of their shared childhood experience. Punahou was a place which allowed mission children to separate from their mission homes, and more importantly to separate from exposure to Hawaiian children including the royal children. (MacLennan 2014:67-68).

Sugar Industry and Henry Perrine Baldwin

Henry Perrine Baldwin was born on August 29, 1842, in Lāhainā, Maui. He was the son of Reverend and Mrs. Dwight Baldwin who arrived at Honolulu on June 7, 1831, with the fourth company of missionaries coming from New England. Henry was educated at Punahou School and assumed the task of managing a rice plantation unsuccessfully, and in 1863 set his sights on the cultivation of sugar cane. He first worked for his brother, Dwight Baldwin, Jr., who cultivated sugar cane in Lāhainā. At 21 years of age his intention was to earn money to put himself through Williams College to enlist in a medical course. Henry found his niche in the sugar industry where he was a prominent figure and never practiced medicine. He was promoted to head luna or boss of Waiheʻe plantation under the management of Samuel Thomas Alexander in a very short time. Alexander, a pioneer sugar planter and capitalist was his longtime friend who later became his brother-in-law and business partner (Nellist 1923:61).

In 1869, Baldwin and Alexander established the Haʻikū plantation. Through their business venture they grew to be the firm of Aleander and Baldwin, Ltd., a significant commercial organization in Hawaiʻi and a principal factor in the sugar industry of the islands. Expenditures on the Hāmākua-Haʻikū ditch nearly closed their business but the two succeeded the completion of the ditch making it the first important irrigation project in the islands. The plantation at Paia was started and more acreage were added to their holdings. Due to his failing health, Mr. Alexander moved to Oakland, California in 1883, and Baldwin handled business in Hawaiʻi. In 1889, Baldwin obtained leases at Makaweli, Kauaʻi, and the Hawaiian Sugar Co., was founded where he spent many years. Alexander and Baldwin, Ltd., was organized in San Francisco in 1894 as firm for Haʻikū and Paia plantations. In 1897, the company opened their offices in Honolulu and Baldwin was president until his death in 1911. Upon the major expansion of Alexander and Baldwin was the acquisition of the Hawaiian Commercial and Sugar Company of Puʻunēnē in 1902 which was once operated by the late Claus Spreckels. It was one of the most successful and productive lands of sugar in Hawaiʻi. During the years 1886 to 1903, Baldwin served in the upper house of the Hawaiian Legislature (Nellist 1923:61-63).

On April 5, 1870, in Wailuku, Baldwin married Emily W. Alexander, the daughter of the Reverend and Mrs. William Patterson Alexander, early missionaries, and the sister of his partner, S. T. Alexander. The married couple raised eight children, Harry A. Baldwin, Frank F. Baldwin, Mrs. Maud (Baldwin) Cooke, Arthur D. Baldwin, Dr. W. D. Baldwin, Mrs. Charlotte (Baldwin) Rice, Fred Baldwin, and S. A. Baldwin. He passed away on July 8, 1911, at his home in Maui (Nellist 1923:63).

The sugar production in Maui indicated the following increases from 1920 to 1930 from three companies (headed by Alexander and Baldwin and Brewer): HC and S Company (A and B) in 1920 produced 57,120 tons and in 1930 produced 72,570 tons; Maui Agriculture Company (A and B) in 1920 produced 26,346 tons and in 1930 produced 46,015 tons; and Wailuku Sugar Company (Brewer) in 1920 produced 15,281 tons and in 1930 produced 18,247 tons (MacLennan 2014:297).

Railroads

Railroads were also becoming more common across the Hawaiian Islands, and natives soon invented a word for this new mode of transportation: *kaʻaahi*, or “fire wagon”. When Thomas H. Hobron, William Bailey, and William Smith founded the Kahului and Wailuku Railroad, they introduced the *kaʻaahi* (train). It was the first common carrier on the island. The railroad’s opening day was in 1879, and a locomotive named the Queen Emma transported a load of sugar from Wailuku to the Kahului Wharf.

Within two years the company incorporated as the Kahului Railroad Company (KHHR), and more tracks were laid to the mills at Sprecklesville, Lower Pāʻia, and Wailuku. Within a year of its founding, the

KHHR built an engine house, rail yards, and a station in Kahului (mostly wood), and the terminus continued to grow rapidly (Best 1978:31). Around 1902 and 1905 the lines extended to Puʻunēnē and Upper Pāʻia. Following completion of the Kahului to Wailuku track, the narrow-gauge railroad expanded eastward to Haʻikū and beyond, constructing tall and "spidery" trestles to cross the deep gorges (Hungerford 1963:69).

Shipping magnate Samuel G. Wilder acquired the KHHR in 1884 and sold it in 1899 to the Alexander & Baldwin Plantation led by Henry Baldwin. It was also a means of transportation for students who attended various schools in the area. Eventually trucks and buses replaced the railroad system. Kahului Railroad was popular for being the first railroad and Hawaiʻi's last when steam engine No. 12 stopped in 1966 (Bartholomew 1994:79).

The Plague in Wailuku

The bubonic plague swept through the Hawaiian Islands from 1899 to 1900, taking 70 lives in total (Kuykendall and Day 1961:190), including several in Kahului. The first suspicious death in Kahului was that of Ah Tong, who died on February 4, 1900, but the plague was not confirmed until a case with clear symptoms developed several days later. Sheriff Baldwin and the Board of Health soon quarantined the city and set up an evacuation camp at the Kahului racetrack.

The camp opened on March 12, 1900, and "[o]ver 200 Chinese, [Japanese] and natives were fumigated and dressed in new suits, and at two o'clock the procession quickly moved out to their new quarters," the then-weekly *Maui News* reported on February 17 (Library of Congress: Maui News 1900). Their evacuated neighborhoods, including the saloon and the custom house, were then dynamited and burned, with a breeze from the sea helping to contain the subsequent fire (Turner 1920:9).

The remaining portion of Kahului was surrounded by a rat-proof corrugated iron wall;[5] and all residents moved to temporary housing outside the town limits. Although no one was permitted inside the wall except for the ratcatchers, it was not until March 24 that the *Maui News* announced, "Kahului is now without a resident." The last plague-infested rat corpse was also found by that date.

The last Kahului plague victim appears to have been Miss Julia English, sister of the harbor pilot, who died less than a month after Ah Tong.[6] By early May 1900, the crisis had clearly passed (Library of Congress 1900: Maui News May 5, 1900).[7] However, a Wailuku missionary recorded, as soon as the quarantine was lifted, hundreds of people "of various nationalities flocked to Wailuku, in need of food, and clothing. A very forlorn lot, having lost their all by the burning of their homes" (Turner 1920:9).

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[5] Inside the fence were a lumber yard, the Hawaiian Commercial and Sugar Company store, various warehouses, and the Kirkland, Church, and Filler residences (Maui News March 10, 1900:3).

[6] Oddly, the Kahului quarantine does not seem to have begun until well into March, a month after the last victim reportedly died. The burning of the town was intended to exterminate the rats known to spread the disease, although the full mechanism of contagion was not fully understood at the time.

[7] Kahului seems to have learned from its plague experience. In 1911, diphtheria, scarlet fever, and smallpox swept through nearby towns on Maui, but Kahului implemented house-to-house inspections and escaped without a casualty (Maui News December 31, 1947). Twenty years later, the Territory passed new plague regulations and inspected all harbors for compliance, and Kahului Harbor received high marks for both work procedures and physical facilities (Maui News July 23, 1932).

H. P. Baldwin High School

H. P. Baldwin High School is located on the sand dunes at the midpoint between Wailuku and Kahului on the main Kaʻahumanu Highway. Thoughts of building a school were raised by Supervisor R. A. Drummond to establish a high school in or near Wailuku. At the time, students pursuing a secondary school education would attend Maui High School, located in Pāʻia, but supervisors felt it was too far and inconvenient for students to travel to Hāmākuapoko. They wanted a high school located near the population center of Maui.

The school was named four different times: in 1928, Wailuku Junior High School; 1932, Wailuku Intermediate; 1936, Wailuku High School; and 1939 Baldwin High School. In 1928 students from came from Waiheʻe, Kīhei, Waikapū, and Wailuku. By 1928 there were 225 students at the school and enrollment increased in 1931 to 498 students. In 1937, Maui High School ceiling of enrollment was maximized, and a new school was necessary, although it was not a concerted agreement (Young 2017). The growing population is visible in Figure 5, indicating the numerous tract homes in the area surrounding H. P. Baldwin High School built before 1939.

In 1937, the Supervisor, HL Holsten questioned whether the school "was being built so as to thrust another batch of white-collar job hunters on the market or whether a vocational school was being built that would teach a man a trade so he could earn a living." Richard E. Meyer, the supervising principal alluded to facts stating "only 25% of students who began the first grade finished the 12th and that the new school was to be a senior high school with some shop and vocational work" On October 6, 1937, the community received information, the legislature contributed funding for the new school, and 50 acres [202,342.82 square meters] of land was purchased below the sand hills. The plans and specifications were prepared by Department of Public Works architect, Henry Steward and County architect, Noboru Kobayashi. The first bid for the cafeteria was set on November 1938. The next month in December, construction began for the shop. Bids for the largest part, which was the last four units—administration, homemaking, science and utility buildings followed (Young 2017).

In April of 1939, Harry Baldwin, president and manager of Maui Agriculture Company performed the groundbreaking ceremony by turning up first shovel earth. On October 27 of the same year, ceremonies commenced to celebrate the final inspection and approval of the administration and classroom unit. The school then received the name, Henry Perrine Baldwin High School. At the end of the year, the auditorium was built. On January 8, 1940, the school was open to students for classes (Young 2017).

At the front of the school there is a bronze sculpture titled, "Kū Kila Kila," by artist Joel H. K. Nakila part of the State Foundation on Culture and the Arts—Art in Public Places. The translated title of the sculpture is "Standing Majestically." The sculpture includes three people forming a tower standing on the shoulders of another—a man (at the bottom who is wearing a traditional loin cloth or *malo*), a boy (wearing more modern attire), and a girl on top (wearing modern attire). The sculpture is a representation of the past (*kupuna* or grandparent, ancestor), present (*makua* or parent), and future (keiki or child). It is a symbol of the artist's "hope and desire that youth will find inspiration and direction on the foundation of wisdom in our generations part. Face and meet challenges with courage. Gain confidence and self-worth with the guidance of those who truly care for them. Finally, to reach out and discover their limitless possibilities. The sculpture is about 15 feet [4.57 meters] tall and mounted on a 5 feet [1.52 meters] concrete base (Baldwin Fine Arts 2024).

World War II

Kahului was shelled twice by Japanese submarines in the weeks following the Japanese attack at Pearl Harbor on December 7, 1941. The first shelling, at dusk on December 15, 1941, was announced by the *Maui News*.

Two shells fell harmlessly into the harbor, four hit the Maui Pineapple Company cannery and damaged the roof and smokestack, one hit the driveway of the Maui Vocational School, one impacted a waste lumber pile on Pier 1, and a final shell broke a few windows at the Pacific Guano and Fertilizer building. All damage was considered minor. Some frightened Kahului residents began to flee, but police and Boy Scouts persuaded them to return home (Allen 1950:59; Honolulu Star Bulletin December 16, 1941, Maui News December 17, 1941, in Welch et al. 2004:12; Maui News 2019).

The second attack, on December 31, 1941, took place after General Order No. 14 established wartime censorship in Hawai‘i and therefore received limited coverage (Maui Historical Society 1992:1). However, the *Maui News* did mention in its first edition of 1942 that Maui police, U.S. Navy and Marine forces, and “HC&S Co. cowboys” were patrolling on horseback to prevent looting. The only casualty of the attack was an unfortunate chicken (Bartholomew 1994:149).

Maui underwent extensive development to accommodate U.S. military needs during World War II (WWII), including new naval air stations at Kahului and Pu‘unēnē and the huge Camp Maui on the slopes of Haleakalā, but Kahului Harbor remained largely unchanged. The Army, Navy, and Marines trained “all over the island” (Bartholomew 1994:146), but the Marines seem to have found a special place in the hearts of the islanders, who christened them “Maui’s own.” When the 4th Marine Division returned to Maui after its victory in Iwo Jima, “the Maui community turned out en masse at Kahului Harbor to welcome their warriors home” (Bartholomew 1994:146–147).

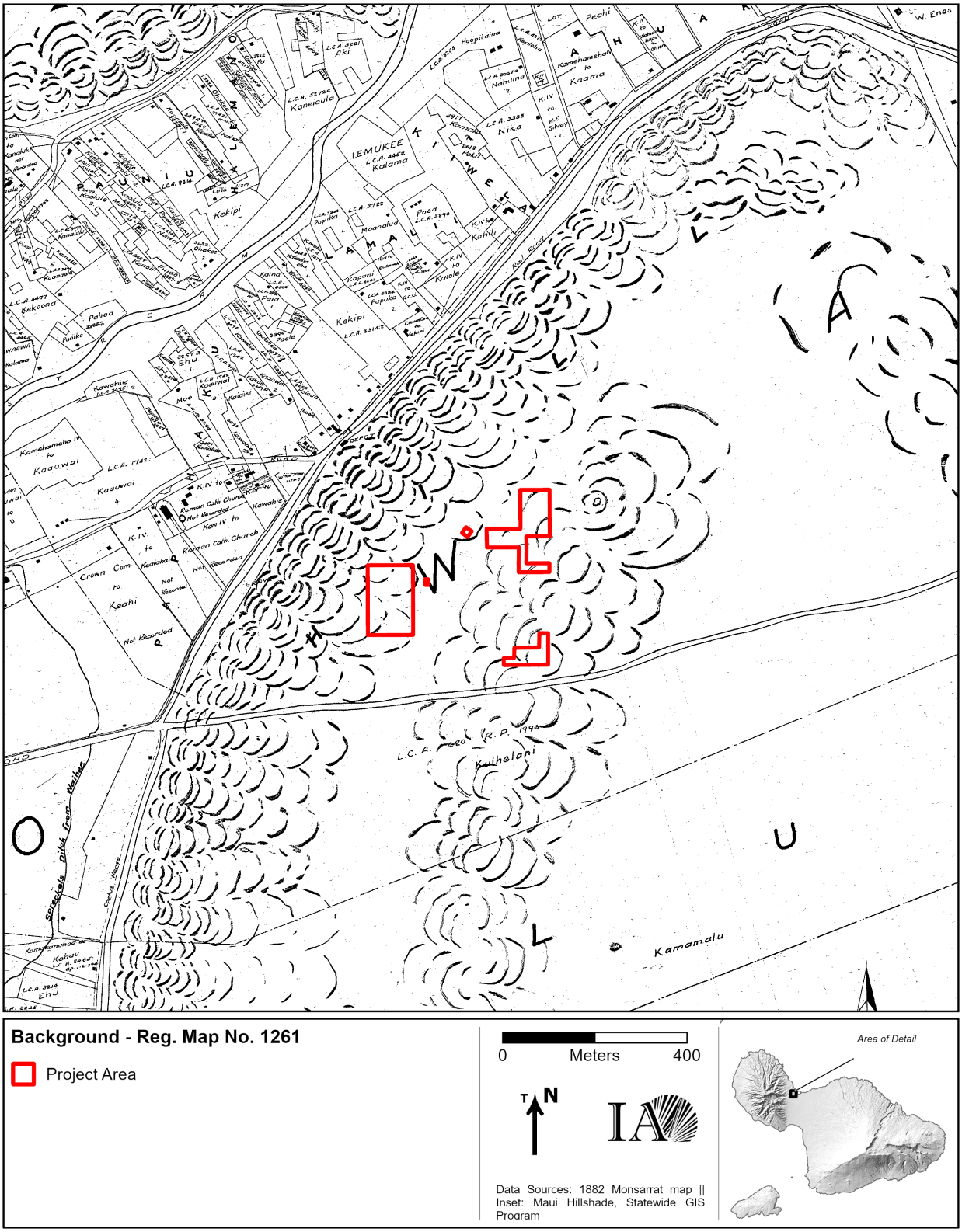

Figure 4. Project area on an 1882 map by M. D. Monsarrat (Monsarrat 1882).

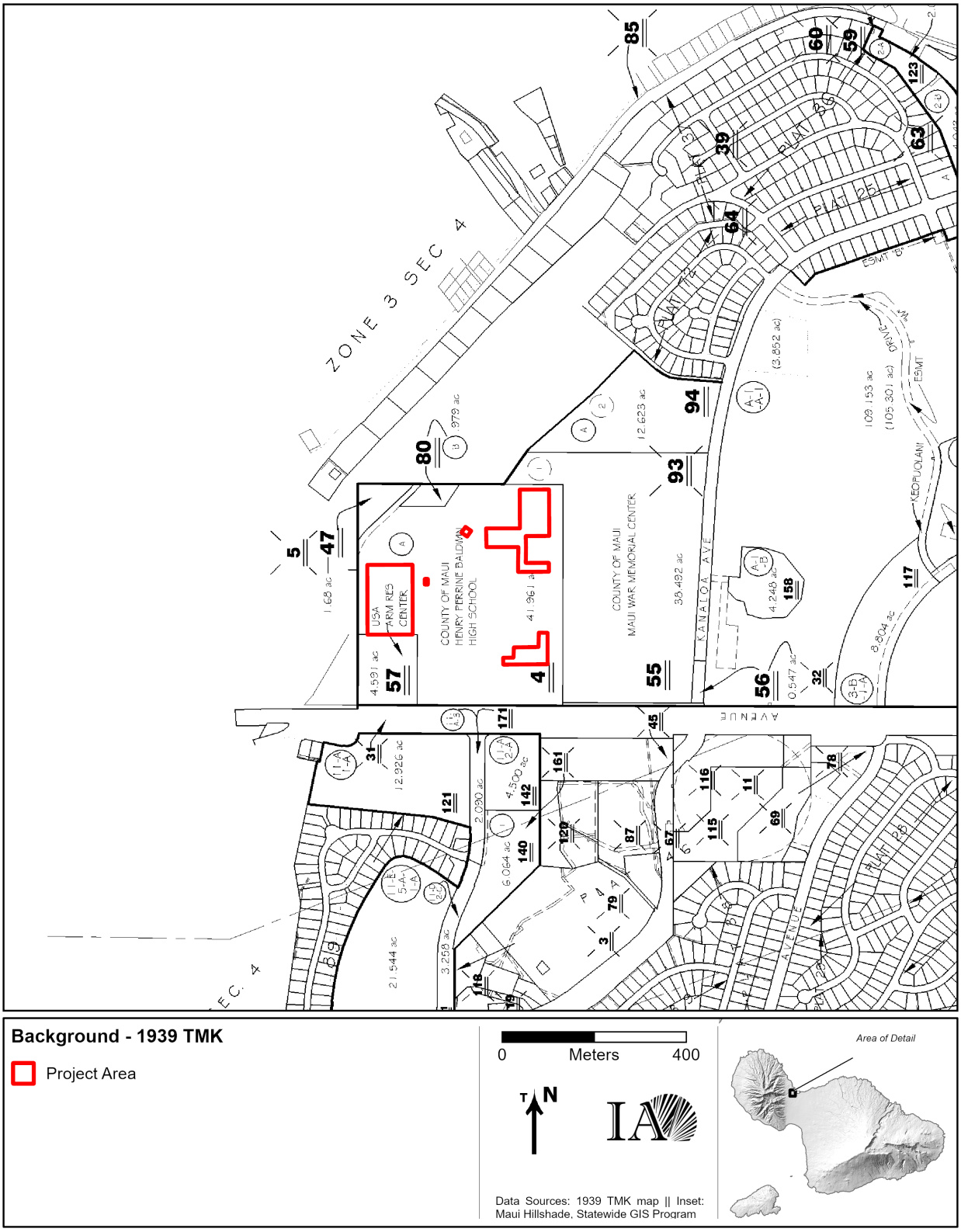

Figure 5. Project area on a 1939 TMK map by County of Maui Department of Finance (County of Maui Department of Finance 1939).

III. METHODS

The ethnographic resources for the study area discussed in this CIA were identified through reviews of traditional place names, archival and newspaper records, published oral histories, and cultural consultant interviews conducted specifically for this report.

PLACE NAMES

Native Hawaiians lived in a rich world of patterns and rituals of daily and seasonal life, traditions, and kinship overseen by gods and spirits in their many manifestations. Place names constitute one set of data that provides a sense of this non-material world and are therefore a valuable component of the cultural resources of the region. Place names can also be used to create ethno-geographic maps of the Kahului community which include physiographic landscape features, geopolitical units such as land sections, and the communities living within these land sections. Place names were found in Orr 2014, Welch et al. 2004, and Prasad 2008.

ARCHIVAL RESEARCH

Archival records can provide a detailed picture of land use and settlement. The primary data sources for identifying ethnographic resources for the study area are the 19th century Land Commission claims and testimonies, Boundary Commission testimonies, historical maps of the period, late 19th and early 20th century newspapers, census records, and obituaries.

Historical newspaper research was conducted for Hawaiian-language newspaper publications via the Office of Hawaiian Affairs (OHA) Papakilo Database website (https://www.papakilodatabase.com /main/main php) and Ulukau Hawaiian Electronic Library website (http://nupepa.org/gsdl2.5/cgi-bin/ nupepa?1=en). The 1848 Mahele land documents were viewed on the Kipuka Database website, also an OHA resource (https://kipukadatabase.com). Other English-language newspapers as cited also contributed to the context of this CIA.

ORAL HISTORY INTERVIEWS

The primary source of ethnographic information for this CIA comes from interviews with five long-time Wailuku *kama'āina* conducted by Hannah Kaumakamanōkalanipō Anae, M.A. in 2024 (Table 2).

Five consultants were interviewed from September 12, 2024, to September 14, 2024. The five interviews were conducted in the *ahupua'a* of Wailuku: One at Kahului Harbor, Hale O Nanea; three in the *'ili 'āina* of Kalua at two different residences; and one in the *'ili 'āina* of 'Owā on the campus of the H. P. Baldwin High School.

Table 2. Biographical Summaries of the Five Consultants Interviewed for the CIA by Kaumaka Anae.

Consultant Name	Consultant Information	Date of Interview
Arthur Kuakini Stephen Spenser	Born in 1959 in Fort Bragg, North Carolina and raised in Kahului, Maui. His mother is Grace (Lindsey) Spenser and father is Aloyisius Spenser Jr. Arthur's grandmother, Annie (Sentinella) Spenser lived and grew up around Kahului Harbor in the early 1900s. His grandfather was one of the public figures responsible for the building of the H. P. Baldwin High School and a plaque at the school bears his name, Aloyisius, Spenser, Sr. Arthur grew up in the Sand Hills area (at Nakoa Drive— known as Hale Koa) and lived there for over 20 years located less than a mile southwest from H.P. Baldwin High School where he graduated in 1977. Arthur currently lives in the "Mauilani" area. (Photo 1).	September 12, 2024
Grace Yuk Yin (Low) De Porter	Born in 1929 in Kula, Maui, she is five years shy of being a centenarian. Aunty Grace has lived on the island of Maui her entire life. Her parents were Samuel Low and Rose Low. Aunty was a student at Wailuku Elementary School, ʻĪao School, and a student of the second or third graduating class of H.P. Baldwin High School. She resides less than a mile southwest of her alma mater in one of her family homes. (Photo 2).	September 13, 2024
Nancy Joyce (Dolan) Vorhies	Born in the 1940s in Honolulu, Oʻahu to parents Philip Kendrick Dolan and Joyce Marion (Tate) Dolan, Aunty Nancy lived most of her life on the island of Maui. She was raised in Spreckelsville and arrived on Maui during her last two years of high school which she spent at St. Anthony School in Wailuku. She married her St. Anthony's High School sweetheart, Irving Jimmy Vorhies Jr. whose grandfather was Hymie Meyer. (Photo 3).	September 13, 2024
Iris Teruko (Fujie) Nitta	Born in 1944 in Lānaʻi City, Lānaʻi to parents Richard M. Fujie and Ella Minaai Fujie, Aunty Iris has lived on Maui for most of her life. She grew up on Oʻahu and Hawaiʻi Island and moved to Maui 46 years ago. She was a traveling counselor for Puʻunēnē and Waiheʻe School for three years. In 1981, she started as a counselor at H.P. Baldwin High School and retired in 2008. Although retired, she is still very much connected to H. P. Baldwin High School where her daughter Trish Roy is the Digital Media Teacher (Photo 4 and Photo 5). Her husband is Patrick Y. P. Nitta, and they have four children together.	September 13, 2024

Consultant Name	Consultant Information	Date of Interview
Clare Helen Apana	Born around 1952 to parents, Atana Apana and Helen Kan Lin (Akau) Apana. Clare and the Apana family have lived in her present residence since around 1938, 1939. The family had a business, known as the Apana Junkyard in the sand dunes, half a mile from where she lives. H. P. Baldwin High School is less than a mile northeast of her residence. She graduated from Punahou School on Oʻahu where she had a prominent physical therapy business. Clare moved back to Maui and was later summoned by the *kūpuna* whose *iwi* were encountered in the sand dunes of Wailuku. She is a cultural practitioner who advocates for the undisturbed resting places of *iwi kupuna* and is a founder of the Native Hawaiian organization called Mālama Kakanilua. (Photo 6).	September 14, 2024

OUTREACH AND PARTICIPATION

Upon reaching out to friends and *'ohana* who have close ties to the local Wailuku community, 15 individuals were evaluated as potential consultants for the project. Following initial contact with the candidates in the beginning of September 2024, five were selected to be interviewed (see Table 2).

To ensure that knowledgeable consultants with the most potential for providing relevant information were chosen for the interviews, the following selection criteria were applied:

- Individual has a past or current connection to the study area or vicinity.
- Individual is a known Hawaiian cultural or natural resource specialist.
- Individual is a known Hawaiian traditional practitioner.
- Individual was referred by another reputable person.

INFORMED CONSENT PROCESS

We employed an informed consent process, which follows the guidelines of the American Anthropological Association:

1. Prior to the interview, the ethnographer explained to the consultant the consent process, the project purpose, the intent of the study and how the consultant's information would be used.
2. The ethnographer provided the consultant with a copy of the Authorization and Release Form and reviewed its contents with the consultant. An interview was conducted only if the consultant agreed to participate by signing the Authorization and Release Form, and the consultant was given a copy of the form.
3. The consultant was given a copy of the transcribed interview either as a digital (.docx or .pdf) or print copy to make any edits, corrections, deletions, or additions to the substance of their contribution.
4. Consultants were sent the final interview transcription.

BIOGRAPHICAL DATA SHEET

Each consultant had the opportunity to fill out a Biographical Data Sheet (BDS) before their interview. The BDS included entries for the consultant's name, mailing address, phone number, email, year and place of birth, past and present residences, gender, citizenship, ethnicity, spoken language(s), education, occupation, interests, skills, hobbies, religion, past and present involvement in community and/or professional organizations, parents' names, order among siblings (if any), and information about maternal and paternal ancestors. The consultant could choose whether or not to answer any of these questions. During the subsequent interview, the consultant discussed some of the information recorded on their BDS.

The BDS had the following positive outcomes: (1) it helped consultants think about the information they wanted to present about themselves and their families, (2) less time was needed to collect biographical information during the interview, and (3) written biographical information was used to direct interview topics and supplement what was said or not said during the interview.

MAKANA

Upon arriving at the meeting place for the interview, greetings to the consultants and their *ʻohana* included *aloha* and *mahalo,* a *lei*, and some form of compensation. This was done by providing *makana* to individual consultants in the form of a gift certificate from Longs Drugs, fresh *lomi ʻōʻio*, chocolates, Japanese Sakura *arare*, and *li hing mui* seeds.

INTERVIEW PROTOCOL AND METHODS

The *ʻano hana kūkākūkā* (talk story, moral quality procedure) was applied to the structure of the interview to allow the consultant's *leo* or voice to be heard. This method encourages a dialogue between the interviewer and the consultant, and permits the consultant to speak about a topic in their own words.

The interviews were recorded using an Olympus WS-823 Digital Voice Recorder.

TRANSCRIPTION PROCESS

Kaumaka Anae and Verla Moore, transcribed the interviews. After the transcripts were completed and internally reviewed, they were sent to consultants to be edited and/or approved in October 2024. All five consultants provided written or verbal agreement that their original or revised responses could be included. The consent letters are reproduced in Appendix A and the full interview transcripts can be found in Appendix B.

DATA ANALYSIS

All of the interview excerpts included throughout the following sections represents *nā hua ʻōlelo* (the spoken words) of *ka mea e ʻōlelo ana* (the one talking). The excerpts use either the exact words of the consultant, or are paraphrased to insert words that are "understood" or to present similar or related information discussed at different stages of the interview. The excerpts were selected through a thematic analysis of the interviews using a deductive method, and recurring themes within individual interviews and across different interviews were highlighted in the report.

IV. CONSULTANT BIOGRAPHIES, INTERVIEW RESULTS AND DATA ANALYSIS

Ethnographic studies are fundamental for determining how a proposed project will affect and/or limit access to culturally sensitive places, resources, and practices. This section contains the biographical sketches and results of the cultural consultations carried out for this CIA. The oral histories collected through interviews were used to document culturally important resources and practices in the area, including specific sites, structures, natural or environmental features (areas or landscapes), and individual and social activities.

The ethnographic study was designed so that information acquired during interviews would help determine if any cultural or natural resources or associated practices, including access to these areas, would be impacted by the Hanalei River Streambank Stabilization project. With this objective in mind, the following basic research themes were incorporated into the interview: (1) *mo'okū'auhau* and *pilina* to *'āina*; (2) Hawaiian cultural traditions and practices; (3) *mo'olelo,* and *wahi pana*; (4) the Historic Period (including the Plantation Era and War Era); and (5) comments or concerns about the study area. The research themes have sub-themes that were developed a posteriori (post hoc) based on the oral histories. The responses and collective information were then synthesized into supporting evidence for conclusions about the project impacts on cultural resources and/or practices.

ARTHUR STEPHEN KUAKINI SPENSER

Arthur Kuakini Stephen Spenser was born in 1959 in Fort Bragg, North Carolina, to mother, Grace (Lindsey) Spenser and father, Aloyisius Spenser. He is of Hawaiian, Portuguese, Chinese, and Caucasian descent. He is the third of seven children. He is married to Ivy Spenser, and they share twins. Arthur is part Hawaiian; his paternal families are the Spensers (Spencers) from Hilo and the Sentinellas from Hāna, and his maternal family are the Lindseys from Kamuela. He attended Major Sheldon Wheeler Elementary School on O‘ahu and ‘Īao Intermediate School on Maui and graduated from H.P. Baldwin High School in 1977. Arthur attended trade school at Maui Community College, joined the Hawaii Masons Union, and recently retired from the Reef Development Construction Company. (Photo 1).

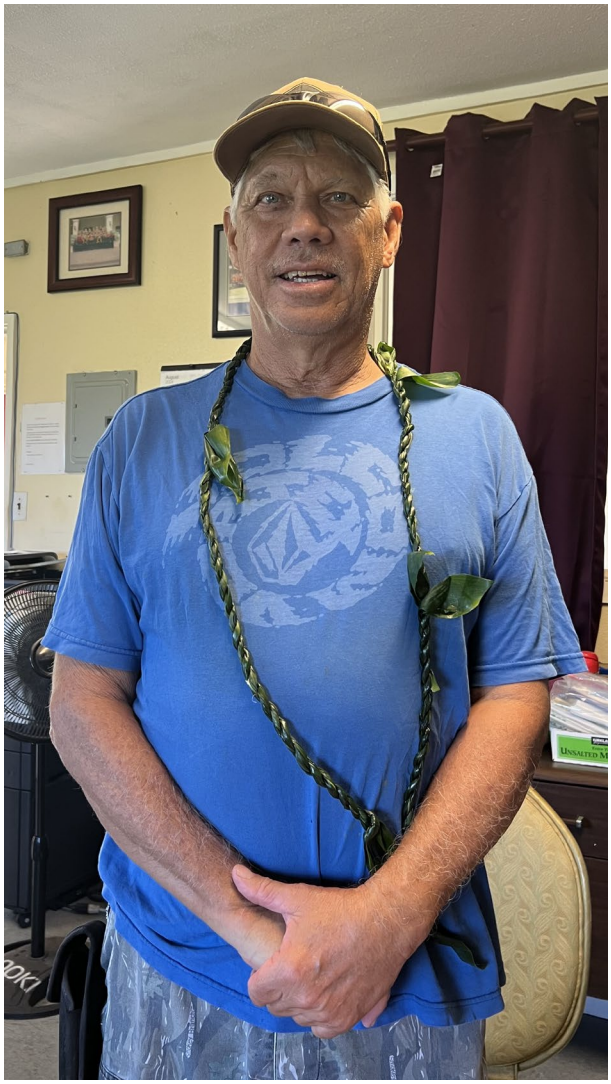

Photo 1. Arthur Stephen Kuakini Spenser at Hale O Nanea at Kahului, Maui, September 12, 2024.

Arthur has a very interesting genealogy which includes name changes among ancestors, and others who were involved with industry and politics in Wailuku. His grandfather, Aloysius Spenser, Sr., worked for the railroad in Kahului and became the rail operations manager for all central Maui. When Maui was still a territory, Aloysius Sr. was the Chairman of Maui County and contributed to the decision to build a school, what eventually became the H. P. Baldwin High School. A plaque commemorating this event

includes his name and title. His grandparents lived at Sand Hills on the top street called Naniloa. His grandmother Annie Sentinella grew up living around Kahului Bay. When the railroad company ended, his grandfather established Kahului Trucking. It was one of the first trucking companies in the area.

Arthur's parents were exemplary members of the Royal Order of Kamehameha, Kahekili Chapter IV, who upkept the maintenance of Hale O Nanea. Arthur also belongs to the Royal Order of Kamehameha-Kahekili, Chapter IV, in which he serves as the *ʻāʻī kupu nui*, which is like the *māhele* man (person who divides the land) in an *ahupua'a*. He oversees provisions, money, and property.

His parents lived at the bottom of the Sand Hills subdivision called Nakoa Drive, also known as Hale Koa, where Arthur grew up (See Figure 6 and Table 3). The home was less than a mile from H. P. Baldwin High School. His mother, Grace bought the house in 1963 while his dad Aloysius Jr. was away in Vietnam fighting the war. The house was owned by an old Caucasian man who according to Arthur perhaps bought the home during World War II, and were probably homes for officers.

GRACE YUK YIN (LOW) DE PORTER

Grace Yuk Yin (Low) De Porter was born in 1929 in Kula, Maui to parents Samuel and Rose Low. She has a brother and half-sister. Her ethnicity is Chinese Portuguese. Aunty Grace is five years shy of being a centenarian. She has lived on the island of Maui her entire life. Aunty was a student at Wailuku Elementary School, ʻĪao School, and a member of the third graduating class of H.P. Baldwin High School. She resides less than a mile southwest of her alma mater in one of her family homes. At her home she plants *lāʻau lapaʻau* or Hawaiian medicinal plants such as *ʻaloe*, *kī* (ti leaves), hibiscus, and *kihapai* (Madagascar periwinkle). The area where she resides and Waiʻale Road was a Hawaiian graveyard, but she has no knowledge of where they moved all the human skeletal remains, and they continue to find bones. (Photo 2).

Photo 2. Grace Yuk Yin (Low) De Porter at her home in the at the *ʻili ʻāina* of Kalua on September 13, 2024.

Aunty Grace's grandparents were immigrants. Her paternal grandfather came from China, lived in Honolulu, and owned a store. Their last name was originally Lo, but it was changed to Low after her dad's youngest brother went to Standford. Her mother along with her maternal grandparents arrived from Portugal

in the 1800s to work as farmers living on a homestead in Kula. She was born in Kula Hospital which was called the Kula Sanitarium where both her parents worked. Her mother was a nurse, and her father was a bookkeeper. Her parents are buried at Holy Ghost Mission in Kula, a church her grandfather helped build.

At the age of three-years-old, Aunty Grace and her family moved from Kula to Wailuku's Sand Hills. She attended Wailuku Elementary School, ʻĪao School, graduated from H. P. Baldwin High School in 1947, and attended Oberlin College in Ohio. She was a part of the second or third graduating class of H.P. Baldwin High School. When she attended school at Baldwin, there was the main building, the two wings, and the cafeteria, the second building. The gymnasium was not built at the time, and there were no sports fields. Aunty Grace collected the school lunch money from the students during lunchtime for all her years at H. P. Baldwin High School. She was involved with the Aloha Club on campus, and they ushered all the events at the auditorium including plays. Aunty Grace was taught hula by Elizabeth Lum Ho, a hula instructor in Wailuku who taught many hula teachers. There was a *hula* class on campus, and she danced to ancient and modern *hula*, and they performed—putting on shows. They also sang songs or *mele* and had a choir. Hawaiʻi Ponoʻī, the Hawaiʻi State anthem was a song they sang.

Before Wailuku was filled with homes, Aunty Grace remembers, it was all sugarcane extending to Pukalani on both sides of the highway. She had fond memories of riding the train from Kahului to Haʻikū. She reminisced about the train hauling sugarcane from the Wailuku area, Waikapū, and almost to Kīhei Beach, and sugarcane would be offload at Puʻunēnē Mill.

When she was eight or nine-years-old the war started, she did not understand what the war meant. She was too young to understand what the bombing of Pearl Harbor was about. But recalls wearing gas masks, being fingerprinted and IDʻd, and everyone having trenches so in the case of an invasion, they could jump in the trench.

NANCY JOYCE (DOLAN) VORHIES

Nancy Joyce (Dolan) Vorhies was born in the 1940s in Honolulu, Oʻahu to parents Philip Kendrick Dolan and Joyce Marion (Tate) Dolan. She is of Caucasian descent. Aunty Nancy lived most of her life on the island of Maui. Her father Philip was a regional manager for First Hawaiian Bank on Oʻahu where they lived up at Woodlawn in Mānoa. First Hawaiian transferred her dad to Maui, the Kahului Branch. They lived in a First Hawaiian Bank home managers in Spreckelsville where she grew up. She learned hula from one of Maui's finest teachers, Emma Farden Sharpe, who devoted over 50 years to the perpetuation of the hula (Bartholomew 1994:33). They arrived on Maui during her last two years of high school which she spent at St. Anthony School in Wailuku where she graduated. She married her St. Anthony's High School sweetheart, Irving Jimmy "Kimo" Vorhies Jr. They both have five children and several grandchildren. Nancy and Jimmy raised their children in a home at Keokea in Kula, her present residence. Jimmy is deceased and buried at Holy Ghost Mission in Kula. (Photo 3).

Photo 3 Nancy Joyce (Dolan) Vorhies at Grace DePorter's home in the *ʻili ʻāina* of Kalua on September 13, 2024.

Jimmy Vorhies' grandfather was Hymie Meyer and grandmother, Mary Meyer. Hymie Meyer had a business in Wailuku called, the Hymie J. Meyer Company. Meyer had leased the old Wailuku Depot parcel in 1939. He was a lifetime distributor for Goodyear. His business was located near the first stoplight erected on the island of Maui, on the corner of Main and Central (Engebretson et al. 2019:173). Mary and Hymie Meyer are buried at the St. Anthony Church Catholic Cemetery. Jimmy and Aunty Nancy's daughter, Heather Snipes visits and cares for the graves of the Meyer family at the St. Anthony Church Catholic Cemetery.

Aunty Nancy's dad attended St. Louis High School where he won the speech competition when Hawai‘i was a territory. Aunty Nancy's uncle, Charles Barlett was a noted artist in Hawai‘i. She claims to have 24 of his paintings, including a very old one dated 1892. Her great-grandmother was a teacher for Princess Ka‘iulani and would be picked up by Royal Carriage to ‘Ainahau on O‘ahu, home of the Princess and her family. The Princess' mom, Likelike and Queen Lili‘uokalani would sometimes sit in on the sessions.

IRIS TERUKO (FUJIE) NITTA

Iris Teruko (Fujie) Nitta was born in 1944 in Lānaʻi City, Lānaʻi to parents Richard M. Fujie and Ella Minaai Fujie. She is of Japanese descent. Her father is from Richard is from Lāhainā and graduated from Lahaina Luna School in 1935 and moved to Lānaʻi to work. He married Ella, mom of Aunty Iris in 1940 and they lived in Lānaʻi until 1946 when they moved to Hilo because Richard felt like there were more opportunities on Hawaiʻi Island. Aunty Iris is the oldest of five children. The *ʻōlelo noʻeau* or wise saying in her family was study hard, do well, go to college, and get a good job. She has lived on Maui for most of her life. She grew up on Oʻahu and Hawaiʻi Island then moved to Maui 46 years ago. Her husband is Patrick Y. P. Nitta, and they have four children together. (Photo 4 and Photo 5).

Photo 4. Iris Teruko (Fujie) Nitta at H. P. Baldwin High School in the *ʻili ʻāina* of ʻOwā on September 13, 2024.

Aunty Iris arrived in Maui 1978 and was a traveling counselor for Puʻunēnē and Waiheʻe School for three years. In 1981, she started as counselor at H.P. Baldwin High School for 27 years and retired in 2008. Throughout her years she has always shared a special bond with her students and the community. She showed dedication in teaching the students *lei* and corsage to provide ways for them to earn money. Although retired, she is still very much connected to H. P. Baldwin High School where her daughter Trisha Roy is the Digital Media Teacher. Aunty Iris and Trisha conducted a *lei*-making workshop with students to sell (for $ 100 each) at the H. P. Baldwin High School Foundation[8] dinner. Trisha has been teaching at the high school for almost 20 years.

Photo 5. Trish Roy at H.P. Baldwin High School in the *ʻili ʻāina* of ʻOwā on September 13, 2024.

[8] The H. P. Baldwin High School Foundation is a nonprofit organization providing funds to enrich the enducatonal experience of students (H. P. BHS Foundation 2024).

CLARE HELEN APANA

Clare Helen Apana was born around 1952 to Atana Apana and Helen Kan Lin (Akau) Apana. After her birth she was taken to the same home where she presently resides. The family purchased the house around 1938, 1939. She is the youngest of her sibling consisting of five brothers and three sisters. She is of Hawaiian descent. Clare has three children and several grandchildren.

Photo 6. Clare Helen ʻĀpana at her home in the *ʻili āina* of Kalua on September 14, 2024

Clare's maternal great-grandmothers hailed from Hawai'i Island and eventually moved to O'ahu. Her mother is buried on the property of her home, and her father is buried at Maui Memorial. The family had a scrap metal business, known as the Apana Junkyard in the sand dunes, half a mile from where she lives, and the business and residence shared the same dune sand. H. P. Baldwin High School is less than a mile northeast of her residence. Growing up, she remembers her mom enjoyed eating *wana* (sea urchin). Her mother gathered various *limu* (seaweed) and *pipipi* (mollusks) and went fishing for crabs and fish.

She and her older sister, who were the youngest of her siblings, followed her dad's footsteps and at the age of 12 went to Punahou School on O'ahu where she graduated. Her dad was one of the first Asian students at Punahou School. Clare had a prominent physical therapy business on O'ahu. She moved back to Maui and was later summoned by the *kūpuna* whose *iwi* was being exposed. She is a cultural practitioner who advocates for the undisturbed resting places of *kupuna* and founded Mālama Kakanilua. (Photo 6).

THEMES

The following information summarizes the Hawaiian traditional customs and practices in the Wailuku area into themes as relayed or verified by the interviewees previously mentioned. Most of this section consists of the dialogue from the consultants described in their own words. A map (Figure 6) and accompanying table (Table 3) places and lists the Hawaiian traditional customs and practices.

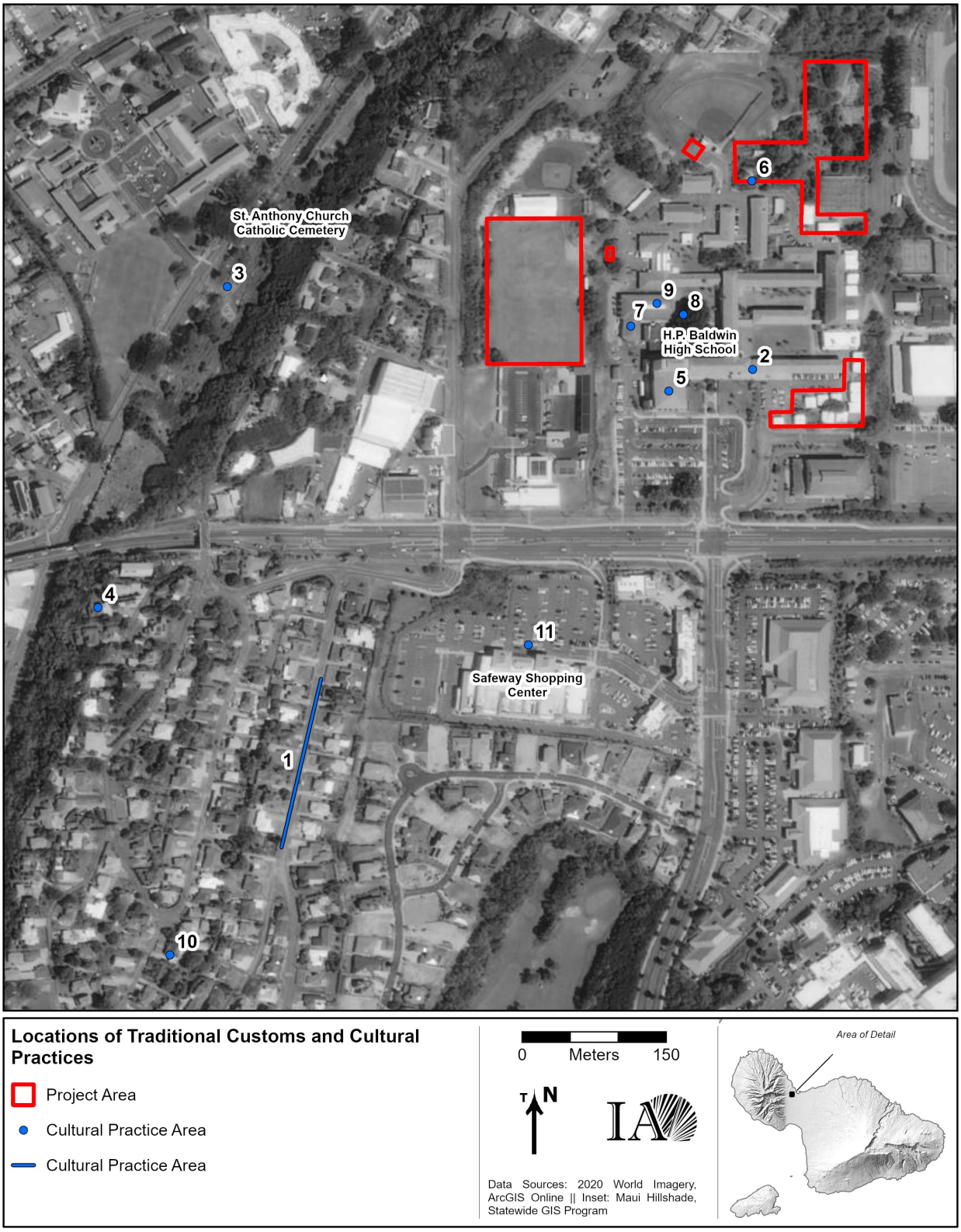

Figure 6. A 2020 World Imagery Map indicating the project area and locations of traditional customs and cultural practices.

Table 3. Locations of Traditional Customs and Cultural Practices.

Number	Traditional Customs and Cultural Practices	Additional information
1	*Iwi kūpuna* and/or spiritual encounters. Lā‘au Lapa‘au,	Nakoa Drive a street where Arthur Spenser grew up, also known as Halekoa
2	*Hawaiian Studies* classes at H. P. Baldwin High School	Just a representation, may not be the actual classroom. Arthur learned Hawaiian history while attending H. P. Baldwin High School.
3	*Mālama Kūpuna* and *Iwi Kūpuna* at St. Anthony's Church Cemetery	Arthur Spenser's grandparents are buried here. Nancy Vorhies in-laws, the Meyers are buried here.
4	*Lā‘au Lapa‘au*	Home of Grace DePorter where she grows Hawaiian medicinal plants.
5	*Hula ‘Ōlapa, Hula ‘Auana,* and *Mele,* and at H. P. Baldwin High School Auditorium	Aunty Grace recalls performances she was a part of.
6	*Mahi‘ai* and *Kalua* at H. P. Baldwin High School Agriculture	The students used to farm chickens, pigs and plant according to Iris Nitta. Presently there was an *‘ulu* tree, *milo* tree, and *liliko‘i* vine. The students also raised fish and practiced aquaculture. Kalua or cooking (pig) with an underground oven was done for fundraisers.
7	*Lei* making workshop recently at H.P. Baldwin High School Digital Media. Corsage and *lei* making was taught by Iris Nitta while she was a counselor at the school	Iris Nitta with her daughter, Trisha Roy (Digital Media Teacher), and students made *lei*s for a fundraisering event. *Lei* and cosage making was taught by Iris Nitta throughout her years as a counselor at the school.
8	*Pōhaku piko* for *ho‘okupu* and at H. P. Baldwin High School campus	A special stone where cultural practice is honored.
9	*Iwi kūpuna* at H. P. Baldwin High School Library	*Iwi* was found during the construction of the library.
10	*Iwi kūpuna* and/or spiritual encounters	Home of Clare Apana where she experienced spiritual encounters in and around her home. The spirits stay outside and no longer enter her home after she started advocating for the *iwi kūpuna*.

Number	Traditional Customs and Cultural Practices	Additional information
11	*Iwi kūpuna* and/or spiritual encounters at Safeway shopping center	Clare Apana advocated for the *iwi kūpuna* during the construction of the Safeway shopping center where there are many different *ahu* situated around the area, resting places of *iwi kūpuna.*

IWI KŪPUNA AND/OR SPIRITUAL ENCOUNTERS

Clare Apana articulates her beliefs and experiences about spiritual encounters, *iwi kupuna*, and Mālama Kakanilua.

> The belief that there is existence past the body is there, and ... But we didn't think much about it. You know we didn't think much about that, and growing up here there is a lot of spiritual or spirits in this area, in the sand dunes. It was kind of scary growing up as a chld. You would hear things, you would hear noises, foot steps ... This is definitely the same sand dunes that the high school is in. And it was somewhat scary to me as a child, but when I came back here to live here in 2002, it was no longer anything I was afraid of.
>
> And actually, the experiences then became more delinated for me, like when they started doing the consultation for the shopping center, the Safeway Shopping Center, and that is when I really connected to actually having guidance or communication with the spiritual part. I mean they had specific things to tell me about that place, and what was going to happen, what was happening, and the request to come and help them because what theywere going to do at the Shopping Center which is right across the street from the high school—directly across from Ka'ahumanu Avenue. And no one was coming to help and recognize them. That was the first time like here, in the house, in my home something like that happened. And I just came to know what was happening out side my house and inside of my house, and for some reason they are so respectful to me, and they don't usually come into my house. When I was younger they did, and there would be people walking through the house and everything, but now ... [Would you see them?] I don't usually see them ... I have on occasion, but I could hear them, I could feel them, and sense that they are there. But now it is quite very, very different. Even other people who have .... Like I can remember when Akoni Akana was here and she said, you know whenever I go someplace, all spirits come because they want help, they want this, they want that, but all the spirits, they stay outside your house, they don't come in your house—they just stop there outside your house. And I said, oh, I would have to agree with that. I am not bothered by that in my house. So I feel that there is a mutual respect that is going on with the area, with people of this area.
>
> Okay so, this is how I learned of this battle [referring to the Battle of Kakanilua]—one day I had a lady come here and do a Feng Shui thing. And she walked in the house and said, do you have Native Americans living here? And I said, no, we have Hawaiian maybe. She said, oh, I see this woman and she is dressed in black. And this lady just had turned white. But I kind of knew already, and I said, okay I know, I know what this is about—it's about that shopping center thing their building. And so, I went to find out about it and I found out that there were already five burials that had been found on the property when they were trying to build some kind of a firebreak wall—road or something. And I said, that is terrible that they are going to build a whole shopping cener over there. They can't do that. And then when we went to the Planning Commission ... I called SHPD (State Historic Preservation Division) and I said, you have to come, you know to see. I mean, I'm really dumb, I didn't know anything. They did come, but because they came, the archaeologist who never put the ... what they actually had found on the property in her reports ... had to tell them about the 16 burials they found on the hill, that *pu'u* (hill) that's facing the school. And I found that out in the meeting, and I was just livid. I said, what are you talking about, that is not even in the report. So that is how we found out about the concentration of burials there, you know. Major sand dunes ... they were able to take down 90 feet [27.43 meters] of sand in there.
>
> So then I wanted them to stop. And I was telling SHPD, you have to make them stop, they cannot be coming through here, look at all the burials. And SHPD was hemming and hawing. And so, at some point with all of my complaints, because I don't know anything. I just keep going back and saying, stop you have to stop. What are you doing? And ... the guy there introduced me and said, well there is another lady who's having some issues, I think maybe you could meet with her. And so, that day, I talked to the woman named Annette Heu, and she lived at the bottom of Kalua. And

I live at the top of Kalua. And Kalua is where the battle happened of Kakanilua. She was kind of telling me, well you know I found out about this battle, but we never heard of it, we grew up here—we never hear of this battle, but it's really famous and big battle. And so anyway we planned to meet, and that night all the wind was just blowing ... blowing, blowing, blowing, but my windows were open and there were no wind coming in my house. And I said, wow. Was like that, and I said this is significant, this is a really important meeting I am going to have with this lady. And she had been researching the Battle of Kakanilua for awhile, because where she is the Mauilani archaeology people had allowed or allowed their crew to go in and bust up this whole sandstone ... sandstone platform with all these stairs going up to it. And the children of the area was always told not to go near there—you stay away from that. So it had been kept you know kind of *kapu* (sacred or taboo). But Mauilani sent their bulldozers through it, and ever since that day she was so bothered by all the things that were happening—all the different various spiritual things that she could see and feel happening from that thing in that she would ... She would just have to get up and she would just start researching.

Yeah, Annettte. And she found it. She found the history, tried to go to bat for the battle, but nobody wanted to hear about the battle. And so, we started to tell people about the battle, you know, because we thought the historical value of that would stop the building. Would stop them from developing the area. But what did we know, right? I understand from Iris that was about the same time that they were opening up there, opening up in her neighborhood when the school, the children ... they were noticing that they, the children were having deaths—dying every year. And I belief that because the feeling down especially by Annette's neighborhood, the Palama ... The big Palama incident where they took out the sand and filled it with the old pond mud which is from the cane fields. They put in the bad dirt and filled like a 40 foot [12.19 meters] high wall behind this neighborhood's ... maybe like 8 feet [2.44 meters] from the back of their property—straight up, a wall of this pond mud. They wanted to make a neighborhood, and they wanted a view, and they wanted as many lots as they could get. So, they didn't care that they were endangering another neighborhood. They were making it flat on the top. So, anyway I believe that the destruction of the platform was probably significant because from what Annette Heu describes and observed after ... it was not ... It was a desecration that had consquences. It could have been a place for preparation, and for burials because there are so many burials in the area. So, yes that would be my best guess, was that it was a preparation area for burials, but that is my guess. But you can see that it ... it is possible that all of these things going on in disturbing what is the resting place of people, of the *kanaka ʻōiwi* would have effects on all the neighboring areas, and the school, you know, our precious children. They don't deserve that.

Mālama Kakanilua is something that I coined and started because of the Sand Hills here, because of the Safeway project. When we testified, I didn't know anything. In my own western brain, I expected that people would be following the law. I didn't know that they don't follow the law. And that they ignore you when they feel like it. And so, I just noticed that they are just ignoring me. I am telling them these things and all these things, and they are just ignoring me. So I said, they say if you are an organization, that they will pay more attention to you, so I started with the name Mālama Kakanilua. Kakanilua is really a place name of an area of land, sort of like a valley, but there are many valleys in the sand dunes here. And it is also the place of a very famous, the name of a famous battle which happened in Kakanilua. And so, I named it that because like the battle, the developers wanted to disappear all the history because they kept finding so many burials here. So, they just wanted to disappear the fact that his might be a historical, historically significcant place because of that battle ... and ... so they disappeared the battle. And I feel like that's what they do to us. We might be important because the land might belong to us or we may have history here, or we may have traditional practices here. So why don't we just disappear the *kanaka ʻōiwi* (native person) or *kanaka* (Hawaiian man) people that live here just disappear them. And I feel like that is what is happening here. So that's why I named it Mālama Kakanilua.

Arthur Spenser grew up on Nakoa Drive and experienced the overwhelming feeling of an unseen presence in and around his home, but refused to look in the direction of the unknown presence. He believes they are the warriors from the great battles, and his house is on a path traveled by the ancient warriors (See the Hawaiian Studies section).

Iris Nitta had experiences and experiences were reported on campus and in the the surrounding area regarding spiritual encounters believed to be affiliated with the disturbance of *iwi kūpuna* in and around the area.

> It was, you know, when they were starting to grade across the street for the new complex—Safeway complex, there. Safeway ... it's across the street. So they were, they were grading all the sand dunes across and then we started to have a spate of student deaths. You know ... by accidents, car accidents. And it was very, um ... big upheavals for us from the counseling department having to deal with all the tragedies and the sorrow that everybody was going through. And it was where things were happening at the Police Department also, which I thought was unusual. [And the Police Department is not too far from here as well, yeah?] s right below the Safeway complex, so ... And then, talking stories with some people with Hawaiiana backgrounds, and they say, well you know they're unearthing the *iwi* (bones of the dead) and the spirits are flying around. But we had a session up at the um, hospice and parent of one of the boys was there. And she said that prior to graduation, she had gone with his friends and they all met down at the um, the uh, what you call that? Not the pier, but down at the landing where you know, they have the boat ramp? They all met down there and they, they, they prayed. And so again, I said, you know, this is what happened at graduation that I couldn't understand ... But now I understand. Because there was peace.
>
> But ... some of the things we had besides the kids being killed in auto accidents. I mean, we had two ... died down at Wailea, New Year's Day. Went to the beach and never make the turn—he couldn't negotiate the turn. And so when I came back from Oʻahu, I just had a premonition something wasn't right. And then I went to my phone and the … the answering machine … and one of my daughter's friends was crying and telling me that the two had been killed. And so, I tried to get a hold of my boss, and then I finally got hold of one of the chaplains from the Police Department and they said they were all down at the hospital morgue. So, I went down there because I, I was friends with one of the deceased parents. And so, it was like this whole thing about doing stuff, you know, that I've been trying to help everybody. And the irony of it was like, at one of the football games, they're both football players … at one of the football games, everybody was sitting. There was a still night and two … Two birds flew down ... *ʻIwa* (Frigate or man-of-war bird [*Fregata monor palmerstoni*]) it flew down, and they circled the field. They circled …everybody was, oh my God! And they gave the names of the two boys, and then the two birds flew … and then they landed at the end of the bench … at the end …
>
> And then talking to people on campus too, like the worker in the office and who work in the after ... late evening, early evening and saying, yeah, there's no wind because it's very windy. I'm out, there's no wind but the banyan trees are fluttering around, you know? Something's going on up there, you know. There's ... people have talked about feeling the spirits on campus. Where the *piko* is in that area , you know. Because the office is on the south side of the banyan tree, so the wind would blow into the offices. So again, you know, there are things that people mention around the campus when they were alone or, people come on to work or whatever. So it was like always making sure if we walked around in the evening, we walked with other people. But there were, there were instances ... but the deaths, I mean... it was where I finally asked our principal to find, to get somebody to come and bless the campus. Just to stop all the upheavals with these tragedies with the students—not only students but we had others. And traumatic kind of things, so ... He got somebody and quietly had the campus blessed and told us that you know, he had blessed it. So things, you know, subsided ... But then other things happened, I know, after I left.

MĀLAMA KŪPUNA AND IWI KŪPUNA AT ST. ANTHONY CHURCH CATHOLIC CEMETERY

The grandparents of Arthur Spenser, Aloysius Stephen Spenser, Sr., and Annie (Sentinella) Spenser were laid to rest at the St. Anthony Church Catholic Cemetery. He visits their grave sites and cares for them.

> [So, your grandparents buried here, right?] They're buried at St Anthony's Cemetery. This is our graveyard, the nicest one right here. And this is St. Anthony's school right here.

Nancy Vorhies's husband, Jimmy Vorhies mother was a Meyer, and the Meyer family are buried at St. Anthony Church Catholic Cemetery where Nancy's daughter, Heather Snipes visit and care for the graves (conversation Kaumaka had with Heather). Nancy and Jimmy graduated for St. Anthony School where they both met.

> Other than my in-laws are buried at the cemetery down here, the Catholic cemetery across of St. Anthony. His mother was a Meyer
>
> I met my husband there. St. Anthony's ... I graduated from St. Anthony's.

HAWAIIAN STUDIES

Arthur Spenser recalls his learning at H. P. Baldwin High School in Hawaiiana or Hawaiian Studies about the ancient historic battles involving chiefs from Hawai'i Island fighting to control Maui. Remnants of the battle exist—a war club (he describes) found by his cousin, and the spirits traveling on the path where his childhood house on Nakoa, Halekoa Drive is located.

> Well, I learned from my years in high school and my studies in Hawaiiana about Kamehameha. Not just Kamehameha but the armies of the Big Island trying to take over the island of Maui before Kahekili's time, Kamehameha's time … And so, there were battles along a ravine – a gulch that's below our house. So, we're at like, the top of the gulch … we're at the bottom of a hill, but we're at the top of a gulch. And so that gulch was um, I believe an army … I'm not sure if it was 500 or 5000 ali'i (chief) warriors trying to sneak up that gulch to catch the Maui army by surprise, in the Wailuku area. The area would be like where Kaohu Street is and um, the prison is ... And um, but for some reason, there was a spy, and the Maui armies knew about it, so they waited for him there and ambushed him and um … so they got decimated – that army of O'ahu.
>
> I don't know the name of that, but I know there was a battle – and there's a name for that battle. And there's names for the chiefs from both sides that fought in that battle. But the Big Island Army got slaughtered and just the rumors um, that their ghosts are still there, trying to make their way back home at times. And our … several of our homes along Nakoa, Halekoa Drive, is along that trail, including our house. So, there's certain events that happened in our lives there, that continue to happen, I believe … Talking to one neighbor recently, that these ghosts are unkindred spirits. As children, we used to play in the gulch that was covered in *kiawe* (Algaroba tree [Prosopis pallida]) forest, and my cousin found a war club and it looked like it had blood on, but he gave it to my uncle. I think uncle gave it to the Maui Historical Society or Bishop Museum or somebody. But we were in the eighth grade at that time and that was like 1973
>
> [Arthur describing the war club]. Oh, it was kind of … it was made from um river rock, for sure. It was made from river rock because it was smooth. But it was shaped like um, like a heart without … It was shaped like a heart without that part. [Without the middle part of the heart?] Yeah, without that … but it was like pointed. And it had, it had like a post. A broken post with um … that was wrapped. But it was all worn out. It was all red over here at the bottom of the heart.

LĀʻAU LAPAʻAU

At the home of Aunty Grace DePorter, I noticed in her yard she planted *lāʻau lapaʻau* or Hawaiian medicinal plants such as *ʻaloe*, *kī* (ti leaves), hibiscus, and *kihapai* (Madagascar periwinkle).

Arthur Spenser remembers growing up on Nakoa Street where everyone was getting sick in his home, and his neighbor, a lady with the last name, Carvalho, came over to his house and practiced the art of *lomi* or massage on the stomachs of his family.

HULA AND MELE

Aunty Grace explains there was a *hula* class on campus, and she danced to ancient and modern *hula*, and they performed—putting on shows. They also sang songs or *mele* and had a choir. Hawaiʻi Ponoʻī, the Hawaiʻi State anthem was a song they sang.

> We had *hula* (Hawaiian dance) ... *hula* class. Yeah. *ʻAuana* (modern *hula*) and *ʻōlapa* (dance accompanied by chanting, and drumming). [Modern and ancient *hula* (Hawaiian dance). Any *mele* (song; to sing; anthem; chant), singing .... did you guys sing like, Hawaiʻi Ponoʻī9?] Yeah, of course we did. We had our choir.

MAHIʻAI AND KALUA

According to Aunty Iris Nitta, there was farming or *mahiʻai* by the students of H.P. Baldwin High School. They were raising chickens, pigs, and planting corn and other plants. Aunty Iris also mentioned, the school once had an i*mu* or underground oven for *kalua* (baking in the ground oven) pig sales.

> We had pig pens ... We had ... wonderful ... the group had pigs ... big pigs, you know. And like I said, when it rained and then, you know, all the stench, yeah? The whole campus smell like one pig pen (laughing). Aww man, was like, ohh ... And then they had chicken, they had raised chickens. They had a chicken plucking machine at the Ag Department. And they had the best chickens ... I used to call it ... was bigger than the chickens that we buy, 'cause it's you know, organic. I mean, it was really, really good. I mean, so then had all kinds of things they grew back there, corn, all kinds of stuff they had. They had fish ponds and you know, the different ag teachers did different things, yeah.
>
> Yeah. Yeah, yeah, yeah. Plenty *kiawe.* It's cleaared out. So they made an *imu* (underground oven) right by the ROTC. I don't know if it's still there but they had built an imu. They used to use it. I don't know if they still do you know, making *kalua* (to bake in a ground oven) pig to sell.

LEI MAKING

Aunty Iris Nitta speaks about the students involved with the *lei* making workshop, and her experience with the practice of *lei* making. Throughout the years Aunty Iris taught students to make corsages and *lei* on her lunch time.

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[9] Hawaiʻi Ponoʻī was a song composed by King David Kalākaua, who wrote the lyrics and Henri Berger, who wrote the music. It was the anthem for the Hawaiian Kingdom and is still sung today. Song and history found on Huapala.org (https://www.huapala.org/Hawaii/Hawaii_Ponoi.html).

[So happy just to hear the students laughing (laughing)]. Yes, it is nice, you know. And they're late here on a Friday afternoon making the leis, yeah. So we had lessons, I mean, because I've done it, you know ... I did a lot of prepping with them. I said, this is what you have to do. And I said, oh, you didn't soak the flowers and the flowers are limp already. You have to soak the flowers. And they're going, ohh ... And I said, yeah, there's certain practices you have to follow to preserve everything and make it easy. So you know, again they did the prepping and then they made everybody so lazy, even the boys, you know ... sewing the crown flower leis and whatever, and they're going, wow ... And I say, everybody has to help because there's so much to do.

I remember going and seeing that but they tried different things and, you know, trying to grow, um ... but then again the trend was moving away from vocational, but to me it was still important because I used to go and help the ag teacher. I used to go help the boys do um, teach them how to make corsages. Because they used to have FFA competitions and corsage making was one of them. So I used to go back lunch time and teach them how to make corsages, so ... they laughed because I went back after one session. And one competition they go, miss, it was so funny, you know. We went up Lahainaluna and the lady said, okay, ah where's your girls, bring them out here for the corsage making, you know, competition (chuckling).

And so that was the thing that you know, again, the teacher was willing and the boys were interested. And I said, if you look at the top florists in the nation, they're all men. You can make for your friends ... You can make it and sell it to them for proms, you know, parties, whatever. So I was trying to push them to do *lei* making because I said, you can make *lei*s and sell them every day and you, have it available because you got the reefer. And then people know, get almost 2000 people at the time on campus, they can come buy *lei* because no need go to the *lei* shop.

PŌHAKU PIKO

Aunty Iris describes the *pōhaku piko* (a stone which *piko* symbolizes a central point where energy is brought to earth and connects the *kūpuna*, *'ohana*, and descendants). She talks about where and how the stone was harvested.

To pull everything together because the library was built and it's in the Banyan Court. Part of the Banyan Court became a real Banyan Court, so it's in the middle of the school. There's two big banyan trees and it's a quadrangle—we call it the quadranle up here. And the thing about it is, it was to pull everything together you know, for the campus. Because the campus was growing in terms of buildings ... new buildings. So we had added on the science building, which is on the lower level, and then we have the library, and then this building. So these were the additions, and then we had ... they put in a new softball field in the back which is again, the newest addition for the campus.

It was down at the Kīhei Canoe Club, and that was an interesting one because … At the club. They had like a garden rocks ... stones, you know? That's down Kīhei, at the beginning of Kīhei, um … we call it across the old Suda Store. So that was an interesting part where I learned more Hawaiian, Hawaiiana. And so that day that we had a gathering down there, it was storming in Wailuku, so we thought it would be cancelled. But we said we better go because nobody said no, it's cancelled. So, we went down there, and it was calm, sunny, like another world … and then Alika Atay told us the story about, you know, the um … how the *piko* and everything, there's a lot of things coming out. So, he told us the story about how some people went out to the Lāhainā site to bring back a canoe. And then they, they told the person …they gave the one person a shell or something, some container. And they said, don't open it, you know … don't open it. And so, it was where … it was where we talked about controlling the weather? And so, when they came, the weather was really nice. And then I think the person opened it and then the wind … The winds. So that ... I mean it was then, everything became topsy turvy, you know? So you know, we talked about ... I mean, I don't know if that's the real context of the story but it was where they had that thing that controlled it ... And I

was like, wow. So if we take it apart, then it's going to be stormy like the other side of the island (laughing).

DATA ANALYSIS AND CONCLUSION

This section summarizes the interviewees' thoughts on the potential effects the proposed construction project will have on native Hawaiian customary and traditional practices, based on the ethnohistorical and cultural context of the study area as presented in Section II and the ethnographic data review and analysis presented in Section IV. Important cultural locations, traditional customs and beliefs, and cultural practices—including *iwi kūpuna* and/or spiritual encounters, *mālama kupuna* and *iwi kupuna* at St. Anthony Church Catholic Cemetery, Hawaiian studies, *lāʻau lapaʻau*, *hula* and *mele*, *mahiʻai* and *kalua*, *lei* making, and reverence of the *pōhaku piko*—were discussed with the consultants.

During the interviews the following potential effects were discussed :

- Interviewees indicated there is a high probability that *iwi kupuna* is present in the project area due to the area's rich history and other *iwi kupuna* found in nearby areas, and that it will be disturbed during construction activities. It is important to note that no *iwi kūpuna* have been found directly within the project area.

- Althouh *lei* making is still practiced on campus and Hawaiian music and dancing is performed at the auditorium, the school does not have a Hawaiian Studies program.

- Although the physical integrity of the *pōhaku piko* on campus will not be disturbed by construction work, its spiritual attributes may be affected.

In addition to these concerns, in general the consultants endorse the project's goal of providing much-needed education and sports facilities for the students. Furthermore, improvements to the school's facilities may potentially lead to student training and participation in traditional Hawaiian practices such as *hula* and *lei* making fostering continuity between the past and present.

KA PAʻAKAI ANALYSIS

The Ka Paʻakai Analysis was derived from a 2000 case, Ka Paʻakai O Ka ʻĀina v. Land Use Commission, State of Hawaiʻi. The outcome resulted with the establishing of a three-pronged analytical framework by the Hawaiʻi Supreme Court (as noted in Section I Introduction under Legislative Context). The framework is guided by Article XII, Section 7 of the Hawaii Constitution, which obligates that the state and its agencies:

> … shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupuaʻa tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

The analytical framework created a three-part process relative to evaluating potential impacts, and requires specific findings and conclusions regarding (Ka Paʻakai o Ka ʻĀina v. Land Use Comm. 2000:25):

> (1) the identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;

> (2) the extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action; and
>
> (3) the feasible action, if any, to be taken by the LUC [Land Use Commission] to reasonably protect native Hawaiian rights if they are found to exist.

The nexus of providing an in-depth analysis in accordance with the provisions of the Ka Paʻakai Analysis lies with the *leo* of Native Hawaiian lineal and cultural descendants, cultural practitioners, Native Hawaiian Organizations (NHO), and/or witnesses from the project area and study area. The conductor of the interviews with the stakeholders must inherently possess a firm knowledge about traditional customs and cultural practices to generate accurate information reported in the analysis. Archival research and literary sources are elements highlighting and supporting the *nā hua ʻōlelo* (the words) or *moʻolelo* (story) provided by the stakeholders.

ANALYTICAL FRAMEWORK COMPONENT 1

The first process of the three-part analytical framework is to identify the "valued cultural historical, or natural resources" in the project area and include the extent to which traditional and customary native Hawaiian rights are exercised in the project area.

The cultural resources identified are displayed in (Figure 6, Table 3) representing the broader study area and finite project area. The prominent natural resource in the area is the limitless amount of sand within the dunes which are occupied by the schools, churches, graveyards, roads, the shopping center, the police station, and homes in the area.

The project is located on the campus of H.P. Baldwin High School and is part of the expansive sand dunes. There may be a water source near the project area, but it was not identified by the consultants. The only cultural practice reported in the project area is listed as number 6 on Figure 6, and *mahiʻai* or farming on Table. 3 *Mahiʻai* or farming was reported by Aunty Iris Nitta who was a counselor for 27 years at H.P. Baldwin High School. She recalls how students raised chickens, pigs, and planting corn and other plants. Aunty Iris also mentioned, the school once had an i*mu* or underground oven for *kalua* (baking in the ground oven) pig sales. *Mahiʻai* and *kalua* is a practice of the past and is non-existent on campus in the present.

Although the *pōhaku piko* or central stone (listed as number 8 on Figure 6 and *Pōhaku Piko* on Table 3) is not physically located at the project area, its spiritual presence encompasses the entire campus and possibly beyond. The *pōhaku piko* symbolizes a central point where energy is brought to earth and connects the *kūpuna*, *ʻohana*, and descendants. It is a place where cultural practices are recognized such as *oli*, *hoʻokupu*, and/or cognizant actions. The project construction will not affect the physical location of the *pōhaku pikoi.*

Highly regarded are the *iwi kūpuna* and spiritual presence encountered (as shown in Figure 6 and Table 3, numbers 1, 9, 10, and 11) near the project area. Although there has been no recognition of *iwi kupuna* located directly in the project area, the interviewees noted that there is a high probability of the presence of *iwi kupuna* in the project area. .

ANALYTICAL FRAMEWORK COMPONENT 2

The second process of the three-part analytical framework is to describe the extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action.

There are two existing identified practices which are the reverence for: (1) the *pōhaku piko* (number 8 on Figure 6 and Table 3); and (2) the *mālama* of the *iwi kūpuna* and spiritual presence encountered. The two identified practices can co-exist with the project if recommendations (Recommendations section) are followed ensuring the safety of students, faculty, staff, and visitors.

ANALYTICAL FRAMEWORK COMPONENT 3

The third component of the three-part analytical framework is to recommend feasible actions, if any, to be taken by the Land Use Commission (LUC) to reasonably protect native Hawaiian rights if they are found to exist. Addressing the reverence for the *iwi kupuna* and spiritual presence encountered in the study area, the Land Use Commission may be able to consider the impacts of the construction of future buildings on the sand dunes potentially resulting in the unearthing of more *iwi kūpuna* and removing them from their resting places. For the project area however, the stakeholders also endorse the project's goal of providing much-needed education and sports facilities for the students. Furthermore, the proposed school facilities upgrades can potentially be used to support the training and development of educational programs focused on traditional Hawaiian cultural practices such as *hula* and *lei* making.

V. RECOMMENDATIONS

Most of the cultural consultants interviewed about the proposed construction project at H. P. Baldwin High School, 1650 West Ka‘ahumanu Avenue, Wailuku, Hawai‘i, 96793, Tax Map Key (TMK) (2) 3-8-007:004, expressed concern about the potential for encountering *iwi kūpuna* in the project area The Sand Hill area, which includes ‘Owā, the *‘ili ‘āina* where the high school is located, is part of an extensive traditional grave site, and *iwi kūpuna* has been disturbed by construction activities.

Clare Helen Apana, who represents Mālama Kakanilua, advocates that the resting places of *iwi kupuna* remain undisturbed. She believes that the high school students and faculty should learn more about local history and appreciate the many *kūpuna* that have been disturbed to build the school, even offering to talk to the students herself. She says the following:

> So I think that it would be really, really appropriate and good for the school, for the education ... to know fully the history of this area, to honor the ancestors that lived here—really honor them, and make a connection. The only people who are going to gain from that would be the kids, because the wisdom that is there, I can see, is not tapped yet. They may learn incredible things they don’t know about by doing that. They don’t need a special teacher to do that, you just need the will to provide that for the students. I mean, they can come and ask me, and I would be very happy to talk to them. I would be very happy, you know to find the people to come and *pule* (pray) ... or to ... or just have a discussion about, hey what do you think about the people that were displaced so you could have your school here, you know ... like that. We tried to make it so that in the sports field that are on the sand dune burial that have been moved, in their opening, that they would give recognition to those who gave up their resting places so that you could have this field here. How different is that if you know that you are playing on a field like that than to never acknowledge it, you know. I don’t know what the school does, but Iris, the counselor noticed it that there is not a recognition of what this land is. And right across the street, on the map it says, battlefield. And we know that the battle ended somewhere in this area. Here, and down by the islands, all inside here. And ... we could do so much better for our children and protect them even—making that education important, and the respect for those who came before us and gave up their resting places.

The school, as well as local homes, roads, shopping areas, and the police station, are all constructed on former sand dunes, traditionally used as burial sites. Additionally, although Iris Nitta has participated in teaching the Hawaiian traditional practice of *lei* making to students, she is concerned that the school does not currently have a full-time Hawaiian Studies teacher.

To address these concerns, the interviewees recommended that the State of Hawai‘i take the following actions:

1. Conduct a blessing of the project area and the *pōhaku piko* on campus before ground disturbance starts and again after the project is completed. The blessing shoud be conducted by a knowledgeable cultural practitioner and/or *kahu*, ensuring the spiritual safety of students, teachers, staff, construction workers, and visitors.

2. Work with an archaeological firm, to develop a burial treatment plan describing the procedures to be followed if *iwi kūpuna* is encountered during project construction.

3. Work with an archaeological firm to complete archaeological and cultural monitoring during all ground-disturbing project work to mitigate impacts to cultural resources such as *iwi kūpuna* and develop a plan to protect these resources in consultation with cultural stakeholders/organizations and appropriate government agencies.

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GLOSSARY OF HAWAIIAN WORDS

Hawaiian Spelling*	Definition
a‘ama	a black edible crab usually found in rocky areas (*Grapsus grapsus tenuicrutatus*)
‘ahi	Hawaiian tuna, especially yellow-fin tuna (Thunnus albacares)
ahu	altar, cairn
ahupua‘a	land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (pua‘a), or because a pig or other tribute was laid on the altar as tax to the chief
‘āina	land; ground
ali‘i	chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander
ali‘i nui	high chief
‘aloe	any plant of the genus Aloe
‘auhea	listen (in commands, common in songs); hear
aloha	greeting, hello, goodbye; love, affection, compassion
‘auhea ‘oukou	hear ye
auku‘u	black-crowned night heron (*Nycticorax nycticorax hoactli*)
e kala mai	excuse me
halalū	young of the akule
haku	to braid, as a lei
hānai	adopt, foster a child
Haole	Caucasian; foreigner
he‘e	octopus (*Polypus* sp.)
heiau	temple, shrine
hīhīwai/wī	endemic grainy snail (*Neritinu graposa*)
ho‘oilo	Winter, rainy season
ho‘okupu	ceremonial gift giving as a sign of respect and honor
hua ‘ōlelo	word
hula	Hawaiian dance
hula ‘auana/‘auwana	modern hula; informal hula without ceremony or offering
hula hālau	dance instruction; hula school
hula ‘ōlapa/‘ōlapa	dance accompanied by chanting and drumming on a gourd; dancer
hukilau	fishing practice using a seine net by several to many people pulling the net

Hawaiian Spelling*	Definition
ʻili/ ʻili ʻāina	traditional land unit, a subdivision of an ahupuaʻa
ʻili kū/ʻili kūpono	ʻili kū is the contraction for ʻili kūpono. A somewhat independent ʻili or division of land within an ahupuaʻa, tributary directly to the king and not, or only slightly, to the chief of the ahupuaʻa.
iʻa	fish
ʻiwa	Frigate or man-of-war bird (*Fregata monor palmerstoni*)
ʻiʻiwi	scarlet Hawaiian honey creeper (*Vestiaria coccinea*)
ʻike	recognize, knowledge
ʻiliahi	any kind of Hawaiian sandalwood (*Santalum* spp.)
ʻīlio	dog
imu	underground oven
ʻiwa	frigate or man-of-war bird (*Fregata minor palmerstoni*)
iwi	bone
iwi kūpuna	ancestral bones
ipu	bottle gourd, (*Lagenaria siceraria*)
ka/ke	usually ‘the’ except that it is not translated before English mass nouns and status titles (for example: ke Akua God); definite single article
Ka Pae ʻĀina o Hawaiʻi	The Hawaiian Archipelago
kaʻaahi	train, railroad, locomotive
kahu	pastor, minister, guardian, keeper, caretaker
kahuna	priest, sorcerer, expert in any profession
kai	ocean, sea
kākau pāʻele	to tattoo solid black
kākou	we (inclusive three or more)
kala	surgeonfish, unicorn fish, Teuthidae
kalana	division of land smaller than a district; county
kalo	taro (*Colocasia esculenta*)
kalua	baking in an underground oven
kamaʻāina	native born; a person born in a place; acquainted
kanaka	man, person; usually referring to a Hawaiian
kanaka akua	god-like man
kanaka ʻōiwi	native man or person
kāne	male, man, husband, male sweetheart
kaona	hidden meaning (as in poetry); secretive reference to a person, thing, or place

Hawaiian Spelling*	Definition
kapa	tapa or cloth made from the bark of plants
kapu	sacred or taboo
kauhale	building; house
kau wela	Summer, hot season
kēhau	gentle land breeze; stillness in the air; dew, mist
keiki	child
kī	ti plant (*Cordyline fruticose*)
kiawe	algaroba tree, a legume from Peru (*Prosopis pallida*)
kihapai	Madagascar periwinkle (Catharanthus roseus, syn. Vinca rosea)
kiʻi	war image, idols
kō	sugarcane (*Saccharum officinarum*)
koa haole	roadside shrub (*Leucaena leucocephala*)
koko	blood
kuapala	offering stand for fruit
kūhonu/pāpaʻi kūhonu	a spotted-back crab (*Portunus sanguinolentus*).
kukui	candlenut tree (*Aleurites moluccana*)
kula	field, pasture. "An Act of 1884 distinguished dry or kula land from wet or taro land."
kūlanakauhale	town, village, city
kupuna/kupuna	grandparent, elder, ancestor
kuleana	small piece of property, as within an ahupuaʻa; right, privilege, concern, title, property, estate, portion, interest, claim, ownership
kumu hula	Hawaiian dance teacher
kanaka	man; usually referring to a Hawaiian person
kanaka ʻōiwi	native person
lāʻau lapaʻau	Hawaiian medicine usually using lāʻau or plants
lāʻau palau	war club
lei	garland, necklace, wreath
lei poʻo	head garland, garland worn on the head
lepo	dirt, soil
leo	Voice, tone, tune
lilikoʻi	passion fruit (*Passiflora edulis*)
limu	seaweed, algae, lichens, mosses, liverworts

Hawaiian Spelling*	Definition
līpoa	bladelike, branched, brown seaweeds (*Dictyopteris plagiogramm*a and *D. australis*).
loʻi	pond field
loʻi kalo	taro pond field; taro cultivation
loko iʻa	fish pond
lomi	massage, knead, press, squeeze
lomi ʻōʻio	Lady fish or bonefish made raw with paʻakai or/and round onions, or/and limu kohu, or/and ʻinamona
lua	Hawaiian martial arts; contact fighting usually involving bone breaking or dislocated bones, and inflicting severe pain through nerve centers of the body
luna	boss, foreman, overseer
mahaʻoi	brazen
mahalo	thanks
mahalo nui	much thanks
mahalo nui loa	thank [you] very much
maiʻa	any banana and plantain
makaʻāinana	common people, commoner, populace
makaʻala	alert, vigilant, watchful
makua	parent
malo	loin cloth; traditional attire for men
mana	divine or spiritual power
manaʻo	thought, idea, belief, mind, opinion, theory, thesis
manini	reef surgeonfish (*Acanthurus triostegus*),
milo	tree (*Thespesia populnea*)
moa	chicken, red jungle chicken (*Gallus gullaus*)
mōʻī/ Mōʻī	king, sovereign, monarch, majest, ruler, queen
moku	district; island
mokupuni	island
moʻolelo/moʻo ʻōlelo	story, history, tradition, literature
moʻokūʻauhau	genealogical succession; pedigree
nā	plural for “the” or definite article
nā hua ʻōlelo	words
noni	Indian mulberry (*Morinda citrifolia*)
niu	coconut tree (*Cocos nucifera*)

Hawaiian Spelling*	Definition
nui	big, large, plenty, greatest, important
ʻohana	family
ʻōʻio	ladyfish, bonefish (*Albula vulpes*)
ola	life, health, well-being, living, livelihood, means of support
ʻōlapa	dance accompanied by chanting, and drumming
ʻōlelo noʻeau	proverbial/traditional sayings,
ʻōlena	tumeric (*Curcuma domestica*)
oli	chant that was not danced to
one	sand, sandy, silt
ʻōpae	any kind of shrimp
ʻōpelu	mackerel scad (*Decapterus pinnulatus and D. maruadsi*)
ʻopihi	limpets
ʻoukou	pronoun; you (plural), ye
ʻowā/ʻOwā	the cry of the ʻaukuʻu, heron, which suggests *ʻowā* means to cry; the cry of the *ʻaukuʻu*, heron, which suggests *ʻowā* means to cry; an ʻili ʻāina is the ahupuaʻa of Wailuku
paʻakai	salt
paepae	a kind of fishing technique to surround fish with a net
paiea	an edible crab usually found among the ʻaʻama crab, but it has a harder shell and shorter legs with short, stiff hair
palani	surgeonfish (*Acanthurus dussumieri*)
palapalai	fern (*Pityrogramma calomelanos*; syn. *P. chrysophylla*)
pāpaʻi	any crab; general name for crabs
pau	finish, end
peleleu	a very large canoe, sometimes a double canoe
piko	central area; navel, umbilical cord
pilina	connection, relationship
pipipi	general name for small mollusks including (*Theodoxus neglectus*)
pōhaku	stone, rock, mineral
pōhaku piko	central stone: piko symbolizes a central point where energy is brought to earth and connects the kūpuna, ʻohana, and descendants.
pōhinahina	beach vitex (*Vitex ovata*) (Kent 1986:307)
poʻo	head
pua kenikeni	shrub or tree with fragrant orangish-yellow flowers (*Fagraea berteriana*)
puaʻa	pig, swine, pork

Hawaiian Spelling*	Definition
pūʻali	isthmus; army, military, soldier, name was given because Hawaiian fighters tied (pūali) their malos at the waist so there were no flap for their enemy to catch hold of and bring them down
pule	pray
pūlama	cherish, treasure, save; to care for
puʻu	cinder cone; hill
tūtū	grandparent; sometimes referred to as ancestor
ʻuala	sweet potato, (*Ipomoea batatas*)
ʻuhane	spirit, ghost, soul
uhu	parrotfish (Scarus perspicillatus)
ʻulu	breadfruit (*Artocarpus altilis*)
ulua	cetain crevalle, jack or pompano; gamefish
wahine/wāhine	woman/women
wai	water
wana	sea urchin (*Diadema paucispinum* and *Echinothrix diadema*)
weke	certain species of Mullidae, surmullets or goatfish
welina	greeting of affection

* Adapted from Mary K. Pukui and Samuel H. Elbert, 1986, *Hawaiian Dictionary*, University of Hawaii Press, Honolulu, unless otherwise noted.

APPENDIX A: CONSULTANT CONSENT FORMS

INTERNATIONAL ARCHAEOLOGY, LLC

September 10, 2024

SUBJECT: Interview Authorization and Release Form for a Cultural Impact Assessment (CIA) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku.[IA202440]

International Archaeology, LLC (IA), a cultural resource management firm based in Honolulu, Hawai'i, is currently preparing a CIA in support of a construction project at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku, on the mokupuni of Maui. The project constructing a new two-story building that will include four classrooms, a weight room, a fitness room, and a trainer room. The new building, walkways, and utilites to accomodate the building will require excavations. Two existing wooden portable classrooms will be demolished and replaced by the new building.

The CIA will include semi-structured interviews with individuals from relevant Native Hawaiian Organizations and local communities to obtain ethnographic information about the project area and surrounding areas. This information will be used to assess the cultural landscape and potential impacts to cultural resources and practices that may result from project work. The interviews will be conducted by the study's Project Director, who will also conduct background historical research and analyze relevant historical and ethnographic data for the project area, and will be the primary author of the CIA. The study's Principal Investigator will edit the CIA and provide quality control.

Before the interview begins, the interviewer will ensure that the interviewee understands the interview process and goals, and that the interviewee provides informed consent in writing by signing this Authorization and Release Form. As part of the informed consent procedure, the interviewer will review the points listed below with the interviewee and answer any questions the interviewee may have before signing this form.

- I, Arthur Spencer, voluntarily agree to participate in this study in accordance with the interview process and goals outlined in this form.
- I understand that this study will support a project by the Hawai'i State Department of Education (DOE) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku
- I undersand that participation in this study may involve sharing information about significant cultural areas in or near the project area, especially sites and their components located on the grounds of H. P. Baldwin High School.
- I agree that my interview(s) will be recorded with a digital recorder supplemented by handwritten notes. A map or maps of the subject parcel and the surrounding lands will also be provided for refernce and annotation purposes.

HAWAI'I: 2081 Young Street, Honolulu, Hawai'i 96826-2231 - Tel: (808) 946-2548 - Fax: (808) 943-0716 - E-mail: HonoluluOffice@internationalarchaeologyllc.com
GUAM: P.O. Box 22621, GMF, Guam 96921 - Tel/Fax: (671) 646-7552 - E-mail: GuamOffice@internationalarchaeologyllc.com

- I understand that a full transcript of my interview(s) will be prepared in Microsoft Word (DOCX) format, and will be provided to me for corrections, additions, or deletions (in person, online, or via post). Only the interview data I have reviewed and approved will be used in the study.
- I understand that, following my review and approval of my interview transcript, the Project Director and Principal Investigator will analyze the interview results and extract information relevant to identifying potential cultural and natural features of significance. The results of this analysis will be included in the draft and final versions of the study.
- I understand that, following submittal of the final study, all digital recordings of interviews, approved written transcripts, annotated maps (if any), and signed consent forms will be submitted to the project contractor, architect, John Harada, and DOE as part of standard project documentation.
- I understand that digital copies of the interview recordings, interview transcript(s), annotated maps (if any), and signed consent forms will be archived by IA on its computer system in Honolulu, Hawai'i, for an indefinite period.
- I understand that I will not benefit directly from participating in this research.
- I understand that, though I may agree to participate in the study by signing this consent form, I have the right to withdraw my consent at any time during the interview(s) or refuse to answer questions without consequences of any kind.
- I understand that I also have the right to withdraw my consent up to two weeks after I review and approve my interview transcript(s), in which case the material will be deleted. I also understand that I cannot withdraw my interview data after the study has been finalized and submitted to the client.
- I have had the purpose and nature of the study explained to me in person and in writing, and I have had the opportunity to ask questions about the study.
- I understand that I am entitled to request copies of my interview information at any time while it is archived by IA as specified above.
- I understand that I have the right to contact the Project Director or Principal Investigator to seek further clarification and information about the study.

At a later date, IA may want to use portions of your interview(s) for other CIAs, archaeological reports, oral history archives, educational programs, displays, or other public material (including the internet). You have the option to grant IA permission for future use of your interview(s) on this form, or decline use beyond the purposes of this project.

Deed of gift: I hereby donate my interview information to IA to use for historical, scholarly, educational, and/or community outreach purposes as IA sees fit, including but not limited to exclusive rights of production (copyright), distribution, preparation of derivative works, public educational performance, displays visual, in print, or electronic, or other media including the internet unless stated otherwise here.

Yes ✓ I am donating my interview(s) to IA for future use as stated above.

No _____ Please use my interview(s) exclusively for the purposes of this study as described on this form.

Project Director: Hannah Kaumakamanōkalanipō Anae, M.A. <kanae@IAoceania.com>

Principal Investigator: Robert A. Pacheo, M.A. <rpacheco@IAoceania.com>

Signature of participantt

By my signature, I give consent for my interview(s) to be used as specified in this form.

Signature of participant — Date: 9-12-24

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher — Date: 9-12-24

INTERNATIONAL ARCHAEOLOGY, LLC

September 10, 2024

SUBJECT: Interview Authorization and Release Form for a Cultural Impact Assessment (CIA) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku.[IA202440]

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- I, GRACE DE PORTER, voluntarily agree to participate in this study in accordance with the interview process and goals outlined in this form.
- I understand that this study will support a project by the Hawai'i State Department of Education (DOE) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku
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- I agree that my interview(s) will be recorded with a digital recorder supplemented by handwritten notes. A map or maps of the subject parcel and the surrounding lands will also be provided for refernce and annotation purposes.

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- I understand that a full transcript of my interview(s) will be prepared in Microsoft Word (DOCX) format, and will be provided to me for corrections, additions, or deletions (in person, online, or via post). Only the interview data I have reviewed and approved will be used in the study.
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- I understand that I will not benefit directly from participating in this research.
- I understand that, though I may agree to participate in the study by signing this consent form, I have the right to withdraw my consent at any time during the interview(s) or refuse to answer questions without consequences of any kind.
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Yes GD I am donating my interview(s) to IA for future use as stated above.

No _____ Please use my interview(s) exclusively for the purposes of this study as described on this form.

Project Director: Hannah Kaumakamanōkalanipō Anae, M.A. <kanae@IAoceania.com>

Principal Investigator: Robert A. Pacheo, M.A. <rpacheco@IAoceania.com>

Signature of participantt

By my signature, I give consent for my interview(s) to be used as specified in this form.

Grace DeGuzman — 09-13-24

Signature of participant — Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Hannah K Grace — 09-13-24

Signature of researcher — Date

INTERNATIONAL ARCHAEOLOGY, LLC

September 10, 2024

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- I, IRIS NITTA, voluntarily agree to participate in this study in accordance with the interview process and goals outlined in this form.
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Yes _____ I am donating my interview(s) to IA for future use as stated above.

No ___✓___ Please use my interview(s) exclusively for the purposes of this study as described on this form.

Project Director: Hannah Kaumakamanōkalanipō Anae, M.A. <kanae@IAoceania.com>

Principal Investigator: Robert A. Pacheo, M.A. <rpacheco@IAoceania.com>

Signature of participantt

By my signature, I give consent for my interview(s) to be used as specified in this form.

Signature of participant — Date: 9-13-2024

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher — Date: 9-13-2024

INTERNATIONAL ARCHAEOLOGY, LLC

September 10, 2024

SUBJECT: Interview Authorization and Release Form for a Cultural Impact Assessment (CIA) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku.[IA202440]

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- I, Nancy Voyles, voluntarily agree to participate in this study in accordance with the interview process and goals outlined in this form.
- I understand that this study will support a project by the Hawai'i State Department of Education (DOE) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku
- I undersand that participation in this study may involve sharing information about significant cultural areas in or near the project area, especially sites and their components located on the grounds of H. P. Baldwin High School.
- I agree that my interview(s) will be recorded with a digital recorder supplemented by handwritten notes. A map or maps of the subject parcel and the surrounding lands will also be provided for refernce and annotation purposes.

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GUAM: P.O. Box 22621, GMF, Guam 96921 - Tel/Fax: (671) 646-7552 - E-mail: GuamOffice@internationalarchaeologyllc.com

- I understand that a full transcript of my interview(s) will be prepared in Microsoft Word (DOCX) format, and will be provided to me for corrections, additions, or deletions (in person, online, or via post). Only the interview data I have reviewed and approved will be used in the study.
- I understand that, following my review and approval of my interview transcript, the Project Director and Principal Investigator will analyze the interview results and extract information relevant to identifying potential cultural and natural features of significance. The results of this analysis will be included in the draft and final versions of the study.
- I understand that, following submittal of the final study, all digital recordings of interviews, approved written transcripts, annotated maps (if any), and signed consent forms will be submitted to the project contractor, architect, John Harada, and DOE as part of standard project documentation.
- I understand that digital copies of the interview recordings, interview transcript(s), annotated maps (if any), and signed consent forms will be archived by IA on its computer system in Honolulu, Hawai'i, for an indefinite period.
- I understand that I will not benefit directly from participating in this research.
- I understand that, though I may agree to participate in the study by signing this consent form, I have the right to withdraw my consent at any time during the interview(s) or refuse to answer questions without consequences of any kind.
- I understand that I also have the right to withdraw my consent up to two weeks after I review and approve my interview transcript(s), in which case the material will be deleted. I also understand that I cannot withdraw my interview data after the study has been finalized and submitted to the client.
- I have had the purpose and nature of the study explained to me in person and in writing, and I have had the opportunity to ask questions about the study.
- I understand that I am entitled to request copies of my interview information at any time while it is archived by IA as specified above.
- I understand that I have the right to contact the Project Director or Principal Investigator to seek further clarification and information about the study.

At a later date, IA may want to use portions of your interview(s) for other CIAs, archaeological reports, oral history archives, educational programs, displays, or other public material (including the internet). You have the option to grant IA permission for future use of your interview(s) on this form, or decline use beyond the purposes of this project.

Deed of gift: I hereby donate my interview information to IA to use for historical, scholarly, educational, and/or community outreach purposes as IA sees fit, including but not limited to exclusive rights of production (copyright), distribution, preparation of derivative works, public educational performance, displays visual, in print, or electronic, or other media including the internet unless stated otherwise here.

Yes ✓ I am donating my interview(s) to IA for future use as stated above.

No _____ Please use my interview(s) exclusively for the purposes of this study as described on this form.

Project Director: Hannah Kaumakamanōkalanipō Anae, M.A. <kanae@IAoceania.com>

Principal Investigator: Robert A. Pacheo, M.A. <rpacheco@IAoceania.com>

Signature of participantt

By my signature, I give consent for my interview(s) to be used as specified in this form.

Signature of participant — Date: Sept. 13, 24

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher — Date: 09-13-2024

INTERNATIONAL ARCHAEOLOGY, LLC

September 10, 2024

SUBJECT: Interview Authorization and Release Form for a Cultural Impact Assessment (CIA) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku.[IA202440]

International Archaeology, LLC (IA), a cultural resource management firm based in Honolulu, Hawai'i, is currently preparing a CIA in support of a construction project at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku, on the mokupuni of Maui. The project constructing a new two-story building that will include four classrooms, a weight room, a fitness room, and a trainer room. The new building, walkways, and utilites to accomodate the building will require excavations. Two existing wooden portable classrooms will be demolished and replaced by the new building.

The CIA will include semi-structured interviews with individuals from relevant Native Hawaiian Organizations and local communities to obtain ethnographic information about the project area and surrounding areas. This information will be used to assess the cultural landscape and potential impacts to cultural resources and practices that may result from project work. The interviews will be conducted by the study's Project Director, who will also conduct background historical research and analyze relevant historical and ethnographic data for the project area, and will be the primary author of the CIA. The study's Principal Investigator will edit the CIA and provide quality control.

Before the interview begins, the interviewer will ensure that the interviewee understands the interview process and goals, and that the interviewee provides informed consent in writing by signing this Authorization and Release Form. As part of the informed consent procedure, the interviewer will review the points listed below with the interviewee and answer any questions the interviewee may have before signing this form.

- I, Clare Apana, voluntarily agree to participate in this study in accordance with the interview process and goals outlined in this form.
- I understand that this study will support a project by the Hawai'i State Department of Education (DOE) in support of facilities improvements at H. P. Baldwin High School [TMK (2)-3-8-007:004], 1650 W. Ka'ahumanu Ave., in the *kulanakauhale* of Kahului, in the *moku* and *'ahupua'a* of Wailuku
- I undersand that participation in this study may involve sharing information about significant cultural areas in or near the project area, especially sites and their components located on the grounds of H. P. Baldwin High School.
- I agree that my interview(s) will be recorded with a digital recorder supplemented by handwritten notes. A map or maps of the subject parcel and the surrounding lands will also be provided for refernce and annotation purposes.

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GUAM: P.O. Box 22621, GMF, Guam 96921 - Tel/Fax: (671) 646-7552 - E-mail: GuamOffice@internationalarchaeologyllc.com

- I understand that a full transcript of my interview(s) will be prepared in Microsoft Word (DOCX) format, and will be provided to me for corrections, additions, or deletions (in person, online, or via post). Only the interview data I have reviewed and approved will be used in the study.
- I understand that, following my review and approval of my interview transcript, the Project Director and Principal Investigator will analyze the interview results and extract information relevant to identifying potential cultural and natural features of significance. The results of this analysis will be included in the draft and final versions of the study.
- I understand that, following submittal of the final study, all digital recordings of interviews, approved written transcripts, annotated maps (if any), and signed consent forms will be submitted to the project contractor, architect, John Harada, and DOE as part of standard project documentation.
- I understand that digital copies of the interview recordings, interview transcript(s), annotated maps (if any), and signed consent forms will be archived by IA on its computer system in Honolulu, Hawai'i, for an indefinite period.
- I understand that I will not benefit directly from participating in this research.
- I understand that, though I may agree to participate in the study by signing this consent form, I have the right to withdraw my consent at any time during the interview(s) or refuse to answer questions without consequences of any kind.
- I understand that I also have the right to withdraw my consent up to two weeks after I review and approve my interview transcript(s), in which case the material will be deleted. I also understand that I cannot withdraw my interview data after the study has been finalized and submitted to the client.
- I have had the purpose and nature of the study explained to me in person and in writing, and I have had the opportunity to ask questions about the study.
- I understand that I am entitled to request copies of my interview information at any time while it is archived by IA as specified above.
- I understand that I have the right to contact the Project Director or Principal Investigator to seek further clarification and information about the study.

At a later date, IA may want to use portions of your interview(s) for other CIAs, archaeological reports, oral history archives, educational programs, displays, or other public material (including the internet). You have the option to grant IA permission for future use of your interview(s) on this form, or decline use beyond the purposes of this project.

Deed of gift: I hereby donate my interview information to IA to use for historical, scholarly, educational, and/or community outreach purposes as IA sees fit, including but not limited to exclusive rights of production (copyright), distribution, preparation of derivative works, public educational performance, displays visual, in print, or electronic, or other media including the internet unless stated otherwise here.

Yes I am donating my interview(s) to IA for future use as stated above.

No Please use my interview(s) exclusively for the purposes of this study as described on this form.

Project Director: Hannah Kaumakamanōkalanipō Anae, M.A. <kanae@IAoceania.com>

Do not wish to be summarized. CHA.

Principal Investigator: Robert A. Pacheo, M.A. <rpacheco@IAoceania.com>

Signature of participantt

By my signature, I give consent for my interview(s) to be used as specified in this form.

Clarissa — 09-13-2024

Signature of participant — Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Hannah K. Cruz — 09.13.2024

Signature of researcher — Date

APPENDIX B: CONSULTANT BIOGRAPHICAL DATA SHEET

INTERNATIONAL ARCHAEOLOGY, LLC

202 Nakoa Drive
Wailuku, Hi, 96793
Former Residence
1963 – 1990

Biographical Data Sheet

Interviewer Name:
Date of Interview:

Participant's first name: Arthur
Participant's last name: Spenser
Participant's middle name (if applicable): Stephen Kualkini
Participant's maiden name (if applicable):

Contact information:
Mailing address: 36 Henohea Place
Town: Kahului
Island: Maui
State: Hi.
Zip Code: 96732
Email: awspenser@icloud.com
Phone: 808-707-1373

Birthdate (year): 1959
Place born: North Carolina
Gender: Male
Citizenship: U.S.
Ethnicity: Hawaiian, Portuguese, Chinese, English & German
Language(s) can speak: English

Places Lived & When: North Carolina, Waimea Big Island, Oahu, & Maui
Currently living in: Maui Lani, Maui

Father's name: Aloysius Spenser
Mother's name: Grace Lindsey Spenser
How many siblings? What is the participant's place in family (order of siblings)?
7 I'm 3 2 Boy 5 Girls

Participant's spouse?
Name of spouse: (wife) Ivy Omuro
Birthdate of spouse: May 1967

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GUAM: P.O. Box 22621, GMF, Guam 96921 - Tel/Fax: (671) 646-7552 - E-mail: GuamOffice@internationalarchaeologyllc.com

Birthplace of spouse:
Children (how many and how old):

Ancestors:
Names of maternal ancestors: Lindsey, Purdy, Stevens, Lincoln, Bell
Location of where maternal ancestor(s) lived/moved? Kohala & Waimea (Kamuela)
Years maternal ancestor(s) lived: All Lives

Name of paternal ancestors: Spencer, Hoeffner, Sentinella, Lili pat
Location of where paternal ancestor(s) lived/moved? Hilo, Hana, Kahului, Wailuku
Years paternal ancestor(s) lived: All Lives

Education:
Elementary: Iao & Wheeler
Intermediate:
High School: Baldwin 1977
Other (trade school/college):

Employment:
Previous jobs (title, dates, location): U.S.C.G., Maui Pine, Taxi Driver, Mason
Current job (title, dates): Retired

Interests/skills/hobbies: Softball / Softball & Basketball Announcer M.H.S
Religion: Catholic
Community/professional organization involvement (past & present): K.O.O.K. / M.I.L. Sports

What public emergencies or natural disasters have you experienced during your lifetime?
Hurricanes in Gulf of Mexico

Is there anything specific you would like me to ask you during the interview?

None

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INTERNATIONAL ARCHAEOLOGY, LLC

Biographical Data Sheet

Interviewer Name: Hannah Anae
Date of Interview: 9/13/2024

Participant's first name: Grace
Participant's last name: De Porter
Participant's middle name (if applicable): Yuk Yin
Participant's maiden name (if applicable): Low

Contact information:
Mailing address: 81 Nani Luna Pl
Town: Wailuku
Island: Maui
State: Hawaii
Zip Code: 96793
Email: grace.deporter@gmail.com
Phone: 808-244-1343

Birthdate (year): 07-12-1979
Place born: Kula
Gender: Female
Citizenship: - US
Ethnicity: Chinese - Portuguese
Language(s) can speak: Pidgin

Places Lived & When:
Currently living in: Wailuku

Father's name: Samuel Low
Mother's name: Rose L. Low
How many siblings? What is the participant's place in family (order of siblings)?
Albert S. Low-Brother - Kimelow - 2nd - Half sister

Participant's spouse? - Divorced
Name of spouse:
Birthdate of spouse:

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Birthplace of spouse:
Children (how many and how old):

Ancestors:
Names of maternal ancestors: JOAQUIN & MARIA LOPEZ
Location of where maternal ancestor(s) lived/moved? KULA - MOVED FROM PORTUGAL
Years maternal ancestor(s) lived:

Name of paternal ancestors: HOSHEE & YEE SING LOK
Location of where paternal ancestor(s) lived/moved? HONOLULU
Years paternal ancestor(s) lived:

Education:
Elementary: WAILUKU ELEMENTARY
Intermediate: IAO SCHOOL
High School: BALDWIN
Other (trade school/college): OBERLIN COLLEGE

Employment: RETIRED
Previous jobs (title, dates, location): SO. CALIF GAS CO. & FEDEX
Current job (title, dates): RETIRED

Interests/skills/hobbies: CARDS, GARDEN
Religion: CATHOLIC
Community/professional organization involvement (past & present):
VOLUNTEER - CO. OF MAUI - INFORMATION BOOTH

What public emergencies or natural disasters have you experienced during your lifetime?
WORLD WAR II

Is there anything specific you would like me to ask you during the interview?

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Biographical Data Sheet

Interviewer Name:
Date of Interview:

Participant's first name: Iris
Participant's last name: Nitta
Participant's middle name (if applicable): Teruko
Participant's maiden name (if applicable): Fujie

Contact information:
Mailing address: 2158 Main St #406
Town: Wailuku
Island: Maui
State: Hawaii
Zip Code: 96793
Email: ayame.nitta@gmail.com
Phone: 808-276-4774

Birthdate (year): 1944
Place born: Lanai City
Gender: F
Citizenship: USA
Ethnicity: Japanese
Language(s) can speak: English

Places Lived & When: Lanai City/Hilo/California/Honolulu
Currently living in: Wailuku

Father's name: Richard M. Fujie
Mother's name: Ella Minaai Fujie
How many siblings? What is the participant's place in family (order of siblings)?
4 oldest of 5

Participant's spouse? Deceased
Name of spouse: Patrick Y.P. Nitta
Birthdate of spouse: 12/22/1944

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Birthplace of spouse: Waipahu
Children (how many and how old): 2 4

Ancestors:
Names of maternal ancestors:
Location of where maternal ancestor(s) lived/moved? Hilo
Years maternal ancestor(s) lived: Grandfather 1920's (died)
Grandmother 1977
Name of paternal ancestors: Grandfather 1945 Grandmother 1968
Location of where paternal ancestor(s) lived/moved? Lahaina / Lanai / Hilo (Grandmother)
Years paternal ancestor(s) lived: ?

Education:
Elementary: Hilo Union
Intermediate: Hilo Intermediate
High School: Hilo High School
Other (trade school/college): UH Hilo, Humboldt State, UH Manoa

Employment: PE Teacher / Counselor (1970 — 2008)
Previous jobs (title, dates, location): PE/Health (Honokaa, Waipahu High
Current job (title, dates): Retired (2008) Counselor (Highlands, Pukalani/Waihee
Baldwin High
Maui Community School for Adults
Interests/skills/hobbies: Cooking, Gardening, Reading, Sewing
Religion: Buddhist
Community/professional organization involvement (past & present): Kappa
Kiwanis org., Temple leadership, Delta Gamma

What public emergencies or natural disasters have you experienced during your lifetime?
1960/Hilo Tidal Wave Eruptions Earthquakes

Is there anything specific you would like me to ask you during the interview?

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Biographical Data Sheet

Interviewer Name: Kaimaka Ana'e
Date of Interview: 09/13/2024

Participant's first name: Nancy
Participant's last name: Vorhies
Participant's middle name (if applicable):
Participant's maiden name (if applicable):

Contact information:
Mailing address:
Town:
Island:
State:
Zip Code:
Email:
Phone:

Birthdate (year): 1944
Place born: Oahu
Gender:
Citizenship:
Ethnicity:
Language(s) can speak:

Places Lived & When:
Currently living in:

Father's name:
Mother's name:
How many siblings? What is the participant's place in family (order of siblings)?

Participant's spouse?
Name of spouse:
Birthdate of spouse:

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GUAM: P.O. Box 22621, GMF, Guam 96921 - Tel/Fax: (671) 646-7552 - E-mail: GuamOffice@internationalarchaeologyllc.com

Birthplace of spouse:
Children (how many and how old):

Ancestors:
Names of maternal ancestors:
Location of where maternal ancestor(s) lived/moved?
Years maternal ancestor(s) lived:

Name of paternal ancestors:
Location of where paternal ancestor(s) lived/moved?
Years paternal ancestor(s) lived:

Education:
Elementary:
Intermediate:
High School:
Other (trade school/college):

Employment:
Previous jobs (title, dates, location):
Current job (title, dates):

Interests/skills/hobbies:
Religion:
Community/professional organization involvement (past & present):

What public emergencies or natural disasters have you experienced during your lifetime?

Is there anything specific you would like me to ask you during the interview?

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TRAFFIC IMPACT ANALYSIS REPORT

APPENDIX F

TRAFFIC IMPACT ANALYSIS REPORT
BALDWIN HIGH SCHOOL MASTER PLAN

WAILUKU, MAUI, HAWAII

DRAFT

November 18, 2024

Prepared for:

InForm Design
1347 Kapiolani Boulevard, Suite 401
Honolulu, Hawaii 96814

Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors
501 Sumner Street, Suite 521
Honolulu, Hawaii 96817-5031
Telephone: (808) 533-3646
Facsimile: (808) 526-1267
E-mail: atahnl@atahawaii.com
Honolulu • Wailuku, Hawaii

TRAFFIC IMPACT ANALYSIS REPORT
BALDWIN HIGH SCHOOL MASTER PLAN

Wailuku, Maui, Hawaii

DRAFT

Prepared for

InForm Design

Prepared by

Austin, Tsutsumi & Associates, Inc.

Civil Engineers • Surveyors
Honolulu • Wailuku, Hawaii

November 18, 2024

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APPENDICES

A. TRAFFIC COUNT DATA

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C. LEVEL OF SERVICE CALCULATIONS

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. ARASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S., LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

BALDWIN HIGH SCHOOL MASTER PLAN
TRAFFIC IMPACT ANALYSIS REPORT

Wailuku, Maui, Hawaii

1. INTRODUCTION

This report documents the findings of a traffic study conducted by Austin, Tsutsumi & Associates, Inc. (ATA) to evaluate the potential traffic impacts resulting from the proposed Baldwin High School (BHS) Master Plan (hereinafter referred to as the "Project") located in Wailuku, Maui, Hawaii.

1.1 Project Description

The Project proposes to construct improvements to the BHS campus in two phases:

- Phase 1:
  - Construction of athletic facilities including new locker rooms, two (2) designated sports practice fields and other ancillary improvements including the construction of four (4) new classrooms in the proposed Athletic Facilities Building located near the existing basketball courts.

- Phase 2:
  - Construction of facilities including new classroom buildings to replace existing portables.

Access to the site is provided via driveways off of Kaahumanu Avenue and Kanaloa Avenue. Estimated time of completion is currently projected to be 2034 for Phase 1, and 2054 for completion of both Phase 1 and Phase 2.

See Figure 1.1 for Location Map. See Figure 1.2 for Site Plan.

1.2 Study Methodology

This study will address the following:

- Assess existing traffic operating conditions during the weekday AM/PM/School (SCH) peak hours of traffic within the study area.
- Traffic projections for Base Year 2054 (without the Project).
- Reroute the vehicular trips that will be affected by the Project.
- Traffic projections for Future Year 2054 (with the Project).
- Provide recommendations for mitigative measures, as appropriate, to reduce or eliminate the adverse impacts resulting from changes to traffic operations caused by the Project.

1.3 Intersection Analysis

Level of Service (LOS) is a qualitative measure used to describe the conditions of traffic flow at intersections, with values ranging from free-flow conditions at LOS A to congested conditions at LOS F. The Highway Capacity Manual (HCM), 7th Edition, includes methods for calculating volume to capacity ratios, delays, and corresponding Levels of Service that were used in this study. See Appendix A for Level of Service Criteria.

Analyses for the study intersections were performed using the traffic analysis software Synchro, which is able to prepare reports based on the methodologies described in the HCM. These reports contain control delay results based on intersection lane geometry, signal timing, and hourly traffic volumes. Based on the vehicular delay at each intersection, an LOS is assigned to each approach and intersection movement as a qualitative measure of performance. These results, as confirmed or refined by field observations, constitute the technical analysis that will form the basis of the recommendations outlined in this report.

BALDWIN HIGH SCHOOL MASTER PLAN

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

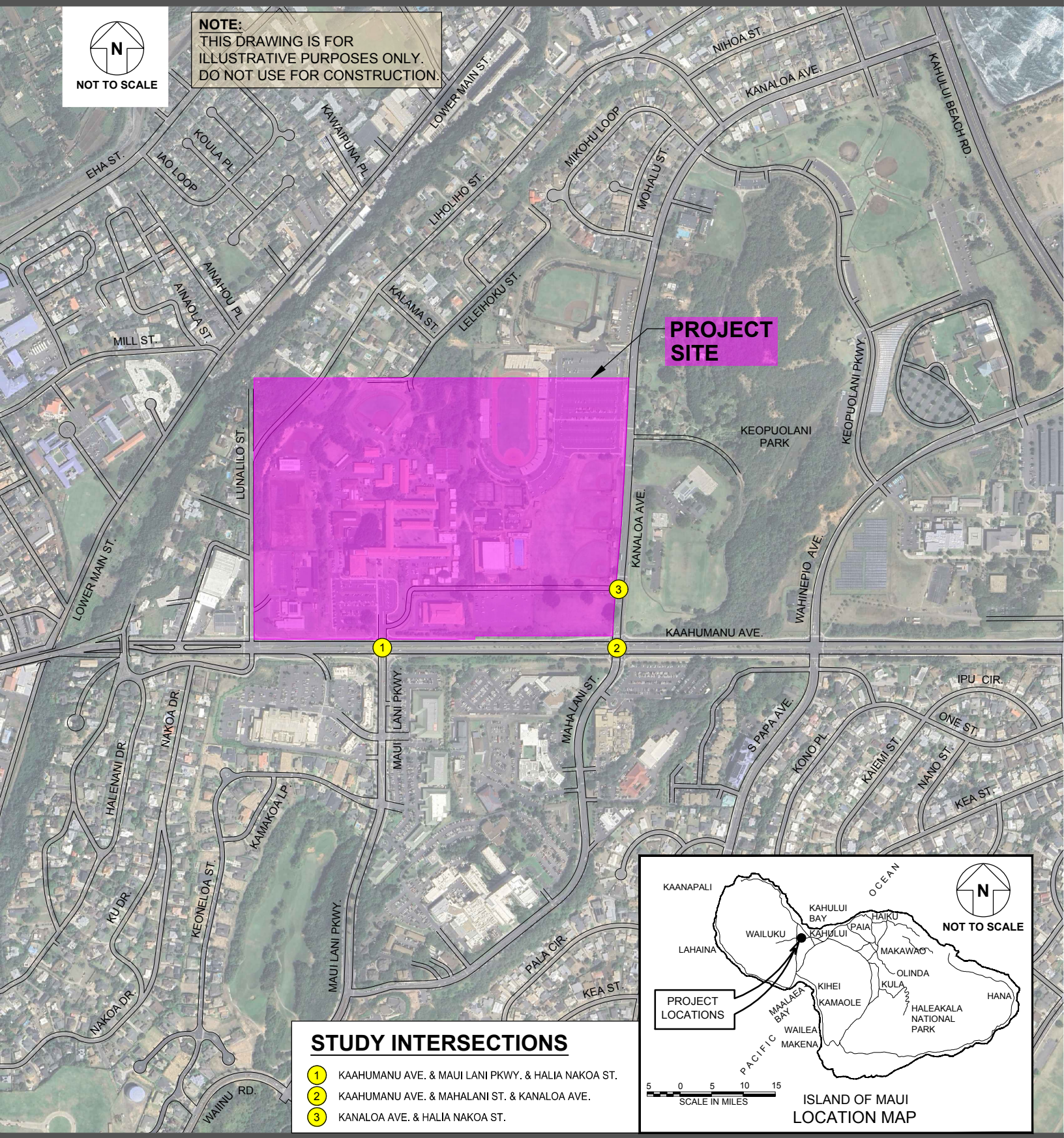

FIGURE 1.1

LOCATION MAP

BALDWIN HIGH SCHOOL MASTER PLAN

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

N
NOT TO SCALE

NOTE:
THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

Baldwin Campus Plan

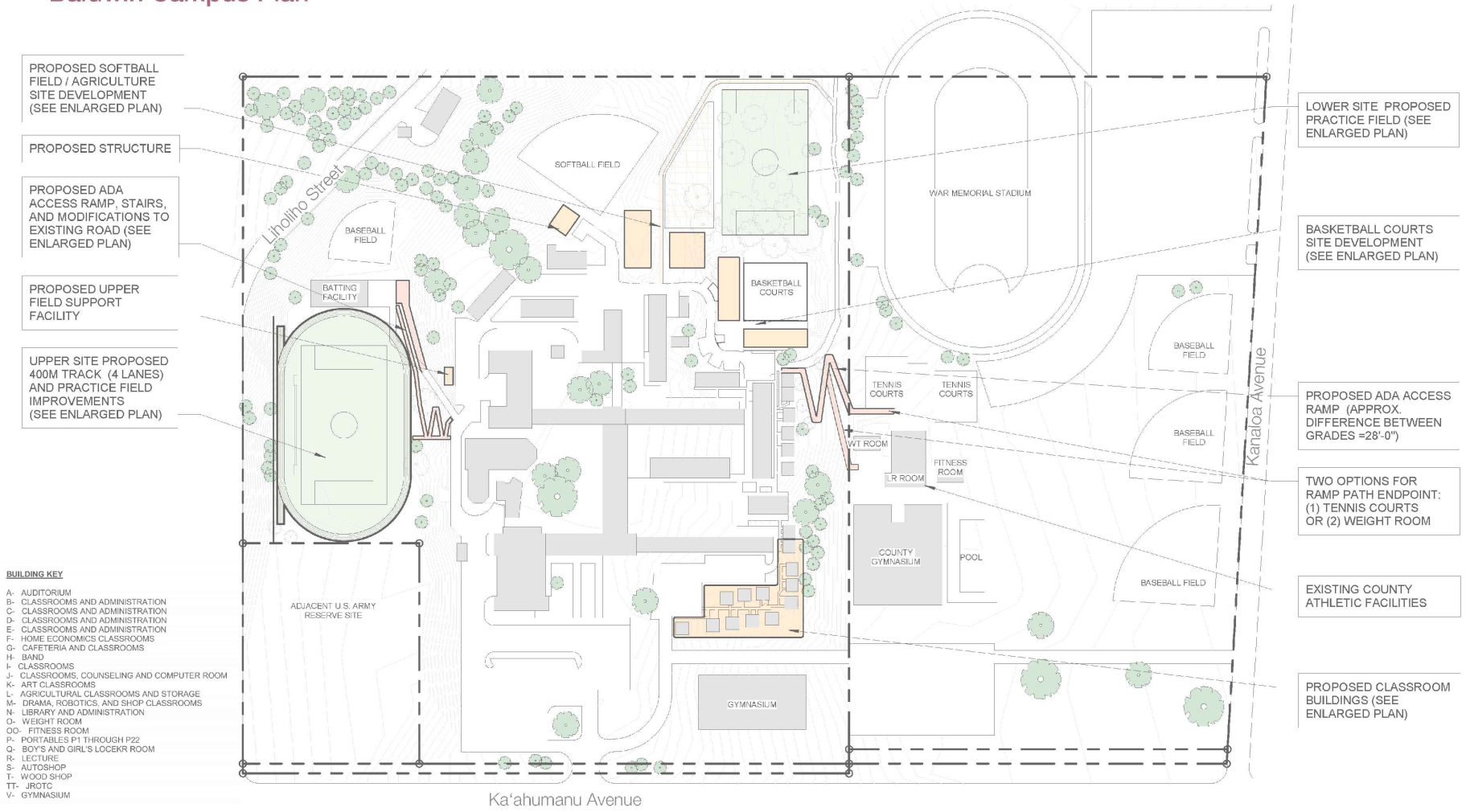

FIGURE 1.2

SITE PLAN

2. EXISTING CONDITIONS

2.1 Pedestrian Facilities

Sidewalks are provided along the following studied roadways:

- Kaahumanu Avenue
  - Along the north side within the Project vicinity.
  - Along the south side from Lunalilo Street to Maui Lani Parkway, and from Mahalani Street to Hobron Avenue.
- Maui Lani Parkway
  - Along both sides within the Project vicinity.
- Kanaloa Avenue
  - Along the west side within the Project vicinity.
  - Along the east side from Mikohu Loop to Kahului Beach Road.
- Mahalani Street along the west side within the Project vicinity.
- Halia Nakoa Street
  - Along the north side fronting the War Memorial Gymnasium and Little League Fields.

2.2 Bicycle Facilities

The following bicycle facilities are provided along the studied roadways:

- Kaahumanu Avenue & Kanaloa Avenue
  - Bicycle lane along both sides within the Project vicinity.
- Maui Lani Parkway
  - Bicycle lane along the west side within the Project vicinity.
  - Bicycle lane along the east side from Kaahumanu Avenue to Mahalani Street.
- Mahalani Street
  - Bicycle lane along the west side within the Project vicinity.

According to the 2003 Bike Plan Hawaii Master Plan (last updated 2022), there are no planned bicycle improvements to the studied roadways. However, internal roads within the Maui Lani development are proposed to have bicycle lanes in the future, although the specific roads were unspecified. Additionally, there may be additional bicycle lanes implemented on Maui Lani Parkway once the north and south sections are connected.

2.3 Transit Facilities

The Maui Bus provides service in and between various Central Maui, South Maui, West Maui, Haiku, Kula and Upcountry Maui communities. As of the writing of this report, the general one-way fare is $2.00, a daily pass is $4.00, and a month pass is $45.00, with no fare for seniors and for children under 5 years traveling with a paying passenger.

There are two (2) bus routes with bus stops within the Project vicinity; Route 1 & 2 – Wailuku Loop & Reverse route.

According to Hele Mai Maui (2019), a transit and transit-oriented development (TOD) corridor study was planned and funded for Ka'ahumanu Avenue between Kahului and Wailuku. In 2022, the Kaahumanu Avenue Community Corridor Action Plan Summary was completed, although funding and timelines for specific improvements have not yet been determined.

Existing pedestrian, bicycle, and transit facilities are shown in Figure 2.1.

2.4 Roadway Network

The following are brief descriptions of the existing roadways studied within the vicinity of the Project:

Kaahumanu Avenue is generally an east-west, two-way, four-lane divided roadway within the vicinity of the Project. West Kaahumanu Avenue is part of a regional corridor, beginning to the west as Main Street before transitioning into West Kaahumanu Avenue at its intersection with Kinipopo Street and running east until it transitions into East Kaahumanu Avenue at its intersection with Puunene Avenue. East Kaahumanu Avenue transitions into Hana Highway near Hobron Avenue, which runs east and north towards Paia and Hana. Within the vicinity of the Project, the posted speed limit along West Kaahumanu Avenue is 45 miles per hour (mph).

Maui Lani Parkway is currently a two-section roadway with a separated northern section and southern section. The northern section is a two-way, four-lane divided collector road that is bound by its intersections with Kaahumanu Avenue to the north and Waiinu Road/Puumele Street to the south. The north leg of Maui Lani Parkway/Kaahumanu Avenue intersection serves as the main vehicle access for Baldwin High School. The posted speed limit of the northern section is 30 mph.

The southern section of Maui Lani Parkway is a two-way, two-lane, collector roadway that connects Kuikahi Drive with Kuihelani Highway and has a posted speed limit of 30 mph. The segment between Kuikahi Drive and Waiinu Road/Puumele Street is currently not constructed.

Kanaloa Avenue is generally a north-south, two-way, four-lane undivided roadway. It begins to the north at its intersection with Kahului Beach Road, bends to the west, and terminates to the south with its intersection with West Kaahumanu Avenue. The posted speed limit within the vicinity of the Project is 30 mph.

Mahalani Street is a two-way, two-lane roadway beginning at Maui Lani Parkway and extends to the northeast terminating at Kaahumanu Avenue. Mahalani Street serves as the primary vehicle access to Maui Memorial Hospital. The posted speed limit along Mahalani Street is 20 mph.

Halia Nakoa Street is generally an east-west, two-way, undivided internal roadway within Baldwin High School. It begins to the west with its intersection with the Baldwin High School Access roadway and bends to the north for 200 feet, then curves back to the east, running through the Coach Sakamoto Pool parking lot until it intersects with Kanaloa Avenue. The posted speed limit was not observed along the roadway.

BALDWIN HIGH SCHOOL MASTER PLAN

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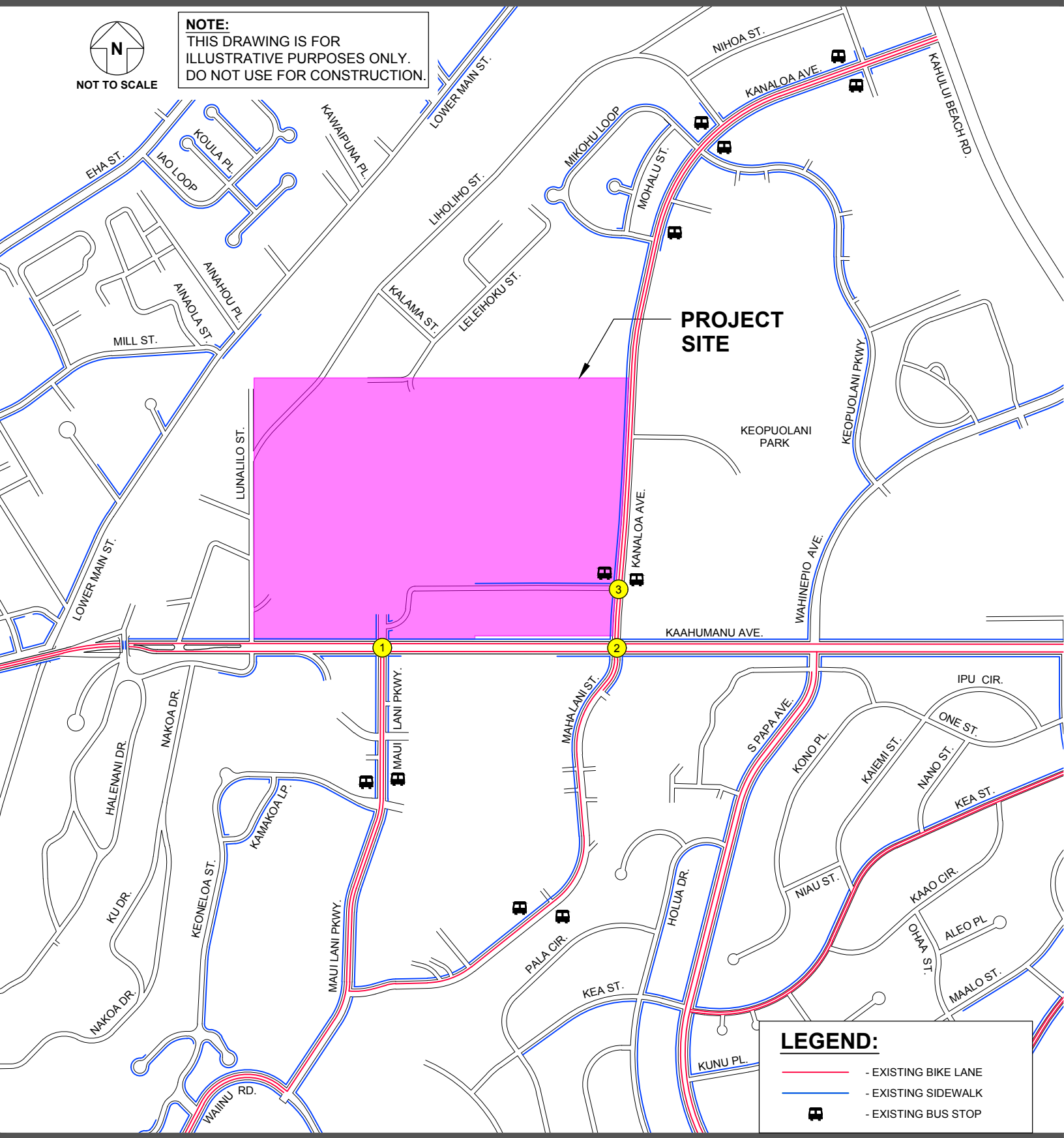

FIGURE 2.1

EXISTING PEDESTRIAN, AND TRANSIT FACILITIES

2.5 Existing Traffic Volumes

Intersection analysis within the study area was performed on the following intersections due to their proximity to the Project. Turning movement volumes were collected at each of the following study intersections on Tuesday, September 10, 2024:

- Kaahumanu Avenue/Maui Lani Parkway (signalized)
- Kaahumanu Avenue/Kanaloa Avenue/Mahalani Street (signalized)
- Kanaloa Avenue/Halia Nakoa Street (unsignalized)

Based on the traffic count data, the weekday AM peak hour of traffic was determined to occur from 7:00 AM to 8:00 AM, the SCH peak hour of traffic was determined to occur from 2:15 PM to 3:15 PM, and the weekday PM commuter peak hour of traffic was determined to occur from 3:30 PM to 4:30 PM. The traffic count data is provided in Appendix B for the existing intersections studied.

2.6 Existing Intersection Analysis

At the Kanaloa Avenue intersections with Kaahumanu Avenue and Halia Nakoa Street, all movements operate at LOS D or better. At the Kaahumanu Avenue/Maui Lani Parkway intersection, most movements operate at LOS D or better except for the following:

Kaahumanu Avenue/Maui Lani Parkway

This intersection recently modified the signal phasing, providing split phasing along the northbound and southbound approaches of Maui Lani Parkway.

The mainline left-turn movements and various northbound Maui Lani Parkway movements operate at LOS E during all peak hours of traffic. During the AM peak hour for school drop-off, the eastbound left-turn movement and westbound right-turn movement can occasionally queue back beyond its storage lane due to student drop-off. During the AM and PM peak hours, the westbound left-turn movement can queue back to the length of its storage lane. However, all vehicles typically clear in one signal cycle and all movements operate below capacity.

The crosswalk on the west leg of the intersection crossing Kaahumanu Avenue services many student crossings during the AM and SCH peak periods of time.

Figure 2.2 illustrates the existing lane configuration, existing traffic volumes, and LOS for each study intersection. Table 2.1 summarizes the existing LOS at the study intersections. LOS worksheets are provided in Appendix C.

BALDWIN HIGH SCHOOL MASTER PLAN

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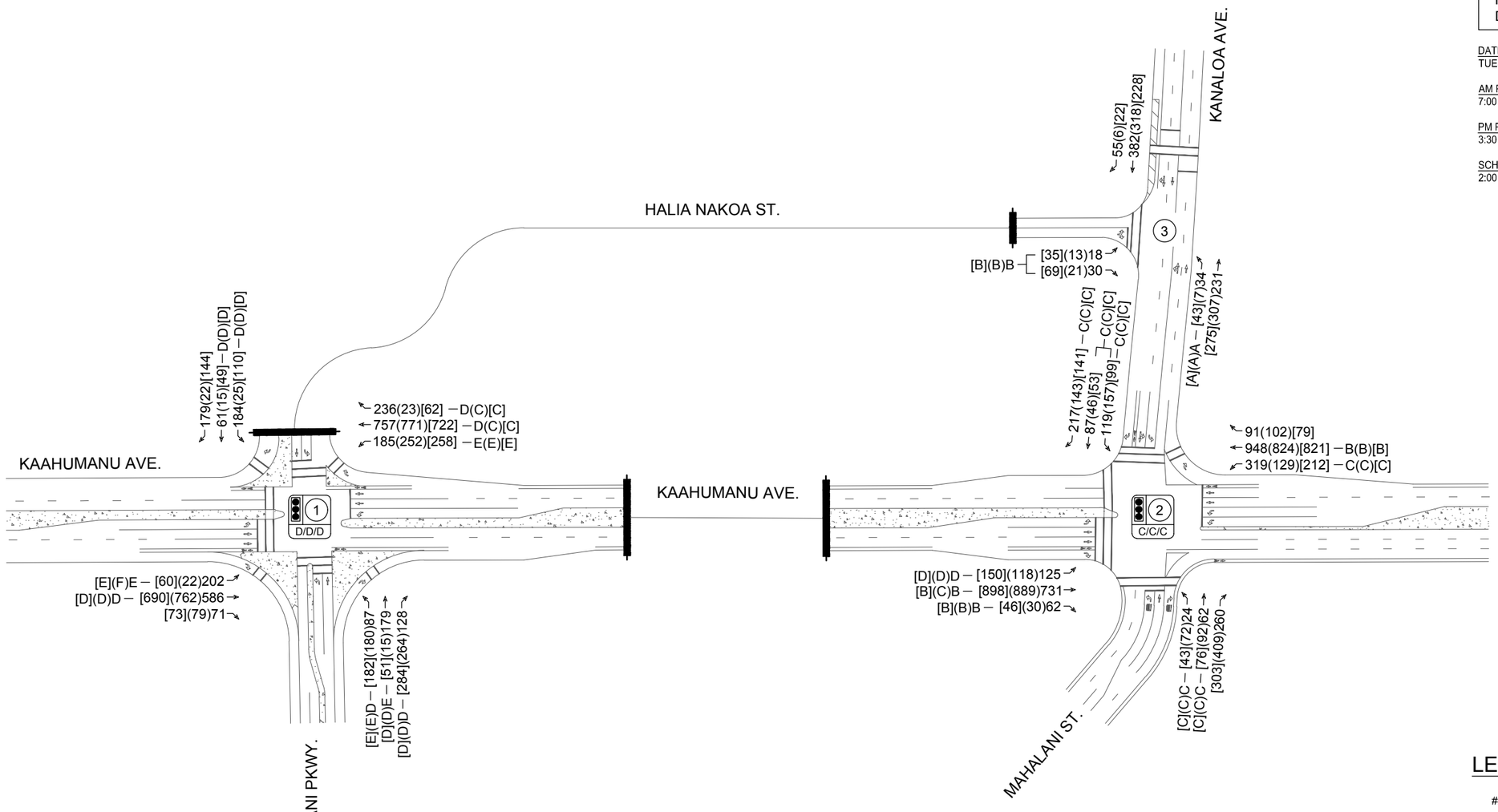
DATE OF COUNTS:
TUESDAY, SEPTEMBER 10, 2024

AM PEAK HOUR:
7:00 AM - 8:00 AM

PM PEAK HOUR:
3:30 PM - 4:30 PM

SCH (SCHOOL) PEAK HOUR:
2:00 PM - 3:00 PM



LEGEND

##(##)[##]	- AM(PM)[SCH] VEHICLE VOLUMES
X	- UNSIGNALIZED INTERSECTION X
Y / X/X/X	- SIGNALIZED INTERSECTION Y, OVERALL AM(PM)[SCH] LOS
X(X)[X]	- AM(PM)[SCH] LOS

FIGURE 2.2

EXISTING CONDITIONS LANEAGE, VOLUMES, AND LOS

Table 2.1: Existing Conditions Level of Service Summary

Intersection	Existing Conditions								
	AM			PM			SCH		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Maui Lani Parkway & Kaahumanu Avenue									
NB LT	53.5	0.42	D	67.0	0.86	E	64.1	0.85	E
NB TH	61.9	0.81	E	52.2	0.07	D	51.7	0.22	D
NB RT	50.3	0.08	D	53.5	0.19	D	51.8	0.21	D
EB LT	64.3	0.88	E	80.5	0.61	F	75.6	0.77	E
EB TH	40.3	0.61	D	47.9	0.83	D	48.3	0.83	D
WB LT	65.1	0.87	E	64.7	0.90	E	62.6	0.90	E
WB TH	45.5	0.82	D	29.4	0.55	C	32.7	0.58	C
WB RT	35.6	0.18	D	22.4	0.02	C	25.6	0.04	C
SB LT	38.9	0.41	D	38.2	0.06	D	38.2	0.25	D
SB TH	35.5	0.13	D	38.0	0.03	D	36.5	0.11	D
OVERALL	47.8	-	D	44.8	-	D	45.9	-	D
2: Mahalani Street/Kanaloa Aveue & Kaahumanu Avenue									
NB LT	31.2	0.18	C	30.5	0.44	C	30.5	0.29	C
NB TH	33.3	0.4	C	31.4	0.5	C	32.1	0.5	C
EB LT	38.1	0.76	D	36.7	0.76	D	35.8	0.77	D
EB TH	20	0.63	B	19	0.72	B	19	0.73	B
EB RT	15.2	0.04	B	13.3	0.02	B	13.6	0.03	B
WB LT	31.5	0.7	C	32.8	0.6	C	32.1	0.7	C
WB TH	19.3	0.7	B	19.8	0.7	B	19.6	0.7	B
SB LT	34.0	0.6	C	30.6	0.5	C	31.8	0.5	C
SB LT/TH	34.0	0.6	C	31.7	0.6	C	32.1	0.5	C
SB RT	29.5	0.1	C	26.9	0.1	C	28.8	0.1	C
OVERALL	23.8	-	C	22.9	-	C	23.1	-	C
3: Kanaloa Aveue & Halia Nakoa Street									
NB LT/TH	8.4	0.0	A	8.0	0.0	A	7.9	0.0	A
EB LT/RT	12.1	0.1	B	10.9	0.1	B	11.2	0.2	B
OVERALL	1.2	-	-	0.7	-	-	2.3	-	-

3. BASE YEAR CONDITIONS

The year 2054 was selected to reflect the completion year for the full buildout of the Project as mentioned above. The Base Year 2054 scenario represents the traffic conditions within the study area without the Project.

3.1 De Facto Growth Rate

Background traffic growth in the study area was estimated based on the Maui Regional Travel Demand Model (MRTDM). The MRTDM uses data from 2019 as its baseline before assigning land uses and socioeconomic data to Traffic Analysis Zones (TAZs) to generate and assign traffic across the roadway network. Based on the MRTDM, annual background growth rates of 0.42% and 0.60% were applied along Kaahumanu Avenue and Kanaloa Avenue, respectively, to estimate Base Year 2054 conditions without the Project.

3.2 Background Developments

By Year 2054, the following nearby developments may be constructed.

- **Hale Mahaolu Ke Kahua** – proposed 120-unit affordable housing development on a roughly 13-acre site located in Waiehu, east of Kahekili Highway and south of Waiehu Beach Road, directly across from the Project site. The project will also include a 3,000 square foot (SF) non-profit building and a 3,600 SF community center.
- **Kehalani Mauka** – Expansion of the existing residential subdivision located north of Kuikahi Drive, west of Honoapiilani Highway and east of Wailuku Heights. Kehalani Mauka is partially developed with residential homes and the Puu Kukui Elementary School. Based on the latest projections, it is anticipated that Kehalani Mauka will be fully complete by the Year 2028, which includes full build-out and occupancy of the remaining 345 single-family units currently under construction.
- **Waikapu Country Town** – This future development is currently satisfying required conditions to obtain building permits for construction. When fully built out, this development will construct 1,579 residential units, 169,600 SF commercial space and a 750-student Elementary School. As of the writing of this report, the project has not broken ground and was therefore assumed to be 25% built-out by 2028.
- **Waikapu Ventures Affordable Housing** – Proposed residential subdivision with 68 single-family units and 12 multi-family units on land bound by Emmanuel Lutheran Pre-School to the north, Waiale Elua to the south, Waiale Road to the east, and Honoapiilani Highway to the west. The forecast AM and PM peak hour trips were obtained from the Project's TIAR dated 2018 and added to the roadway network.
- **Kaulana Mahina** – Proposed 324 multi-family dwelling units upon 14.4 acres of undeveloped land bound by Kuikahi Drive to the north, the proposed Emmanuel Lutheran Pre-School to the south, Waiale Road to the east, and Honoapiilani Highway to the west. Vehicular access is anticipated to be provided by two new project accesses; one along Kuikahi Drive directly across the Kehalani Village Center driveway and one along Waiale Road. At the time of the count, over 50% of the site was occupied.

- **Ag Subdivision Lots** – Proposed five (5) Ag lots, adjacent and to the west of the Project site. Build-out and occupancy is unknown, but for purposes of this TIAR, was assumed to be occupied by Year 2028. Ohana units will be permitted and access to the site will occur temporarily by the existing dirt road easement just north of the Waiolani Subdivision. Permanent access will occur via the future Puunani Homestead south access.

- **Puunani Homesteads** – Proposed 137 turn-key homes and 24 vacant residential lots, for a total of 161 single-family dwelling units, bounded by Honoapiilani Highway to the east and the Waiolani residential subdivision to the south. Access to the site will occur via two (2) new driveways off of Honoapiilani Highway. The forecast AM and PM peak hour trips were obtained from the Project's TIAR dated August 31, 2020 and was added to the roadway network.
- **Kuikahi Residential** – Proposed development of a total of 204 residential units, including 120 multi-family residential units, 34 duplex units, 16 live-work units, 28 studio units, and 6 single-family lots. Access to the site is proposed via two (2) new driveways off of Kuikahi Drive, with primary access from a new leg at the Kuikahi Drive/Kehalani Mauka Parkway intersection which will convert the existing T-intersection into a 4-way intersection. Secondary access to the Kuikahi Residential project will be provided via a new driveway from Kuikahi Drive located approximately 0.20 miles west of the primary driveway.
- **Kahului Civic Center Mixed Use Complex** – Proposed development of 300 affordable multi-family dwelling units, government office space, a library and community school for adults. The Project will be located on the southeast corner of the Kaahumanu Avenue/Kane Street intersection and is currently going through entitlements.
- **Maui County Bus Transit Hub** – The Maui County Bus Hub currently operates at the Queen Kaahumanu Center. The bus hub will relocate soon to a space along Vevau Street, adjacent to the Kahului Civic Center Mixed Use Complex. The bus hub is anticipated to open in November 2024.
- **Maui Palms Hampton Inn and Suites** – This project plans to redevelop the former 102-room Maui Palms Hotel in Kahului into a new 136-room hotel including a lobby building, pool, and a small grill offering breakfast and a gazebo for special events. The hotel is scheduled to open in the first quarter of 2025.

3.3 Base Year 2054 Analysis

By Year 2054, traffic is anticipated to increase over existing conditions due to other known developments and de facto growth within the Wailuku and Kahului regions. Actual growth within the study region may vary based on the approval process and actual construction timelines of the various projects. Traffic will generally operate similar to existing conditions with the exception of the following movements:

Kaahumanu Avenue/Maui Lani Parkway

The northbound left-turn and right-turn movements will go from LOS D to LOS E for all peak hours of traffic mainly due to potential regional increases from the Wailuku area. However, all movements will continue operating below capacity.

Table 3.1 shows a summary of the Base Year 2054 delay, v/c ratio, and LOS. Figure 3.1 shows the Base Year 2054 traffic volumes and lane configuration at the study intersections. LOS worksheets are provided in Appendix C.

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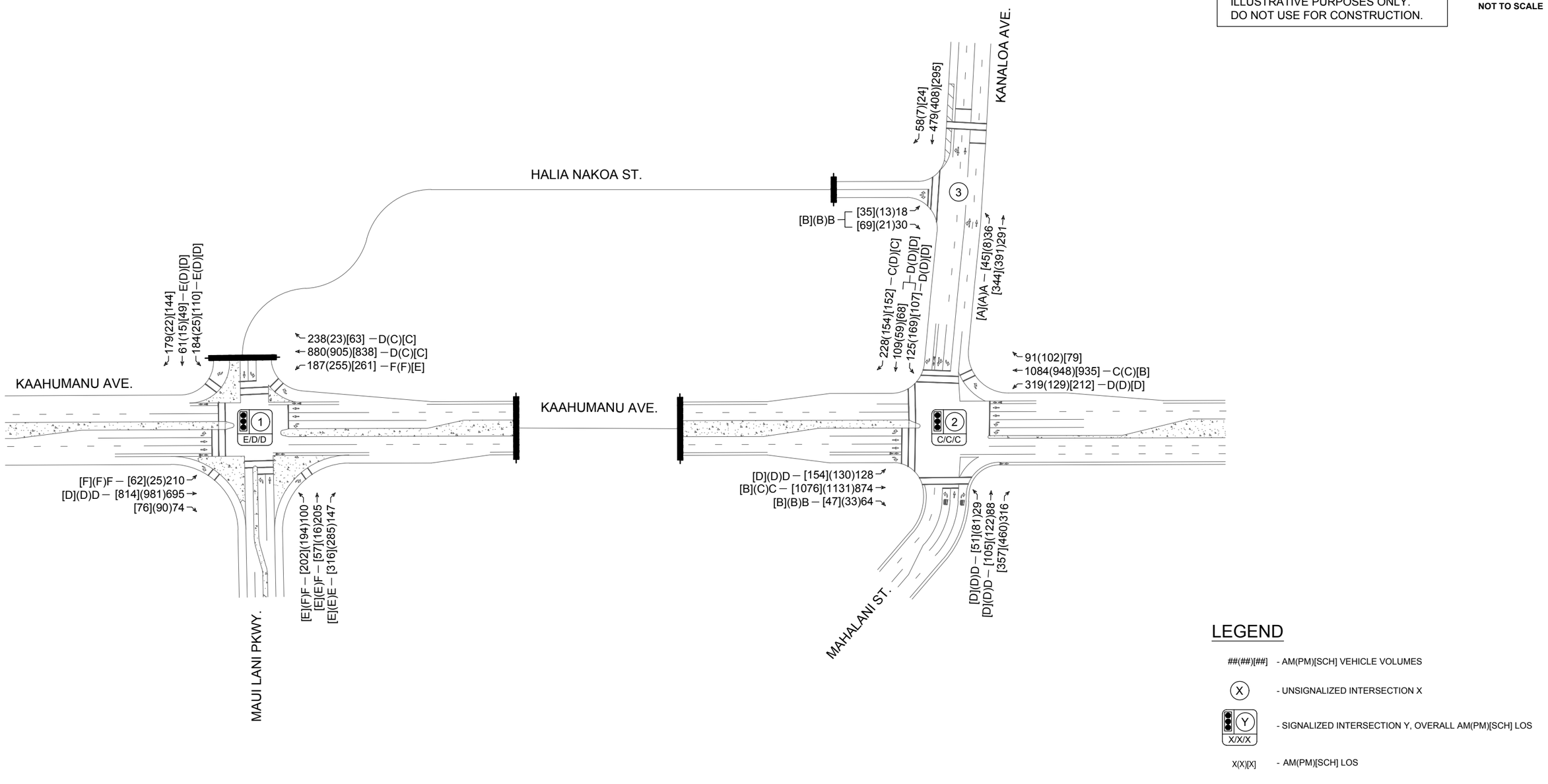

LEGEND

##(##)[##]	- AM(PM)[SCH] VEHICLE VOLUMES
X	- UNSIGNALIZED INTERSECTION X
Y, X/X/X	- SIGNALIZED INTERSECTION Y, OVERALL AM(PM)[SCH] LOS
X(X)[X]	- AM(PM)[SCH] LOS

FIGURE 3.1

BASE YEAR 2054 CONDITIONS
LANEAGE, VOLUMES, AND LOS

Table 3.1: Existing Conditions and Base Year 2054 Level of Service Summary

Intersection	Existing Conditions									Base Year 2054 Conditions								
	AM			PM			SCH			AM			PM			SCH		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Maui Lani Parkway & Kaahumanu Avenue																		
NB LT	53.5	0.42	D	67.0	0.86	E	64.1	0.85	E	60.3	0.43	E	82.1	0.89	F	72.5	0.87	E
NB TH	61.9	0.81	E	52.2	0.07	D	51.7	0.22	D	70.3	0.85	E	63.6	0.07	E	58.0	0.23	E
NB RT	50.3	0.08	D	53.5	0.19	D	51.8	0.21	D	57.0	0.14	E	65.3	0.21	E	58.1	0.22	E
EB LT	64.3	0.88	E	80.5	0.61	F	75.6	0.77	E	74.0	0.89	E	102.9	0.71	F	85.0	0.78	F
EB TH	40.3	0.61	D	47.9	0.83	D	48.3	0.83	D	43.1	0.64	D	54.5	0.87	D	52.4	0.85	D
WB LT	65.1	0.87	E	64.7	0.90	E	62.6	0.90	E	75.2	0.88	E	85.3	0.92	F	74.4	0.91	E
WB TH	45.5	0.82	D	29.4	0.55	C	32.7	0.58	C	49.7	0.85	D	30.2	0.56	C	34.7	0.61	C
WB RT	35.6	0.18	D	22.4	0.02	C	25.6	0.04	C	38.4	0.26	D	21.8	0.02	C	26.1	0.05	C
SB LT	38.9	0.41	D	38.2	0.06	D	38.2	0.25	D	48.7	0.45	D	51.9	0.07	D	46.9	0.28	D
SB TH	35.5	0.13	D	38.0	0.03	D	36.5	0.11	D	44.3	0.14	D	51.5	0.04	D	44.8	0.12	D
OVERALL	47.8	-	D	44.8	-	D	45.9	-	D	53.0	-	D	51.4	-	D	50.7	-	D
2: Mahalani Street/Kanaloa Aveue & Kaahumanu Avenue																		
NB LT	31.2	0.18	C	30.5	0.44	C	30.5	0.29	C	36.2	0.22	D	38.1	0.48	D	35.2	0.34	D
NB TH	33.3	0.4	C	31.4	0.5	C	32.1	0.5	C	41.1	0.6	D	41.5	0.7	D	39.7	0.7	D
EB LT	38.1	0.76	D	36.7	0.76	D	35.8	0.77	D	43.3	0.78	D	44.6	0.78	D	40.7	0.79	D
EB TH	20	0.63	B	19	0.72	B	19	0.73	B	21	0.67	C	21	0.77	C	20	0.76	B
EB RT	15.2	0.04	B	13.3	0.02	B	13.6	0.03	B	15.2	0.04	B	13.1	0.02	B	12.9	0.03	B
WB LT	31.5	0.7	C	32.8	0.6	C	32.1	0.7	C	36.7	0.8	D	41.5	0.6	D	37.1	0.7	D
WB TH	19.3	0.7	B	19.8	0.7	B	19.6	0.7	B	20.6	0.8	C	21.3	0.7	C	19.8	0.7	B
SB LT	34.0	0.6	C	30.6	0.5	C	31.8	0.5	C	39.3	0.7	D	38.8	0.6	D	38.6	0.6	D
SB LT/TH	34.0	0.6	C	31.7	0.6	C	32.1	0.5	C	38.9	0.7	D	40.2	0.7	D	38.8	0.6	D
SB RT	29.5	0.1	C	26.9	0.1	C	28.8	0.1	C	33.5	0.1	C	33.7	0.1	C	33.5	0.1	C
OVERALL	23.8	-	C	22.9	-	C	23.1	-	C	26.0	-	C	26.0	-	C	24.6	-	C
3: Kanaloa Aveue & Halia Nakoa Street																		
NB LT/TH	8.4	0.0	A	8.0	0.0	A	7.9	0.0	A	8.8	0.0	A	8.3	0.0	A	8.1	0.0	A
EB LT/RT	12.1	0.1	B	10.9	0.1	B	11.2	0.2	B	13.4	0.1	B	11.9	0.1	B	12.2	0.2	B
OVERALL	1.2	-	-	0.7	-	-	2.3	-	-	1.2	-	-	0.6	-	-	2.1	-	-

4. FUTURE YEAR CONDITIONS

The Future Year scenarios represent the traffic conditions within the Project study area at various stages of the Project's construction.

4.1 Project Description

The Project proposes to construct improvements to the BHS campus in two phases:

- Phase 1:
  - Construction of athletic facilities including new locker rooms, two (2) designated sports practice fields and other ancillary improvements including the construction of four (4) new classrooms in the proposed Athletic Facilities Building located near the existing basketball courts.

- Phase 2:
  - Construction of facilities including new classroom buildings to replace existing portables.

Access to the site is provided via driveways off of Kaahumanu Avenue and Kanaloa Avenue. Estimated time of completion is currently projected to be 2034 for Phase 1, and 2054 for completion of both Phase 1 and Phase 2.

4.2 Trip Generation

The year 2054 was analyzed to reflect full build-out conditions of both Phase 1 and Phase 2 of the Project. From a trip generation perspective, the new classrooms planned for construction in Phase 1 and Phase 2 are not anticipated to independently generate new trips. However, Project trips were increased to account for potential student enrollment increases over the next 30 years. According to BHS administration, student enrollment has steadily decreased over the last 30 years and could continue to decrease in the future. The 2024 enrollment at BHS is 1,266, and the post Project-buildout enrollment forecast is 1,200-1,350. In order to be conservative, a future enrollment of 1,350 students was assumed for Future Year 2054. The ITE Trip Generation Manual, 11th Edition was used to estimate the number of vehicular trips generated by this student enrollment increase. Table 4.1 shows the Trip Generation Rate for High School and Table 4.2 shows the Project Trips from Future Enrollment.

The two sports practice fields in Phase 1 are planned to be used only for BHS-related sports practices. The proposed practice fields are located directly west of the War Memorial Stadium, and directly west of the BHS Library. Trips for these fields were projected based on observations performed at two similar nearby practice fields in the afternoon PM peak hour, which generated an average of 10 entering trips and 5 exiting trips per field. Table 4.3 shows the Total Project Trip Generation.

Table 4.1: Trip Generation Rate

Land Use (ITE Code)	Independent Variable	AM Peak Hour		SCH Peak Hour	
		Trip Rate	% Enter	Trip Rate	% Enter
High School (525)	Students	[a]	68%	[b]	32%
[a] Ln(T) = 0.73Ln(X) + 1.24 [b] Ln(T) = 0.74Ln(X) + 0.72					

Table 4.2: Project Trips from Future BHS Enrollment

		AM Trips			SCH Trips			PM Trips [1]		
	Students	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Future Enrollment	1,350	453	213	666	136	290	426	136	290	426
Current Enrollment	1,266	432	204	636	130	276	406	130	276	406
Additional Trips to Network		**21**	**9**	**30**	**6**	**14**	**20**	**6**	**14**	**20**

1. PM peak hour trip generation conservatively assumed to be identical to SCH peak hour trip generation.

Table 4.3: Total Project Trip Generation

	AM Trips			SCH Trips			PM Trips[1]		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Increase in Enrollment	21	9	30	6	14	20	6	14	20
Practice Fields [1]	0	0	0	20	10	30	20	10	30
Total Project Trips	**21**	**9**	**30**	**26**	**24**	**50**	**26**	**24**	**50**

1. Trip generation based on observations performed at two similar nearby practice fields in the afternoon PM peak hour, which generated an average of 11 entering trips and 5 exiting trips. Trip generation numbers reflect projected trips for two (2) practice fields and conservatively included school peak trips, even though trips will likely be generated only in the PM peak hour.

4.3 Trip Distribution

Trips generated by the proposed Project were assigned throughout the study area generally based upon existing traffic patterns and the proposed site plan. Figure 4.1 illustrates the Project-generated trips.

4.4 Future Year 2054 Analysis

For Future Year 2054 conditions, due to relatively low Project volume increases, all movements at the study intersections are expected to continue operating similar to Base Year 2054 conditions during peak hours of traffic. Delays will only increase by 0-2 seconds per movement and all movements will continue operating below capacity.

Table 4.4 shows a summary of the Future Year 2054 delay, v/c ratio, and LOS. Figure 4.2 shows the Future Year 2054 traffic volumes and LOS at the study intersections. LOS worksheets are provided in Appendix C.

BALDWIN HIGH SCHOOL MASTER PLAN

AustinTsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

NOTE:
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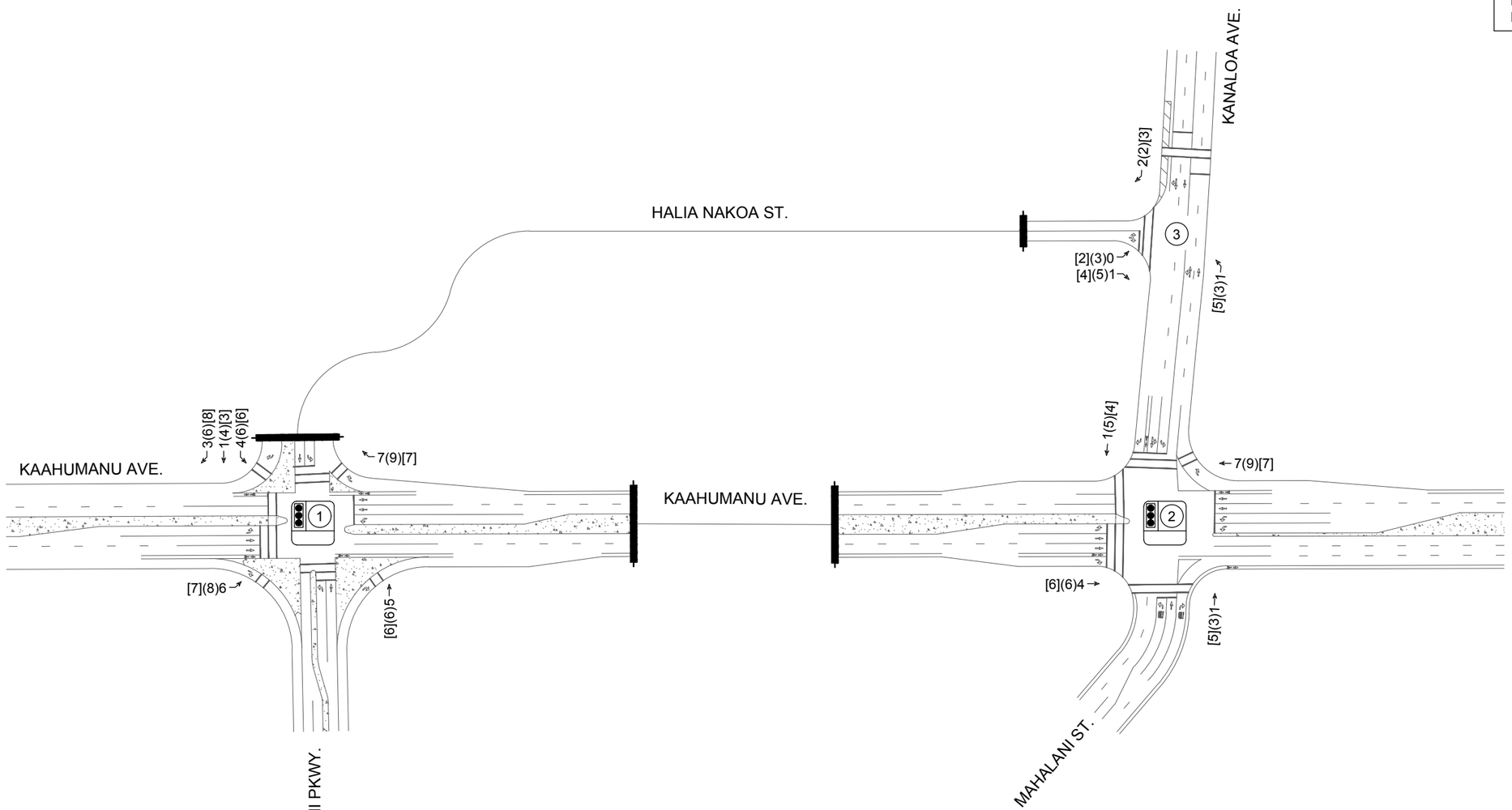

LEGEND

##(##)[##] - AM(PM)[SCH] VEHICLE VOLUMES

(X) - UNSIGNALIZED INTERSECTION X

(Y) - SIGNALIZED INTERSECTION Y

FIGURE 4.1

PROJECT TRIPS

BALDWIN HIGH SCHOOL MASTER PLAN

AustinTsutsumi & ASSOCIATES, INC. Engineers & Surveyors

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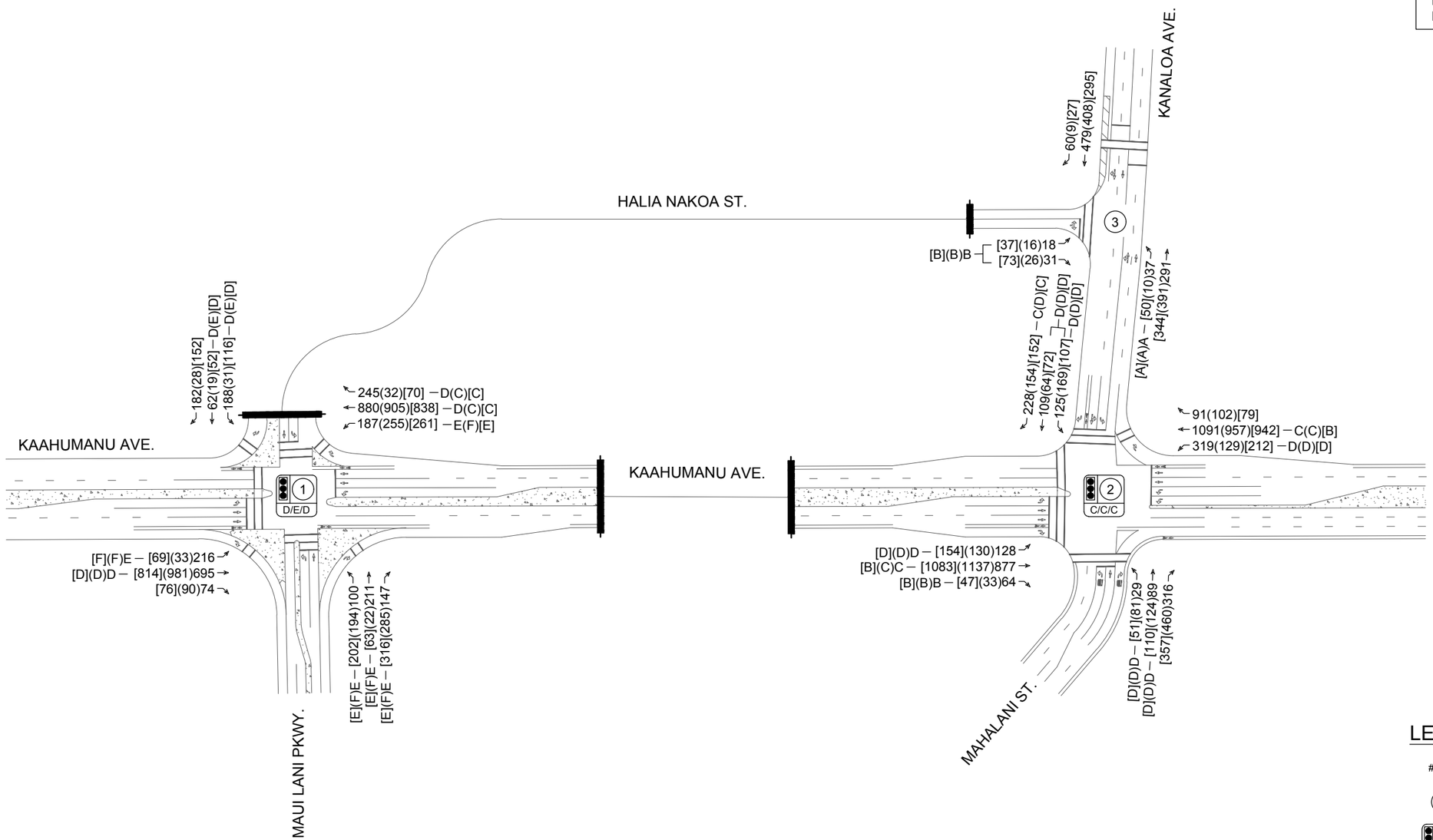

LEGEND

##(##)[##]	- AM(PM)[SCH] VEHICLE VOLUMES
X	- UNSIGNALIZED INTERSECTION X
Y / X/X/X	- SIGNALIZED INTERSECTION Y, OVERALL AM(PM)[SCH] LOS
X(X)[X]	- AM(PM)[SCH] LOS

FIGURE 4.2

FUTURE YEAR 2054 CONDITIONS
LANEAGE, VOLUMES, AND LOS

Table 4.4: Existing Conditions, Base Year 2054, and Future Year 2054 Level of Service Summary

	Existing Conditions									Base Year 2054 Conditions									Future Year 2054 Conditions								
	AM			PM			SCH			AM			PM			SCH			AM			PM			SCH		
Intersection	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
1: Maui Lani Parkway & Kaahumanu Avenue																											
NB LT	53.5	0.42	D	67.0	0.86	E	64.1	0.85	E	60.3	0.43	E	82.1	0.89	F	72.5	0.87	E	60.8	0.42	E	82.1	0.89	F	72.6	0.87	E
NB TH	61.9	0.81	E	52.2	0.07	D	51.7	0.22	D	70.3	0.85	E	63.6	0.07	E	58.0	0.23	E	71.2	0.85	E	63.9	0.10	E	58.1	0.24	E
NB RT	50.3	0.08	D	53.5	0.19	D	51.8	0.21	D	57.0	0.14	E	65.3	0.21	E	58.1	0.22	E	58.1	0.18	E	64.6	0.15	E	58.1	0.22	E
EB LT	64.3	0.88	E	80.5	0.61	F	75.6	0.77	E	74.0	0.89	E	102.9	0.71	F	85.0	0.78	F	74.9	0.90	E	103.4	0.77	F	84.5	0.78	F
EB TH	40.3	0.61	D	47.9	0.83	D	48.3	0.83	D	43.1	0.64	D	54.5	0.87	D	52.4	0.85	D	43.5	0.63	D	54.6	0.87	D	52.4	0.85	D
WB LT	65.1	0.87	E	64.7	0.90	E	62.6	0.90	E	75.2	0.88	E	85.3	0.92	F	74.4	0.91	E	76.5	0.89	E	85.3	0.92	F	74.5	0.91	E
WB TH	45.5	0.82	D	29.4	0.55	C	32.7	0.58	C	49.7	0.85	D	30.2	0.56	C	34.7	0.61	C	50.7	0.85	D	30.9	0.57	C	35.0	0.61	C
WB RT	35.6	0.18	D	22.4	0.02	C	25.6	0.04	C	38.4	0.26	D	21.8	0.02	C	26.1	0.05	C	38.7	0.23	D	22.4	0.03	C	26.3	0.05	C
SB LT	38.9	0.41	D	38.2	0.06	D	38.2	0.25	D	48.7	0.45	D	51.9	0.07	D	46.9	0.28	D	50.1	0.47	D	52.2	0.09	D	47.0	0.29	D
SB TH	35.5	0.13	D	38.0	0.03	D	36.5	0.11	D	44.3	0.14	D	51.5	0.04	D	44.8	0.12	D	45.4	0.15	D	51.7	0.05	D	44.8	0.12	D
OVERALL	47.8	-	D	44.8	-	D	45.9	-	D	53.0	-	D	51.4	-	D	50.7	-	D	54.0	-	D	51.7	-	D	50.8	-	D
2: Mahalani Street/Kanaloa Aveue & Kaahumanu Avenue																											
NB LT	31.2	0.18	C	30.5	0.44	C	30.5	0.29	C	36.2	0.22	D	38.1	0.48	D	35.2	0.34	D	36.5	0.22	D	38.4	0.49	D	35.4	0.34	D
NB TH	33.3	0.4	C	31.4	0.5	C	32.1	0.5	C	41.1	0.6	D	41.5	0.7	D	39.7	0.7	D	41.6	0.7	D	41.8	0.7	D	39.9	0.7	D
EB LT	38.1	0.76	D	36.7	0.76	D	35.8	0.77	D	43.3	0.78	D	44.6	0.78	D	40.7	0.79	D	43.5	0.78	D	44.9	0.78	D	40.9	0.79	D
EB TH	20	0.63	B	19	0.72	B	19	0.73	B	21	0.67	C	21	0.77	C	20	0.76	B	21	0.67	C	21	0.77	C	20	0.76	B
EB RT	15.2	0.04	B	13.3	0.02	B	13.6	0.03	B	15.2	0.04	B	13.1	0.02	B	12.9	0.03	B	15.1	0.04	B	13.1	0.02	B	13.0	0.03	B
WB LT	31.5	0.7	C	32.8	0.6	C	32.1	0.7	C	36.7	0.8	D	41.5	0.6	D	37.1	0.7	D	36.9	0.8	D	41.8	0.6	D	37.3	0.7	D
WB TH	19.3	0.7	B	19.8	0.7	B	19.6	0.7	B	20.6	0.8	C	21.3	0.7	C	19.8	0.7	B	20.7	0.8	C	21.4	0.7	C	19.8	0.7	B
SB LT	34.0	0.6	C	30.6	0.5	C	31.8	0.5	C	39.3	0.7	D	38.8	0.6	D	38.6	0.6	D	39.5	0.7	D	39.1	0.6	D	38.8	0.6	D
SB LT/TH	34.0	0.6	C	31.7	0.6	C	32.1	0.5	C	38.9	0.7	D	40.2	0.7	D	38.8	0.6	D	39.1	0.7	D	40.5	0.7	D	39.0	0.6	D
SB RT	29.5	0.1	C	26.9	0.1	C	28.8	0.1	C	33.5	0.1	C	33.7	0.1	C	33.5	0.1	C	33.8	0.1	C	33.9	0.1	C	33.7	0.1	C
OVERALL	23.8	-	C	22.9	-	C	23.1	-	C	26.0	-	C	26.0	-	C	24.6	-	C	26.1	-	C	26.2	-	C	24.7	-	C
3: Kanaloa Aveue & Halia Nakoa Street																											
NB LT/TH	8.4	0.0	A	8.0	0.0	A	7.9	0.0	A	8.8	0.0	A	8.3	0.0	A	8.1	0.0	A	8.8	0.0	A	8.3	0.0	A	8.1	0.0	A
EB LT/RT	12.1	0.1	B	10.9	0.1	B	11.2	0.2	B	13.4	0.1	B	11.9	0.1	B	12.2	0.2	B	13.4	0.1	B	12.0	0.1	B	12.2	0.2	B
OVERALL	1.2	-	-	0.7	-	-	2.3	-	-	1.2	-	-	0.6	-	-	2.1	-	-	1.2	-	-	0.7	-	-	2.2	-	-

5. REPORT SUMMARY & CONCLUSION

The Project proposes to construct improvements to the BHS campus in two phases:

- Phase 1:
  - Construction of athletic facilities including new locker rooms, two (2) designated sports practice fields and other ancillary improvements including the construction of four (4) new classrooms in the proposed Athletic Facilities Building located near the existing basketball courts.

- Phase 2:
  - Construction of facilities including new classroom buildings to replace existing portables.

Access to the site is provided via driveways off of Kaahumanu Avenue and Kanaloa Avenue. Estimated time of completion is currently projected to be 2034 for Phase 1, and 2054 for completion of both Phase 1 and Phase 2.

5.1 Existing Conditions

Turning movement traffic counts were collected at the study intersections on Tuesday, September 10, 2024. Based on the traffic count data, the weekday AM peak hour of traffic was determined to occur from 7:00 AM to 8:00 AM, the SCH peak hour of traffic was determined to occur from 2:15 PM to 3:15 PM, and the weekday PM commuter peak hour of traffic was determined to occur from 3:30 PM to 4:30 PM.

At the Kanaloa Avenue intersections with Kaahumanu Avenue and Halia Nakoa Street, all movements operate at LOS D or better. At the Kaahumanu Avenue/Maui Lani Parkway intersection, most movements operate at LOS D or better except for the following:

Kaahumanu Avenue/Maui Lani Parkway

This intersection recently modified the signal phasing, providing split phasing along the northbound and southbound approaches of Maui Lani Parkway.

The mainline left-turn movements and various northbound Maui Lani Parkway movements operate at LOS E during all peak hours of traffic. During the AM peak hour for school drop-off, the eastbound left-turn movement and westbound right-turn movement can occasionally queue back beyond its storage lane due to student drop-off. During the AM and PM peak hours, the westbound left-turn movement can queue back to the length of its storage lane. However, all vehicles typically clear in one signal cycle and all movements operate below capacity

5.2 Base Year Conditions

For Base Year 2054, traffic is anticipated to increase over existing conditions due to other known developments and de facto growth within the Wailuku and Kahului regions. Traffic will generally operate similar to existing conditions with the exception of the following movements:

Kaahumanu Avenue/Maui Lani Parkway

The northbound left-turn and right-turn movements will go from LOS D to LOS E for all peak hours of traffic mainly due to potential regional increases from the Wailuku area. However, all movements will continue operating below capacity.

5.3 Future Year Conditions

From a trip generation perspective, the new classrooms planned for construction in Phase 1 and Phase 2 are not anticipated to independently generate new trips. However, Project trips were increased to account for potential student enrollment increases over the next 30 years. According to BHS administration, student enrollment has steadily decreased over the last 30 years and could continue to decrease in the future. The 2024 enrollment at BHS is 1,266, and the post Project-buildout enrollment forecast is 1,200-1,350. In order to be conservative, a future enrollment of 1,350 students was assumed for Future Year 2054.

The two sports practice fields in Phase 1 are planned to be used only for BHS-related sports practices. Trips for these fields were projected based on observations performed at two similar nearby practice fields in the afternoon PM peak hour, which generated an average of 10 entering trips and 5 exiting trips per field. Overall, the Project is expected to conservatively generate 30(50)[50] AM(PM)[SCH] peak hour trips.

These trips were distributed to the study area using existing traffic patterns. For Future Year 2054 conditions, due to relatively low Project volume increases, all movements at the study intersections are expected to continue operating similar to Base Year 2054 conditions during peak hours of traffic. All movements will only increase by 0-2 seconds per movement and will continue operating below capacity.

5.4 Conclusion

In general, the proposed Project facilities will not generate a significant number of new trips, as potential increases in enrollment and after-school practice field usage are anticipated to generate most of the new trips. As a result of the Project, delays will only increase by 0-2 seconds per movement and all movements will continue operating below capacity. Therefore, the Project is ultimately anticipated to have no significant traffic impacts.

6. REFERENCES

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4. Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021.
5. Transportation Research Board, Highway Capacity Manual, 7th Edition, 2022.
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7. Fehr & Peers, Mobility Analysis Report (MAR) for the Proposed Kahului Civic Center Mixed-Use Complex, 2021.
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9. Transportation Research Board, Highway Capacity Manual, 7th Edition, 2016.

APPENDICES

APPENDIX A

TRAFFIC COUNT DATA

Austin Tsutsumi & Associates

501 Sumner St, Suite 521
Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

File Name : Maui Lani Pkwy - Kaahumanu Ave
Site Code : 21-043 BHS Masterplan
Start Date : 9/10/2024
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

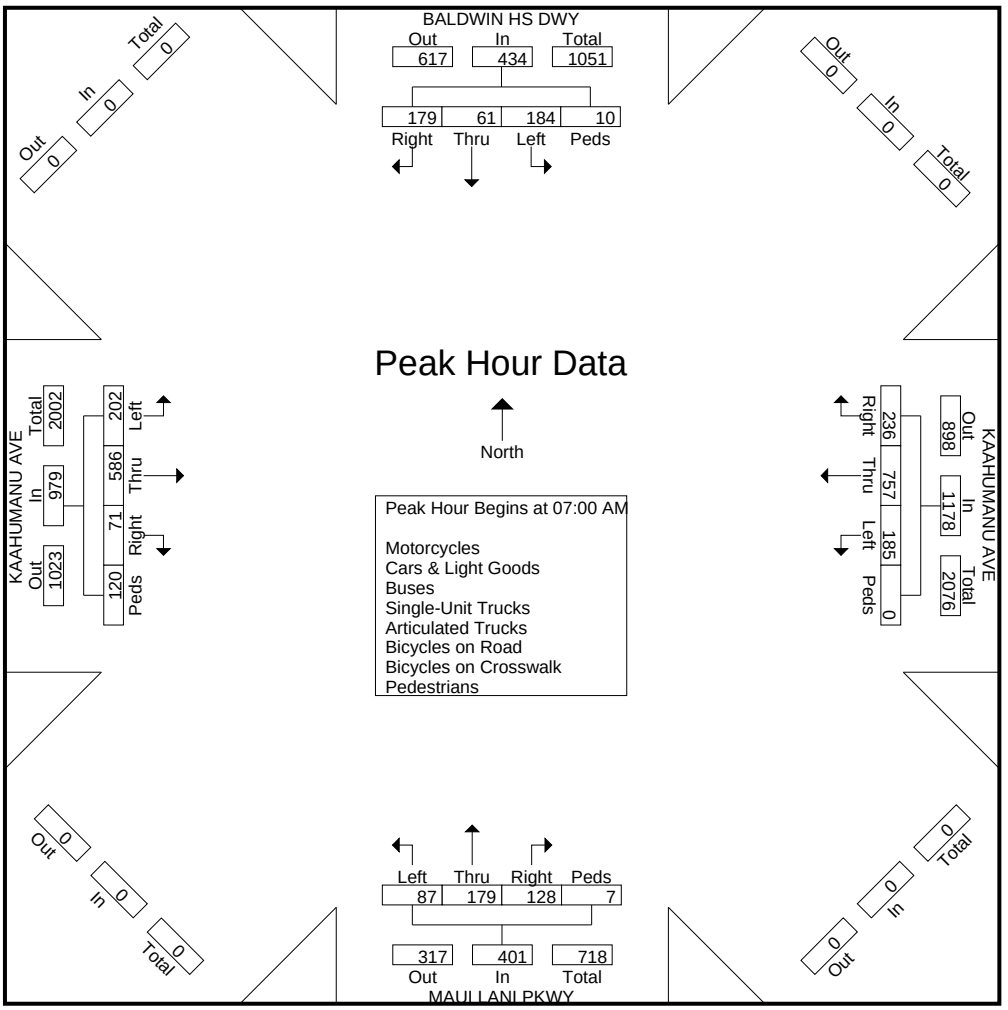
	BALDWIN HS DWY Southbound				KAAHUMANU AVE Westbound				MAUI LANI PKWY Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	2	1	4	0	19	113	5	0	17	3	21	0	7	105	10	2	309
06:45 AM	8	5	14	0	36	177	17	0	11	9	19	0	20	128	11	4	459
Total	10	6	18	0	55	290	22	0	28	12	40	0	27	233	21	6	768
07:00 AM	38	8	26	3	28	164	32	0	22	29	35	1	40	128	4	18	576
07:15 AM	46	17	56	5	47	200	67	0	16	46	18	0	49	147	23	20	757
07:30 AM	42	14	45	2	41	202	70	0	29	53	35	4	64	167	19	32	819
07:45 AM	58	22	52	0	69	191	67	0	20	51	40	2	49	144	25	50	840
Total	184	61	179	10	185	757	236	0	87	179	128	7	202	586	71	120	2992
08:00 AM	15	7	22	0	47	213	25	0	18	13	43	1	13	167	17	4	605
08:15 AM	4	2	5	0	51	181	8	0	12	1	32	2	6	154	13	4	475
Grand Total	213	76	224	10	338	1441	291	0	145	205	243	10	248	1140	122	134	4840
Apprch %	40.7	14.5	42.8	1.9	16.3	69.6	14.1	0	24	34	40.3	1.7	15.1	69.3	7.4	8.2	
Total %	4.4	1.6	4.6	0.2	7	29.8	6	0	3	4.2	5	0.2	5.1	23.6	2.5	2.8	
Motorcycles	0	0	0	0	2	2	0	0	0	0	0	0	0	3	0	0	7
% Motorcycles	0	0	0	0	0.6	0.1	0	0	0	0	0	0	0	0.3	0	0	0.1
Cars & Light Goods	212	74	223	0	328	1424	289	0	141	203	235	0	247	1129	120	0	4625
% Cars & Light Goods	99.5	97.4	99.6	0	97	98.8	99.3	0	97.2	99	96.7	0	99.6	99	98.4	0	95.6
Buses	1	2	1	0	3	8	1	0	3	2	3	0	1	7	1	0	33
% Buses	0.5	2.6	0.4	0	0.9	0.6	0.3	0	2.1	1	1.2	0	0.4	0.6	0.8	0	0.7
Single-Unit Trucks	0	0	0	0	5	6	1	0	1	0	4	0	0	1	1	0	19
% Single-Unit Trucks	0	0	0	0	1.5	0.4	0.3	0	0.7	0	1.6	0	0	0.1	0.8	0	0.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
% Bicycles on Road	0	0	0	0	0	0.1	0	0	0	0	0.4	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3
% Bicycles on Crosswalk	0	0	0	10	0	0	0	0	0	0	0	10	0	0	0	0.7	0.1
Pedestrians	0	0	0	9	0	0	0	0	0	0	0	9	0	0	0	133	151
% Pedestrians	0	0	0	90	0	0	0	0	0	0	0	90	0	0	0	99.3	3.1

Austin Tsutsumi & Associates

501 Sumner St, Suite 521
Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

File Name : Maui Lani Pkwy - Kaahumanu Ave
Site Code : 21-043 BHS Masterplan
Start Date : 9/10/2024
Page No : 2

	BALDWIN HS DWY Southbound					KAAHUMANU AVE Westbound					MAUI LANI PKWY Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	38	8	26	3	75	28	164	32	0	224	22	29	35	1	87	40	128	4	18	190	576
07:15 AM	46	17	56	5	124	47	200	67	0	314	16	46	18	0	80	49	147	23	20	239	757
07:30 AM	42	14	45	2	103	41	202	70	0	313	29	53	35	4	121	64	167	19	32	282	819
07:45 AM	58	22	52	0	132	69	191	67	0	327	20	51	40	2	113	49	144	25	50	268	840
Total Volume	184	61	179	10	434	185	757	236	0	1178	87	179	128	7	401	202	586	71	120	979	2992
% App. Total	42.4	14.1	41.2	2.3		15.7	64.3	20	0		21.7	44.6	31.9	1.7		20.6	59.9	7.3	12.3		
PHF	.793	.693	.799	.500	.822	.670	.937	.843	.000	.901	.750	.844	.800	.438	.829	.789	.877	.710	.600	.868	.890



Austin Tsutsumi & Associates

501 Sumner St, Suite 521
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Phone: (808)533-3646 Fax: (808)526-1267

File Name : Maui Lani Pkwy - Kaahumanu Ave
Site Code : 21-043 BHS Masterplan
Start Date : 9/10/2024
Page No : 1

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	BALDWIN HS DWY Southbound				KAAHUMANU AVE Westbound				MAUI LANI PKWY Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:30 PM	11	4	7	1	61	217	7	0	36	3	67	0	4	190	15	3	626
03:45 PM	6	6	9	1	50	193	10	0	47	8	62	2	7	203	24	2	630
Total	17	10	16	2	111	410	17	0	83	11	129	2	11	393	39	5	1256
04:00 PM	8	2	3	1	70	189	4	0	51	4	52	0	3	200	12	6	605
04:15 PM	0	3	3	0	71	172	2	0	46	0	83	0	8	169	28	2	587
04:30 PM	4	7	4	0	66	174	1	0	49	6	91	0	8	175	31	3	619
04:45 PM	2	2	4	3	59	148	7	0	42	1	72	0	10	209	31	1	591
Total	14	14	14	4	266	683	14	0	188	11	298	0	29	753	102	12	2402
05:00 PM	13	9	6	1	52	146	4	0	55	1	94	0	0	168	12	4	565
05:15 PM	4	1	7	0	50	171	3	0	34	1	55	0	10	180	9	0	525
Grand Total	48	34	43	7	479	1410	38	0	360	24	576	2	50	1494	162	21	4748
Apprch %	36.4	25.8	32.6	5.3	24.9	73.2	2	0	37.4	2.5	59.9	0.2	2.9	86.5	9.4	1.2	
Total %	1	0.7	0.9	0.1	10.1	29.7	0.8	0	7.6	0.5	12.1	0	1.1	31.5	3.4	0.4	
Motorcycles	0	1	0	0	1	4	0	0	1	0	2	0	0	5	1	0	15
% Motorcycles	0	2.9	0	0	0.2	0.3	0	0	0.3	0	0.3	0	0	0.3	0.6	0	0.3
Cars & Light Goods	48	32	42	0	473	1398	38	0	356	23	570	0	50	1476	154	0	4660
% Cars & Light Goods	100	94.1	97.7	0	98.7	99.1	100	0	98.9	95.8	99	0	100	98.8	95.1	0	98.1
Buses	0	0	0	0	2	5	0	0	2	0	3	0	0	4	3	0	19
% Buses	0	0	0	0	0.4	0.4	0	0	0.6	0	0.5	0	0	0.3	1.9	0	0.4
Single-Unit Trucks	0	0	0	0	2	3	0	0	1	0	1	0	0	7	3	0	17
% Single-Unit Trucks	0	0	0	0	0.4	0.2	0	0	0.3	0	0.2	0	0	0.5	1.9	0	0.4
Articulated Trucks	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
% Articulated Trucks	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0.1	0	0	0
Bicycles on Road	0	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	5
% Bicycles on Road	0	2.9	2.3	0	0	0	0	0	0	4.2	0	0	0	0.1	0.6	0	0.1
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
% Bicycles on Crosswalk	0	0	0	14.3	0	0	0	0	0	0	0	0	0	0	0	9.5	0.1
Pedestrians	0	0	0	6	0	0	0	0	0	0	0	2	0	0	0	19	27
% Pedestrians	0	0	0	85.7	0	0	0	0	0	0	0	100	0	0	0	90.5	0.6

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Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

File Name : Maui Lani Pkwy - Kaahumanu Ave
Site Code : 21-043 BHS Masterplan
Start Date : 9/10/2024
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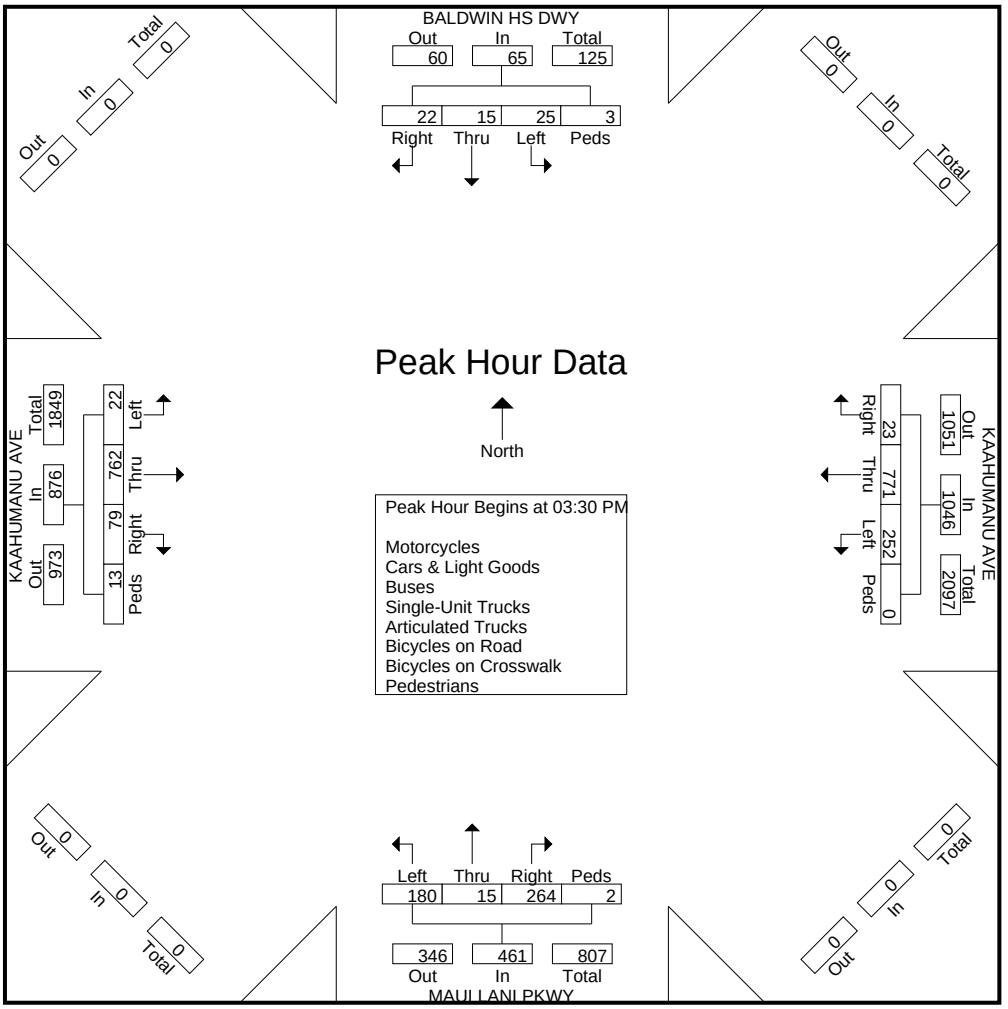
	BALDWIN HS DWY Southbound					KAAHUMANU AVE Westbound					MAUI LANI PKWY Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	11	4	7	1	23	61	217	7	0	285	36	3	67	0	106	4	190	15	3	212	626
03:45 PM	6	6	9	1	22	50	193	10	0	253	47	8	62	2	119	7	203	24	2	236	630
04:00 PM	8	2	3	1	14	70	189	4	0	263	51	4	52	0	107	3	200	12	6	221	605
04:15 PM	0	3	3	0	6	71	172	2	0	245	46	0	83	0	129	8	169	28	2	207	587
Total Volume	25	15	22	3	65	252	771	23	0	1046	180	15	264	2	461	22	762	79	13	876	2448
% App. Total	38.5	23.1	33.8	4.6		24.1	73.7	2.2	0		39	3.3	57.3	0.4		2.5	87	9	1.5		
PHF	.568	.625	.611	.750	.707	.887	.888	.575	.000	.918	.882	.469	.795	.250	.893	.688	.938	.705	.542	.928	.971



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Honolulu, Hawaii 96817
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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	BALDWIN HS DWY Southbound				KAAHUMANU AVE Westbound				MAUI LANI PKWY Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
01:30 PM	4	2	1	0	70	171	17	0	24	6	52	0	2	132	12	0	493
01:45 PM	3	2	2	2	53	154	24	0	25	9	54	0	9	151	14	5	507
Total	7	4	3	2	123	325	41	0	49	15	106	0	11	283	26	5	1000
02:00 PM	40	18	80	2	73	174	28	0	47	20	68	1	28	150	13	148	890
02:15 PM	49	24	45	0	63	160	18	0	58	12	83	1	14	186	21	38	772
02:30 PM	14	5	14	2	51	184	9	0	39	9	65	1	5	189	15	24	626
02:45 PM	7	2	5	0	71	204	7	0	38	10	68	1	13	165	24	12	627
Total	110	49	144	4	258	722	62	0	182	51	284	4	60	690	73	222	2915
03:00 PM	10	3	20	2	59	165	6	0	39	3	70	1	5	149	13	10	555
03:15 PM	10	3	7	0	56	168	7	0	34	3	77	0	4	171	10	5	555
Grand Total	137	59	174	8	496	1380	116	0	304	72	537	5	80	1293	122	242	5025
Apprch %	36.2	15.6	46	2.1	24.9	69.3	5.8	0	33.1	7.8	58.5	0.5	4.6	74.4	7	13.9	
Total %	2.7	1.2	3.5	0.2	9.9	27.5	2.3	0	6	1.4	10.7	0.1	1.6	25.7	2.4	4.8	
Motorcycles	0	0	0	0	0	5	0	0	0	0	0	0	0	3	0	0	8
% Motorcycles	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0.2	0	0	0.2
Cars & Light Goods	135	58	173	0	484	1363	113	0	300	72	530	0	78	1274	118	0	4698
% Cars & Light Goods	98.5	98.3	99.4	0	97.6	98.8	97.4	0	98.7	100	98.7	0	97.5	98.5	96.7	0	93.5
Buses	2	1	1	0	3	9	3	0	3	0	3	0	2	7	2	0	36
% Buses	1.5	1.7	0.6	0	0.6	0.7	2.6	0	1	0	0.6	0	2.5	0.5	1.6	0	0.7
Single-Unit Trucks	0	0	0	0	5	3	0	0	1	0	2	0	0	5	1	0	17
% Single-Unit Trucks	0	0	0	0	1	0.2	0	0	0.3	0	0.4	0	0	0.4	0.8	0	0.3
Articulated Trucks	0	0	0	0	3	0	0	0	0	0	2	0	0	1	1	0	7
% Articulated Trucks	0	0	0	0	0.6	0	0	0	0	0	0.4	0	0	0.1	0.8	0	0.1
Bicycles on Road	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	4
% Bicycles on Road	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0.2	0	0	0.1
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
% Bicycles on Crosswalk	0	0	0	12.5	0	0	0	0	0	0	0	0	0	0	0	0.8	0.1
Pedestrians	0	0	0	7	0	0	0	0	0	0	0	5	0	0	0	240	252
% Pedestrians	0	0	0	87.5	0	0	0	0	0	0	0	100	0	0	0	99.2	5

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Honolulu, Hawaii 96817
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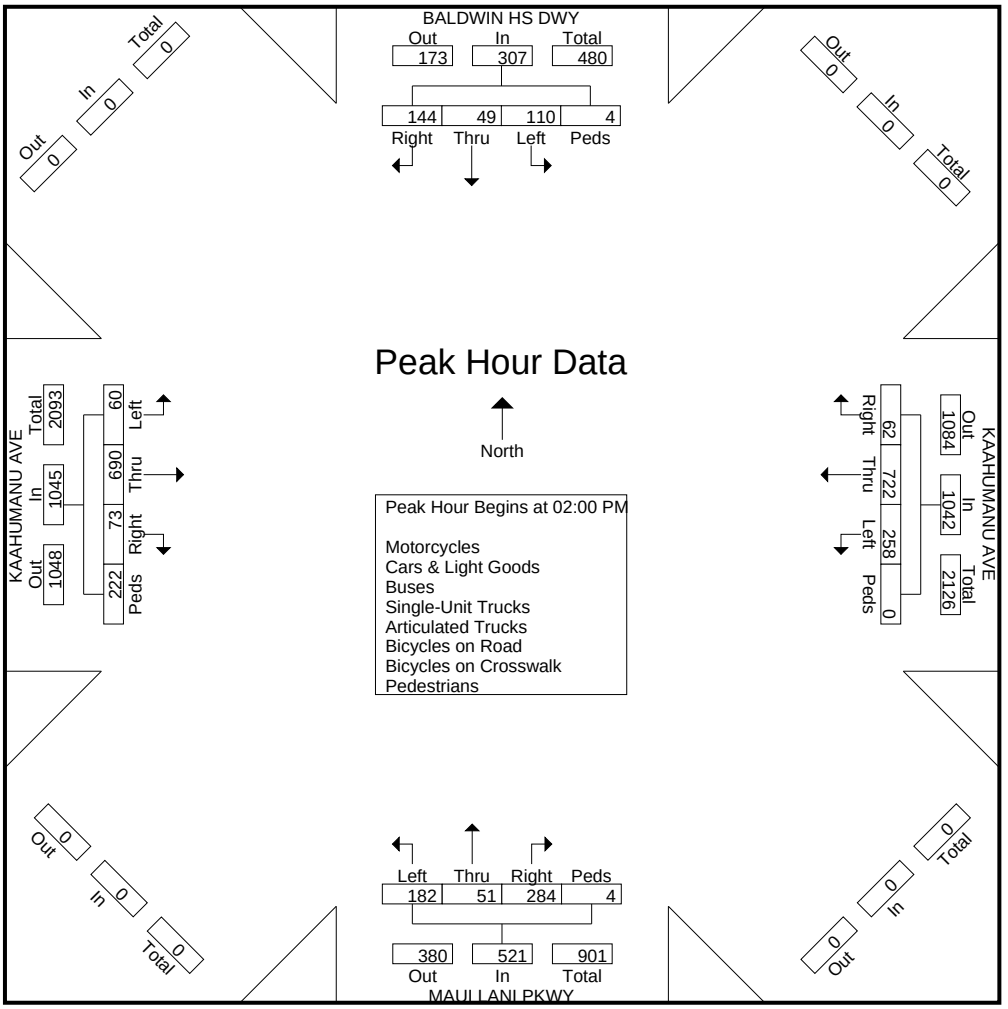
	BALDWIN HS DWY Southbound					KAAHUMANU AVE Westbound					MAUI LANI PKWY Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	40	18	80	2	140	73	174	28	0	275	47	20	68	1	136	28	150	13	148	339	890
02:15 PM	49	24	45	0	118	63	160	18	0	241	58	12	83	1	154	14	186	21	38	259	772
02:30 PM	14	5	14	2	35	51	184	9	0	244	39	9	65	1	114	5	189	15	24	233	626
02:45 PM	7	2	5	0	14	71	204	7	0	282	38	10	68	1	117	13	165	24	12	214	627
Total Volume	110	49	144	4	307	258	722	62	0	1042	182	51	284	4	521	60	690	73	222	1045	2915
% App. Total	35.8	16	46.9	1.3		24.8	69.3	6	0		34.9	9.8	54.5	0.8		5.7	66	7	21.2		
PHF	.561	.510	.450	.500	.548	.884	.885	.554	.000	.924	.784	.638	.855	1.00	.846	.536	.913	.760	.375	.771	.819



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Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

File Name : Kanaloa Ave - Kaahumanu Ave
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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE Southbound				KAAHUMANU AVE Westbound				MAHALANI ST Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	51	25	53	1	79	82	47	0	0	43	34	2	36	85	5	1	544
06:45 AM	102	37	81	0	61	143	51	0	3	51	67	3	37	110	9	2	757
Total	153	62	134	1	140	225	98	0	3	94	101	5	73	195	14	3	1301
07:00 AM	41	13	44	1	41	167	15	0	4	10	42	1	17	174	6	1	577
07:15 AM	22	20	58	1	64	254	21	0	1	7	59	2	26	164	14	2	715
07:30 AM	35	22	63	0	103	234	27	0	9	19	85	1	39	181	19	0	837
07:45 AM	21	32	52	0	111	293	28	0	10	26	74	3	43	212	23	0	928
Total	119	87	217	2	319	948	91	0	24	62	260	7	125	731	62	3	3057
08:00 AM	15	19	41	0	61	222	17	0	4	13	53	5	19	187	14	0	670
08:15 AM	15	19	27	0	56	187	23	0	7	13	28	0	18	146	18	0	557
Grand Total	302	187	419	3	576	1582	229	0	38	182	442	17	235	1259	108	6	5585
Apprch %	33.2	20.5	46	0.3	24.1	66.3	9.6	0	5.6	26.8	65.1	2.5	14.6	78.3	6.7	0.4	
Total %	5.4	3.3	7.5	0.1	10.3	28.3	4.1	0	0.7	3.3	7.9	0.3	4.2	22.5	1.9	0.1	
Motorcycles	0	1	0	0	0	0	0	0	0	1	1	0	2	4	0	0	9
% Motorcycles	0	0.5	0	0	0	0	0	0	0	0.5	0.2	0	0.9	0.3	0	0	0.2
Cars & Light Goods	286	182	407	0	568	1566	221	0	37	180	428	0	229	1238	107	0	5449
% Cars & Light Goods	94.7	97.3	97.1	0	98.6	99	96.5	0	97.4	98.9	96.8	0	97.4	98.3	99.1	0	97.6
Buses	13	2	6	0	4	7	5	0	1	0	6	0	3	7	1	0	55
% Buses	4.3	1.1	1.4	0	0.7	0.4	2.2	0	2.6	0	1.4	0	1.3	0.6	0.9	0	1
Single-Unit Trucks	3	1	5	0	3	8	3	0	0	1	6	0	0	9	0	0	39
% Single-Unit Trucks	1	0.5	1.2	0	0.5	0.5	1.3	0	0	0.5	1.4	0	0	0.7	0	0	0.7
Articulated Trucks	0	1	0	0	1	1	0	0	0	0	1	0	1	0	0	0	5
% Articulated Trucks	0	0.5	0	0	0.2	0.1	0	0	0	0	0.2	0	0.4	0	0	0	0.1
Bicycles on Road	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
% Bicycles on Road	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3
% Bicycles on Crosswalk	0	0	0	33.3	0	0	0	0	0	0	0	11.8	0	0	0	0	0.1
Pedestrians	0	0	0	2	0	0	0	0	0	0	0	15	0	0	0	6	23
% Pedestrians	0	0	0	66.7	0	0	0	0	0	0	0	88.2	0	0	0	100	0.4

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Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

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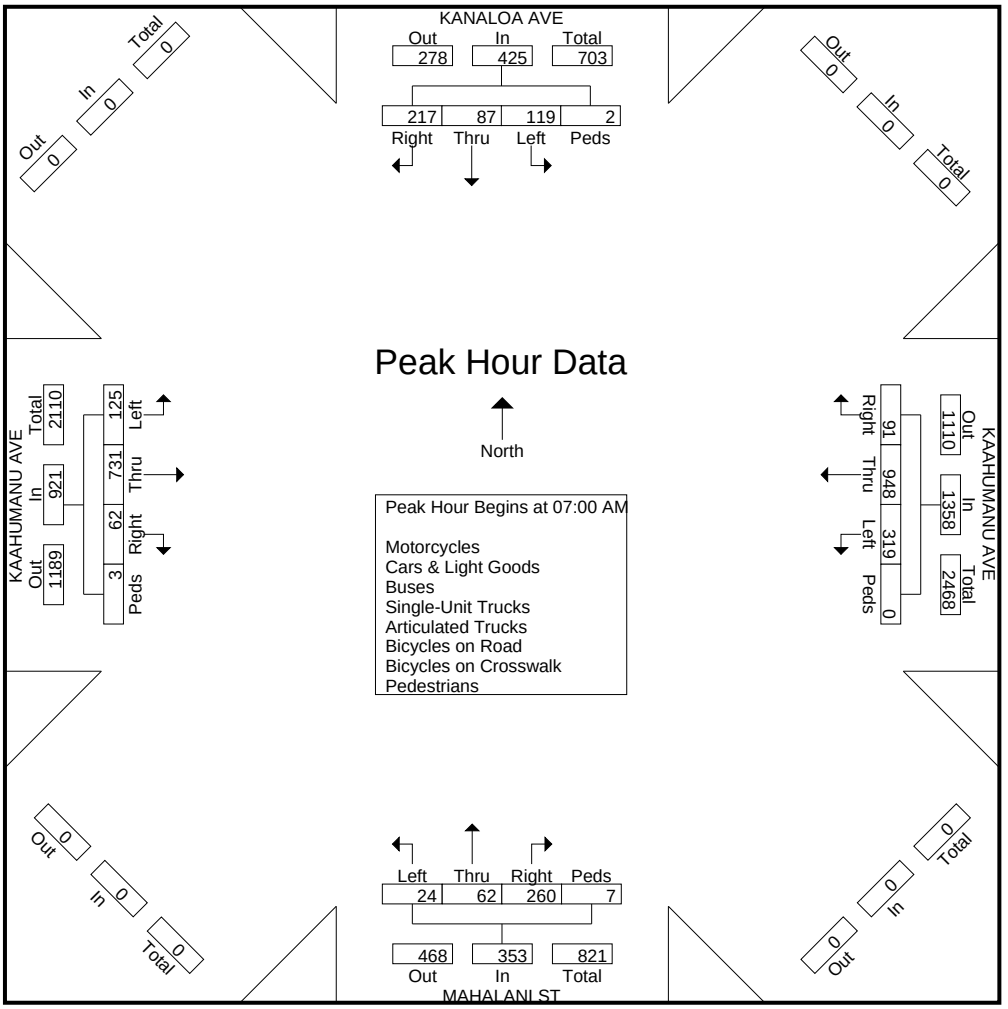
	KANALOA AVE Southbound					KAAHUMANU AVE Westbound					MAHALANI ST Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	41	13	44	1	99	41	167	15	0	223	4	10	42	1	57	17	174	6	1	198	577
07:15 AM	22	20	58	1	101	64	254	21	0	339	1	7	59	2	69	26	164	14	2	206	715
07:30 AM	35	22	63	0	120	103	234	27	0	364	9	19	85	1	114	39	181	19	0	239	837
07:45 AM	21	32	52	0	105	111	293	28	0	432	10	26	74	3	113	43	212	23	0	278	928
Total Volume	119	87	217	2	425	319	948	91	0	1358	24	62	260	7	353	125	731	62	3	921	3057
% App. Total	28	20.5	51.1	0.5		23.5	69.8	6.7	0		6.8	17.6	73.7	2		13.6	79.4	6.7	0.3		
PHF	.726	.680	.861	.500	.885	.718	.809	.813	.000	.786	.600	.596	.765	.583	.774	.727	.862	.674	.375	.828	.824



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE Southbound				KAAHUMANU AVE Westbound				MAHALANI ST Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:30 PM	76	20	72	1	48	207	30	0	13	24	110	4	38	225	9	3	880
03:45 PM	34	9	22	0	32	208	26	0	24	26	75	1	33	212	10	0	712
Total	110	29	94	1	80	415	56	0	37	50	185	5	71	437	19	3	1592
04:00 PM	25	8	20	1	22	196	22	0	24	23	117	0	20	211	6	1	696
04:15 PM	22	9	29	0	27	213	24	0	11	19	107	0	27	241	5	0	734
04:30 PM	30	14	24	0	28	175	26	0	27	35	145	1	36	229	4	1	775
04:45 PM	23	11	17	0	19	201	24	0	7	13	115	0	40	269	2	1	742
Total	100	42	90	1	96	785	96	0	69	90	484	1	123	950	17	3	2947
05:00 PM	24	5	31	0	24	175	33	0	5	24	87	1	36	224	2	0	671
05:15 PM	61	5	31	0	30	150	32	0	8	23	54	1	48	206	5	0	654
Grand Total	295	81	246	2	230	1525	217	0	119	187	810	8	278	1817	43	6	5864
Apprch %	47.3	13	39.4	0.3	11.7	77.3	11	0	10.6	16.6	72.1	0.7	13	84.7	2	0.3	
Total %	5	1.4	4.2	0	3.9	26	3.7	0	2	3.2	13.8	0.1	4.7	31	0.7	0.1	
Motorcycles	1	0	0	0	0	4	0	0	0	0	2	0	0	10	0	0	17
% Motorcycles	0.3	0	0	0	0	0.3	0	0	0	0	0.2	0	0	0.6	0	0	0.3
Cars & Light Goods	279	81	243	0	224	1514	212	0	119	184	800	0	274	1794	43	0	5767
% Cars & Light Goods	94.6	100	98.8	0	97.4	99.3	97.7	0	100	98.4	98.8	0	98.6	98.7	100	0	98.3
Buses	13	0	2	0	2	5	5	0	0	3	2	0	3	4	0	0	39
% Buses	4.4	0	0.8	0	0.9	0.3	2.3	0	0	1.6	0.2	0	1.1	0.2	0	0	0.7
Single-Unit Trucks	2	0	1	0	3	2	0	0	0	0	4	0	1	5	0	0	18
% Single-Unit Trucks	0.7	0	0.4	0	1.3	0.1	0	0	0	0	0.5	0	0.4	0.3	0	0	0.3
Articulated Trucks	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
% Articulated Trucks	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	2	0	0	4	0	0	6
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0.1
Bicycles on Crosswalk	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2	4
% Bicycles on Crosswalk	0	0	0	50	0	0	0	0	0	0	0	12.5	0	0	0	33.3	0.1
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	7	0	0	0	4	12
% Pedestrians	0	0	0	50	0	0	0	0	0	0	0	87.5	0	0	0	66.7	0.2

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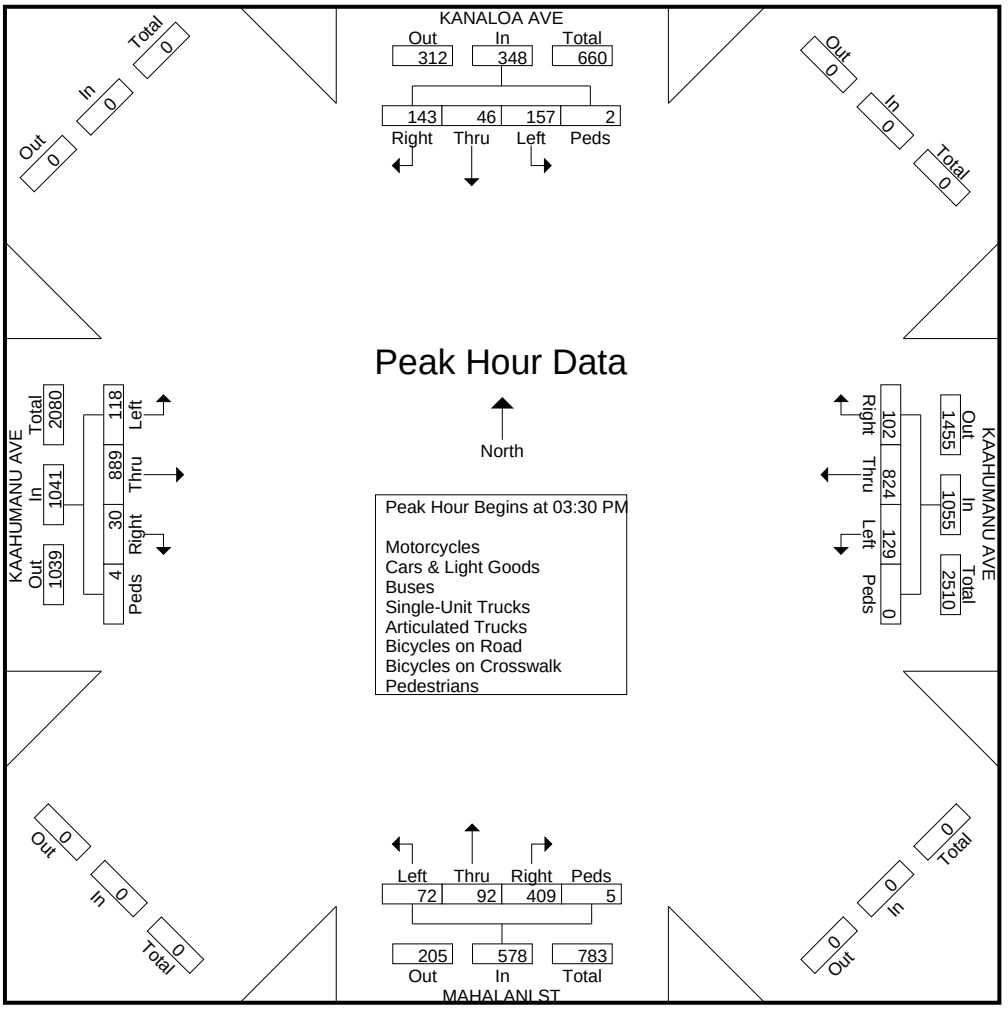
	KANALOA AVE Southbound					KAAHUMANU AVE Westbound					MAHALANI ST Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	76	20	72	1	169	48	207	30	0	285	13	24	110	4	151	38	225	9	3	275	880
03:45 PM	34	9	22	0	65	32	208	26	0	266	24	26	75	1	126	33	212	10	0	255	712
04:00 PM	25	8	20	1	54	22	196	22	0	240	24	23	117	0	164	20	211	6	1	238	696
04:15 PM	22	9	29	0	60	27	213	24	0	264	11	19	107	0	137	27	241	5	0	273	734
Total Volume	157	46	143	2	348	129	824	102	0	1055	72	92	409	5	578	118	889	30	4	1041	3022
% App. Total	45.1	13.2	41.1	0.6		12.2	78.1	9.7	0		12.5	15.9	70.8	0.9		11.3	85.4	2.9	0.4		
PHF	.516	.575	.497	.500	.515	.672	.967	.850	.000	.925	.750	.885	.874	.313	.881	.776	.922	.750	.333	.946	.859



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE Southbound				KAAHUMANU AVE Westbound				MAHALANI ST Northbound				KAAHUMANU AVE Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
01:30 PM	17	10	35	0	51	187	13	0	9	10	68	2	14	164	11	0	591
01:45 PM	10	6	28	0	53	208	20	0	13	14	48	1	13	182	14	1	611
Total	27	16	63	0	104	395	33	0	22	24	116	3	27	346	25	1	1202
02:00 PM	35	14	52	0	46	191	26	0	14	13	68	3	42	197	10	4	715
02:15 PM	23	8	31	0	49	198	16	0	13	18	68	2	40	279	10	3	758
02:30 PM	25	19	36	0	67	189	10	0	12	27	95	3	36	210	17	1	747
02:45 PM	16	12	22	0	50	243	27	0	4	18	72	1	32	212	9	0	718
Total	99	53	141	0	212	821	79	0	43	76	303	9	150	898	46	8	2938
03:00 PM	14	15	20	0	45	192	32	0	6	27	88	2	43	191	7	0	682
03:15 PM	37	15	40	0	27	178	55	0	11	33	67	1	42	191	11	1	709
Grand Total	177	99	264	0	388	1586	199	0	82	160	574	15	262	1626	89	10	5531
Apprch %	32.8	18.3	48.9	0	17.9	73	9.2	0	9.9	19.3	69.1	1.8	13.2	81.8	4.5	0.5	
Total %	3.2	1.8	4.8	0	7	28.7	3.6	0	1.5	2.9	10.4	0.3	4.7	29.4	1.6	0.2	
Motorcycles	0	0	1	0	2	1	0	0	1	0	3	0	0	3	1	0	12
% Motorcycles	0	0	0.4	0	0.5	0.1	0	0	1.2	0	0.5	0	0	0.2	1.1	0	0.2
Cars & Light Goods	167	97	253	0	370	1571	186	0	79	152	553	0	260	1597	87	0	5372
% Cars & Light Goods	94.4	98	95.8	0	95.4	99.1	93.5	0	96.3	95	96.3	0	99.2	98.2	97.8	0	97.1
Buses	10	2	5	0	9	7	13	0	2	6	9	0	2	10	0	0	75
% Buses	5.6	2	1.9	0	2.3	0.4	6.5	0	2.4	3.8	1.6	0	0.8	0.6	0	0	1.4
Single-Unit Trucks	0	0	5	0	7	4	0	0	0	2	9	0	0	10	0	0	37
% Single-Unit Trucks	0	0	1.9	0	1.8	0.3	0	0	0	1.2	1.6	0	0	0.6	0	0	0.7
Articulated Trucks	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
% Articulated Trucks	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.1	0	0	0.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	1.1	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	10	24
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	93.3	0	0	0	100	0.4

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Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

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Site Code : 21-043 BHS Masterplan
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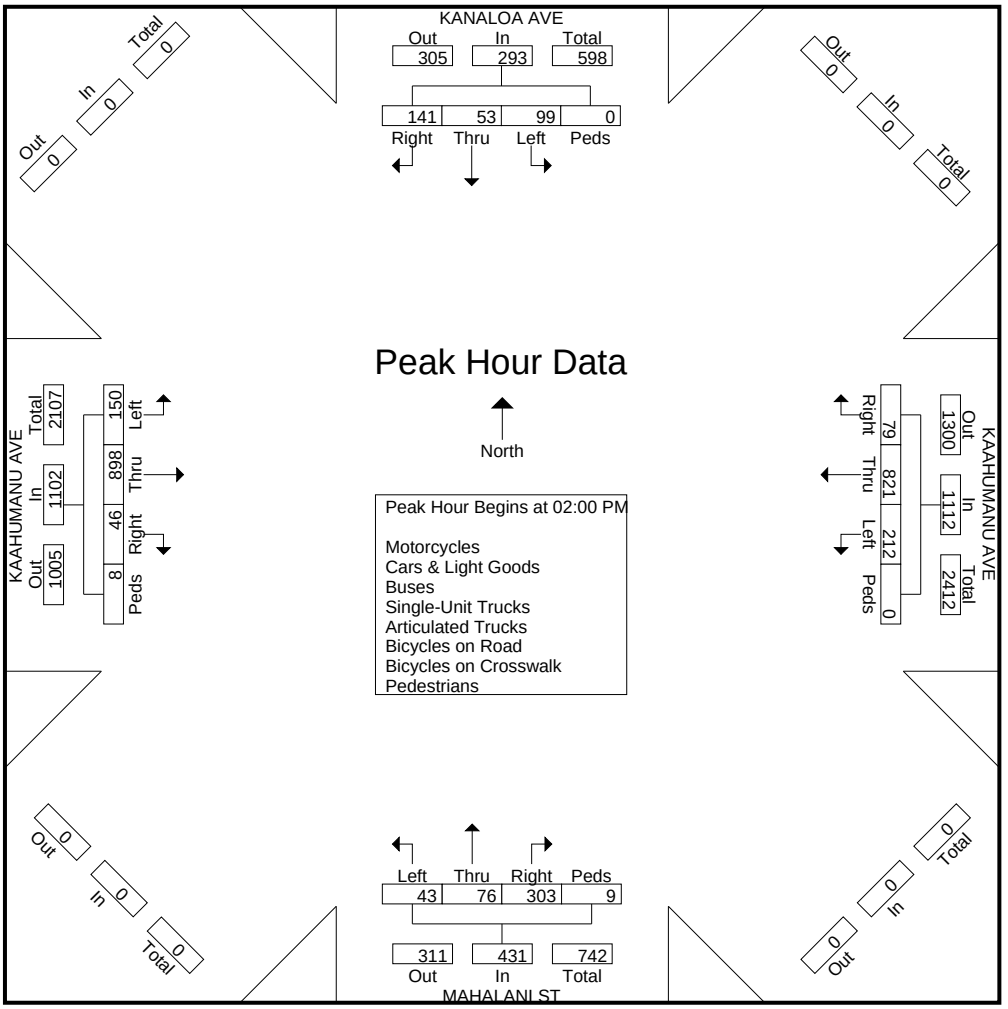
	KANALOA AVE Southbound					KAAHUMANU AVE Westbound					MAHALANI ST Northbound					KAAHUMANU AVE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	35	14	52	0	101	46	191	26	0	263	14	13	68	3	98	42	197	10	4	253	715
02:15 PM	23	8	31	0	62	49	198	16	0	263	13	18	68	2	101	40	279	10	3	332	758
02:30 PM	25	19	36	0	80	67	189	10	0	266	12	27	95	3	137	36	210	17	1	264	747
02:45 PM	16	12	22	0	50	50	243	27	0	320	4	18	72	1	95	32	212	9	0	253	718
Total Volume	99	53	141	0	293	212	821	79	0	1112	43	76	303	9	431	150	898	46	8	1102	2938
% App. Total	33.8	18.1	48.1	0		19.1	73.8	7.1	0		10	17.6	70.3	2.1		13.6	81.5	4.2	0.7		
PHF	.707	.697	.678	.000	.725	.791	.845	.731	.000	.869	.768	.704	.797	.750	.786	.893	.805	.676	.500	.830	.969



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Honolulu, Hawaii 96817
Phone: (808)533-3646 Fax: (808)526-1267

File Name : Kanaloa Ave - Halia Nakoa St
Site Code : 21-043 BHS Masterplan
Start Date : 9/10/2024

Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE Southbound				Westbound				KANALOA AVE Northbound				HALIA NAKOA ST Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	0	107	7	0	0	0	0	0	4	116	0	0	1	0	20	1	256
06:45 AM	0	185	6	0	0	0	0	0	3	133	0	0	0	0	2	1	330
Total	0	292	13	0	0	0	0	0	7	249	0	0	1	0	22	2	586
07:00 AM	0	89	10	0	0	0	0	0	6	37	0	0	2	0	8	0	152
07:15 AM	0	92	15	0	0	0	0	0	5	50	0	0	2	0	6	3	173
07:30 AM	0	106	21	0	0	0	0	0	11	68	0	0	8	0	8	1	223
07:45 AM	0	95	9	0	0	0	0	0	12	76	0	0	6	0	8	1	207
Total	0	382	55	0	0	0	0	0	34	231	0	0	18	0	30	5	755
08:00 AM	0	73	4	0	0	0	0	0	2	54	0	0	0	0	3	2	138
08:15 AM	0	57	0	0	0	0	0	0	2	52	0	0	2	0	1	1	115
Grand Total	0	804	72	0	0	0	0	0	45	586	0	0	21	0	56	10	1594
Apprch %	0	91.8	8.2	0	0	0	0	0	7.1	92.9	0	0	24.1	0	64.4	11.5	
Total %	0	50.4	4.5	0	0	0	0	0	2.8	36.8	0	0	1.3	0	3.5	0.6	
Motorcycles	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
% Motorcycles	0	0.4	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0.4
Cars & Light Goods	0	771	71	0	0	0	0	0	43	572	0	0	20	0	53	0	1530
% Cars & Light Goods	0	95.9	98.6	0	0	0	0	0	95.6	97.6	0	0	95.2	0	94.6	0	96
Buses	0	19	1	0	0	0	0	0	1	8	0	0	0	0	3	0	32
% Buses	0	2.4	1.4	0	0	0	0	0	2.2	1.4	0	0	0	0	5.4	0	2
Single-Unit Trucks	0	9	0	0	0	0	0	0	0	2	0	0	1	0	0	0	12
% Single-Unit Trucks	0	1.1	0	0	0	0	0	0	0	0.3	0	0	4.8	0	0	0	0.8
Articulated Trucks	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
% Articulated Trucks	0	0.1	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0.1
Bicycles on Road	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
% Bicycles on Road	0	0.1	0	0	0	0	0	0	2.2	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.6

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Honolulu, Hawaii 96817
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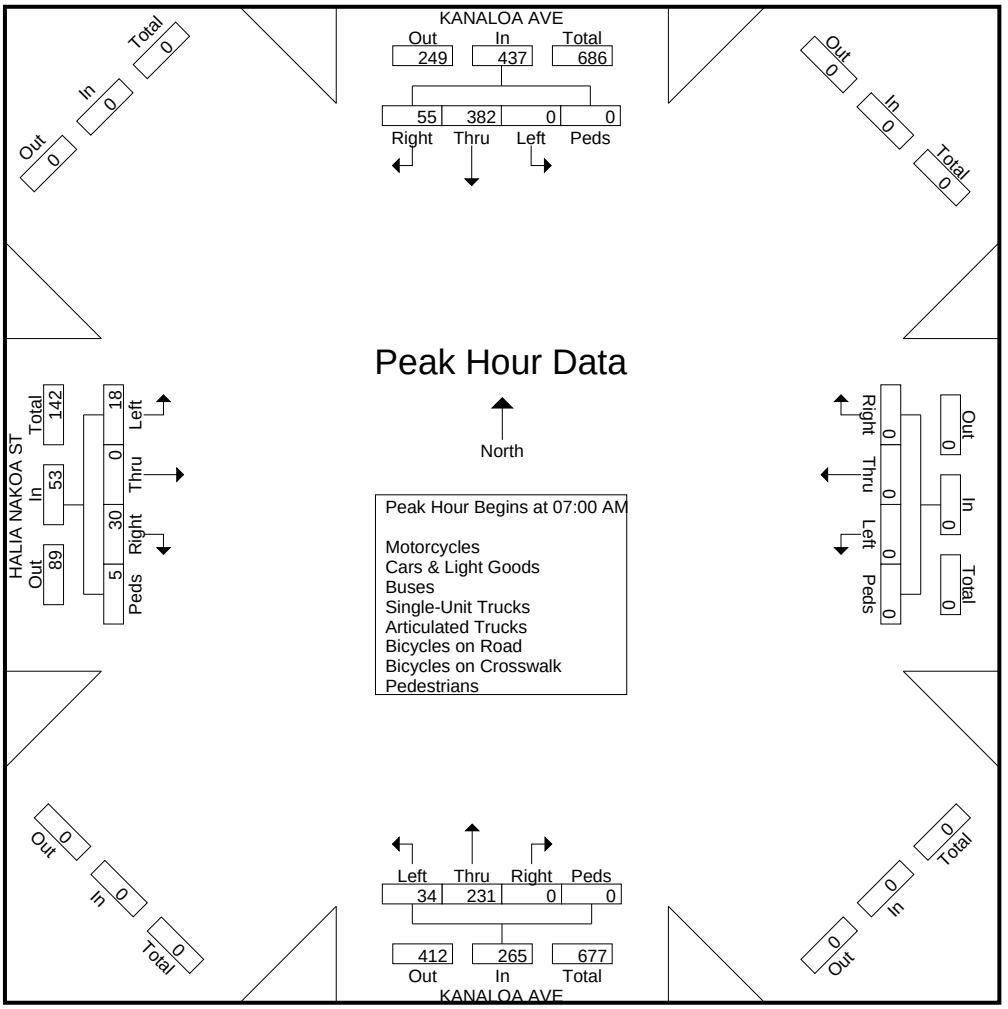
	KANALOA AVE Southbound					Westbound					KANALOA AVE Northbound					HALIA NAKOA ST Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	89	10	0	99	0	0	0	0	0	6	37	0	0	43	2	0	8	0	10	152
07:15 AM	0	92	15	0	107	0	0	0	0	0	5	50	0	0	55	2	0	6	3	11	173
07:30 AM	0	106	21	0	127	0	0	0	0	0	11	68	0	0	79	8	0	8	1	17	223
07:45 AM	0	95	9	0	104	0	0	0	0	0	12	76	0	0	88	6	0	8	1	15	207
Total Volume	0	382	55	0	437	0	0	0	0	0	34	231	0	0	265	18	0	30	5	53	755
% App. Total	0	87.4	12.6	0		0	0	0	0		12.8	87.2	0	0		34	0	56.6	9.4		
PHF	.000	.901	.655	.000	.860	.000	.000	.000	.000	.000	.708	.760	.000	.000	.753	.563	.000	.938	.417	.779	.846



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE Southbound				Westbound				KANALOA AVE Northbound				HALIA NAKOA ST Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
03:30 PM	0	157	4	1	0	0	0	0	1	91	0	0	8	0	3	1	266
03:45 PM	0	55	1	0	0	0	0	0	2	84	0	0	1	0	8	0	151
Total	0	212	5	1	0	0	0	0	3	175	0	0	9	0	11	1	417
04:00 PM	0	44	0	0	0	0	0	0	3	63	0	0	0	0	8	1	119
04:15 PM	0	62	1	0	0	0	0	0	1	69	0	0	4	0	2	1	140
04:30 PM	0	59	3	0	0	0	0	0	2	90	0	0	2	0	6	2	164
04:45 PM	0	48	3	0	0	0	0	0	2	78	0	0	10	0	6	1	148
Total	0	213	7	0	0	0	0	0	8	300	0	0	16	0	22	5	571
05:00 PM	0	54	2	0	0	0	0	0	4	87	0	0	5	0	5	2	159
05:15 PM	0	94	2	0	0	0	0	0	1	98	0	0	2	0	2	0	199
Grand Total	0	573	16	1	0	0	0	0	16	660	0	0	32	0	40	8	1346
Apprch %	0	97.1	2.7	0.2	0	0	0	0	2.4	97.6	0	0	40	0	50	10	
Total %	0	42.6	1.2	0.1	0	0	0	0	1.2	49	0	0	2.4	0	3	0.6	
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars & Light Goods	0	557	15	0	0	0	0	0	16	648	0	0	32	0	40	0	1308
% Cars & Light Goods	0	97.2	93.8	0	0	0	0	0	100	98.2	0	0	100	0	100	0	97.2
Buses	0	14	0	0	0	0	0	0	0	11	0	0	0	0	0	0	25
% Buses	0	2.4	0	0	0	0	0	0	0	1.7	0	0	0	0	0	0	1.9
Single-Unit Trucks	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
% Single-Unit Trucks	0	0.3	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0	0	6.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.5	0.1
Pedestrians	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7	8
% Pedestrians	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	87.5	0.6

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Honolulu, Hawaii 96817
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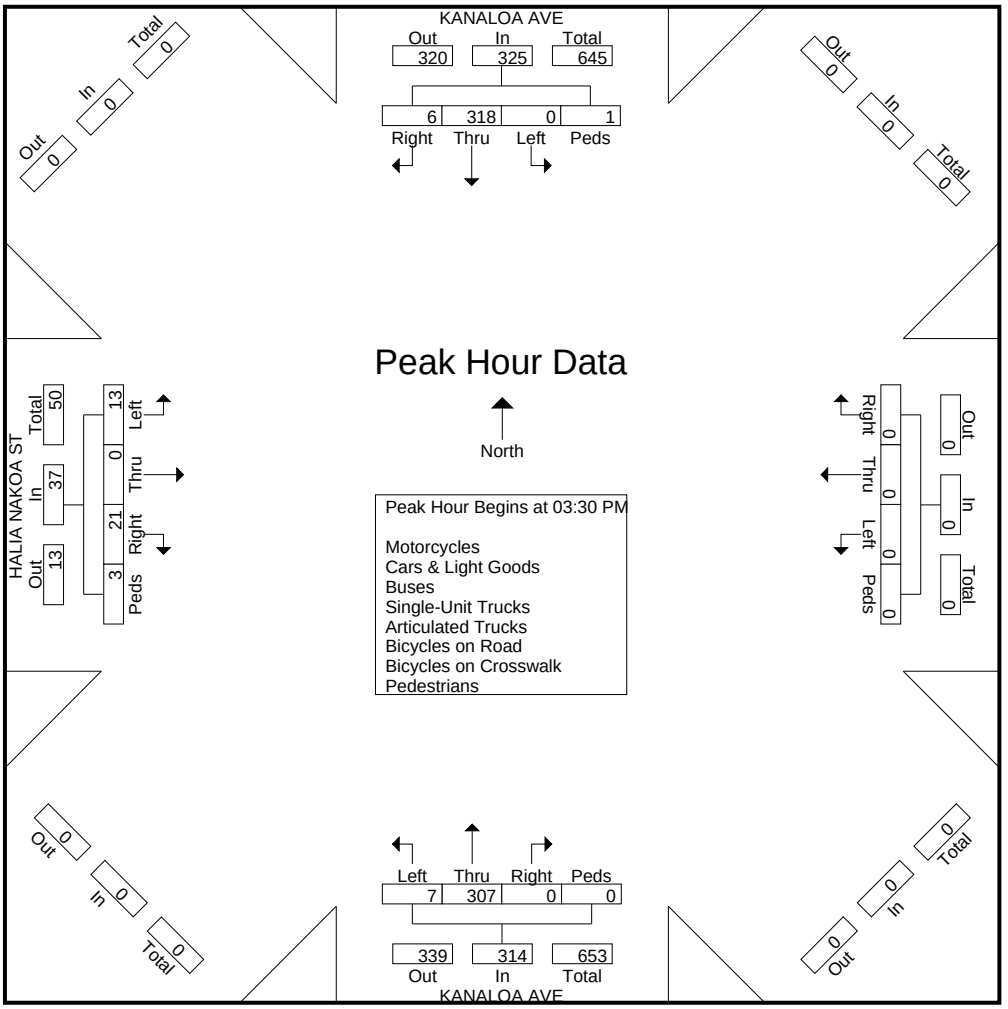
	KANALOA AVE Southbound					Westbound					KANALOA AVE Northbound					HALIA NAKOA ST Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	157	4	1	162	0	0	0	0	0	1	91	0	0	92	8	0	3	1	12	266
03:45 PM	0	55	1	0	56	0	0	0	0	0	2	84	0	0	86	1	0	8	0	9	151
04:00 PM	0	44	0	0	44	0	0	0	0	0	3	63	0	0	66	0	0	8	1	9	119
04:15 PM	0	62	1	0	63	0	0	0	0	0	1	69	0	0	70	4	0	2	1	7	140
Total Volume	0	318	6	1	325	0	0	0	0	0	7	307	0	0	314	13	0	21	3	37	676
% App. Total	0	97.8	1.8	0.3		0	0	0	0		2.2	97.8	0	0		35.1	0	56.8	8.1		
PHF	.000	.506	.375	.250	.502	.000	.000	.000	.000	.000	.583	.843	.000	.000	.853	.406	.000	.656	.750	.771	.635



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Groups Printed- Motorcycles - Cars & Light Goods - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KANALOA AVE SOUTHBOUND				WESTBOUND				KANALOA AVE NORTHBOUND				HALIA NAKOA ST EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
01:30 PM	0	62	7	0	0	0	0	0	7	34	0	0	2	0	0	0	112
01:45 PM	0	41	9	0	0	0	0	0	17	30	0	0	2	0	3	2	104
Total	0	103	16	0	0	0	0	0	24	64	0	0	4	0	3	2	216
02:00 PM	0	62	12	0	0	0	0	0	20	64	0	0	26	0	44	3	231
02:15 PM	0	51	5	0	0	0	0	0	11	64	0	0	7	0	11	1	150
02:30 PM	0	70	1	0	0	0	0	0	5	73	0	0	1	0	8	1	159
02:45 PM	0	45	4	10	0	0	0	0	7	74	0	0	1	0	6	1	148
Total	0	228	22	10	0	0	0	0	43	275	0	0	35	0	69	6	688
03:00 PM	0	38	5	6	0	0	0	0	8	94	0	0	6	0	11	2	170
03:15 PM	0	91	2	0	0	0	0	0	7	126	0	0	5	0	6	1	238
Grand Total	0	460	45	16	0	0	0	0	82	559	0	0	50	0	89	11	1312
Apprch %	0	88.3	8.6	3.1	0	0	0	0	12.8	87.2	0	0	33.3	0	59.3	7.3	
Total %	0	35.1	3.4	1.2	0	0	0	0	6.2	42.6	0	0	3.8	0	6.8	0.8	
Motorcycles	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3
% Motorcycles	0	0.2	0	0	0	0	0	0	1.2	0	0	0	0	0	1.1	0	0.2
Cars & Light Goods																	
% Cars & Light Goods	0	95.7	100	0	0	0	0	0	95.1	96.4	0	0	96	0	95.5	0	94.1
Buses	0	14	0	0	0	0	0	0	3	18	0	0	1	0	2	0	38
% Buses	0	3	0	0	0	0	0	0	3.7	3.2	0	0	2	0	2.2	0	2.9
Single-Unit Trucks	0	5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7
% Single-Unit Trucks	0	1.1	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1.1	0	0.2
Bicycles on Crosswalk																	
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.1	0.1
Pedestrians	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	10	26
% Pedestrians	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	90.9	2

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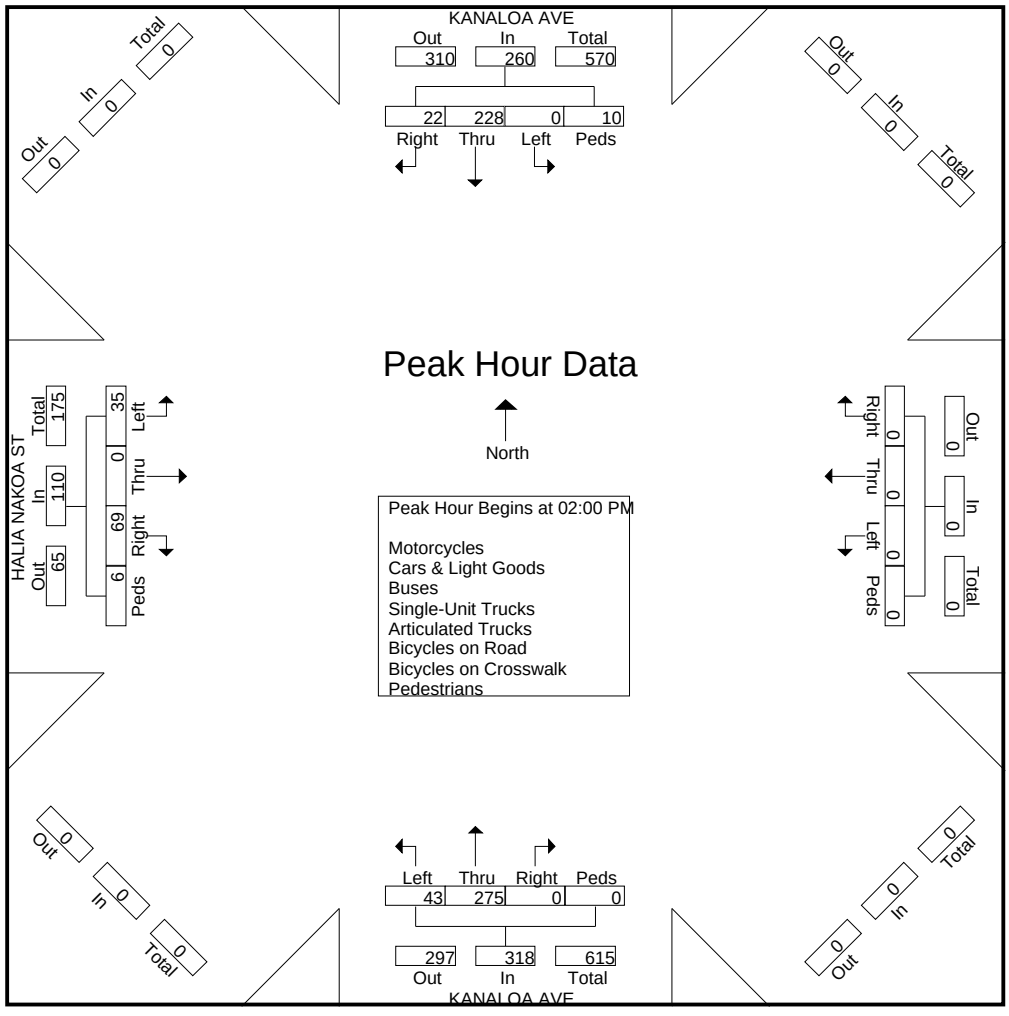
	KANALOA AVE SOUTHBOUND					WESTBOUND					KANALOA AVE NORTHBOUND					HALIA NAKOA ST EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	0	62	**12**	0	**74**	0	0	0	0	0	**20**	64	0	0	**84**	**26**	0	**44**	**3**	**73**	**231**
02:15 PM	0	51	5	0	56	0	0	0	0	0	11	64	0	0	75	7	0	11	1	19	150
02:30 PM	0	**70**	1	0	71	0	0	0	0	0	5	73	0	0	78	1	0	8	1	10	159
02:45 PM	0	45	4	**10**	59	0	0	0	0	0	7	**74**	0	0	81	1	0	6	1	8	148
Total Volume	0	228	22	10	260	0	0	0	0	0	43	275	0	0	318	35	0	69	6	110	688
% App. Total	0	87.7	8.5	3.8		0	0	0	0		13.5	86.5	0	0		31.8	0	62.7	5.5		
PHF	.000	.814	.458	.250	.878	.000	.000	.000	.000	.000	.538	.929	.000	.000	.946	.337	.000	.392	.500	.377	.745



APPENDIX B

LEVEL OF SERVICE CRITERIA

APPENDIX B – LEVEL OF SERVICE (LOS) CRITERIA

VEHICULAR LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (HCM 7th EDITION)

Level of service for vehicles at signalized intersections is directly related to delay values and is assigned on that basis. Level of Service is a measure of the acceptability of delay values to motorists at a given intersection. The criteria are given in the table below.

Level-of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec./veh.)
A	< 10.0
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 35.0
D	>35.0 and ≤ 55.0
E	>55.0 and ≤ 80.0
F	> 80.0

Delay is a complex measure, and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group or approach in question.

VEHICULAR LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 7th EDITION)

The level of service criteria for vehicles at unsignalized intersections is defined as the average control delay, in seconds per vehicle.

LOS delay threshold values are lower for two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections than those of signalized intersections. This is because more vehicles pass through signalized intersections, and therefore, drivers expect and tolerate greater delays. While the criteria for level of service for TWSC and AWSC intersections are the same, procedures to calculate the average total delay may differ.

Level of Service Criteria for Two-Way Stop-Controlled Intersections

Level of Service	Average Control Delay (sec/veh)
A	≤ 10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

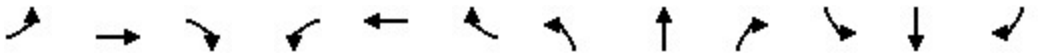
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Existing Conditions – AM Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	586	71	185	757	236	87	179	128	184	61	179
Future Volume (veh/h)	202	586	71	185	757	236	87	179	128	184	61	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	637	0	201	823	81	95	195	13	200	66	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1040		232	1001	446	228	240	156	493	517	391
Arrive On Green	0.14	0.29	0.00	0.13	0.28	0.28	0.13	0.13	0.13	0.28	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1582	1781	1870	1214	1781	1870	1413
Grp Volume(v), veh/h	220	637	0	201	823	81	95	195	13	200	66	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1582	1781	1870	1214	1781	1870	1413
Q Serve(g_s), s	15.8	20.1	0.0	14.4	28.2	5.1	6.4	13.2	1.2	11.9	3.4	1.4
Cycle Q Clear(g_c), s	15.8	20.1	0.0	14.4	28.2	5.1	6.4	13.2	1.2	11.9	3.4	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	1040		232	1001	446	228	240	156	493	517	391
V/C Ratio(X)	0.88	0.61		0.87	0.82	0.18	0.42	0.81	0.08	0.41	0.13	0.05
Avail Cap(c_a), veh/h	601	2400		601	2400	1068	622	653	424	547	574	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	39.7	0.0	55.6	43.8	35.4	52.3	55.3	50.1	38.4	35.3	34.6
Incr Delay (d2), s/veh	9.4	0.6	0.0	9.5	1.8	0.2	1.2	6.6	0.2	0.5	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	8.6	0.0	6.9	12.3	1.9	3.0	6.7	0.4	5.4	1.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.3	40.3	0.0	65.1	45.5	35.6	53.5	61.9	50.3	38.9	35.5	34.6
LnGrp LOS	E	D		E	D	D	D	E	D	D	D	C
Approach Vol, veh/h		857			1105			303			286	
Approach Delay, s/veh		46.5			48.3			58.7			37.8	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.4	43.7		41.0	22.9	45.1		21.2				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	17.8	30.2		13.9	16.4	22.1		15.2				
Green Ext Time (p_c), s	0.6	6.5		1.0	0.5	4.5		1.5				

Intersection Summary		
HCM 7th Control Delay, s/veh	47.8	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	731	62	319	948	91	24	62	260	119	87	217
Future Volume (veh/h)	125	731	62	319	948	91	24	62	260	119	87	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	795	20	347	1030	0	26	67	0	112	119	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1258	561	483	1400		147	154		184	193	164
Arrive On Green	0.10	0.35	0.35	0.14	0.39	0.00	0.08	0.08	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	136	795	20	347	1030	0	26	67	0	112	119	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.3	13.4	0.6	6.9	17.7	0.0	1.0	2.4	0.0	4.3	4.4	0.8
Cycle Q Clear(g_c), s	5.3	13.4	0.6	6.9	17.7	0.0	1.0	2.4	0.0	4.3	4.4	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1258	561	483	1400		147	154		184	193	164
V/C Ratio(X)	0.76	0.63	0.04	0.72	0.74		0.18	0.44		0.61	0.62	0.12
Avail Cap(c_a), veh/h	844	4112	1834	1638	4112		621	652		1118	1173	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	19.3	15.2	29.5	18.5	0.0	30.7	31.3	0.0	30.8	30.8	29.2
Incr Delay (d2), s/veh	6.7	0.5	0.0	2.0	0.8	0.0	0.6	1.9	0.0	3.2	3.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.9	0.2	2.7	6.3	0.0	0.4	1.2	0.0	2.0	2.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.1	19.8	15.2	31.5	19.3	0.0	31.2	33.3	0.0	34.0	34.0	29.5
LnGrp LOS	D	B	B	C	B		C	C		C	C	C
Approach Vol, veh/h		951			1377			93			251	
Approach Delay, s/veh		22.3			22.4			32.7			33.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	35.3		12.4	16.0	32.4		10.9
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	7.3	19.7		6.4	8.9	15.4		4.4
Green Ext Time (p_c), s	0.3	8.5		1.1	1.2	6.0		0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	30	34	231	382	55
Future Vol, veh/h	18	30	34	231	382	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	33	37	251	415	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	645	238	475	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	405	764	1083	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	390	764	1083	-	-	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.06	1.29	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1083	-	562	-	-
HCM Lane V/C Ratio	0.034	-	0.093	-	-
HCM Control Delay (s/veh)	8.4	0.2	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

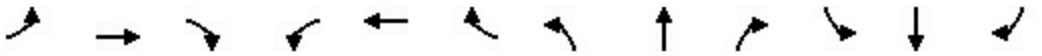
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Existing Conditions – PM Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	762	79	252	771	23	180	15	264	25	15	22
Future Volume (veh/h)	22	762	79	252	771	23	180	15	264	25	15	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	828	0	274	838	13	196	16	30	27	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	993		304	1522	678	228	240	156	456	479	406
Arrive On Green	0.02	0.28	0.00	0.17	0.43	0.43	0.13	0.13	0.13	0.26	0.26	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1214	1781	1870	1585
Grp Volume(v), veh/h	24	828	0	274	838	13	196	16	30	27	16	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1214	1781	1870	1585
Q Serve(g_s), s	1.8	29.7	0.0	20.5	24.0	0.6	14.6	1.0	3.0	1.6	0.9	0.0
Cycle Q Clear(g_c), s	1.8	29.7	0.0	20.5	24.0	0.6	14.6	1.0	3.0	1.6	0.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	993		304	1522	678	228	240	156	456	479	406
V/C Ratio(X)	0.61	0.83		0.90	0.55	0.02	0.86	0.07	0.19	0.06	0.03	0.00
Avail Cap(c_a), veh/h	577	2303		577	2303	1026	597	627	407	525	551	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.8	46.0	0.0	55.2	29.0	22.4	58.0	52.0	52.9	38.2	37.9	0.0
Incr Delay (d2), s/veh	14.6	1.9	0.0	9.5	0.3	0.0	9.0	0.1	0.6	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.0	0.0	9.8	9.9	0.2	7.2	0.5	0.9	0.7	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	80.5	47.9	0.0	64.7	29.4	22.4	67.0	52.2	53.5	38.2	38.0	0.0
LnGrp LOS	F	D		E	C	C	E	D	D	D	D	
Approach Vol, veh/h		852			1125			242			43	
Approach Delay, s/veh		48.8			37.9			64.3			38.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	65.2		39.7	29.2	44.9		21.9				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	3.8	26.0		3.6	22.5	31.7		16.6				
Green Ext Time (p_c), s	0.0	6.4		0.1	0.7	6.2		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	44.8	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	889	30	129	824	102	72	92	409	157	46	143
Future Volume (veh/h)	118	889	30	129	824	102	72	92	409	157	46	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	966	10	140	896	0	78	100	0	111	135	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1340	598	241	1251		177	186		204	214	181
Arrive On Green	0.09	0.38	0.38	0.07	0.35	0.00	0.10	0.10	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	128	966	10	140	896	0	78	100	0	111	135	12
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.8	15.8	0.3	2.7	14.8	0.0	2.8	3.4	0.0	4.0	4.7	0.5
Cycle Q Clear(g_c), s	4.8	15.8	0.3	2.7	14.8	0.0	2.8	3.4	0.0	4.0	4.7	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	1340	598	241	1251		177	186		204	214	181
V/C Ratio(X)	0.76	0.72	0.02	0.58	0.72		0.44	0.54		0.54	0.63	0.07
Avail Cap(c_a), veh/h	893	4350	1940	1733	4350		657	690		1182	1241	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	18.1	13.2	30.6	19.0	0.0	28.7	29.0	0.0	28.4	28.7	26.8
Incr Delay (d2), s/veh	6.8	0.7	0.0	2.2	0.8	0.0	1.7	2.4	0.0	2.3	3.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	5.6	0.1	1.1	5.3	0.0	1.2	1.6	0.0	1.8	2.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.7	18.8	13.3	32.8	19.8	0.0	30.5	31.4	0.0	30.6	31.7	26.9
LnGrp LOS	D	B	B	C	B		C	C		C	C	C
Approach Vol, veh/h		1104			1036			178			258	
Approach Delay, s/veh		20.8			21.6			31.0			31.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	30.9		12.8	10.7	32.6		11.8
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	6.8	16.8		6.7	4.7	17.8		5.4
Green Ext Time (p_c), s	0.3	7.0		1.1	0.4	7.8		0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	21	7	307	318	6
Future Vol, veh/h	13	21	7	307	318	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	23	8	334	346	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	531	176	352	0	-	0
Stage 1	349	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	478	837	1203	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	475	837	1203	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.89	0.23	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	648	-	-
HCM Lane V/C Ratio	0.006	-	0.057	-	-
HCM Control Delay (s/veh)	8	0.1	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

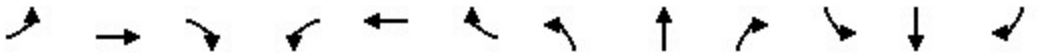
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Existing Conditions – SCH Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	690	73	258	722	62	182	51	284	110	49	144
Future Volume (veh/h)	60	690	73	258	722	62	182	51	284	110	49	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	750	0	280	785	27	198	55	33	120	53	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	909		311	1361	606	234	246	161	477	501	377
Arrive On Green	0.05	0.26	0.00	0.17	0.38	0.38	0.13	0.13	0.13	0.27	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1224	1781	1870	1407
Grp Volume(v), veh/h	65	750	0	280	785	27	198	55	33	120	53	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1224	1781	1870	1407
Q Serve(g_s), s	4.8	26.3	0.0	20.3	23.1	1.4	14.3	3.5	3.2	7.0	2.8	0.7
Cycle Q Clear(g_c), s	4.8	26.3	0.0	20.3	23.1	1.4	14.3	3.5	3.2	7.0	2.8	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	909		311	1361	606	234	246	161	477	501	377
V/C Ratio(X)	0.77	0.83		0.90	0.58	0.04	0.85	0.22	0.21	0.25	0.11	0.03
Avail Cap(c_a), veh/h	594	2369		594	2369	1055	614	645	422	540	567	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	46.3	0.0	53.3	32.3	25.6	56.0	51.3	51.2	38.0	36.4	35.7
Incr Delay (d2), s/veh	13.4	2.0	0.0	9.3	0.4	0.0	8.1	0.5	0.6	0.3	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	11.5	0.0	9.7	9.7	0.5	7.0	1.7	1.0	3.1	1.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	75.6	48.3	0.0	62.6	32.7	25.6	64.1	51.7	51.8	38.2	36.5	35.7
LnGrp LOS	E	D		E	C	C	E	D	D	D	D	D
Approach Vol, veh/h		815			1092			286			183	
Approach Delay, s/veh		50.5			40.2			60.3			37.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	57.5		40.3	29.1	40.7		21.9				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	6.8	25.1		9.0	22.3	28.3		16.3				
Green Ext Time (p_c), s	0.2	5.9		0.7	0.7	5.5		1.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	45.9
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	898	46	212	821	79	43	76	303	99	53	141
Future Volume (veh/h)	150	898	46	212	821	79	43	76	303	99	53	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	976	16	230	892	0	47	83	0	83	93	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1343	599	353	1286		164	173		174	183	155
Arrive On Green	0.12	0.38	0.38	0.10	0.36	0.00	0.09	0.09	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	163	976	16	230	892	0	47	83	0	83	93	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.2	16.4	0.4	4.5	14.9	0.0	1.7	2.9	0.0	3.1	3.3	0.4
Cycle Q Clear(g_c), s	6.2	16.4	0.4	4.5	14.9	0.0	1.7	2.9	0.0	3.1	3.3	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	1343	599	353	1286		164	173		174	183	155
V/C Ratio(X)	0.77	0.73	0.03	0.65	0.69		0.29	0.48		0.48	0.51	0.07
Avail Cap(c_a), veh/h	869	4230	1887	1685	4230		639	671		1150	1207	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	18.6	13.6	30.1	18.9	0.0	29.5	30.1	0.0	29.8	29.9	28.6
Incr Delay (d2), s/veh	6.0	0.8	0.0	2.0	0.7	0.0	0.9	2.1	0.0	2.0	2.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.8	0.1	1.8	5.3	0.0	0.8	1.4	0.0	1.4	1.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.8	19.4	13.6	32.1	19.6	0.0	30.5	32.1	0.0	31.8	32.1	28.8
LnGrp LOS	D	B	B	C	B		C	C		C	C	C
Approach Vol, veh/h		1155			1122			130			187	
Approach Delay, s/veh		21.6			22.2			31.5			31.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	32.2		11.8	13.1	33.4		11.4
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	8.2	16.9		5.3	6.5	18.4		4.9
Green Ext Time (p_c), s	0.4	6.9		0.8	0.7	7.9		0.5

Intersection Summary		
HCM 7th Control Delay, s/veh	23.1	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	69	43	275	228	22
Future Vol, veh/h	35	69	43	275	228	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	75	47	299	248	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	503	136	272	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	498	888	1289	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	478	888	1289	-	-	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	775	-	-	-	-	-

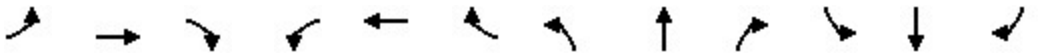
Approach	EB	NB	SB
HCM Control Delay, s/v	11.24	1.27	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1289	-	689	-	-
HCM Lane V/C Ratio	0.036	-	0.164	-	-
HCM Control Delay (s/veh)	7.9	0.2	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Base Year 2054 – AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	695	74	187	880	238	100	205	147	184	61	179
Future Volume (veh/h)	210	695	74	187	880	238	100	205	147	184	61	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	228	755	0	203	957	133	109	223	25	200	66	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1183		229	1132	504	251	264	176	442	464	345
Arrive On Green	0.14	0.33	0.00	0.13	0.32	0.32	0.14	0.14	0.14	0.25	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1582	1781	1870	1248	1781	1870	1393
Grp Volume(v), veh/h	228	755	0	203	957	133	109	223	25	200	66	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1582	1781	1870	1248	1781	1870	1393
Q Serve(g_s), s	18.9	27.1	0.0	16.9	37.8	9.4	8.4	17.5	2.6	14.3	4.1	1.1
Cycle Q Clear(g_c), s	18.9	27.1	0.0	16.9	37.8	9.4	8.4	17.5	2.6	14.3	4.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1183		229	1132	504	251	264	176	442	464	345
V/C Ratio(X)	0.89	0.64		0.88	0.85	0.26	0.43	0.85	0.14	0.45	0.14	0.04
Avail Cap(c_a), veh/h	521	2078		521	2078	925	539	565	377	473	497	370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	42.5	0.0	64.5	47.8	38.2	59.1	63.0	56.7	48.0	44.1	43.0
Incr Delay (d2), s/veh	10.6	0.6	0.0	10.8	1.8	0.3	1.2	7.3	0.4	0.7	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	11.8	0.0	8.2	16.6	3.7	3.9	8.9	0.9	6.6	2.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.0	43.1	0.0	75.2	49.7	38.4	60.3	70.3	57.0	48.7	44.3	43.0
LnGrp LOS	E	D		E	D	D	E	E	E	D	D	D
Approach Vol, veh/h		983			1293			357			279	
Approach Delay, s/veh		50.3			52.5			66.4			47.4	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.5	54.9		42.3	25.4	57.1		25.7				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	20.9	39.8		16.3	18.9	29.1		19.5				
Green Ext Time (p_c), s	0.6	8.1		1.0	0.5	5.5		1.7				

Intersection Summary		
HCM 7th Control Delay, s/veh	53.0	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	874	64	319	1084	91	29	88	316	125	109	228
Future Volume (veh/h)	128	874	64	319	1084	91	29	88	316	125	109	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	950	25	347	1178	0	32	96	0	127	131	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	1415	631	466	1538		143	150		191	201	170
Arrive On Green	0.10	0.40	0.40	0.13	0.43	0.00	0.08	0.08	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	139	950	25	347	1178	0	32	96	0	127	131	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.3	18.1	0.8	8.0	23.2	0.0	1.4	4.1	0.0	5.6	5.5	0.9
Cycle Q Clear(g_c), s	6.3	18.1	0.8	8.0	23.2	0.0	1.4	4.1	0.0	5.6	5.5	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1415	631	466	1538		143	150		191	201	170
V/C Ratio(X)	0.78	0.67	0.04	0.75	0.77		0.22	0.64		0.67	0.65	0.12
Avail Cap(c_a), veh/h	736	3582	1598	1427	3582		541	568		974	1022	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	20.3	15.1	34.3	19.8	0.0	35.4	36.7	0.0	35.3	35.3	33.2
Incr Delay (d2), s/veh	7.1	0.6	0.0	2.4	0.8	0.0	0.8	4.4	0.0	3.9	3.6	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	0.3	3.3	8.5	0.0	0.6	2.0	0.0	2.6	2.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	20.9	15.2	36.7	20.6	0.0	36.2	41.1	0.0	39.3	38.9	33.5
LnGrp LOS	D	C	B	D	C		D	D		D	D	C
Approach Vol, veh/h		1114			1525			128			278	
Approach Delay, s/veh		23.6			24.3			39.9			38.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.3	42.6		13.8	17.1	39.8		11.6
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	8.3	25.2		7.6	10.0	20.1		6.1
Green Ext Time (p_c), s	0.3	10.5		1.2	1.1	7.7		0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	30	36	291	479	58
Future Vol, veh/h	18	30	36	291	479	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	33	39	316	521	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	789	292	584	0	-	0
Stage 1	552	-	-	-	-	-
Stage 2	236	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	328	705	987	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	314	705	987	-	-	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.41	1.24	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	987	-	480	-	-
HCM Lane V/C Ratio	0.04	-	0.109	-	-
HCM Control Delay (s/veh)	8.8	0.3	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

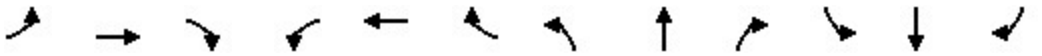
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Base Year 2054 – PM Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	981	90	255	905	23	194	16	285	25	15	22
Future Volume (veh/h)	25	981	90	255	905	23	194	16	285	25	15	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	1066	0	277	984	13	211	17	34	27	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	1223		301	1748	779	238	249	164	390	410	347
Arrive On Green	0.02	0.34	0.00	0.17	0.49	0.49	0.13	0.13	0.13	0.22	0.22	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1228	1781	1870	1585
Grp Volume(v), veh/h	27	1066	0	277	984	13	211	17	34	27	16	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1228	1781	1870	1585
Q Serve(g_s), s	2.5	47.1	0.0	25.6	32.6	0.7	19.5	1.3	4.1	2.0	1.1	0.0
Cycle Q Clear(g_c), s	2.5	47.1	0.0	25.6	32.6	0.7	19.5	1.3	4.1	2.0	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	1223		301	1748	779	238	249	164	390	410	347
V/C Ratio(X)	0.71	0.87		0.92	0.56	0.02	0.89	0.07	0.21	0.07	0.04	0.00
Avail Cap(c_a), veh/h	468	1868		468	1868	832	484	508	334	426	447	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	81.4	51.4	0.0	68.4	29.9	21.8	71.3	63.5	64.7	51.8	51.5	0.0
Incr Delay (d2), s/veh	21.5	3.1	0.0	16.8	0.3	0.0	10.7	0.1	0.6	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	21.0	0.0	12.9	13.7	0.3	9.7	0.7	1.3	0.9	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	102.9	54.5	0.0	85.3	30.2	21.8	82.1	63.6	65.3	51.9	51.5	0.0
LnGrp LOS	F	D		F	C	C	F	E	E	D	D	
Approach Vol, veh/h		1093			1274			262			43	
Approach Delay, s/veh		55.7			42.1			78.7			51.8	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	89.4		41.7	34.3	64.6		26.8				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	4.5	34.6		4.0	27.6	49.1		21.5				
Green Ext Time (p_c), s	0.0	8.0		0.1	0.7	8.6		0.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	51.4
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1131	33	129	948	102	81	122	460	169	59	154
Future Volume (veh/h)	130	1131	33	129	948	102	81	122	460	169	59	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	1229	13	140	1030	0	88	133	0	124	148	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1592	710	226	1465		182	191		204	214	181
Arrive On Green	0.10	0.45	0.45	0.07	0.41	0.00	0.10	0.10	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	141	1229	13	140	1030	0	88	133	0	124	148	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.6	24.8	0.4	3.4	20.4	0.0	4.0	5.8	0.0	5.6	6.5	0.5
Cycle Q Clear(g_c), s	6.6	24.8	0.4	3.4	20.4	0.0	4.0	5.8	0.0	5.6	6.5	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1592	710	226	1465		182	191		204	214	181
V/C Ratio(X)	0.78	0.77	0.02	0.62	0.70		0.48	0.70		0.61	0.69	0.06
Avail Cap(c_a), veh/h	712	3467	1546	1381	3467		523	550		942	989	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	19.8	13.1	38.7	20.7	0.0	36.1	36.9	0.0	35.9	36.2	33.6
Incr Delay (d2), s/veh	7.3	0.8	0.0	2.7	0.6	0.0	2.0	4.5	0.0	2.9	4.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	9.1	0.1	1.4	7.6	0.0	1.8	2.9	0.0	2.6	3.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.6	20.6	13.1	41.5	21.3	0.0	38.1	41.5	0.0	38.8	40.2	33.7
LnGrp LOS	D	C	B	D	C		D	D		D	D	C
Approach Vol, veh/h		1383			1170			221			282	
Approach Delay, s/veh		23.0			23.7			40.1			39.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	42.1		14.7	11.6	45.1		13.7
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	8.6	22.4		8.5	5.4	26.8		7.8
Green Ext Time (p_c), s	0.3	8.5		1.3	0.4	11.3		0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	21	8	391	408	7
Future Vol, veh/h	13	21	8	391	408	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	23	9	425	443	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	677	226	451	0	-	0
Stage 1	447	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	386	778	1106	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	383	778	1106	-	-	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.91	0.24	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1106	-	558	-	-
HCM Lane V/C Ratio	0.008	-	0.066	-	-
HCM Control Delay (s/veh)	8.3	0.1	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

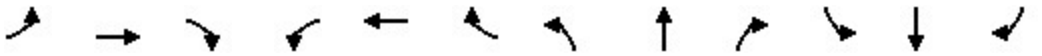
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Base Year 2054 – SCH Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	814	76	261	838	63	202	57	316	110	49	144
Future Volume (veh/h)	62	814	76	261	838	63	202	57	316	110	49	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	885	0	284	911	34	220	62	39	120	53	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	1040		311	1489	663	252	265	177	431	453	336
Arrive On Green	0.05	0.29	0.00	0.17	0.42	0.42	0.14	0.14	0.14	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1250	1781	1870	1389
Grp Volume(v), veh/h	67	885	0	284	911	34	220	62	39	120	53	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1250	1781	1870	1389
Q Serve(g_s), s	5.6	35.4	0.0	23.7	30.3	1.9	18.3	4.4	4.2	8.3	3.3	0.7
Cycle Q Clear(g_c), s	5.6	35.4	0.0	23.7	30.3	1.9	18.3	4.4	4.2	8.3	3.3	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	1040		311	1489	663	252	265	177	431	453	336
V/C Ratio(X)	0.78	0.85		0.91	0.61	0.05	0.87	0.23	0.22	0.28	0.12	0.02
Avail Cap(c_a), veh/h	519	2070		519	2070	922	536	563	376	472	495	368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.1	50.3	0.0	61.2	34.3	26.1	63.5	57.6	57.4	46.5	44.7	43.7
Incr Delay (d2), s/veh	13.9	2.1	0.0	13.2	0.4	0.0	9.0	0.4	0.6	0.3	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	15.7	0.0	11.6	12.8	0.7	9.0	2.2	1.4	3.8	1.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	85.0	52.4	0.0	74.4	34.7	26.1	72.5	58.0	58.1	46.9	44.8	43.7
LnGrp LOS	F	D		E	C	C	E	E	E	D	D	D
Approach Vol, veh/h		952			1229			321			181	
Approach Delay, s/veh		54.7			43.7			68.0			46.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	70.3		41.6	32.4	51.2		25.9				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	7.6	32.3		10.3	25.7	37.4		20.3				
Green Ext Time (p_c), s	0.2	7.2		0.7	0.7	6.8		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	50.7	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1076	47	212	935	79	51	105	357	107	68	152
Future Volume (veh/h)	154	1076	47	212	935	79	51	105	357	107	68	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	1170	18	230	1016	0	55	114	0	95	103	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1543	688	339	1470		161	169		158	166	140
Arrive On Green	0.12	0.43	0.43	0.10	0.41	0.00	0.09	0.09	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	167	1170	18	230	1016	0	55	114	0	95	103	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.3	22.1	0.5	5.1	18.7	0.0	2.3	4.7	0.0	4.1	4.2	0.5
Cycle Q Clear(g_c), s	7.3	22.1	0.5	5.1	18.7	0.0	2.3	4.7	0.0	4.1	4.2	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1543	688	339	1470		161	169		158	166	140
V/C Ratio(X)	0.79	0.76	0.03	0.68	0.69		0.34	0.67		0.60	0.62	0.07
Avail Cap(c_a), veh/h	760	3702	1651	1475	3702		559	587		1006	1056	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	19.0	12.9	34.7	19.2	0.0	34.0	35.1	0.0	35.0	35.0	33.3
Incr Delay (d2), s/veh	6.5	0.8	0.0	2.4	0.6	0.0	1.2	4.6	0.0	3.7	3.8	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.0	0.2	2.1	6.8	0.0	1.0	2.3	0.0	1.9	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.7	19.8	12.9	37.1	19.8	0.0	35.2	39.7	0.0	38.6	38.8	33.5
LnGrp LOS	D	B	B	D	B		D	D		D	D	C
Approach Vol, veh/h		1355			1246			169			208	
Approach Delay, s/veh		22.3			23.0			38.2			38.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.4	40.0		12.1	13.8	41.6		12.2
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	9.3	20.7		6.2	7.1	24.1		6.7
Green Ext Time (p_c), s	0.4	8.3		0.9	0.7	10.5		0.7

Intersection Summary		
HCM 7th Control Delay, s/veh	24.6	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	69	45	344	295	24
Future Vol, veh/h	35	69	45	344	295	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	75	49	374	321	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	618	173	347	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	421	840	1209	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	402	840	1209	-	-	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.17	1.19	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1209	-	615	-	-
HCM Lane V/C Ratio	0.04	-	0.184	-	-
HCM Control Delay (s/veh)	8.1	0.3	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

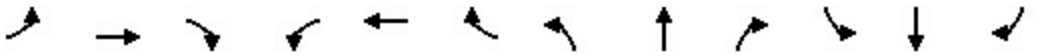
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Future Year 2054 – AM Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	695	74	187	880	245	100	211	147	188	62	182
Future Volume (veh/h)	216	695	74	187	880	245	100	211	147	188	62	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	755	0	203	957	115	109	229	33	204	67	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	1192		229	1127	502	257	270	181	436	458	341
Arrive On Green	0.15	0.34	0.00	0.13	0.32	0.32	0.14	0.14	0.14	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1582	1781	1870	1255	1781	1870	1391
Grp Volume(v), veh/h	235	755	0	203	957	115	109	229	33	204	67	19
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1582	1781	1870	1255	1781	1870	1391
Q Serve(g_s), s	19.9	27.4	0.0	17.2	38.5	8.2	8.5	18.3	3.5	15.0	4.3	1.6
Cycle Q Clear(g_c), s	19.9	27.4	0.0	17.2	38.5	8.2	8.5	18.3	3.5	15.0	4.3	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	1192		229	1127	502	257	270	181	436	458	341
V/C Ratio(X)	0.90	0.63		0.89	0.85	0.23	0.42	0.85	0.18	0.47	0.15	0.06
Avail Cap(c_a), veh/h	512	2043		512	2043	909	529	556	373	465	489	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	42.9	0.0	65.6	48.8	38.5	59.7	63.9	57.6	49.3	45.3	44.2
Incr Delay (d2), s/veh	10.7	0.6	0.0	10.9	1.9	0.2	1.1	7.3	0.5	0.8	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	11.9	0.0	8.4	17.0	3.2	4.0	9.3	1.2	6.9	2.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.9	43.5	0.0	76.5	50.7	38.7	60.8	71.2	58.1	50.1	45.4	44.3
LnGrp LOS	E	D		E	D	D	E	E	E	D	D	D
Approach Vol, veh/h		990			1275			371			290	
Approach Delay, s/veh		50.9			53.7			67.0			48.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.5	55.6		42.5	25.7	58.3		26.6				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	21.9	40.5		17.0	19.2	29.4		20.3				
Green Ext Time (p_c), s	0.6	8.0		1.0	0.5	5.5		1.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	54.0	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	877	64	319	1091	91	29	89	316	125	109	228
Future Volume (veh/h)	128	877	64	319	1091	91	29	89	316	125	109	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	953	25	347	1186	0	32	97	0	127	131	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1424	635	465	1546		143	150		191	200	170
Arrive On Green	0.10	0.40	0.40	0.13	0.43	0.00	0.08	0.08	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	139	953	25	347	1186	0	32	97	0	127	131	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.3	18.2	0.8	8.0	23.4	0.0	1.4	4.2	0.0	5.7	5.6	0.9
Cycle Q Clear(g_c), s	6.3	18.2	0.8	8.0	23.4	0.0	1.4	4.2	0.0	5.7	5.6	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1424	635	465	1546		143	150		191	200	170
V/C Ratio(X)	0.78	0.67	0.04	0.75	0.77		0.22	0.65		0.67	0.65	0.12
Avail Cap(c_a), veh/h	731	3561	1588	1419	3561		538	565		968	1016	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	20.3	15.1	34.5	19.8	0.0	35.7	37.0	0.0	35.6	35.5	33.4
Incr Delay (d2), s/veh	7.2	0.6	0.0	2.4	0.8	0.0	0.8	4.6	0.0	4.0	3.6	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.8	0.3	3.3	8.6	0.0	0.6	2.1	0.0	2.6	2.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.5	20.9	15.1	36.9	20.7	0.0	36.5	41.6	0.0	39.5	39.1	33.8
LnGrp LOS	D	C	B	D	C		D	D		D	D	C
Approach Vol, veh/h		1117			1533			129			278	
Approach Delay, s/veh		23.6			24.3			40.3			38.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.3	43.0		13.9	17.1	40.2		11.6
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	8.3	25.4		7.7	10.0	20.2		6.2
Green Ext Time (p_c), s	0.3	10.6		1.2	1.1	7.7		0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	31	37	291	479	60
Future Vol, veh/h	18	31	37	291	479	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	34	40	316	521	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	792	293	586	0	-	0
Stage 1	553	-	-	-	-	-
Stage 2	239	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	326	703	985	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	312	703	985	-	-	-
Mov Cap-2 Maneuver	312	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.41	1.27	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	985	-	481	-	-
HCM Lane V/C Ratio	0.041	-	0.111	-	-
HCM Control Delay (s/veh)	8.8	0.3	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

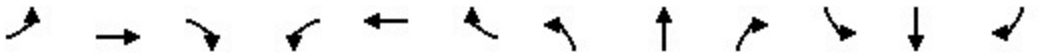
APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Future Year 2054 – PM Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	981	90	255	905	31	194	22	285	32	19	28
Future Volume (veh/h)	33	981	90	255	905	31	194	22	285	32	19	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	1066	0	277	984	23	211	24	24	35	21	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	1223		301	1730	771	237	249	164	390	410	300
Arrive On Green	0.03	0.34	0.00	0.17	0.49	0.49	0.13	0.13	0.13	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1228	1781	1870	1368
Grp Volume(v), veh/h	36	1066	0	277	984	23	211	24	24	35	21	3
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1228	1781	1870	1368
Q Serve(g_s), s	3.4	47.1	0.0	25.6	32.9	1.3	19.5	1.9	2.9	2.6	1.5	0.3
Cycle Q Clear(g_c), s	3.4	47.1	0.0	25.6	32.9	1.3	19.5	1.9	2.9	2.6	1.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	1223		301	1730	771	237	249	164	390	410	300
V/C Ratio(X)	0.77	0.87		0.92	0.57	0.03	0.89	0.10	0.15	0.09	0.05	0.01
Avail Cap(c_a), veh/h	468	1867		468	1867	832	484	508	334	425	447	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	81.0	51.5	0.0	68.5	30.5	22.4	71.4	63.7	64.2	52.1	51.6	51.2
Incr Delay (d2), s/veh	22.4	3.1	0.0	16.9	0.4	0.0	10.8	0.2	0.4	0.1	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	21.0	0.0	12.9	13.9	0.5	9.7	0.9	0.9	1.2	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	103.4	54.6	0.0	85.3	30.9	22.4	82.1	63.9	64.6	52.2	51.7	51.2
LnGrp LOS	F	D		F	C	C	F	E	E	D	D	D
Approach Vol, veh/h		1102			1284			259			59	
Approach Delay, s/veh		56.2			42.5			78.8			52.0	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	88.5		41.7	34.3	64.6		26.8				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	5.4	34.9		4.6	27.6	49.1		21.5				
Green Ext Time (p_c), s	0.1	8.0		0.2	0.7	8.6		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	51.7	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1137	33	129	956	102	81	122	460	169	62	154
Future Volume (veh/h)	130	1137	33	129	956	102	81	122	460	169	62	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	1236	13	140	1039	0	88	133	0	126	149	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1598	713	226	1471		181	190		204	215	182
Arrive On Green	0.10	0.45	0.45	0.07	0.41	0.00	0.10	0.10	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	141	1236	13	140	1039	0	88	133	0	126	149	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.6	25.1	0.4	3.4	20.7	0.0	4.0	5.9	0.0	5.8	6.6	0.5
Cycle Q Clear(g_c), s	6.6	25.1	0.4	3.4	20.7	0.0	4.0	5.9	0.0	5.8	6.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1598	713	226	1471		181	190		204	215	182
V/C Ratio(X)	0.78	0.77	0.02	0.62	0.71		0.49	0.70		0.62	0.69	0.05
Avail Cap(c_a), veh/h	707	3443	1536	1372	3443		520	546		936	983	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	19.9	13.1	39.0	20.8	0.0	36.3	37.2	0.0	36.1	36.5	33.8
Incr Delay (d2), s/veh	7.3	0.8	0.0	2.8	0.6	0.0	2.0	4.6	0.0	3.0	4.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	9.2	0.1	1.4	7.7	0.0	1.8	2.9	0.0	2.6	3.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.9	20.7	13.1	41.8	21.4	0.0	38.4	41.8	0.0	39.1	40.5	33.9
LnGrp LOS	D	C	B	D	C		D	D		D	D	C
Approach Vol, veh/h		1390			1179			221			285	
Approach Delay, s/veh		23.1			23.8			40.4			39.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.7	42.5		14.8	11.6	45.5		13.7
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	8.6	22.7		8.6	5.4	27.1		7.9
Green Ext Time (p_c), s	0.3	8.6		1.3	0.4	11.4		0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	26.2
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	24	8	391	408	7
Future Vol, veh/h	15	24	8	391	408	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	26	9	425	443	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	677	226	451	0	-	0
Stage 1	447	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	386	778	1106	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	383	778	1106	-	-	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12	0.24	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1106	-	557	-	-
HCM Lane V/C Ratio	0.008	-	0.076	-	-
HCM Control Delay (s/veh)	8.3	0.1	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

Future Year 2054 – SCH Peak Hour

HCM 7th Signalized Intersection Summary
1: Maui Lani Parkway & Kaahumanu Avenue

10/31/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	814	76	261	838	64	202	58	316	114	51	149
Future Volume (veh/h)	64	814	76	261	838	64	202	58	316	114	51	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	885	0	284	911	35	220	63	39	124	55	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1040		311	1482	660	252	265	177	431	453	336
Arrive On Green	0.05	0.29	0.00	0.17	0.42	0.42	0.14	0.14	0.14	0.24	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	1250	1781	1870	1389
Grp Volume(v), veh/h	70	885	0	284	911	35	220	63	39	124	55	9
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	1250	1781	1870	1389
Q Serve(g_s), s	5.9	35.5	0.0	23.7	30.4	2.0	18.3	4.5	4.2	8.6	3.5	0.7
Cycle Q Clear(g_c), s	5.9	35.5	0.0	23.7	30.4	2.0	18.3	4.5	4.2	8.6	3.5	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	1040		311	1482	660	252	265	177	431	453	336
V/C Ratio(X)	0.78	0.85		0.91	0.61	0.05	0.87	0.24	0.22	0.29	0.12	0.03
Avail Cap(c_a), veh/h	518	2068		518	2068	921	536	563	376	471	495	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.0	50.4	0.0	61.3	34.6	26.3	63.5	57.6	57.5	46.7	44.7	43.7
Incr Delay (d2), s/veh	13.6	2.1	0.0	13.2	0.4	0.0	9.0	0.5	0.6	0.4	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	15.7	0.0	11.7	12.9	0.8	9.0	2.2	1.4	3.9	1.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	84.5	52.4	0.0	74.5	35.0	26.3	72.6	58.1	58.1	47.0	44.8	43.7
LnGrp LOS	F	D		E	C	C	E	E	E	D	D	D
Approach Vol, veh/h		955			1230			322			188	
Approach Delay, s/veh		54.8			43.9			68.0			46.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	70.0		41.6	32.4	51.2		25.9				
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		4.5				
Max Green Setting (Gmax), s	44.0	88.0		40.0	44.0	88.0		45.5				
Max Q Clear Time (g_c+I1), s	7.9	32.4		10.6	25.7	37.5		20.3				
Green Ext Time (p_c), s	0.2	7.2		0.7	0.7	6.8		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	50.8	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1080	47	212	936	79	51	106	357	107	70	152
Future Volume (veh/h)	154	1080	47	212	936	79	51	106	357	107	70	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	1174	19	230	1017	0	55	115	0	96	104	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1546	690	338	1473		162	170		159	167	141
Arrive On Green	0.12	0.44	0.44	0.10	0.41	0.00	0.09	0.09	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	167	1174	19	230	1017	0	55	115	0	96	104	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.3	22.3	0.5	5.2	18.8	0.0	2.3	4.8	0.0	4.2	4.3	0.5
Cycle Q Clear(g_c), s	7.3	22.3	0.5	5.2	18.8	0.0	2.3	4.8	0.0	4.2	4.3	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1546	690	338	1473		162	170		159	167	141
V/C Ratio(X)	0.79	0.76	0.03	0.68	0.69		0.34	0.68		0.61	0.62	0.07
Avail Cap(c_a), veh/h	756	3681	1642	1466	3681		556	584		1000	1050	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	19.1	12.9	34.9	19.2	0.0	34.2	35.3	0.0	35.1	35.2	33.5
Incr Delay (d2), s/veh	6.5	0.8	0.0	2.4	0.6	0.0	1.2	4.6	0.0	3.7	3.8	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.1	0.2	2.1	6.9	0.0	1.1	2.4	0.0	1.9	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.9	19.9	13.0	37.3	19.8	0.0	35.4	39.9	0.0	38.8	39.0	33.7
LnGrp LOS	D	B	B	D	B		D	D		D	D	C
Approach Vol, veh/h		1360			1247			170			210	
Approach Delay, s/veh		22.4			23.1			38.4			38.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.5	40.2		12.1	13.8	41.9		12.3
Change Period (Y+Rc), s	6.0	7.0		5.0	6.0	7.0		5.0
Max Green Setting (Gmax), s	34.0	83.0		45.0	34.0	83.0		25.0
Max Q Clear Time (g_c+I1), s	9.3	20.8		6.3	7.2	24.3		6.8
Green Ext Time (p_c), s	0.4	8.4		0.9	0.7	10.5		0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	24.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	71	46	344	295	25
Future Vol, veh/h	36	71	46	344	295	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	77	50	374	321	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	621	174	348	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	419	839	1208	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	400	839	1208	-	-	-
Mov Cap-2 Maneuver	400	-	-	-	-	-
Stage 1	665	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.25	1.22	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1208	-	613	-	-
HCM Lane V/C Ratio	0.041	-	0.19	-	-
HCM Control Delay (s/veh)	8.1	0.3	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

APPENDIX F-1

PARKING ANALYSIS

COUNTY OF MAUI

DEPARTMENT OF PLANNING

ZONING ADMINISTRATION ENFORCEMENT DIVISION

MINIMUM REQUIRED PARKING

					LOG NO.							
					APPLICATION NO.							
NAME OF PLACE:	Baldwin High School											
TAX MAP KEY:	3-8-007:004				Address:	1650 Kaahumanu Avenue, Wailuku, HI 96793						
OWNER:	Baldwin High School				Address:							
APPLICANT:					Address:							
REVIEWED BY:					Date:	12/2/2024						
# OF BLDG.	44				# of units	NA						
ZONING:	R-3				Community Plan:		P/QP					
ZONING PERMITS	NA				OSP/Reduction		NA					
SMA PERMIT	NA				LPA approval		NA					

STANDARDS	REQUIRED	ON PLAN	CONFORMING		REMARKS
	Min/Max	Inspection	Yes	No	/ COMMENTS
Use	School	School			
Building ht.					
Stories					
Front Yard					
Rear Yard					
Side Yard					
Side Yard					
Floor area					
Parking	451	417			
Parking calculations					

Unit	Description	Use	Construction Date	SF	Before 1960	After 1960		No.	Ratio per Maui County Code 19.36B			Sub-totals
	A	AUDITORIUM	1939	26,164	26164	-			1 per	NA	=	0.00
	B	ADMINISTRATION	1939	13,833	13833	-			1 per	NA	=	0.00
	C	CLASSROOM	1939	13,409	13409	-			1 per	NA	=	0.00
	D	CLASSROOM	1939	11,976	11976	-			1 per	NA	=	0.00
	E	CLASSROOM	1939	3,908	3908	-			1 per	NA	=	0.00
	F	CLASSROOM	1939	3,651	9895	-			1 per	NA	=	0.00
	G	KITCHEN/DINING	1939	9,895	9895	-			1 per	NA	=	0.00
	H	CLASSROOM	1951	3,713	3713	-			1 per	NA	=	0.00
	J	LIBRARY	1963	10,733	-	8648			same user		=	0.00
		Office within Library				936			1 per	500	=	1.87
		CLASSROOM w/in library				10733		3	8 per rm	8	=	24.00
	K	CLASSROOM	1989	2,991	-	2991		3	8 per rm	8	=	24.00
	L	CLASSROOM	1964	6,298	-	6298		3	8 per rm	8	=	24.00
	M	CLASSROOM	1939	2,757	2757	-		1	1 per	NA	=	0.00
	P01	PORTABLE CLASSRM						1	8 per rm	8	=	8.00
	P02	PORTABLE CLASSRM						1	8 per rm	8	=	8.00
	P09	PORTABLE CLASSRM	1987	896	-	896		1	8 per rm	8	=	8.00
	P10	PORTABLE CLASSRM	1990	896		896		1	8 per rm	8	=	8.00
	P11	PORTABLE CLASSRM	1989	896	-	896		1	8 per rm	8	=	8.00
	P12	PORTABLE CLASSRM	1990	896	-	896		1	8 per rm	8	=	8.00
	P13	PORTABLE CLASSRM	1990	896	-	896		1	8 per rm	8	=	8.00
	P14	PORTABLE CLASSRM	1991	896	-	896		1	8 per rm	8	=	8.00
	P15	PORTABLE CLASSRM	1991	896	-	896		1	8 per rm	8	=	8.00
	P16	PORTABLE CLASSRM	1992	896	-	896		1	8 per rm	8	=	8.00
	P17	PORTABLE CLASSRM	1992	896	-	896		1	8 per rm	8	=	8.00
	P20	PORTABLE CLASSRM	1993	896	-	896		1	8 per rm	8	=	8.00
	P23	PORTABLE CLASSRM	1968	896	-	896		1	8 per rm	8	=	8.00
	P24	PORTABLE CLASSRM	1966	896	-	896		1	8 per rm	8	=	8.00
	P25	PORTABLE CLASSRM	2009	960	-	960		1	8 per rm	8	=	8.00
		Office use				496			1 per	500	=	0.99
	R	MULTI-PURPOSE RM	1970	3,785		3785		1	8 per rm	8	=	8.00
		Office use				413			1 per	500	=	0.83
		Auditorium		3,372		3372		158	1/6seats	6	=	26.33
	S	CLASSROOM	1973	6,675		6675		2	8 per rm	8	=	16.00
		Office				85			1 per	500		0.17
	T	CLASSROOM	1973	5688		5688		2	8 per rm	8	=	16.00
		Office				84			1 per	500	=	0.17
		Classroom w/in library	2010			11948		3	8 per rm	8	=	24.00
		New Library				7387			same user		=	0.00
		Office within new library				1950			1 per	500	=	3.90
		NEW MODULAR UNIT	2010			900		1	8 per rm	8	=	8.00
		ATHLETIC FACILITIES BUILDING w/ 4 CLASSROOMS	2027	5810		5810		4	8 per rm	8	=	32.00
		LOCKER ROOM BUILDING	2028	7126		7126			same user		=	0.00
		UPPER ATHLETIC FIELD	FUTURE						same user		=	0.00
		LOWER ATHLETIC FIELD	FUTURE						same user		=	0.00
		NEW 2-STORY CLASSROOM BUILDING	FUTURE	8000		8000		14	8 per rm	8	=	112.00
		AGRICULTURAL BUILDING	FUTURE					1	8 per rm	8	=	8.00
	Floor areas				95550	105037						
		Total parking required									=	450.26

Total provided stalls Onsite	417		parking stalls
Total stalls required	451		parking stalls

Note: Built before 1960, no parking required

Landscaping and loading zone not required because it's located in residential district.

ANALYSIS OF PROJECT APPLICABILITY TO HAWAIʻI STATE PLAN

APPENDIX

G-1

APPENDIX G-1

Analysis of Project Applicability to Hawai‘i State Plan

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

The methodology for the analysis involves examining the project's applicability to the Hawai‘i State Plan's goals, objectives, and policies. "Applicability" refers to a project's need, purpose and effects, and how these advance or promote a particular set of goals, objectives and priority guidelines. In assessing the relationship between a proposed action and the Hawai‘i State Plan, an action may be categorized in one of the following groups:

1. **Directly applicable**: the action and its potential effects directly advance or promote the objective, policy or priority guideline.

   Example: A county project to develop a new water source and related transmission facilities would be directly applicable to the objectives and policies for Facility Systems-Water (HRS 226-16) which states" *(5) Support water supply services to areas experiencing critical water problems.*

2. **Indirectly applicable**: the action and its potential effects indirectly support or advance the objective, policy or priority guideline.

   Example: The county water source project cited above supports other related objectives and policies for the economy (HRS 226-6, General), which, by example, states: *(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.* In this case, the principle purpose of the project was not to create new construction activities, but nonetheless, supports this policy by creating temporary construction activity during the implementation of the project. In this instance, the proposed action may be deemed to be indirectly applicable to the objective and policy of the Hawai‘i State Plan.

3. **Not applicable**: the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Hawai‘i State Plan.

Example: That same county water source improvement project referenced above, may not have direct or indirect linkage to objectives and policies for the economy-Federal Expenditures (HRS 226-9) which states: *(1) Encourage the sustained flow of federal expenditures in Hawaii that generates long-term government civilian employment*. From the standpoint of the agency proposing the water system improvement, and assuming no Federal Funding for the project, there is an unlikely intent that the proposed water source project would be connected to or reliant upon the foregoing policy. Hence, from the standpoint of judiciously applied policy analysis, the proposed action would be considered not applicable to the policy.

In general, a proposed action's applicability the objectives, policies and priority guidelines of the Hawai'i State Plan is judged on the basis of the action's direct or indirect relationship to the respective objectives, policies and priority directions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions.

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies **Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable**	**DA**	**IA**	**NA**
HRS 226-1: Findings and Purpose			
HRS 226-2: Definitions			
HRS 226-3: Overall Theme			
HRS 226-4: State Goals. In order to ensure, for the present and future generations, those elements of choice and mobility that ensure that individuals and groups may approach their desired levels of self-reliance and self determination, it shall be the goal of the State to achieve: (1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations. (2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people. (3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.			
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, new weight training rooms, and new sports practice fields on County owned property at the H.P. Baldwin High School (BHS) campus. The expanded facilities for physical education activities is directly applicable to enhancing educational and recreational opportunities and the physical well-being of individuals. Indirectly, the project is applicable to a strong viable economy through job creation during the construction phase.**			
Chapter 226-5 Objective and Policies for Population			
Objective:			
(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.	✓		
Policies:			
(b) To achieve the population objective, it shall be the policy of this State to:			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.		✓	
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.		✓	
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.			✓
(4) Encourage research activities and public awareness programs to foster an understanding of Hawaii's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawaii's population.			✓
(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			✓
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			✓
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies for managing population growth to be consistent with the physical, economic, and social objectives of this chapter. The proposed improvements will be developed on the existing BHS campus. The proposed project will create jobs during the construction phase and as such, is indirectly applicable to creating economic activities and job opportunities.**			
Chapter 226-6 Objectives and policies for the economy – – in general			
Objectives:			
(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:			
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.		✓	
(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.			✓
Policies:			
(b) To achieve general economic objectives, it shall be the policy of this State to:			
(1) Promote and encourage entrepreneurship within Hawaii by residents and nonresidents of the State.			✓

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

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(20) Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new or innovative potential growth industries in particular.			✓
(21) Foster a business climate in Hawaii--including attitudes, tax and regulatory policies, and financial and technical assistance programs-- that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.			✓
Analysis: **The proposed project involves the development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a new classroom building on County owned property at the BHS campus and is indirectly applicable to the objective and policies for increased economic activities. New economic and employment opportunities will be realized during the construction phase of the project.**			
Chapter 226-7 Objectives and policies for the economy – – agriculture.			
Objectives:			
(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:			
(1) Viability of Hawaii's sugar and pineapple industries.			✓
(2) Growth and development of diversified agriculture throughout the State.			✓
(3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.			✓
Policies:			
(b) To achieve the agriculture objectives, it shall be the policy of this State to:			
(1) Establish a clear direction for Hawaii's agriculture through stakeholder commitment and advocacy.			✓
(2) Encourage agriculture by making the best use of natural resources.			✓
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			✓
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			✓
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaii's economy.			✓
(6) Seek the enactment and retention of federal and state legislation that benefits Hawaii's agricultural industries.			✓
(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's food producers and consumers in the State, nation, and world.			✓
(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.			✓
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			✓
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.			✓
(12) In addition to the State's priority on food, expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.			✓
(13) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency, including the increased purchase and use of Hawaii-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.			✓
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.			✓
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.			✓
(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.			✓
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.			✓
(18) Increase and develop small-scale farms.			✓
Analysis: **The proposed project involves sports facilities improvements to the BHS campus and is not applicable to the objective and policies for the economy related to agriculture.**			
Chapter 226-8 Objective and policies for the economy – – visitor industry.			
Objective:			
(a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.			✓
Policies:			
(b) To achieve the visitor industry objective, it shall be the policy of this State to:			
(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.			✓
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.			✓
(3) Improve the quality of existing visitor destination areas by utilizing Hawaii's strengths in science and technology.			✓
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.			✓
(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.			✓
(7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.			✓
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.			✓
Analysis: **The proposed sports facilities improvements to the BHS campus are not applicable to the objective and policies for the economy related to the visitor industry.**			
Chapter 226-9 Objective and policies for the economy – – federal expenditures.			
Objective:			
(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 Hawaii's economy.			✓
Policies:			
(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 Hawaii that generates long-term government civilian employment;			✓
(2) Promote Hawaii's supportive role in national defense, in a manner consistent with Hawaii's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaii's economy;			✓
(3) Promote the development of federally supported activities in Hawaii that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaii's environment;			✓
(4) Increase opportunities for entry and advancement of Hawaii's people into federal government service;			✓
(5) Promote federal use of local commodities, services, and facilities available in Hawaii;			✓
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii; and			✓
(7) Pursue the return of federally controlled lands in Hawaii that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			✓
Analysis: **The proposed project will be funded by the State and does not involve federal funds. As such, the proposed project is not applicable to the objective and policies for the economy related to federal expenditures.**			

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Chapter 226-10 Objective and policies for the economy – – potential growth and innovative activities.			
Objective:			✓
(a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawaii's economic base.			
Policies:			
(b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to:			
(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			✓
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products;			✓
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			✓
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			✓
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			✓
(6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people;			✓
(7) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			✓
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			✓
(9) Promote Hawaii's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			✓
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawaii's social, economic, physical, and environmental objectives;			✓
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			✓

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

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(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people;			✓
(7) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the information industry;			✓
(8) Foster a recognition of the contribution of the information industry to Hawaii's economy; and			✓
(9) Assist in the promotion of Hawaii as a broker, creator, and processor of information in the Pacific.			✓
Analysis: **The proposed project involves development of sports facility improvements to the BHS campus and is not applicable to the objective and policies for the economy related to information technology.**			
Chapter 226-11 Objectives and policies for the physical environment – – land based, shoreline, and marine resources.			
Objectives:			
(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 Hawaii's land-based, shoreline, and marine resources.		✓	
(2) Effective protection of Hawaii's unique and fragile environmental resources.		✓	
Policies:			
(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 Hawaii's natural resources.			✓
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.		✓	
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.		✓	
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.		✓	
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			✓
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.		✓	
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			✓
(8) Pursue compatible relationships among activities, facilities, and natural resources.		✓	
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.		✓	

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Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is indirectly related to the objective and policies for the physical environment related to land based, shoreline and marine resources. The proposed new facilities were planned in context to the physical attributes of the existing BHS campus property which could support new locker rooms and weight room facility as well as new practice baseball and track fields. The proposed project takes into consideration the natural resources and environs to develop compatible uses of the County owned property with the high school without generating costly or irreparable environmental damage.**			
Chapter 226-12 Objective and policies for the physical environment – – scenic, natural beauty, and historic resources.			
Objective:			
(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.		✓	
Policies:			
(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:			
(1) Promote the preservation and restoration of significant natural and historic resources.		✓	
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			✓
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.		✓	
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.		✓	
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies for the physical environment related to scenic, natural beauty, and historic resources. An archaeological Literature Review and Field Inspection (LRFI) and Cultural Impact Assessment (CIA) were carried out for the project to ensure historic and cultural resources will be protected. In addition, the proposed facilities will be similar in scale to other buildings on campus.**			
Chapter 226-13 Objectives and policies for the physical environment – – land, air, and water quality.			
Objectives:			
(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 Hawaii's land, air, and water resources.		✓	
(2) Greater public awareness and appreciation of Hawaii's environmental resources.		✓	

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Policies:			
(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:			
(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.			✓
(2) Promote the proper management of Hawaii's land and water resources.		✓	
(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters.			✓
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawaii's people.			✓
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.			✓
(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.			✓
(7) Encourage urban developments in close proximity to existing services and facilities.		✓	
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.			✓
Analysis: **The proposed action is indirectly applicable to the objective and policies for the physical environment related to land, air, and water. The proposed project involves onsite drainage system improvements that will retain increases in stormwater runoff and mitigate impacts to adjacent and downstream properties. The environmental review process carried out for the proposed project will allow for public review and comment, thereby, providing greater public awareness of Hawai'i's environmental resources.**			
Chapter 226-14 Objective and policies for facility systems – – in general.			
Objective:			
(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, sustainable development, climate change adaptation, sea level rise adaptation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.			✓
Policies:			
(b) To achieve the general facility systems objective, it shall be the policy of this State to:			
(1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			✓
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			✓
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			✓
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			✓

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(5) Identify existing and planned state facilities that are vulnerable to sea level rise, flooding impacts, and natural hazards.			✓
(6) Assess a range of options to mitigate the impacts of sea level rise to existing and planned state facilities.			✓
Analysis: **The proposed project is not applicable to the objective and policies for facility systems in general and does not involve improvements to water, transportation, waste disposal, and energy and telecommunication systems. It is noted that the project is located outside of the anticipated sea level rise exposure area and outside of a flood hazard zone.**			
Chapter 226-15 Objectives and policies for facility systems – – solid and liquid waste.			
Objectives:			
(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:			
(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.			✓
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.		✓	
Policies:			
(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.		✓	
(2) Promote reuse and recycling to reduce solid and liquid wastes and employ a conservation ethic.		✓	
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and permanent classroom building, and is indirectly applicable to facility systems related to liquid and solid waste. The proposed project will be serviced by County wastewater system which has capacity to service the development. In addition, BHS promotes recycling and a conservation ethic, as such, the solid waste generated from the development will be diverted from landfill disposal to the extent practicable.**			
Chapter 226-16 Objective and policies for facility systems – – water.			
Objective:			
(a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.		✓	
Policies:			
(b) To achieve the facility systems water objective, it shall be the policy of this State to:			
(1) Coordinate development of land use activities with existing and potential water supply.		✓	
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			✓

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(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.			✓
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			✓
(5) Support water supply services to areas experiencing critical water problems.			✓
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies for facility systems related to water. The proposed project will be serviced by the County water system which has existing capacity to accommodate the proposed sports facilities improvements.**			
Chapter 226-17 Objectives and policies for facility systems – – transportation.			
Objectives:			
(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			✓
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			✓
Policies:			
(b) To achieve the transportation objectives, it shall be the policy of this State to:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;			✓
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;			✓
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;			✓
(4) Provide for improved accessibility to shipping, docking, and storage facilities;			✓
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;			✓
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;			✓
(7) Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;			✓
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;			✓
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;			✓

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(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment;			✓
(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;			✓
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			✓
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			✓
Analysis: **The proposed project involves sports facilities improvements at the existing BHS campus and is not applicable to the objective and policies related to transportation systems. The proposed improvements do not involve transportation-related improvements. A TIAR was prepared for the project, which identified transportation conditions and multi-modal transportation infrastructure in the project vicinity.**			
Chapter 226-18 Objectives and policies for facility systems – – energy.			
Objectives:			
(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			✓
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.			✓
(3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems;			✓
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and		✓	
(5) Utility models that make the social and financial interests of Hawaii's utility customers a priority.			✓
Policies:			
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably prices, and dependable energy services to accommodate demand.			✓
(c) To further achieve the energy objectives, it shall be the policy of this State to:			
(1) Support research and development as well as promote the use of renewable energy sources;			✓
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			✓
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			✓

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(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:			
(A) Development of cost-effective demand-side management programs;			✓
(B) Education;			✓
(C) Adoption of energy-efficient practices and technologies; and		✓	
(D) Increasing energy efficiency and decreasing energy use in public infrastructure		✓	
(5) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; and			✓
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			✓
(7) Promote alternate fuels and transportation energy efficiency;			✓
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;			✓
(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives;			✓
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			✓
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			✓
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawaii.			✓
Analysis: **The proposed project is indirectly applicable to the objective for the reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use through implementation of energy-efficient practices and design. All facilities will be designed to meet the Leadership in Energy and Environmental Design (LEED) Silver design standards.**			
Chapter 226-18.5 Objectives and policies for facility systems – – telecommunications.			
Objectives:			
(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.			✓
Policies:			
(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.			✓
(c) To further achieve the telecommunications objective, it shall be the policy of this State to:			

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(1) Facilitate research and development of telecommunications systems and resources;			✓
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			✓
(3) Promote efficient management and use of existing telecommunications systems and services; and			✓
(4) Facilitate the development of education and training of telecommunications personnel.			✓
Analysis: **The proposed project involves development of sports facilities at the BHS campus and is not applicable to the objective and policies related to telecommunications.**			
Chapter 226-19 Objectives and policies for socio-cultural advancement – – housing.			
Objectives:			
(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:			✓
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to very low-, very low-,lower-, moderate-, and above moderate-income segments of Hawaii's population.			✓
(2) The orderly development of residential areas sensitive to community needs and other land uses.			✓
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.			✓
Policies:			
(b) To achieve the housing objectives, it shall be the policy of this State to:			
(1) Effectively accommodate the housing needs of Hawaii's people.			✓
(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.			✓
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			✓
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.			✓
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			✓
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			✓

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(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.			✓
(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.			✓
Analysis: **The proposed project involves athletic and classroom facilities improvements to an existing high school campus and is not applicable to the objective and policies related to housing.**			
Chapter 226-20 Objectives and policies for socio-cultural advancement – – health.			
Objectives:			
(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) Fulfillment of basic individual health needs of the general public.			✓
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.			✓
(3) Elimination of health disparities by identifying and addressing social determinants of health.			✓
Policies:			
(b) To achieve the health objectives, it shall be the policy of this State to:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			✓
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			✓
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			✓
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			✓
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			✓
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			✓

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

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Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, and new sports practice fields on County owned property at the BHS campus and is indirectly applicable to the objective and policies for socio-cultural advancement related to education. The proposed project will support educational programs through the provision of appropriate facilities. The proposed project will also provide American's with Disabilities' Act (ADA) access to the proposed facilities.**			
Chapter 226-22 Objective and policies for socio-cultural advancement – – social services.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.			✓
Policies:			
(a) To achieve the social service objective, it shall be the policy of the State to:			
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.			✓
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.			✓
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities.			✓
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			✓
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			✓
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.			✓
Analysis: **The proposed project is not applicable to the objective and policies for socio-cultural advancement related to social services.**			
Chapter 226-23 Objective and policies for socio-cultural advancement – – leisure.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.	✓		
Policies:			
(b) To achieve the leisure objective, it shall be the policy of this State to:			
(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.	✓		
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.	✓		
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			✓
(5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources.			✓
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.	✓		
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawaii's people.	✓		
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			✓
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawaii's population to participate in the creative arts.			✓
(10) Assure adequate access to significant natural and cultural resources in public ownership.			✓
Analysis: **The proposed sports facilities improvements is directly applicable to the objective and policies for socio-cultural advancement related to leisure. The proposed project will provide adequate and accessible physical fitness facilities for BHS students and will reduce the school's reliance on County recreational facilities.**			
Chapter 226-24 Objective and policies for socio-cultural advancement – – individual rights and personal well-being.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.			✓
Policies:			
(b) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to:			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			✓
(2) Uphold and protect the national and state constitutional rights of every individual.			✓
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(4) Ensure equal opportunities for individual participation in society.			✓
Analysis: **The proposed project is not applicable to the objective and policies for socio-cultural advancement related to individual rights and personal well-being.**			
Chapter 226-25 Objective and policies for socio-cultural advancement – – culture.			
Objective:			
(a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's people.		✓	
Policies:			
(b) To achieve the culture objective, it shall be the policy of this State to:			
(1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.		✓	
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs.			✓
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii.		✓	
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.			✓
Analysis: **The proposed project involves sports facilities and educational classroom improvements and is indirectly applicable to the socio-cultural advancement related to culture. An Environmental Assessment (EA) was carried out on the proposed project which included an archaeological LRFI and CIA to ensure the proposed project will not adversely impact heritage resources.**			
Chapter 226-26 Objectives and policies for socio-cultural advancement – – public safety.			
Objectives:			
(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 other major disturbances.			✓
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people.			✓
Policies (Public Safety):			
(b) To achieve the public safety objectives, it shall be the policy of this State to:			
(1) Ensure that public safety programs are effective and responsive to community needs.			✓

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(2) Encourage increased community awareness and participation in public safety programs.			✓
Policies (Public Safety-Criminal Justice):			
(c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			✓
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			✓
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			✓
Policies (Public Safety – Emergency Management):			
(d) To further achieve 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.			✓
(2) Enhance the coordination between emergency management programs throughout the State.			✓
Analysis: **The proposed project involves sports facilities improvements at the BHS campus and is not applicable to the objective and policies for socio-cultural advancement related to public safety.**			
Chapter 226-27 Objectives and policies for socio-cultural advancement – – government.			
Objectives:			
(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.		✓	
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			✓
Policies:			
(b) To achieve the government objectives, it shall be the policy of this State to:			
(1) Provide for necessary public goods and services not assumed by the private sector.		✓	
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.			✓
(3) Minimize the size of government to that necessary to be effective.			✓
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii.			✓

Hawai'i State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.		✓	
(6) Provide for a balanced fiscal budget.			✓
(7) Improve the fiscal budgeting and management system of the State.			✓
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom buildings on County owned property at the BHS campus and is indirectly applicable to the objective and policies for socio-cultural advancement related to government. The proposed project will be developed by the State DOE and will require collaboration with County agencies. Through providing an equal number of sports facilities for boys and girls, the DOE has been responsive to community needs and concerns regarding equal gender access to physical educational opportunities and improved classroom facilities.**			

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
Chapter 226-101: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
Chapter 226-102: Overall direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.			
Chapter 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy:		✓	
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			✓
(A) Encourage investments which:			✓
(i) Reflect long term commitments to the State;		✓	
(ii) Rely on economic linkages within the local economy;			✓
(iii) Diversify the economy;			✓
(iv) Reinvest in the local economy;			✓
(v) Are sensitive to community needs and priorities; and		✓	
(vi) Demonstrate a commitment to provide management opportunities to Hawaii residents; and			✓
(B) Encourage investments in innovative activities that have a nexus to the State, such as:			✓
(i) Present or former residents acting as entrepreneurs or principals;			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(ii) Academic support from an institution of higher education in Hawaii;			✓
(iii) Investment interest from Hawaii residents;			✓
(iv) Resources unique to Hawaii that are required for innovative activity; and			✓
(v) Complementary or supportive industries or government programs or projects.			✓
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			✓
(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			✓
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			✓
(5) Streamline the processes for building and development permit and review, and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety and welfare would not be adversely affected.			✓
(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawaii's small-scale producers, manufacturers, and distributors.			✓
(7) Continue to seek legislation to protect Hawaii from transportation interruptions between Hawaii and the continental United States.			✓
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			✓
(A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.			✓
(B) A clean industry that would have minimal adverse effects on Hawaii's environment.			✓
(C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment.			✓
(D) An industry that would provide reasonable income and steady employment.			✓
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawaii business.			✓
(10) Enhance the quality of Hawaii's labor force and develop and maintain career opportunities for Hawaii's people through the following actions:			✓
(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			✓
(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			✓
(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			✓
(D) Promote career opportunities in all industries for Hawaii's people by encouraging firms doing business in the State to hire residents.			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.			✓
(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			✓
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawaii's residents and visitors.			✓
(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.			✓
(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.			✓
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.			✓
(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.			✓
(6) Support and coordinate tourism promotion abroad to enhance Hawaii's share of existing and potential visitor markets.			✓
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			✓
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			✓
(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.			✓
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			✓
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawaii.			✓
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			✓
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.			✓
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			✓
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			✓
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawaii's agricultural community.			✓
(6) Seek favorable freight rates for Hawaii's agricultural products from interisland and overseas transportation operators.			✓
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			✓
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			✓
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			✓
(10) Support the continuation of land currently in use for diversified agriculture.			✓
(11) Encourage residents and visitors to support Hawaii's farmers by purchasing locally grown food and food products.			✓
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			✓
(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.			✓
(3) Increase the support for research and development of economically feasible alternative water sources.			✓
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			✓
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			✓
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			✓
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			✓
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			✓
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawaii.			✓
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			✓
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			✓
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			✓
(5) Encourage research activities, including legal research in the information and telecommunications fields.			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(6) Support promotional activities to market Hawaii's information industry services.			✓
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and permanent classroom facilities on County owned property at the BHS campus and is indirectly applicable to the priority guidelines related to encouraging investment in which reflects a long-term investment in the State economy and is sensitive to the needs of the community. The proposed facility improvements provides equal gender opportunities for sports activities. The proposed project is also indirectly applicable to promoting economic opportunities through construction employment. The proposed project is not applicable to promote the economic health of the quality of visitor industry, growth and development of diversified agriculture and aquaculture, energy use and development, water use and development, and development of the information industry.**			
Chapter 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:		✓	
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.		✓	
(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.			✓
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.		✓	
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			✓
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			✓
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			✓
(7) Support the development of high technology parks on the neighbor islands.			✓
(b) Priority guidelines for regional growth distribution and land resource utilization:		✓	
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.		✓	
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			✓
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			✓
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.		✓	
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			✓
(7) Pursue rehabilitation of appropriate urban areas.		✓	
(8) Support the redevelopment of Kakaako into a viable residential, industrial, and commercial community.			✓
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.			✓
(10) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			✓
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			✓
(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.		✓	
(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.		✓	
Analysis: **The proposed master plan improvements at the BHS campus is indirectly applicable to the population growth and land resources priority guidelines that ensures adequate support facilities are provided to accommodate the desired future growth in the State. The proposed project will be developed on an existing school campus and ensuring the protection of the environment. Existing services and infrastructure are available to accommodate the proposed project and with reasonable public expenditure. The proposed project is also indirectly applicable to the priority guideline to protect the shoreline, enhance open space and scenic resources. Drainage improvements will be carried out to protect downstream properties from stormwater runoff and the low profile of the buildings and facilities will ensure that open space and scenic resources are not adversely impacted.**			
Chapter 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			✓
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			✓
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			✓
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			✓
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			✓
Analysis: **The proposed sports facilities improvements are not applicable to the priority guidelines for crime and criminal justice.**			
Chapter 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above and moderate-income households.			✓
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			✓
(3) Improve information and analysis relative to land availability and suitability for housing.			✓
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low-, very low-, lower-, and moderate-income households and residents with special needs.			✓
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the purchase of initial owner-occupied housing.			✓
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			✓
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			✓
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.			✓
Analysis: **The proposed project is not applicable to the priority guideline for affordable housing.**			
Chapter 226-107: Quality education.			
Priority guidelines to promote quality education:		✓	
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;		✓	
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;		✓	
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force;			✓
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision making responsibilities;			✓
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			✓
(A) The electronic exchange of information;			✓
(B) Statewide electronic mail; and			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(C) Access to the Internet.			✓
(6) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			✓
(7) Pursue the establishment of Hawaii's public and private universities and colleges as research and training centers of the Pacific;			✓
(8) Develop resources and programs for early childhood education;			✓
(9) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			✓
(10) Strengthen and expand educational programs and services for students with special needs.		✓	
Analysis: **The proposed project involves development of athletic and classroom facilities on County owned property at the BHS campus and is directly applicable to the priority guidelines for education. The proposed facilities and practice fields will strengthen basic skills in physical fitness, with continued emphasis on general "core" education and athletic programs for students. The proposed project would also strengthen and expand physical educational programs for students with special needs by providing ADA accessible facilities.**			
CHAPTER 226-108: Sustainability			
Priority guidelines and principles to promote sustainability shall include:			
(1) Encouraging balanced economic, social, community, and environmental priorities;		✓	
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;		✓	
(3) Promoting a diversified and dynamic economy;			✓
(4) Encouraging respect for the host culture;		✓	
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;		✓	
(6) Considering the principles of the ahupua'a system; and			✓
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.		✓	
Analysis: **The proposed project is indirectly applicable to the priority guidelines to promote sustainability. The proposed project balances social and community priorities with environmental and economic priorities. All facilities have been designed to meet LEED Silver standards. An EA was carried out on the project to ensure environmental resources will not be adversely impacted. The proposed project will be developed within limits of natural resources without compromising the needs of future generations. An LRFI and CIA were carried out on the project in respect of the host culture and to ensure adverse impacts to the historic and cultural resources will not be impacted.**			
CHAPTER 226-109: Climate change adaptation priority guidelines			
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:		✓	
(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;		✓	
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			✓

Hawai'i State Plan, Chapter 226, HRS Part III. Priority Guidelines Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	N/A
(3) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State;			✓
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			✓
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			✓
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;		✓	
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;		✓	
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			✓
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			✓
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.		✓	
Analysis: The proposed project is indirectly applicable to the priority guidelines for climate change adaptation. A sea level rise analysis was carried out on the project site to ensure the proposed project will not be adversely impacted by sea level rise. The environmental review process carried out for the proposed project provides opportunity for the public to become informed of the project and includes an assessment of the impacts climate change may have on the project.			

ANALYSIS OF PROJECT APPLICABILITY TO COUNTYWIDE POLICY PLAN

APPENDIX G-2

APPENDIX G-2

Analysis of Project Applicability to Countywide Policy Plan

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

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

Discussion of the proposed project conforms to the relevant goals, objectives, policies, and implementing actions of the Countywide Policy Plan is provided below. The methodology for assessing a project's relationship to the Countywide Policy Plan involves examining the project's applicability to the Plan's goals, objectives, and policies. "Applicability" refers to a project's need, purpose and effects, and how they advance or promote a particular set of goals, objectives and policies. In assessing the relationship between a proposed action and the Countywide Policy Plan, an action may be categorized in one of the following groups:

1. **Directly applicable:** the action and its potential effects directly advances, promotes or affects the relevant goal, objective, or policy.

   Example: A County project to develop a new water source and related transmission facilities would be directly applicable to improving physical infrastructure. The relevant objective states: *"Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water*" (Objective I.1). A policy within this objective category states: *Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents* (Policy I.1.a).

   In this instance, the proposed action is considered to be directly applicable to the cited objective and policy.

2. **Indirectly applicable:** the action and its potential effects indirectly supports, advances or affects the objective, policy or priority guideline.

   Example: The county water source project cited above supports the objective to: *"Improve land use management and implement a directed-growth strategy"* (Objective J.1). A related policy encompassed by this objective states: *"Direct new development in and*

around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources" (Policy J.1.h). In this case, the principle purpose of the project is not to create source specifically intended to improve land use management. Nonetheless, the proposed action indirectly supports the Countywide Policy Plan's directives relating to appropriate locations for new development.

3. **Not applicable:** the action and its potential effects have no direct or indirect relationship to the objectives and policies of the Countywide Policy Plan.

Example: The county water source improvement project referenced above, may not have direct or indirect linkage to Objective D.1, which states: "*In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County*". Hence, from a policy analysis and linkage standpoint, the proposed action would be considered not applicable to this set of objectives and policies.

It is recognized that policy analysis is subject to interpretation and is best considered in the context of the proposed action's local and regional conditions.

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
A. PROTECT THE NATURAL ENVIRONMENT			
Goal: Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.		✓	
Objective:			
(1) Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations.			✓
Policies:			
(a) Perpetuate native Hawaiian biodiversity by preventing the introduction of invasive species, containing or eliminating existing noxious pests, and protecting critical habitat areas.		✓	
(b) Preserve and reestablish indigenous and endemic species' habitats and their connectivity.			✓
(c) Restore and protect forests, wetlands, watersheds, and stream flows, and guard against wildfires, flooding, and erosion.			✓
(d) Protect baseline stream flows for perennial streams, and support policies that ensure adequate stream flow to support Native Hawaiian aquatic species, traditional kalo cultivation, and self-sustaining ahupua'a.			✓
(e) Protect undeveloped beaches, dunes, and coastal ecosystems, and restore natural shoreline processes.			✓
(f) Protect the natural state and integrity of unique terrain, valued natural environments, and geological features.			✓
(g) Preserve and provide ongoing care for important scenic vistas, view planes, landscapes, and open-space resources.		✓	
(h) Expand coordination with the State and nonprofit agencies and their volunteers to reduce invasive species, replant indigenous species, and identify critical habitat.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Implementing Actions:			
(a) Develop island-wide networks of greenways, watercourses, and habitat corridors.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight room facilities, new sports practice fields, and a permanent classroom building on County owned property at the H.P. Baldwin High School (BHS) campus and is indirectly applicable to the goal objectives and policies to protect the natural environment. An Environmental Assessment (EA) has been carried out on the proposed project to ensure the natural environmental resources are not adversely impacted by the proposed action.**			
Objective:			
(2) Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.		✓	
Policies:			
(a) Protect and restore nearshore reef environments and water quality.		✓	
(b) Protect marine resources and valued wildlife.		✓	
(c) Improve the connection between urban environments and the natural landscape, and incorporate natural features of the land into urban design.		✓	
(d) Utilize land-conservation tools to ensure the permanence of valued open spaces.			✓
(e) Mitigate the negative effects of upland uses on coastal wetlands, marine life, and coral reefs.			✓
(f) Strengthen coastal-zone management, re-naturalization of shorelines, where possible, and filtration or treatment of urban and agricultural runoff.			✓
(g) Regulate the use and maintenance of stormwater-treatment systems that incorporate the use of native vegetation and mimic natural systems.		✓	
(h) Advocate for stronger regulation of fishing, boating, cruise ship, and ecotourism activities.			✓
(i) Restore watersheds and aquifer-recharge areas to healthy and productive status, and increase public knowledge about the importance of watershed stewardship, water conservation, and groundwater protection.			✓
Implementing Actions:			
(a) Develop regulations to minimize runoff of pollutants into nearshore waters and reduce nonpoint and point source pollution.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies to improve the quality of locally valued natural resources and native ecology of each island. An EA has been carried out on the proposed project to ensure valued natural resources and native ecology will not be adversely impacted by the proposed action. Drainage improvements will be carried out to ensure adjacent and downstream properties are not impacted by stormwater runoff. In addition, the stormwater treatment system will incorporate natural vegetation and swales to filter runoff and improve water quality.**			
Objective:			
(3) Improve the stewardship of the natural environment.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Policies:			
(a) Preserve and protect natural resources with significant scenic, economic, cultural, environmental, or recreational value.		✓	
(b) Improve communication, coordination, and collaboration among government agencies, nonprofit organizations, communities, individuals, and land owners that work for the protection of the natural environment.			✓
(c) Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.		✓	
(d) Improve efforts to mitigate and plan for the impact of natural disasters, human influenced emergencies, and global warming.			✓
(e) Regulate access to sensitive ecological sites and landscapes.			✓
(f) Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.		✓	
(g) Plan and prepare for and educate visitors and residents about the possible effects of global warming.			✓
(h) Provide public access to beaches and shorelines for recreational and cultural purposes where appropriate.			✓
(i) Educate the construction and landscape industries and property owners about the use of best management practices to prevent erosion and nonpoint source pollution.		✓	
(j) Support the acquisition of resources with scenic, environmental, and recreational value, and encumber their use.			✓
(k) Improve enforcement activities relating to the natural environment.			✓
(l) For each shoreline community, identify and prioritize beach-conservation objectives, and develop action plans for their implementation.			✓
Implementing Actions:			✓
(a) Document, record, and monitor existing conditions, populations, and locations of flora and fauna communities.			✓
(b) Implement Federal and State policies that require a reduction of greenhouse-gas emissions.			✓
(c) Establish a baseline inventory of available natural resources and their respective carrying capacities.			✓
Analysis: **The proposed project indirectly supports the objective of improving the stewardship of the natural environment. The project will employ Best Management Practices (BMPs) to prevent impacts from construction, including temporary erosion control, stormwater management and dust control. In addition, the environmental review process evaluates the proposed action's potential impacts on the environment, and where applicable, advances mitigative measures aimed at reducing impacts.**			
Objective:			
(4) Educate residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.			✓
Policies:			
(a) Expand education about native flora, fauna, and ecosystems.			✓
(b) Align priorities to recognize that the health of the natural environment and the health of people are inextricably linked.			✓
(c) Promote programs and incentives that decrease greenhouse-gas emissions and improve environmental stewardship.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Analysis: **The proposed project does not have direct or indirect relationships to the objective of educating residents and visitors about responsible stewardship practices and the interconnectedness of the natural environment and people.**			
B. PRESERVE LOCAL CULTURES AND TRADITIONS			
Goal: Maui County will foster a spirit of pono and protect, perpetuate, and reinvigorate its residents multi-cultural values and traditions to ensure that current and future generations will enjoy the benefits of their rich island heritage.		✓	
Objective:			
(1) Perpetuate the Hawaiian culture as a vital force in the lives of residents.			✓
Policies:			
(a) Protect and preserve access to mountain, ocean, and island resources for traditional Hawaiian cultural practices.		✓	
(b) Prohibit inappropriate development of cultural lands and sites that are important for traditional Hawaiian cultural practices, and establish mandates for the special protection of these lands in perpetuity.		✓	
(c) Promote the use of ahupua'a and moku management practices.			✓
(d) Encourage the use of traditional Hawaiian architecture and craftsmanship.			✓
(e) Promote the use of the Hawaiian language.			✓
(f) Recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.			✓
(g) Encourage schools to promote broader incorporation of Hawaiian and other local cultures' history and values lessons into curriculum.			✓
(h) Ensure the protection of Native Hawaiian rights.		✓	
(i) Promote, encourage, and require the correct use of traditional place names, particularly in government documents, signage, and the tourism industry.			✓
Implementing Actions:			
(a) Establish alternative land use and overlay zoning designations that recognize and preserve the unique natural and cultural characteristics of each ahupua'a or district.			✓
(b) Develop requirements for all County applicants to perpetuate and use proper traditional place names in all applications submitted.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies to preserve local cultures and traditions. An EA has been carried out on the proposed project which includes an archaeological Literature Review and Field Inspection (LRFI) and Cultural Impact Assessment (CIA) to ensure Native Hawaiian traditional and customary rights are protected and not adversely impacted by the proposed action.**			
Objective:			
(2) Emphasize respect for our island lifestyle and our unique local cultures, family, and natural environment.		✓	
Policies:			
(a) Acknowledge the Hawaiian culture as the host culture, and foster respect and humility among residents and visitors toward the Hawaiian people and their practices.		✓	
(b) Perpetuate a respect for diversity, and recognize the historic blending of cultures and ethnicities.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(c) Encourage the perpetuation of each culture's unique cuisine, attire, dance, music, and folklore, and other unique island traditions and recreational activities.			✓
(d) Recognize the interconnectedness between the natural environment and the cultural heritage of the islands.			✓
(e) Protect and prioritize funding for recreational activities that support local cultural practices, such as surfing, fishing, and outrigger-canoe paddling.			✓
Analysis: **The proposed project indirectly supports this objective and policy as the CIA recognizes the relationship between the natural environment and cultural resources found in the project vicinity.**			
Objective:			
(3) Preserve for present and future generations the opportunity to know and experience the arts, culture, and history of Maui County.			✓
Policies:			
(a) Foster teaching opportunities for cultural practitioners to share their knowledge and skills.			✓
(b) Support the development of cultural centers.			✓
(c) Broaden opportunities for public art and the display of local artwork.			✓
(d) Foster the Aloha Spirit by celebrating the Hawaiian host culture and other Maui County cultures through support of cultural-education programs, festivals, celebrations, and ceremonies.			✓
(e) Support the perpetuation of Hawaiian arts and culture.			✓
(f) Support programs and activities that record the oral and pictorial history of residents.			✓
(g) Support the development of repositories for culture, history, genealogy, oral history, film, and interactive learning.			✓
Implementing Actions:			
(a) Establish incentives for the display of public art.			✓
(b) Establish centers and programs of excellence for the perpetuation of Hawaiian arts and culture.			✓
Analysis: **The proposed project will provide master plan improvements to the BHS campus and does not have direct or indirect relationships to the objective of preserving the arts, culture, and history of Maui County for present and future generations.**			
Objective:			
(4) Preserve and restore significant historic architecture, structures, cultural sites, cultural districts, and cultural landscapes.		✓	
Policies:			
(a) Support the development of island-wide historic, archaeological, and cultural resources inventories.		✓	
(b) Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures to perpetuate a traditional sense of place.			✓
(c) Identify a sustainable rate of use and set forth specific policies to protect cultural resources.			✓
(d) Protect and preserve lands that are culturally or historically significant.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(e) Support programs that protect, record, restore, maintain, provide education about, and interpret cultural districts, landscapes, sites, and artifacts in both natural and museum settings.		✓	
(f) Perpetuate the authentic character and historic integrity of rural communities and small towns.			✓
(g) Seek solutions that honor the traditions and practices of the host culture while recognizing the needs of the community.			✓
(h) Support the development of an Archaeological District Ordinance.			✓
(i) Protect summits, slopes, and ridgelines from inappropriate development.			✓
(j) Support the registering of important historic sites on the State and Federal historic registers.			✓
(k) Provide opportunities for public involvement with restoration and enhancement of all types of cultural resources.			✓
(l) Foster partnerships to identify and preserve or revitalize historic and cultural sites.			✓
Implementing Actions:			
(a) Identify, develop, map, and maintain an inventory of locally significant natural. cultural, and historical resources for protection.		✓	
(b) Prepare, continually update, and implement a cultural-management plan for cultural sites, districts, and landscapes, where appropriate.			✓
(c) Enact an Archaeological District Ordinance.			✓
(d) Nominate important historic sites to the State and Federal historic registers.			✓
Analysis: **The proposed action is indirectly applicable to these objectives and related policies and implementing actions. Archaeological investigations and coordination for the proposed action are aimed at ensuring the preservation of historic resources, which may be impacted by the project. In addition, the State Historic Preservation Division (SHPD) has been consulted and the project will comply with all recommended mitigation measures. Should any archaeological resources be discovered during ground altering activities, work shall cease in the immediate area of the find and mitigation coordination will be undertaken with the SHPD.**			
C. IMPROVE EDUCATION			
Goal: Residents will have access to lifelong formal and informal educational options enabling them to realize their ambitions.	✓		
Objective:			
(1) Encourage the State to attract and retain school administrators and educators of the highest quality.			✓
Policies:			
(a) Encourage the State to provide teachers with nationally competitive pay and benefit packages.			✓
(b) Encourage the State to ensure teachers will have the teaching tools and support staff needed to provide students with an excellent education.		✓	
(c) Explore Maui County district- and school-based decision making in public education.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is indirectly applicable to the objective and policies to improve education. The proposed project will ensure teachers will have access to physical education training and practice facilities to provide students with excellent educational opportunities.**			
Objective:			
(2) Provide nurturing learning environments that build skills for the 21st century.	✓		
Policies:			
(a) Expand professional-development opportunities in disciplines that support the economic-development goals of Maui County.			✓
(b) Plan for demographic, social, and technological changes in a timely manner.			✓
(c) Encourage collaborative partnerships to improve conditions of learning environments.			✓
(d) Promote development of neighborhood schools and educational centers.			✓
(e) Integrate schools, community parks, and playgrounds, and expand each community's use of these facilities.		✓	
(f) Support coordination between land use and school-facility planning agencies.	✓		
(g) Encourage the upgrade and ongoing maintenance of public-school facilities.	✓		
(h) Encourage the State Department of Education to seek reliable, innovative, and alternative methods to support a level of per-pupil funding that places Hawai'i among the top tier of states nationally for its financial support of public schools.			✓
(i) Encourage the State to promote healthier, more productive learning environments, including by providing healthy meals, more physical activity, natural lighting, and passive cooling.	✓		
(j) Encourage the State to support the development of benchmarks to measure the success of Hawai'i's public-education system and clarify lines of accountability.			✓
(k) Design school and park facilities in proximity to residential areas.	✓		
(l) Support technology- and natural-environment-based learning.			✓
(m) Encourage the State to support lower student-teacher ratios in public schools.			✓
(n) Encourage alternative learning and educational opportunities.			✓
Implementing Actions:			
(a) Develop safe walking and bicycling programs for school children.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Analysis: **The proposed project involves development of athletic and classroom on County owned property at the BHS campus and is directly applicable to the objective and policies to provide a nurturing learning environment that builds skills for the 21st century. The proposed project upgrades facilities and promotes opportunities for greater participation in physical education located in proximity to residential areas. Planning and implementation of the proposed project is directly applicable to coordination between land use and school facility planning agencies.**			
Objective:			
(3) Provide all residents with educational opportunities that can help them better understand themselves and their surroundings and allow them to realize their ambitions.			✓
Policies:			
(a) Encourage the State to improve Maui Community College as a comprehensive community college that will serve each community.			✓
(b) Broaden the use of technology and telecommunications to improve educational opportunities throughout the County.			✓
(c) Attract graduate-level research programs and institutions.			✓
(d) Promote the teaching of traditional practices, including aquaculture; subsistence agriculture; Pacific Island, Asian, and other forms of alternative health practices; and indigenous Hawaiian architecture.			✓
(e) Integrate cultural and environmental values in education, including self-sufficiency and sustainability.			✓
(f) Foster a partnership and ongoing dialogue between business organizations, formal educational institutions, and vocational training centers to tailor learning and mentoring programs to County needs.			✓
(g) Ensure teaching of the arts to all ages.			✓
(h) Expand and develop vocational learning opportunities by establishing trade schools.			✓
(i) Encourage the State to integrate financial and economic literacy in elementary, secondary, and higher-education levels.			✓
Implementing Actions:			
(a) Encourage the State to establish a four-year university, and support the development of other higher-education institutions to enable residents to obtain bachelor degrees and postgraduate degrees in Maui County.			✓
Analysis: **The proposed project involves master plan improvements to the BHS campus, however, it is not applicable to the objective and policies to provide general educational opportunities for all residents to better understand themselves and their surroundings and allow them to realize their ambitions.**			
Objective:			
(4) Maximize community-based educational opportunities.			✓
Policies:			
(a) Encourage the State and others to expand pre-school, after-school, and homebased (parent-child) learning.			✓
(b) Support public-private partnerships to develop youth-internship, -apprenticeship, and -mentoring programs.			✓
(c) Support the development of a wide range of informal educational and cultural programs for all residents.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(d) Improve partnerships that utilize the skills and talents at Hawai'i's colleges and universities to benefit the County.			✓
(e) Support career-development and job-recruitment programs and centers.			✓
(f) Attract learning institutions and specialty schools to diversify and enhance educational opportunities.			✓
(g) Expand education of important life skills for the general public.			✓
(h) Support community facilities such as museums, libraries, nature centers, and open spaces that provide interactive-learning opportunities for all ages.			✓
Analysis: **The proposed project will provide sports facilities improvements at the BHS campus and is not applicable to the objective and policies to maximize community based educational opportunities.**			
D. STRENGTHEN SOCIAL AND HEALTHCARE SERVICES			
Goal: Health and social services in Maui County will fully and comprehensively serve all segments of the population.			✓
Objective:			
(1) In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County.			✓
Policies:			
(a) Work with other levels of government and the nonprofit sector to expand services to address hunger, homelessness, and poverty.			✓
(b) Support the improvement of opportunities for disadvantaged youth, encourage the tradition of hanai relatives, and support expanded opportunities for foster care.			✓
(c) Support expanded long-term-care options, both in institutions and at home, for patients requiring ongoing assistance and medical attention.			✓
(d) Encourage the expansion and improvement of local hospitals, facilitate the establishment of new healthcare facilities, and facilitate prompt and high-quality emergency- and urgent-care services for all.			✓
(e) Support broadened access to affordable health insurance and health care, and recognize the unique economic challenges posed to families when healthcare services are provided off-island.			✓
(f) Encourage equal access to social and healthcare services through both technological and traditional means.			✓
Analysis: **The proposed project will provide sports facilities improvements at the BHS campus and is not applicable to the objective and policies to strengthen social and healthcare services.**			
Objective:			
(2) Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.			✓
Policies:			
(a) Strengthen partnerships with government, nonprofit, and private organizations to provide funding and to improve counseling and other assistance to address substance abuse, domestic violence, and other pressing social challenges.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(b) Encourage the State to improve the quality of medical personnel, facilities, services, and equipment.			✓
(c) Encourage investment to improve the recruitment of medical professionals and the quality of medical facilities and equipment throughout Maui County.			✓
(d) Promote the development of continuum-of-care facilities that provide assisted living, hospice, home-care, and skilled-nursing options allowing the individual to be cared for in a manner congruent with his or her needs and desires.			✓
(e) Support improved social, healthcare, and governmental services for special needs populations.			✓
(f) Plan for the needs of an aging population and the resulting impacts on social services, housing, and healthcare delivery.			✓
(g) Improve coordination among the police, the courts, and the public in the administration of social and healthcare services.			✓
(h) Support programs that address needs of veterans.			✓
(i) Support programs that address the needs of immigrants.			✓
Implementing Actions:			
(a) Invest in programs designed to improve the general welfare and quality of life of Native Hawaiians.			✓
(b) Assist and facilitate the State Department of Public Safety and others in efforts to strengthen programs and facilities that will improve the mental and social health of incarcerated people and assist in prison inmates' successful transition back into Maui County communities.			✓
(c) Develop and maintain a comprehensive index that will measure the health and wellness needs of families.			✓
(d) Provide heliports countywide for emergency health and safety purposes.			✓
Analysis: **The proposed project is neither directly nor indirectly applicable to the objective and policies for the quality and delivery of social and healthcare services and programs. Specifically, the proposed action will not encourage or impact partnerships with governments and the private sector for social and healthcare programs or services.**			
Objective:			
(3) Strengthen public-awareness programs related to healthy lifestyles and social and medical services.			✓
Policies:			
(a) Expand public awareness about personal safety and crime prevention.			✓
(b) Encourage residents to pursue education and training for careers in the healthcare, social services, and community-development fields.			✓
(c) Expand public awareness and promote programs to achieve healthy eating habits and drug-free lifestyles.			✓
Analysis: **The proposed project is not applicable to the objective and policies to strengthen public-awareness programs related to healthy lifestyles and social and medical services.**			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS			
Goal: Quality, island-appropriate housing will be available to all residents.			✓
Objective:			
(1) Reduce the affordable housing deficit for residents.			✓
Policies:			
(a) Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.			✓
(b) Seek innovative ways to lower housing costs without compromising the quality of our island lifestyle.			✓
(c) Seek innovative methods to secure land for the development of low- and moderate- income housing.			✓
(d) Provide the homeless population with emergency and transitional shelter and other supportive programs.			✓
(e) Provide for a range of senior-citizen and special needs housing choices on each island that affordably facilitates a continuum of care and services.			✓
(f) Support the Department of Hawaiian Home Lands' development of homestead lands.			✓
(g) Manage property-tax burdens to protect affordable resident homeownership.			✓
(h) Explore taxation mechanisms to increase and maintain access to affordable housing.			✓
(i) Improve awareness regarding available affordable homeowner's insurance.			✓
(j) Redevelop commercial areas with a mixture of affordable residential and business uses, where appropriate.			✓
(k) Ensure residents are given priority to obtain affordable housing units developed in their communities, consistent with all applicable regulations.			✓
(l) Establish pricing for affordable housing that is more reflective of Maui County's workforce than the United States Housing and Urban Development's median-income estimates for Maui County.			✓
(m) Develop neighborhoods with a mixture of accessible and integrated community facilities and services.			✓
(n) Provide alternative regulatory frameworks to facilitate the use of Kuleana lands by the descendants of Native Hawaiians who received those lands pursuant to the Kuleana Act of 1850.			✓
(o) Work with lending institutions to expand housing options and safeguard the financial security of homeowners.			✓
(p) Promote the use of the community land trust model and other land-lease and land- financing options.			✓
(q) Support the opportunity to age in place by providing accessible and appropriately designed residential units.			✓
Analysis: **The proposed project sports facilities improvements are not applicable to the objective and policies to expand opportunities for affordable housing for residents.**			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Objective:			
(2) Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small town character.			✓
Policies:			
(a) Seek innovative ways to develop 'ohana cottages and accessory-dwelling units as affordable housing.			✓
(b) Design neighborhoods to foster interaction among neighbors.			✓
(c) Encourage a mix of social, economic, and age groups within neighborhoods.			✓
(d) Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patterns of development.			✓
(e) Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.			✓
(f) Develop workforce housing in proximity to job centers and transit facilities.			✓
(g) Provide incentives to developers and owners who incorporate green building practices and energy-efficient technologies into their housing developments.			✓
Implementing Actions:			
(a) Revise laws to support neighborhood designs that incorporate a mix of housing types that are appropriate for island living.			✓
Analysis: **The proposed project is not applicable to the objective and policies to increase the mix of housing types and protect the County's rural and small town character.**			
Objective:			
(3) Increase and maintain the affordable housing inventory.			✓
Policies:			
(a) Recognize housing as a basic human need, and work to fulfill that need.			✓
(b) Prioritize available infrastructure capacity for affordable housing.			✓
(c) Improve communication, collaboration, and coordination among housing providers and social-service organizations.			✓
(d) Study future projected housing needs, monitor economic cycles, and prepare for future conditions on each island.			✓
(e) Develop public-private and nonprofit partnerships that facilitate the construction of quality affordable housing.			✓
(f) Streamline the review process for high-quality, affordable housing developments that implement the goals, objectives, and policies of the General Plan.			✓
(g) Minimize the intrusion of housing on prime, productive, and potentially productive agricultural lands and regionally valuable agricultural lands.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(h) Encourage long-term residential use of existing and future housing to meet residential needs.			✓
Implementing Actions:			
(a) Develop policies to even out the peaks and valleys in Maui County's construction-demand cycles.			✓
Analysis: **The proposed project is not applicable to the objective and policies to increase and maintain the affordable housing inventory.**			
Objective:			
(4) Expand access to education related to housing options, homeownership, financing, and residential construction.			✓
Policies:			
(a) Broaden access to information about County, State, and Federal programs that provide financial assistance to renters and home buyers.			✓
(b) Expand access to information about opportunities for homeownership and self-help housing.			✓
(c) Educate residents about making housing choices that support their individual needs, the needs of their communities, and the health of the islands' natural systems.			✓
(d) Improve home buyers' education on all aspects of homeownership.			✓
Analysis: **The proposed project is not applicable to the objective and policies to expand access to education related to housing.**			
F. STRENGTHEN THE LOCAL ECONOMY			
Goal: Maui County's economy will be diverse, sustainable, and supportive of community values.		✓	
Objective:			
(1) Promote an economic climate that will encourage diversification of the County's economic base and a sustainable rate of economic growth.			✓
Policies:			
(a) Support economic decisions that create long-term benefits.			✓
(b) Promote lifelong education, career development, and technical training for existing and emerging industries.			✓
(c) Invest in infrastructure, facilities, and programs that foster economic diversification.			✓
(d) Support and promote locally produced products and locally owned operations and businesses that benefit local communities and meet local demand.			✓
(e) Support programs that assist industries to retain and attract more local labor and facilitate the creation of jobs that offer a living wage.			✓
(f) Encourage work environments that are safe, rewarding, and fulfilling to employees.			✓
(g) Support home-based businesses that are appropriate for and in character with the community.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(h) Encourage businesses that promote the health and well-being of the residents, produce value-added products, and support community values.			✓
(i) Foster an understanding of the role of all industries in our economy.			✓
(j) Support efforts to improve conditions that foster economic vitality in our historic small towns.		✓	
(k) Support and encourage traditional host-culture businesses and indigenous agricultural practices.			✓
(l) Support public and private entities that assist entrepreneurs in establishing locally operated businesses.			✓
Implementing Actions:			
(a) Develop regulations and programs that support opportunities for local merchants, farmers, and small businesses to sell their goods and services directly to the public.			✓
(b) Monitor the carrying capacity of the islands' social, ecological, and infrastructure systems with respect to the economy.			✓
Analysis: **The proposed project involves master plan improvements at the BHS campus and is indirectly applicable to the goal, objective and policies related to strengthen the local economy. The proposed project will create employment opportunities during the construction phase. The proposed project will foster economic vitality during the construction phase in Wailuku which is a historic small town.**			
Objective:			
(2) Diversify and expand sustainable forms of agriculture and aquaculture.			✓
Policies:			
(a) Support programs that position Maui County's agricultural products as premium export products.			✓
(b) Prioritize the use of agricultural land to feed the local population, and promote the use of agricultural lands for sustainable and diversified agricultural activities.			✓
(c) Capitalize on Hawai'i's economic opportunities in the ecologically sensitive aquaculture industries.			✓
(d) Assist farmers to help make Maui County more self-sufficient in food production.			✓
(e) Support ordinances, programs, and policies that keep agricultural land and water available and affordable to farmers.			✓
(f) Support a tax structure that is conducive to the growth of the agricultural economy.			✓
(g) Enhance County efforts to monitor and regulate important agricultural issues.			✓
(h) Support education, research, and facilities that strengthen the agricultural industry.			✓
(i) Maintain the genetic integrity of existing food crops.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(j) Encourage healthy and organic farm practices that contribute to land health and regeneration.			✓
(k) Support cooperatives and other types of nontraditional communal farming and efforts.			✓
(l) Encourage methods of monitoring and controlling genetically modified crops to prevent adverse effects.			✓
(m) Work with the State to ease the permitting process for the revitalization of traditional fish ponds.			✓
Implementing Actions:			
(a) Redirect efforts in the Office of Economic Development to further facilitate the development of the agricultural section and to monitor agricultural legislation and issues.			✓
(b) Publicly identify, with signage and other means, the field locations of all genetically modified crops.			✓
(c) Create agricultural parks in areas distant from genetically modified crops.			✓
Analysis: **The proposed sports facilities improvements are not applicable to the objective and policies to diversify and expand sustainable forms of agriculture and aquaculture.**			
Objective:			
(3) Support a visitor industry that respects the resident culture and the environment.			✓
Policies:			
(a) Promote traditional Hawaiian practices in visitor-related facilities and activities.			✓
(b) Encourage and educate the visitor industry to be sensitive to island lifestyles and cultural values.			✓
(c) Encourage a spirit of welcome for residents at visitor facilities, such as by offering kama‘aina incentives and discount programs.			✓
(d) Support the renovation and enhancement of existing visitor facilities.			✓
(e) Support policies, programs, and a tax structure that redirect the benefits of the visitor industry back into the local community.			✓
(f) Encourage resident ownership of visitor-related businesses and facilities.			✓
(g) Develop partnerships to provide educational and training facilities to residents employed in the visitor industry.			✓
(h) Foster an understanding of local cultures, customs, and etiquette, and emphasize the importance of the Aloha Spirit as a common good for all.			✓
(i) Support the diversification, development, evolution, and integration of the visitor industry in a way that is compatible with the traditional, social, economic, spiritual, and environmental values of island residents			✓
(j) Improve collaboration between the visitor industry and the other sectors of Maui County’s economy.			✓
(k) Perpetuate an authentic image of the Hawaiian culture and history and an appropriate recognition of the host culture.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(l) Support the programs and initiatives outlined in the Maui County Tourism Strategic Plan 2006-2015.			✓
(m) Promote water conservation, beach conservation, and open-space conservation in areas providing services for visitors.			✓
(n) Recognize the important contributions that the visitor industry makes to the County's economy, and support a healthy and vibrant visitor industry.			✓
Analysis: **The proposed project is not applicable to the objective and policies to support a visitor industry that respects the resident culture and environment.**			
Objective:			
(4) Expand economic sectors that increase living-wage job choices and are compatible with community values.	✓		
Policies:			
(a) Support emerging industries, including the following: • Health and wellness industry; • Sports and recreation industry; • Film and entertainment industry; • Arts and culture industry; • Renewable-energy industry; • Research and development industry; • High-technology and knowledge-based industries; • Education and training industry; • Ecotourism industry; and • Agritourism industry.	✓		
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, and new sports practice fields, which is directly applicable to expanding economic sectors that are related to sports and recreation industry. The proposed locker rooms, weight rooms, and practice fields will support businesses providing related sports equipment for the facilities.**			
G. IMPROVE PARKS AND PUBLIC FACILITIES			
Goal: A full range of island-appropriate public facilities and recreational opportunities will be provided to improve the quality of life for residents and visitors.	✓		
Objective:			
(1) Expand access to recreational opportunities and community facilities to meet the present and future needs of residents of all ages and physical abilities.	✓		
Policies:			
(a) Protect, enhance, and expand access to public shoreline and mountain resources.			✓
(b) Expand and enhance the network of parks, multi-use paths, and bikeways.			✓
(c) Assist communities in developing recreational facilities that promote physical fitness.	✓		
(d) Expand venue options for recreation and performances that enrich the lifestyles of Maui County's people.	✓		
(e) Expand affordable recreational and after-school programs for youth.		✓	
(f) Encourage and invest in recreational, social, and leisure activities that bring people together and build community pride.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(g) Promote the development and enhancement of community centers, civic spaces, and gathering places throughout our communities.			✓
(h) Expand affordable access to recreational opportunities that support the local lifestyle.		✓	
Implementing Actions:			
(a) Identify and reserve lands for cemeteries, and preserve existing cemeteries on all islands, appropriately accommodating varying cultural and, faith-based traditions.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, and new sports practice fields on County owned property at the BHS campus and is directly applicable to the goal, objective and policies to improve parks and public facilities. The proposed project will expand access to recreational opportunities for both boys and girls in areas of baseball and track. These facilities will be available for in school physical education programs and after school sports activities.**			
Objective:			
(2) Improve the quality and adequacy of community facilities.			✓
Policies:			
(a) Provide an adequate supply of dedicated shelters and facilities for disaster relief.			✓
(b) Provide and maintain community facilities that are appropriately designed to reflect the traditions and customs of local cultures.			✓
(c) Ensure that parks and public facilities are safe and adequately equipped for the needs of all ages and physical abilities to the extent reasonable.			✓
(d) Maintain, enhance, expand, and provide new active and passive recreational facilities in ways that preserve the natural beauty of their locations.			✓
(e) Redesign or retrofit public facilities to adapt to major shifts in environmental or urban conditions to the extent reasonable.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is not applicable to the objective and policies to improve quality and adequacy of community facilities.**			
Objective:			
(3) Enhance the funding, management, and planning of public facilities and park lands.		✓	
Policies:			
(a) Identify and encourage the establishment of regulated and environmentally sound campgrounds.			✓
(b) Manage park use and control access to natural resources in order to rest sensitive places and utilize the resources in a sustainable manner.			✓
(c) Provide public-recreational facilities that are clean and well-maintained.			✓
(d) Develop partnerships to ensure proper stewardship of the islands' trails, public lands, and access systems.			✓
(e) Ensure that there is an adequate supply of public restrooms in convenient locations.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Implementing Actions:			
(a) Encourage the State to allow for overnight fishing along the shoreline in accordance with management plans and regulations.			✓
(b) Develop and regularly update functional plans, including those relating to public facilities, parks, and campgrounds.			✓
(c) Develop and adopt local level-of service standards for public facilities and parks.			✓
(d) Identify, acquire, and develop lands for parks, civic spaces, and public uses.			✓
Analysis: **The proposed project involves the development of sports and classroom facilities at the existing BHS campus and is not applicable to the objective and policies to enhance the funding, management, and planning of public facilities and park lands.**			
H. DIVERSIFY TRANSPORTATION OPTIONS			
Goal: Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.			✓
Objective:			
(1) Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable.			✓
Policies:			
(a) Execute planning strategies to reduce traffic congestion.			✓
(b) Plan for the efficient relocation of roadways for the public benefit.			✓
(c) Support the use of alternative roadway designs, such as traffic-calming techniques and modern roundabouts.			✓
(d) Increase route and mode options in the ground-transportation network.			✓
(e) Ensure that roadway systems are safe, efficient, and maintained in good condition.			✓
(f) Preserve roadway corridors that have historic, scenic, or unique physical attributes that enhance the character and scenic resources of communities.			✓
(g) Design new roads and roadway improvements to retain and enhance the existing character and scenic resources of the communities through which they pass.			✓
(h) Promote a variety of affordable and convenient transportation services that meet countywide and community needs and expand ridership of transit systems.			✓
(i) Collaborate with transit agencies, government agencies, employers, and operators to provide planning strategies that reduce peak-hour traffic.			✓
(j) Develop and expand an attractive, island-appropriate, and efficient public transportation system.			✓
(k) Provide and encourage the development of specialized transportation options for the young, the elderly, and persons with disabilities.			✓
(l) Evaluate all alternatives to preserve quality of life before widening roads.			✓
(m) Encourage businesses in the promotion of alternative transportation options for resident and visitor use.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(n) Support the development of carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.			✓
Implementing Actions:			
(a) Create incentives and implement strategies to reduce visitor dependence on rental cars.			✓
(b) Establish efficient public-transit routes between employment centers and primary workforce residential areas.			✓
(c) Create attractive, island-appropriate, conveniently located park-and-ride and ride- share facilities.			✓
Analysis: **The proposed project involves high school sports facilities and classroom building improvements and is not applicable to the goal, objective, and policies to expand public transportation options.**			
Objective:			
(2) Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.			✓
Policies:			
(a) Make walking and bicycling transportation safe and easy between and within communities.			✓
(b) Require development to be designed with the pedestrian in mind.			✓
(c) Design new and retrofit existing rights-of-way with adequate sidewalks, bicycle lanes, or separated multi-use transit corridors.			✓
(d) Support the development of a countywide network of bikeways, equestrian trails, and pedestrian paths.			✓
(e) Support the reestablishment of traditional trails between communities, to the ocean, and through the mountains for public use.			✓
(f) Encourage educational programs to increase safety for pedestrians and bicyclists.			✓
Implementing Actions:			
(a) Design, build, and modify existing bikeways to improve safety and separation from automobiles.			✓
(b) Increase enforcement to reduce abuse of bicycle and pedestrian lanes by motorized vehicles.			✓
(c) Identify non-motorized transportation options as a priority for new sources of funding.			✓
Analysis: **The proposed project is not applicable to the objective and policies to reduce reliance on automobiles or use of alternative modes of transportation.**			
Objective:			
(3) Improve opportunities for affordable, efficient, safe, and reliable air transportation.			✓
Policies:			
(a) Discourage private helicopter and fixed-wing landing sites to mitigate environmental and social impacts.			✓
(b) Encourage the use of quieter aircraft and noise-abatement procedures for arrivals and departures.			✓
(c) Encourage the modernization and maintenance of air-transportation facilities for general-aviation activities.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(d) Encourage a viable and competitive atmosphere for air carriers to expand service and ensure sufficient intra-County flights and affordable fares for consumers.			✓
(e) Continue to support secondary airports, and encourage the State to provide them with adequate funding.			✓
(f) During Community Plan updates, explore the use of the smaller airports.			✓
(g) Encourage the State to provide efficient, adequate, and affordable parking and transit connections within and around airports.			✓
Analysis: **The proposed project involves sports facilities and classroom building improvements to the BHS campus and is not applicable to the objective and policies to improve opportunities for affordable, efficient, safe, and reliable air transportation.**			
Objective:			
(4) Improve opportunities for affordable, efficient, safe, and reliable ocean transportation.			✓
Policies:			
(a) Support programs and regulations that reduce the disposal of maritime waste and prevent spills into the ocean.			✓
(b) Encourage the upgrading of harbors to resist damage from natural hazards and disasters.			✓
(c) Encourage the State to study the use of existing harbors and set priorities for future use.			✓
(d) Explore all options to protect the traditional recreational uses of harbors, and mitigate harbor-upgrade impacts to recreational uses where feasible.			✓
(e) Encourage the upgrading of harbors and the separation of cargo and bulk materials from passenger and recreational uses.			✓
(f) Encourage the State to provide for improved capacity at shipping, docking, and storage facilities.			✓
(g) Encourage the State to provide adequate parking facilities and transit connections within and around harbor areas.			✓
(h) Encourage the redevelopment and revitalization of harbors while preserving historic and cultural assets in harbor districts.			✓
(i) Encourage the State to provide adequate facilities for small-boat operations, including small-boat launch ramps, according to community needs.			✓
(j) Support the maintenance and cleanliness of harbor facilities.			✓
(k) Support the redevelopment of harbors as pedestrian-oriented gathering places.			✓
Analysis: **The proposed project is not applicable to the objective and policies for affordable, efficient, reliable, and safe ocean transportation.**			
Objective:			
(5) Improve and expand the planning and management of transportation systems.			✓
Policies:			
(a) Encourage progressive community design and development that will reduce transportation trips.			✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(c) Establish appropriate user fees for private enterprises that utilize public transportation facilities for recreational purposes.			✓
(d) Support the revision of roadway-design criteria and standards so that roads are compatible with surrounding neighborhoods and the character of rural areas.			✓
(e) Plan for multi-modal transportation and utility corridors on each island.			✓
(f) Support designing all transportation facilities, including airport, harbor, and mass- transit stations, to reflect Hawaiian architecture.			✓
(g) Utilize transportation-demand management as an integral part of transportation planning.			✓
(h) Accommodate the planting of street trees and other appropriate landscaping in all public rights-of-way.			✓
Analysis: **The proposed project is not applicable to the objective and policies to improve the planning and management of transportation systems.**			
I. IMPROVE PHYSICAL INFRASTRUCTURE			
Goal: Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the County through clean and sustainable technologies.		✓	
Objective:			
(1) Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.			✓
Policies:			
(a) Ensure that adequate supplies of water are available prior to approval of subdivision or construction documents.		✓	
(b) Develop and fund improved water-delivery systems.			✓
(c) Ensure a reliable and affordable supply of water for productive agricultural uses.			✓
(d) Promote the reclamation of gray water, and enable the use of reclaimed, gray, and brackish water for activities that do not require potable water.			✓
(e) Retain and expand public control and ownership of water resources and delivery systems.			✓
(f) Improve the management of water systems so that surface-water and groundwater resources are not degraded by overuse or pollution.			✓
(g) Explore and promote alternative water-source-development methods.			✓
(h) Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.			✓
Implementing Actions:			
(a) Develop a process to review all applications for desalination.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is indirectly applicable to the goal, objective and policies to maintain County infrastructure and to provide for and effectively serve the needs of the County through clean and sustainable technologies. The proposed project is located within the County water service system and there is anticipated capacity in the system to service the project with potable water.**			

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Objective:			
(2) Improve waste-disposal practices and systems to be efficient, safe, and as environmentally sound as possible.		✓	
Policies:			
(a) Provide sustainable waste-disposal systems and comprehensive, convenient recycling programs to reduce the flow of waste into landfills.		✓	
(b) Support innovative and alternative practices in recycling solid waste and wastewater and disposing of hazardous waste.			✓
(c) Encourage vendors and owners of automobile, appliance, and white goods to participate in the safe disposal and recycling of such goods, and ensure greater accountability for large waste producers.			✓
(d) Develop strategies to promote public awareness to reduce pollution and litter, and encourage residents to reduce, reuse, recycle, and compost waste materials.		✓	
(e) Pursue improvements and upgrades to existing wastewater and solid-waste systems consistent with current and future plans and the County's Capital Improvement Program.			✓
Implementing Actions:			
(a) Establish recycling, trash-separation, and materials recovery programs and facilities to reduce the flow of waste into landfills.		✓	
(b) Study the feasibility of developing environmentally safe waste-to-energy facilities.			✓
(c) Utilize taxes and fees as means to encourage conservation and recycling.			✓
(d) Implement and regularly update the Integrated Solid Waste Management Plan.			✓
(e) Phase out the use of injection wells.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies to improve waste-disposal practices and systems to be efficient, safe and as environmentally sound as possible. The proposed project will be served by the County wastewater collection and treatment system. Solid waste generated by the project will be collected by private collection services and deposited at the Central Maui Landfill. In addition, BHS has recycle bins located throughout the school campus to reduce the stream of solid waste at the Central Maui Landfill.**			
Objective:			
(3) Significantly increase the use of renewable and green technologies to promote energy efficiency and energy self-sufficiency.			✓
Policies:			
(a) Promote the use of locally renewable energy sources, and reward energy efficiency.			✓
(b) Consider tax incentives and credits for the development of sustainable- and renewable-energy sources.			✓
(c) Expand education about energy conservation and self-sufficiency.			✓
(d) Encourage small-scale energy generation that utilizes wind, sun, water, biowaste, and other renewable sources of energy.			✓
(e) Expand renewable-energy production.			✓
(f) Develop public-private partnerships to ensure the use of renewable energy and increase energy efficiency.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(g) Require the incorporation of locally appropriate energy-saving and green building design concepts in all new developments by providing energy efficient urban design guidelines and amendments to the Building Code.			✓
(h) Encourage the use of sustainable energy to power vehicles.			✓
(i) Promote the retrofitting of existing buildings and new development to incorporate energy-saving design concepts and devices.		✓	
(j) Encourage green footprint practices.		✓	
(k) Reduce Maui County's dependence on fossil fuels and energy imports.		✓	
(l) Support green building practices such as the construction of buildings that aim to minimize carbon dioxide production, produce renewable energy, and recycle water.		✓	
(m) Promote and support environmentally friendly practices in all energy sectors.			✓
Implementing Actions:			
(a) Adopt an energy-efficiency policy for Maui County government as a model for other jurisdictions.			✓
(b) Adopt a Green Building Code, and support green building practices.		✓	
Analysis: **The proposed project is indirectly applicable to the objective and policies to increase the use of renewable and green technologies to promote energy efficiently and energy self-sufficiency through the implementation of sustainable design practices. All facilities will be designed to meet the Leadership in Energy and Environmental Design (LEED) standards.**			
Objective:			
(4) Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.		✓	
Policies:			
(a) Capitalize on existing infrastructure capacity as a priority over infrastructure expansion.		✓	
(b) Planning for new towns should only be considered if a region's growth is too large to be directed into infill and adjacent growth areas.			✓
(c) Utilize appropriate infrastructure technologies in the appropriate locations.			✓
(d) Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner.		✓	
(e) Support catchment systems and on-site wastewater treatment in rural areas and aggregated water and wastewater systems in urban areas if they are appropriately located.			✓
Implementing Actions:			
(a) Develop a streamlining system for urban infill projects.		✓	
(b) Identify appropriate areas for urban expansion of existing towns where infrastructure and public facilities can be provided in a cost-effective manner.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Analysis: **The proposed sports facilities improvements will be constructed on the existing BHS campus and is indirectly applicable to the objective and policies to direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity. The project is located in an area that is designated for urban growth and with infrastructure services readily available with sufficient capacity to service the project.**			
Objective:			
(5) Improve the planning and management of infrastructure systems.			✓
Policies:			
(a) Provide a reliable and sufficient level of funding to enhance and maintain infrastructure systems.			✓
(b) Require new developments to contribute their pro rata share of local and regional infrastructure costs.			✓
(c) Improve coordination among infrastructure providers and planning agencies to minimize construction impacts.			✓
(d) Maintain inventories of infrastructure capacity, and project future infrastructure needs.			✓
(e) Require social-justice and -equity issues to be considered during the infrastructure-planning process.			✓
(f) Discourage the development of critical infrastructure systems within hazard zones and the tsunami-inundation zone to the extent practical.			✓
(g) Ensure that infrastructure is built concurrent with or prior to development.			✓
(h) Ensure that basic infrastructure needs can be met during a disaster.			✓
(i) Locate public facilities and emergency services in appropriate locations that support the health, safety, and welfare of each community and that minimize delivery inefficiencies.			✓
(j) Promote the undergrounding of utility and other distribution lines for health safety, and aesthetic reasons.			✓
Implementing Actions:			
(a) Develop and regularly update functional plans for infrastructure systems.			✓
(b) Develop, adopt, and regularly update local or community-sensitive level-of service standards for infrastructure systems.			✓
Analysis: **The proposed project is not applicable to the objective and policies to improve the planning and management of infrastructure systems.**			
J. PROMOTE SUSTAINABLE LAND USE AND GROWTH MANAGEMENT			
Goal: Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.		✓	
Objective:			
(1) Improve land use management and implement a directed-growth strategy.		✓	
Policies:			
(a) Establish, map, and enforce urban- and rural-growth limits.		✓	
(b) Direct urban and rural growth to designated areas.		✓	

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

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Implementing Actions:			
(a) Inventory and protect prime, productive, and potentially productive agricultural lands from competing non-agricultural land uses.			✓
Analysis: **The proposed project is located on lands designated for urban uses and is not applicable to the objective and policies to improve planning and management of agricultural lands and rural areas.**			
Objective:			
(3) Design all developments to be in harmony with the environment and to protect each community's sense of place.		✓	
Policies:			
(a) Support and provide incentives for green building practices.		✓	
(b) Encourage the incorporation of green building practices and technologies into all government facilities to the extent practicable.			✓
(c) Protect and enhance the unique architectural and landscape characteristics of each Community Plan Area, small town, and neighborhood.			✓
(d) Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.		✓	
(e) Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.			✓
(f) Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.			✓
(g) Where appropriate, integrate public-transit, equestrian, pedestrian, and bicycle facilities, and public rights-of-way as design elements in new and existing communities.			✓
(h) Ensure better connectivity and linkages between land uses.			✓
(i) Adequately buffer and mitigate noise and air pollution in mixed-use areas to maintain residential quality of life.		✓	
(j) Protect rural communities and traditional small towns by regulating the footprint, locations, site planning, and design of structures.			✓
(k) Support small-town revitalization and preservation.			✓
(l) Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.			✓
Implementing Actions:			
(a) Establish design guidelines and standards to enhance urban and rural environments.			✓
(b) Provide funding for civic-center and civic-space developments.			✓
(c) Establish and enhance urban forests in neighborhoods and business districts.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Analysis: **The proposed project involves sports and classroom facilities improvements to the BHS campus and is indirectly applicable to the objective and policies to design all facilities to be in harmony with the environment and to protect the community's sense of place. The proposed project has been designed to be compatible with the environment. The proposed project improvements will be setback from public roadways to mitigate noise impacts and will be low profile to maintain open space resources and public views of the West Maui Mountains. The proposed project will ensure that boys' and girls' sports facilities will be available and adequate for future students.**			
Objective:			
(4) Improve and increase efficiency in land use planning and management.		✓	
Policies:			
(a) Assess the cumulative impact of developments on natural ecosystems, natural resources, wildlife habitat, and surrounding uses.		✓	
(b) Ensure that new development projects requiring discretionary permits demonstrate a community need, show consistency with the General Plan, and provide an analysis of impacts.		✓	
(c) Encourage public and private partnerships to preserve lands of importance, develop housing, and meet the needs of residents.			✓
(d) Promote creative subdivision designs that implement best practices in land development, sustainable management of natural and physical resources, increased pedestrian and bicycle functionality and safety, and the principles of livable communities.			✓
(e) Coordinate with Federal, State, and County officials in order to ensure that land use decisions are consistent with County plans and the vision local populations have for their communities.		✓	
(f) Enable greater public participation in the review of subdivisions.			✓
(g) Improve land use decision making through the use of land- and geographic information systems.			✓
Implementing Actions:			
(a) Institute a time limit and sunsetting stipulations on development entitlements and their implementation.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies to improve and increase efficiency in land use planning and management. The proposed project utilizes vacant County land on the existing BHS campus. An EA was carried out on the proposed project which assessed the direct, cumulative, and secondary impacts of the project. The proposed project is in compliance with the General Plan and Countywide Policy Plan as set out in this analysis.**			
K. STRIVE FOR GOOD GOVERNANCE			
Objective:			
(1) Strengthen governmental planning, coordination, consensus building, and decision making.		✓	
Policies:			
(a) Plan and prepare for the effects of social, demographic, economic, and environmental shifts.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(b) Plan for and address the possible implications of Hawaiian sovereignty.			✓
(c) Encourage collaboration among government agencies to reduce duplication of efforts and promote information availability and exchange.			✓
(d) Expand opportunities for the County to be involved in and affect State and Federal decision making.			✓
(e) Plan and prepare for large-scale emergencies and contingencies.			✓
(f) Improve public awareness about preparing for natural hazards, disasters, and evacuation plans.			✓
(g) Improve coordination among Federal, State, and County agencies.		✓	
Implementing Actions:			
(a) Develop policies, regulations, and programs to protect and enhance the unique character and needs of the County's various communities.			✓
(b) Evaluate and if necessary, recommend modifications to the County Charter that could result in a possible change to the form of governance for Maui County.			✓
(c) Study and evaluate the feasibility and implications of voting in Maui County Council elections.			✓
(d) Study and evaluate the feasibility of authorizing town governments in Maui County.			✓
Analysis: **The proposed project involves sports and classroom facilities improvements on County owned property at the BHS campus and is indirectly applicable to the objective and policies to strengthen government planning, coordination, consensus building and decision-making. The EA prepared for the proposed project will be reviewed and commented on by government agencies and the public to strengthen coordination, consensus building and decision making by the State of Hawai'i Department of Education (DOE).**			
Objective:			
(2) Promote civic engagement.		✓	
Policies:			
(a) Foster consensus building through in-depth, innovative, and accessible public participatory processes.		✓	
(b) Promote and ensure public participation and equal access to government among all citizens.		✓	
(c) Encourage a broad cross-section of residents to volunteer on boards and commissions.			✓
(d) Encourage the State to improve its community-involvement processes.			✓
(e) Support community-based decision making.		✓	
(f) Expand advisory functions at the community level.			✓
(g) Expand opportunities for all members of the public to participate in public meetings and forums.			✓
(h) Facilitate the community's ability to obtain relevant documentation.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(i) Increase voter registration and turnout.			✓
Implementing Actions:			
(a) Implement two-way communication using audio-visual technology that allows residents to participate in the County's planning processes.			✓
(b) Ensure and expand the use of online notification of County business and public meetings, and ensure the posting of all County board and commission meeting minutes.			✓
(c) Explore funding mechanisms to improve participation by volunteers on boards and commissions.			✓
(d) Develop a project-review process that mandates early and ongoing consultation in and with communities affected by planning and land use activities.			✓
Analysis: **Indirectly, the proposed project advances the objective for promoting civic engagement. The EA prepared for the proposed project will undergo public review and provide opportunities for agency and public comment and input.**			
Objective:			
(3) Improve the efficiency, reliability, and transparency of County government's internal processes and decision making.			✓
Policies:			
(a) Use advanced technology to improve efficiency.			✓
(b) Simplify and clarify the permitting process to provide uniformity, reliability, efficiency, and transparency.			✓
(c) Improve communication with Lanaʻi and Molokaʻi through the expanded use of information technologies, expanded staffing, and the creation and expansion of government-service centers.			✓
(d) Ensure that laws, policies, and regulations are internally consistent and effectuate the intent of the General Plan.			✓
Implementing Actions:			
(a) Update the County Code to be consistent with the General Plan.			✓
(b) Identify and update County regulations and procedures to increase the productivity and efficiency of County government.			✓
(c) Develop local level-of-service standards for infrastructure, public facilities, and services.			✓
(d) Implement plans through programs, regulations, and capital improvements in a timely manner.			✓
(e) Expand government online services.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and classrooms by the State DOE and is not applicable to the objective and policies to improve the efficiency, reliability, and transparency of County government's internal processes and decision-making.**			
Objective:			
(4) Adequately fund in order to effectively administer, implement, and enforce the General Plan.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
Policies:			
(a) Adequately fund, staff, and support the timely update and implementation of planning policy, programs, functional plans, and enforcement activities.			✓
(b) Ensure that the County's General Plan process provides for efficient planning at the County, island, town, and neighborhood level.			✓
(c) Encourage ongoing professional development, education, and training of County employees.			✓
(d) Encourage competitive compensation packages for County employees to attract and retain County personnel.			✓
(e) Enable the County government to be more responsive in implementing our General Plan and Community Plans.			✓
(f) Review discretionary permits for compliance with the Countywide Policy Plan.			✓
(g) Strengthen the enforcement of County, State, and Federal land use laws.			✓
Implementing Actions:			
(a) Establish penalties to ensure compliance with County, State, and Federal land use laws.			✓
Analysis: **The proposed project complies with the County's General Plan and as set out in this assessment. However, the proposed project is not applicable to the objective for implementing or enforcing the General Plan.**			
Objective:			
(5) Strive for County government to be a role model for implementing cultural and environmental policies and practices.			✓
Policies:			
(a) Educate residents on the benefits of sustainable practices.			✓
(b) Encourage the retention and hiring of qualified professionals who can improve cultural and environmental practices.			✓
(c) Incorporate environmentally sound and culturally appropriate practices in government operations and services.			✓
(d) Encourage all vendors with County contracts to incorporate environmentally sound and culturally appropriate practices.			✓
Analysis: **The proposed project is not applicable to the objective and policies for the County government to be a role model for implementing cultural and environmental policies and practices.**			
L. MITIGATE CLIMATE CHANGE AND WORK TOWARD RESILIENCE			
Goal: Minimize the causes and negative effects of climate change.		✓	
Objective:			
(1) Lower carbon emissions levels to mitigate climate change impacts and limit the rate of global warming.			✓
Policies:			
(a) Increase reforestation efforts by encouraging residents and visitors to plant non-invasive gardens and trees.			✓
(b) Improve communication, coordination, and collaboration among those that work to mitigate climate change impacts.			✓
(c) Promote the teaching and use of regenerative agriculture.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(d) Invest in infrastructure that is not dependent on fossil fuels and utilizes renewable energy.			✓
(e) Improve efforts to mitigate and plan for the impact of natural disasters and global warming.		✓	
(f) Encourage the building industry to use environmentally sustainable materials, technology, and site planning.		✓	
(g) Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.		✓	
(h) Plan and prepare for and educate visitors and residents about the possible effects of global warming.			✓
(i) Promote programs and incentives that decrease greenhouse-gas emissions and improve environmental stewardship.			✓
(j) Support the development of carbon-emission standards and an incentive program aimed at achieving County carbon-emission goals.			✓
Implementing Actions:			
(a) Implement Federal and State policies that require a reduction of greenhouse-gas emissions.			✓
(b) Establish a Countywide Climate Action Plan			✓
(c) Develop programs that assist residents and businesses with obtaining access to renewable energy sources.			✓
(d) Revise laws to support neighborhood designs that incorporate the use of renewable energy sources that are appropriate for island living.			✓
(e) Incorporate planting of native and indigenous trees as a major component of Urban Design to both cool neighborhoods and reduce carbon dioxide.			✓
(f) Coordinate with State, County, and private landowners in the development of forestry and prioritizing of native and indigenous trees to reduce carbon dioxide.			✓
(g) Strongly support efforts to restore and improve Maui County's watersheds for the purpose of improving the water supply, controlling carbon dioxide levels, decreasing soil runoff, and reducing coastal flooding.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and classrooms and is indirectly applicable to the goal, objectives, and policies related to climate change mitigation and towards resilience. The proposed project has been designed with sustainable design methods to meet LEED design standards in accordance with requirements set forth by the State.**			
Objective:			
(2) Reduce the impacts of sea-level rise by acknowledging climate change, adapting, mitigating, and planning accordingly.		✓	
Policies:			
(a) Evaluate development to assess potential short-term and long-term sea-level rise impacts on nearshore environments.		✓	
(b) Improve efforts to mitigate and plan for the impact of sea-level rise.		✓	

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(c) Protect undeveloped beaches, dunes, and ecosystems, and restore natural shoreline processes.			✓
(d) Develop an inventory of private wastewater systems (septic systems, cesspools) that may be affected by sea-level rise.			✓
(e) Strengthen coastal-zone management, re-naturalization of shorelines, where possible, and filtration or treatment of urban and agricultural runoff.		✓	
(f) Educate the construction and landscape industries and property owners about the use of best management practices to prevent erosion and nonpoint source pollution.		✓	
(g) Discourage beach hardening processes such as building sea walls and revetments that block movement of the shoreline and can accelerate erosion.			✓
(h) Discourage new entitlements for residential, resort, or commercial development along the shoreline.			✓
(i) Restrict development in areas that are prone to sea-level rise.		✓	
(j) Move or rebuild public facilities away from nearshore environments to account for sea-level rise to the extent reasonable.			✓
(k) Move or rebuild roads that are in sea-level rise inundation zones to the extent reasonable.			✓
(l) Ensure that public or affordable housing projects include siting and design standards that promote equity and resilience for vulnerable populations.			✓
(m) Identify, research, and evaluate innovative and sustainable financing to support mitigation and adaptation to sea level rise.			✓
Implementing Actions:			
(a) Develop programs to help transition shoreline property owners out of their nearshore locations and develop a long-term plan to stay out of the way of natural beach migration.			✓
(b) Identify buildings, roads, and other infrastructure that are in sea-level rise inundation zones and assist in adaptive efforts, including nature-based solutions, elevation, or moving them away from such zones.			✓
(c) Identify disaster redevelopment alternatives that support resilience-focused adaptation to sea level rise in the event of a catastrophic coastal event.			✓
Analysis: **The proposed project is indirectly applicable to the objective and policies related to reducing the impact of sea level rise and plan accordingly. A sea level rise assessment was carried out on the project site to ensure it will not be impacted by sea level rise. In addition, low impact drainage improvements will be carried out to mitigate adverse impacts from stormwater runoff to adjacent and downstream properties, groundwater resources, and water quality.**			
Objective:			
(3) Significantly increase the use of renewable and green technologies to. promote energy efficiency and energy self-sufficiency.		✓	
Policies:			
(a) Promote the use of locally renewable energy sources, and reward energy efficiency.			✓

COUNTYWIDE POLICY PLAN (Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable)	DA	IA	NA
(b) Consider tax incentives and credits for the development of sustainable- and renewable-energy sources.			✓
(c) Expand education about energy conservation and self-sufficiency.			✓
(d) Encourage small-scale energy generation that utilizes wind, sun, water, biowaste, and other renewable sources of energy.			✓
(e) Expand renewable-energy production.			✓
(f) Develop public-private partnerships to ensure the use of renewable energy and increase energy efficiency.			✓
(g) Require the incorporation of locally appropriate energy-saving and green building design concepts in all new developments by providing energy-efficient urban design guidelines and amendments to the Building Code.		✓	
(h) Encourage the use of sustainable energy to power vehicles.			✓
(i) Promote the retrofitting of existing buildings and new development to incorporate energy-saving design concepts and devices.		✓	
(j) Encourage green footprint practices.		✓	
(k) Reduce Maui County's dependence on fossil fuels and energy imports.		✓	
(l) Support green building practices such as the construction of buildings that aim to minimize carbon dioxide production, produce renewable energy, and recycle water.		✓	
(m) Promote and support environmentally friendly practices in all energy sectors.			✓
Implementing Actions:			
(a) Adopt an energy-efficiency policy for Maui County government as a model for other jurisdictions.			✓
(b) Adopt a Green Building Code and support green building practices.			✓
Analysis: **The proposed project is indirectly applicable to the objective to significantly increase the use of renewable and green technologies to promote energy efficiency and energy self-sufficiency through implementing sustainable design practices in the development of the proposed sports facilities.**			

ANALYSIS OF PROJECT APPLICABILITY TO MAUI ISLAND PLAN

APPENDIX G-3

APPENDIX G-3

Analysis of Project Applicability to Maui Island Plan

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

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

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

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

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

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

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

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

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

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

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

The methodology used for assessing a project's relationship to the MIP involves examining the project's applicability to the Plan's goals, objectives, and policies. "Applicability" refers to a project's need, purpose and effects, and how these advance or promote a particular set of goals, objectives and priority guidelines. In assessing the relationship between a proposed action and the MIP, an action may be categorized in one of the following groups:

1. **Directly applicable:** the action and its potential effects directly advances or promotes the objective, policy or priority guideline.

   Example: Using a county project to develop a new water source and related transmission facilities as an example, a project of this nature would be directly applicable to the MIP's Objective 6.3.2, which states: *"Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs".* As well, this action would directly advance the MIP's Policy 6.3.2.f, which states: *Acquire and develop additional sources of potable water.* The need, purpose and effects of the proposed new water source project is directly applicable to the foregoing objective and policy.

2. **Indirectly applicable:** the action's potential effects indirectly supports or advances the objective, policy or priority guideline.

   Example: The county water source project cited above supports the MIP's Objective 7.3.2 which states: *"Facilitate more self-sufficient and sustainable communities".* Additionally, this kind of action is indirectly applicable to the related MIP Policy 7.3.2.f, which states: *"Facilitate the development of housing by focusing projects in locations where land and infrastructure costs facilitate the development of affordably-priced housing".* In this case, the principle purpose of the project was not to specifically facilitate the development of affordably-priced housing. However, the project's contribution to adequate infrastructure systems is supportive of the policy. In this instance, the proposed action may be deemed to be indirectly applicable to the objective and policy of the MIP.

3. **Not applicable:** The action and its potential effects have no direct or indirect relationship to the objectives and policies of the Maui Island Plan.

   Example: That same county water source improvement project referenced above, may not have direct or indirect linkage to the MIP's Objective 4.2.1, which states: *"Increase the economic contribution of the visitor industry to the island's environmental well-being for the island's residents' quality of life"*. In this case, there is no reasonably deduced direct or indirect relationship between the proposed action and Objective 4.2.1. Hence, the proposed action would be considered not applicable to the objective.

In general, a proposed action's applicability to the MIP is assessed on the basis of the action's direct or indirect relationship to the respective objectives, policies and implementing actions. It is recognized that the categorization of "applicability" is subject to interpretation and should be appropriately considered in the context of local and regional conditions.

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
CHAPTER 1 – POPULATION			
Goal:			
1.1 Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.		✓	
Objective:			
1.1.1 Greater retention and return of island residents by providing viable work, education, and lifestyle options.		✓	
Policies:			
1.1.1.a Expand programs that enable the community to meet the education, employment, housing, and social goals of youth and young adults.		✓	
1.1.1.b Expand housing, transportation, employment, and social opportunities to ensure residents are able to comfortably age within their communities.			✓
1.1.1.c Measure and track resident satisfaction through surveys and community indicators.			✓
1.1.1.d Support funding for transportation, housing, health care, recreation, and social service programs that help those with special needs (including the elderly and disabled).			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the H.P. Baldwin High School (BHS) campus and is indirectly applicable to the goal, objective, and policies for a strong, healthy, and vibrant island communities.**			
CHAPTER 2 – HERITAGE RESOURCES			
CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES ISSUES			
Goal:			
2.1 Our community respects and protects archaeological and cultural resources while perpetuating diverse cultural identities and traditions.		✓	
Objective:			
2.1.1 An island culture and lifestyle that is healthy and vibrant as measured by the ability of residents to live on Maui, access and enjoy the natural environment, and practice Hawaiian customs and traditions in accordance with Article XII, Section 7, Hawai'i State Constitution, and Section 7-1, Hawai`i Revised Statutes (HRS).		✓	
Policies:			
2.1.1.a Perpetuate the spirit of aloha and celebrate the host Hawaiian culture and other ethnic cultures.			✓
2.1.1.b Perpetuate a respect for diversity and recognize the broad blending of cultures and ethnicities as vital to the quality of life on Maui.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.1.1.c Ensure traditional public access routes, including native Hawaiian trails, are maintained for public use.		✓	
2.1.1.d Support the education of visitors and new residents about the customs and etiquette of the Hawaiian culture, as well as other cultures.			✓
Analysis: **The proposed project is indirectly applicable to the goal, objective, and policies for heritage resources. An archaeological Literature Review and Field Inspection (LRFI) and Cultural Impact Assessment (CIA) were carried out on the proposed project to ensure historic resources and cultural practices will be protected and to ensure Native Hawaiian traditional and customary rights are maintained.**			
Objective:			
2.2 A more effective and efficient planning and review process that incorporates the best available cultural resources inventory, protection techniques, and preservation strategies.		✓	
Policies:			
2.1.2.a Ensure that the island has a comprehensive and up-to-date inventory of historic and archaeological resources, and their cultural significance.		✓	
2.1.2.b Require the update of existing planning and regulatory mechanisms to protect the natural, cultural, scenic, and historic resources within designated Heritage Areas (see Cultural Resources Overlay/Scenic Corridor Protection Technical Reference Map).			✓
2.1.2.c Ensure that cultural, historic, and archaeological resources are protected for the benefit of present and future generations.		✓	
Objective:			
2.3 Enhance the island's historic, archaeological, and cultural resources.			✓
Policies:			
2.1.3.a Identify and pursue a listing of the properties and sites on the State and National Register of Historic Places.			✓
2.1.3.b Support the use of easements, dedications, and other mechanisms to acquire, maintain, and protect lands with cultural, archaeological, and historic significance.			✓
2.1.3.c Support regulations to require developers, when appropriate, to prepare an Archaeological Inventory Survey, Cultural Impact Assessment, and Ethnographic Inventories that are reviewed and commented upon by the Office of Hawaiian Affairs, Native Hawaiian advisory bodies, the State Historic Preservation Division (SHPD), and the Office of Environmental Quality Control, and systematically comply with the steps listed in SHPD's administrative rules, including consultation and monitoring during construction phases of projects.		✓	
2.1.3.d Promote the rehabilitation and adaptive reuse of historic sites, buildings, and structures.			✓
2.1.3.e Encourage property owners to register historic and archaeological sites on the State and National Register.			✓
2.1.3.f Support opportunities for public involvement with the intent to facilitate the protection and restoration of historic and archeological sites, including consultation with stakeholders.		✓	

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
2.1.3.g Encourage the resolution of land title questions relating to Land Commission Awards and Royal patents.			✓
2.1.3.h Ensure compliance with historic preservation laws, and discourage demolition of properties that are determined to be eligible for listing on the National or State Register of Historic Places.		✓	
Analysis: **The proposed project is indirectly applicable to the objective and policies related to more effective and efficient planning and review process that incorporates the best available cultural resources inventory, protection techniques, and preservation strategies. An archaeological LRFI and CIA were carried out on the proposed project to ensure compliance with State historic preservation laws, and to ensure historic and cultural resources are protected for the benefit of present and future generations. In preparation of the CIA, consultation with cultural informants and stakeholders were carried out to provide opportunities for public involvement in identifying significant cultural resources and practices in and around the proposed project site.**			
SHORELINE, REEFS, AND NEARSHORE WATERS			
Goal:			
2.2 An intact, ecologically functional system of reef, shoreline, and nearshore waters that are protected in perpetuity.		✓	
Objective:			
2.2.1 A more comprehensive and community-based ICZM program.			✓
Policies:			
2.2.1.a Encourage a management system that protects and temporarily rests the reef ecosystems from overuse.			✓
2.2.1.b Support the establishment of additional MMAs and reef replenishment areas.			✓
2.2.1.c Work with appropriate agencies and community members to protect any special managed conservation areas from overuse and ensure that surrounding land uses do not contribute to the degradation of the natural resources, such as ʻAhihi-Kinaʻu Natural Area Reserve, Honolua-Mokulēʻia Bay Marine Life Conservation District, and Mākena State Park.			✓
2.2.1.d Incorporate the following into the MIP, where consistent with the MIP:			✓
(1) Beach Management Plan for Maui;			✓
(2) Coastal Nonpoint Pollution Control Program Management Plan;			✓
(3) Implementation Plan for Polluted Runoff Control; and			✓
(4) Ocean Resource Management Plan.			✓
2.2.1.e Support greater coordination among governmental agencies involved with the protection of the island's marine resources.			✓
Objective:			
2.2.2 Improved reef health, coastal water quality, and marine life.		✓	

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Policies:			
2.2.2.a Create additional mechanisms where needed to contain and control runoff and pollution.		✓	
2.2.2.b Allow extraction of high quality, Class A, low silt sands only when they will be used to protect or restore Maui's shorelines and beaches.		✓	
2.2.2.c Carefully manage beach nourishment activities to protect the coastal and marine ecosystem.			✓
2.2.2.d Require, where appropriate, a buffer between landscaped areas and the shoreline, gulches, and streams to reduce the runoff of fertilizers, pesticides, herbicides, and other pollutants into coastal waters.			✓
2.2.2.e Strictly regulate shoreline armoring in accordance with adopted Shoreline Rules, with an intent to protect the coastal and marine ecosystem.			✓
2.2.2.f Support greater protection of Keālia Pond National Wildlife Refuge through the following:			✓
(1) Enhancement of marine ecosystems;			✓
(2) Beach and sand dune restoration; and			✓
(3) Expansion of habitat for Maui's threatened or endangered sea turtles, birds, and other species.			✓
2.2.2.g Support the development of regulations to prevent the excessive depletion of fish stocks due to non-sustainable practices and gear such as SCUBA spear-fishing and lay nets, within the context of nearshore ecosystems.			✓
2.2.2.h Encourage the State to conduct a regular census of fish populations and monitor coral health.			✓
2.2.2.i Encourage the State to significantly increase the number of park rangers, enforcement officers, and marine biologists to protect coastal resources.			✓
2.2.2.j Encourage the State to prohibit the collection and exportation of fish, coral, algae, and other marine species for the ornamental and aquarium trade.			✓
Objective:			
2.2.3 Water quality that meets or exceeds State Clean Water Act standards.		✓	
Policies:			
2.2.3.a Reduce the amount of impervious surface and devise site plan standards that aim to minimize storm runoff and NPS pollution.		✓	
2.2.3.b Support the revision of existing regulations to require an Erosion and Sedimentation Control Plan (ESCP) for development activities that may pose a threat to water quality.			✓
2.2.3.c Require an on-site monitoring program, where applicable, when grading may pose a threat to water quality or when recommended in the ESCP.			✓
2.2.3.d Avoid development actions that impair Maui's reef systems and remove identified stressors.			✓

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2.2.3.e Phase out cesspools and restrict the use of septic systems in ecologically sensitive coastal areas by converting to environmentally-friendly alternative sewage treatment systems, and connecting to central sewerage systems when and where feasible.			✓
2.2.3.f Prohibit the development of new wastewater injection wells, except when unavoidable for public health and safety purposes.			✓
2.2.3.g Ensure that the County upholds its affirmative duty under the Clean Water Act by monitoring and reducing point and NPS pollution to help safeguard coastal waters.			✓
Objective:			
2.2.4 Acquire additional shoreline lands and shoreline access rights.			✓
Policies:			
2.2.4.a Promote the use of conservation easements, land trusts, transfer and purchase of development rights, and mitigation banking.			✓
2.2.4.b Require the dedication of public beach and rocky shoreline access ways to and along the shoreline where it serves a practical public interest as a condition of development or subdivision approval; future subdivisions and developments shall be consistent with and effectuate, to the extent practicable, the *Shoreline Access Inventory Update - Final Report* (March 2005), and its updates.			✓
2.2.4.c Incorporate the *Shoreline Access Inventory Update - Final Report* (March 2005), and its regular updates, into this plan.			✓
2.2.4.d Identify access points while further acquiring key shoreline parcels and easement rights to enhance and protect beach access and shoreline recreation.			✓
Analysis: **The proposed project is indirectly applicable to the goal, objective, and policies for shoreline, reefs, and nearshore waters. The proposed project will implement appropriate Best Management Practices (BMPs) and involve permanent drainage system improvements utilizing natural grass swales and detention basins to retain increases in stormwater runoff onsite and prevent adverse stormwater runoff impacts to adjacent and downstream properties.**			
WATERSHEDS, STREAMS, AND WETLANDS ISSUES			
Goal:			
2.3 Healthy watersheds, streams, and riparian environments.		✓	
Objective:			
2.3.1 Greater protection and enhancement of watersheds, streams, and riparian environments.		✓	
Policies:			
2.3.1.a All present and future watershed management plans shall incorporate concepts of ahupua‘a management based on the interconnectedness of upland and coastal ecosystems/species.			✓
2.3.1.b Continue to support and be an active member of watershed partnerships.			✓
2.3.1.c Support the establishment of regional water trusts, composed of public and private members, to manage water resources.			✓
2.3.1.d Support regulations to require developments to utilize ahupua‘a management practices.			✓

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2.3.1.e Work with private and non-profit entities to educate the public about the connection between upland activities within the watershed and the impacts on nearshore ecosystems and coral reefs.			✓
2.3.1.f Provide adequate funding and staff to develop and implement watershed protection plans and policies, including acquisition and management of watershed resources and land.			✓
2.3.1.g Encourage the State to mandate instream assessment to provide adequate water for native species.			✓
2.3.1.h Maui will protect all watersheds and streams in a manner that guarantees a healthy, sustainable riparian environment.		✓	
Objective:			
2.3.2 Decreased NPS and point source pollution.		✓	
Policies:			
2.3.2.a Enforce water pollution related standards and codes.			✓
2.3.2.b Support the use of LID Techniques such as those described in the State of Hawai'i LID Practitioner's Guide (June 2006), as amended.		✓	
2.3.2.c Encourage farmers and ranchers to use agricultural BMPs to address NPS pollution.			✓
Objective:			
2.3.3 Preserve existing wetlands and improve and restore degraded wetlands.			✓
Policies:			
2.3.3.a Prohibit the destruction and degradation of existing upland, mid-elevation, and coastal wetlands.			✓
2.3.3.b Support and fund wetland protection and improvement, and restoration of degraded wetlands.			✓
2.3.3.c Where applicable, require developers to provide a wetland protection buffer and/or other protective measures around and between development and wetland resources.			✓
Objective:			
2.3.4 Greater preservation of native flora and fauna biodiversity to protect native species.		✓	
Policies:			
2.3.4.a Work with appropriate agencies to eliminate feral ungulate populations and invasive species.			✓
2.3.4.b Encourage the State to provide adequate funding to preserve biodiversity, protect native species, and contain or eliminate invasive species.			✓
2.3.4.c Support the work of conservation groups and organizations that protect, reestablish, manage, and nurture sensitive ecological areas and threatened indigenous ecosystems.			✓

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Objective:			
2.3.5 Limited development in critical watershed areas.			✓
Policies:			
2.3.5.a Discourage development and subdivision of land within critical watersheds and in areas susceptible to high erosion and sediment loss.			✓
2.3.5.b Designate critical watershed areas as conservation lands.			✓
2.3.5.c Strongly encourage new subdivisions and developments that are proximate to environmentally sensitive watershed resources to prepare and implement CSD plans.			✓
Objective:			
2.3.6 Enhance the vitality and functioning of streams, while balancing the multiple needs of the community.			✓
Policies			
2.3.6.a Protect and enhance natural streambeds and discourage stream alteration.			✓
2.3.6.b Work with appropriate agencies to establish minimum stream flow levels and ensure adequate stream flow to sustain riparian ecosystems, traditional kalo cultivation, and self-sustaining ahupua'a.			✓
2.3.6.c Respect and participate in the resolution of native Hawaiian residual land and water rights issues (kuleana lands, ceded lands, and historic agricultural and gathering rights).			✓
2.3.6.d Ensure that stream flows implement laws and policies found in the State Constitution and Water Code.			✓
2.3.6.e Work with appropriate agencies and stakeholders to establish minimum stream flow levels, promote actions to support riparian habitat and the use of available lo'i, and maintain adequate flows for the production of healthy kalo crops.			✓
Analysis: **The proposed project is indirectly applicable to the goal, objective, and policies for watersheds, streams, and wetlands. The proposed drainage improvements will employ Low Impact Design features such as detention basins to filter and retain stormwater runoff. The proposed drainage improvements will also incorporate water quality filtration to protect groundwater resources from adverse impacts.**			
WILDLIFE AND NATURAL AREAS			
Goal:			
2.4 Maui's natural areas and indigenous flora and fauna will be protected.		✓	
Objective:			
2.4.1 A comprehensive management strategy that includes further identification, protection, and restoration of indigenous wildlife habitats.			✓

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Policies:			
2.4.1.a Identify and inventory the following:			✓
(1) Natural, recreational, and open space resources;			✓
(2) Flora and fauna with medium, high, and very high concentrations of threatened or endangered species; and			✓
(3) Location and extent of invasive species.			✓
2.4.1.b Require flora and fauna assessment and protection plans for development in areas with concentrations of indigenous flora and fauna; development shall comply with the assessment and protection plan and shall use the avoidance, minimization, and mitigation approach respectively, with an emphasis on avoidance.			✓
2.4.1.c Support the implementation of Hawai`i's Comprehensive Wildlife Conservation Strategy (October 2005).			✓
Objective:			
2.4.2 A decrease in invasive species through programs and partnerships that eradicate undesirable species and protect native habitat.			✓
Policies:			
2.4.2.a Prevent the introduction of invasive species at all of Maui's airports and harbors.			✓
2.4.2.b Encourage the State to increase funding in support of invasive species interception, control, and eradication.			✓
2.4.2.c Encourage the State to develop programs that allow students to participate in invasive species eradication projects.			✓
Objective:			
2.4.3 Greater protection of sensitive lands, indigenous habitat, and native flora and fauna.			✓
Policies:			
2.4.3.a Secure an interconnected network of sensitive lands, greenways, watercourses, and habitats.			✓
2.4.3.b Protect Maui's sensitive lands (see Sensitive Lands on Protected Areas Diagrams).			✓
2.4.3.c Promote innovative environmental-planning methods and site-planning standards that preserve and re-establish indigenous flora and fauna habitat, to preserve and restore connected habitat corridors and open space.			✓
2.4.3.d Utilize protection tools such as conservation easements, land trusts, land banks, Purchase of Developments Rights (PDRs), Transfer of Development Rights (TDRs), and other stewardship tools to acquire natural areas			✓
2.4.3.e Encourage discussions with communities to designate heritage areas that protect recreational and cultural lifestyles and resources.			✓
2.4.3.f Support the expansion of Haleakalā National Park, and the creation of new national parks, where appropriate and supported by local communities.			✓
2.4.3.g Encourage reforestation efforts that increase native species' habitat.			✓

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2.4.3.h Utilize the Natural Area Partnership Program (NAPP) and other programs to protect natural lands.			✓
2.4.3.i Support increased dedicated funding for the acquisition, protection, restoration, or preservation of important natural areas or open space through the following: grants from the Land and Water Conservation Fund; dedicated funding from real property taxes or other appropriate revenues; bond issues; real estate transfer tax; revenues from the Transient Accommodations Tax; development mitigation fees; and other appropriate funding sources.			✓
Analysis: **The proposed project indirectly advances the goal, objective, and policies for wildlife and natural areas through the use of BMPs. As noted above, an EA was carried out for the proposed project to ensure adverse impacts to natural resources are avoided or mitigated.**			
SCENIC RESOURCES			
Goal:			
2.5 Maui will continue to be a beautiful island steeped in coastal, mountain, open space, and historically significant views that are preserved to enrich the residents' quality of life, attract visitors, provide a connection to the past, and promote a sense of place.		✓	
Objective:			
2.5.1 A greater level of protection for scenic resources.		✓	
Policies:			
2.5.1.a Protect views to include, but not be limited to, Haleakalā, ʻĪao Valley, the Mauna Kahalawai (West Maui Mountains), Puʻu Ōʻlaʻi, Kahoʻolawe, Molokini, Molokaʻi, and Lānaʻi, Mauna Kea, Mauna Loa, sea stacks, the Pacific Ocean, and significant water features, ridgelines, and landforms.		✓	
2.5.1.b Identify, preserve, and provide ongoing management of important scenic vistas and open space resources, including mauka-to-makai and makai-to-mauka view planes.		✓	
2.5.1.c Protect "night sky" resources by encouraging the implementation of ambient light ordinances and encouraging conversion of all sources that create excessive light pollution, affecting our ability to view the stars.		✓	
2.5.1.d Protect ridgelines from development where practicable to facilitate the protection of public views.			✓
2.5.1.e Protect scenic resources along Maui's scenic roadway corridors.		✓	
Objective:			
2.5.2. Reduce impacts of development projects and public-utility improvements on scenic resources.			✓
Policies:			
2.5.2.a Enforce the policies and guidelines of the SMA regarding the protection of views.			✓
2.5.2.b Require any new subdivision of land, development, or redevelopment adjacent to a "high" or "exceptional" scenic corridor to submit an impact assessment of the project's scenic impacts; this assessment shall use the avoidance, minimization, and mitigation steps respectively, with an emphasis on avoidance.		✓	

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2.5.2.c Require appropriate building setbacks and limits on wall heights to protect views along scenic corridors.		✓	
2.5.2.d Encourage the State of Hawai`i Board of Land and Natural Resources to deny any development within the State Conservation District that interferes with a scenic landscape or disrupts important open space resources.			✓
2.5.2.e Require Urban Design and Review Board (UDRB) review and approval of utility poles, facilities, and other visible infrastructure improvements along scenic corridors.			✓
2.5.2.f Ensure little or no effect on scenic resources from utility improvements, primarily power poles.		✓	
2.5.2.g Protect scenic vistas from intrusion by power poles.		✓	
Objective:			
2.5.3 Greater protection of and access to scenic vistas, access points, and scenic lookout points.		✓	
Policy:			
2.5.3.a Protect, enhance, and acquire access to Maui's scenic vistas and resources.			✓
Analysis: **The proposed project is indirectly applicable to the goal, objective, and policies for scenic resources. The proposed buildings will be set back from public roadways to ensure scenic resources are not adversely impacted. All electrical utilities will be underground to protect scenic resources. All outdoor lighting will be shielded and downcast to protect Maui's night sky resources and sports practice fields will not have night lighting to protect scenic resources and the night sky resources.**			
CHAPTER 3 – NATURAL HAZARDS			
Goal:			
3.1 Maui will be disaster resilient.			✓
Objective:			
3.1.1 Increased inter-agency coordination.			✓
Policy:			
3.1.1.a Reinforce the island's preparedness capacity by:			✓
(1) Applying the latest data-gathering techniques/technology;			✓
(2) Pursuing funding opportunities;			✓
(3) Improving monitoring and advance warning systems;			✓
(4) Fostering public awareness; and			✓
(5) Working with external agencies to coordinate disaster mitigation and response.			✓
Objective:			
3.1.2 Greater protection of life and property.			✓

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Policies:			
3.1.2.a Identify critical infrastructure, lifelines, roads, and populations that are vulnerable to coastal hazards, and encourage strategic retreat and relocation to safer areas.			✓
3.1.2.b Consider the location of dams, reservoirs, holding ponds, and other water-containing entities that are upstream of inhabited areas to anticipate, avoid, and mitigate inundation risks, and discourage new development in areas where possible inundation hazards may exist.			✓
3.1.2.c Strengthen current development standards to minimize destruction of land and property.			✓
3.1.2.d Encourage the use of construction techniques that reduce the potential for damage from natural hazards.			✓
3.1.2.e Increase the County's resilience to drought.			✓
3.1.2.f Increase food and energy security through local production and storage.			✓
Objective:			
3.1.3 A more coordinated emergency response system that includes clearly defined and mapped evacuation routes.			✓
Policy:			
3.1.3.a Identify and expand shelter facilities and evacuation routes away from areas susceptible to natural hazards.			✓
Objective:			
3.1.4 A more educated and involved public that is aware of and prepared for natural hazards.			✓
Policies:			
3.1.4.a Promote public education and involvement related to natural hazards awareness and preparedness.			✓
3.1.4.b Coordinate a multi-agency effort to establish and promote a comprehensive public education program that will focus on practical approaches to preparedness, damage prevention, and hazard mitigation.			✓
Analysis: **The proposed project is limited to athletic and classroom facilities improvements at the existing BHS campus and is not applicable to the goal, objective, and policies for natural disasters.**			
CHAPTER 4 – ECONOMIC DEVELOPMENT			
ECONOMIC DIVERSIFICATION			
Goal:			
4.1 Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.		✓	
Objective:			
4.1.1 A more diversified economy.		✓	

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Policies:			
4.1.1.a Encourage an economy that is driven by innovation, research and development, and human resource development, including but not limited to, increasing technology- and knowledge-based sectors to be a major component in Maui County's economic base.			✓
4.1.1.b Support the creation of new jobs and industries that provide a living wage.		✓	
4.1.1.c Facilitate and expedite permits and approvals.			✓
4.1.1.d Develop linkages and partnerships among international research and development activities and Maui businesses.			✓
Objective:			
4.1.2 Increase activities that support principles of sustainability.		✓	
Policies:			
4.1.2.a Support industries that are sustainable, and culturally and environmentally sensitive.		✓	
4.1.2.b Encourage and support local businesses.		✓	
4.1.2.c Substitute imports with locally-produced services and products where practicable.			✓
4.1.2.d Support the development of economic development clusters in targeted industry sectors.			✓
4.1.2.e Encourage all businesses to save energy, water, and other resources.			✓
Objective:			
4.1.3 Improve the island's business climate.			✓
Policies:			
4.1.3.a Upgrade, maintain the quality of, and improve access to telecommunications infrastructure.			✓
4.1.3.b Ensure an adequate supply of affordable workforce housing.			✓
4.1.3.c Develop neighborhoods and communities that are attractive to the workforce of a diversified economy.			✓
4.1.3.d Encourage, nurture, and reward entrepreneurship and innovation.			✓
4.1.3.e Encourage employers to establish incentive programs. Support flexibility in workforce policies compatible with business and quality of life goals.			✓
4.1.3.f Assist community development organizations with revitalization and development of neighborhoods and communities that are attractive to the workforce of a diversified economy.			✓
Analysis: **The proposed project involves master planned athletic and classroom facilities improvements on County owned property at the BHS campus and is indirectly applicable to the goal, objective, and policies for the economy. The proposed project will create jobs during the construction period.**			

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TOURISM			
Goal:			
4.2 A healthy visitor industry that provides economic well-being with stable and diverse employment opportunities.			✓
Objective:			
4.2.1 Increase the economic contribution of the visitor industry to the island's environmental well-being for the island's residents' quality of life.			✓
Policies:			
4.2.1.a Engage the visitor industry in the growth of emerging sectors where practicable.			✓
4.2.1.b Support the implementation of the Maui County TSP, when consistent with the MIP.			✓
4.2.1.c Focus economic growth in the visitor industry through enhanced visitor experiences and an emphasis on attracting higher-spending.			✓
4.2.1.d Provide a rich visitor experience, while protecting the island's natural beauty, culture, lifestyles, and aloha spirit.			✓
4.2.1.e Diversify the tourism industry by supporting appropriate niche activities such as ecotourism, cultural tourism, voluntourism, ag-tourism, health and wellness tourism, educational tourism, medical tourism, and other viable tourism-related businesses in appropriate locations.			✓
4.2.1.f Recognize the important economic contributions that the visitor industry makes and support a healthy and vibrant visitor industry.			✓
4.2.1.g Support the increased availability of kama'āina discount programs.			✓
Objective:			
4.2.2 Comprehensively manage future visitor-unit expansion.			✓
Policies:			
4.2.2.a Mitigate the impact of tourism on the host culture, natural environment, and resident lifestyles.			✓
4.2.2.b Allow, where permitted by the community plan, the development of business hotels and small, sensitively-designed inns.			✓
4.2.2.c Manage impacts from transient vacation rentals, hotels, bed and breakfast units, timeshares, and resort condominiums on residential communities, public infrastructure, and community facilities.			✓
4.2.2.d Discourage supplanting of existing island housing to visitor accommodations that may have a negative impact on long-term rental housing, price of housing, and price of land.			✓
4.2.2.e Allow the designation of retreat/mini-conference centers in appropriate locations through the community plan process.			✓
4.2.2.f Community plans should consider establishing standards such as limits on building size, room count, and the number of inns, if any, that will be allowed in small towns.			✓

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Objective:			
4.2.3 Maximize residents' benefits from the visitor industry.			✓
Policies:			
4.2.3.a Promote a desirable island population by striving to not exceed an island-wide visitor population of roughly 33 percent of the resident population.			✓
4.2.3.b Use the required General Plan Annual Status Report to monitor trends related to residents and visitors.			✓
Analysis: **The proposed project involves sports and classroom facilities improvements to the BHS campus and is not applicable to the goal, objective, and policies for a healthy visitor industry.**			
AGRICULTURE			
Goal:			
4.3 Maui will have a diversified agricultural industry contributing to greater economic, food, and energy security and prosperity.			✓
Objective:			
4.3.1 Strive for at least 85 percent of locally-consumed fruits and vegetables and 30 percent of all other locally-consumed foods to be grown in-State.			✓
Policies:			
4.3.1.a Strive to substitute food/agricultural product imports with a reliable supply of locally produced food and agricultural products.			✓
4.3.1.b Facilitate and support the direct marketing/sale of the island's agricultural products to local consumers, through farmers markets and similar venues.			✓
4.3.1.c Encourage growing a diverse variety of crops and livestock to ensure the stewardship of our land while safeguarding consumer safety.			✓
4.3.1.d Work with the State to regulate and monitor genetically-modified-organism (GMO) crops to ensure the safety of all crops and label all GMO products.			✓
Objective:			
4.3.2 Maintain or increase agriculture's share of the total island economy.			✓
Policies:			
4.3.2.a Encourage the export of the island's agricultural products to offshore markets.			✓
4.3.2.b Support infrastructure investments at harbors, such as ferry service, airports, and other facilities for the rapid and cost-effective export of island-grown products.			✓
4.3.2.c Encourage the continued viability of sugar cane production, or other agricultural crops, in central Maui and all of Maui Island.			✓
4.3.2.d Work with the State to reduce excise taxes for commercial agricultural products produced within the State.			✓

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

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
4.4.2 Increase the development of renewable energy technologies that are supported by the local community.			✓
Policies:			
4.4.2.a Support the expansion of the renewable energy sector and the use of solar, wind, wave, and biofuel technologies.			✓
4.4.2.b Provide incentives to encourage renewable energy development, the use of green energy technologies, and energy conservation.			✓
4.4.2.c Ensure an adequate supply of land and facilitate permitting to meet the needs for renewable energy technologies such as solar, wind, wave, biofuel, and other technologies, provided that environmental, view plane, and cultural impacts are addressed.			✓
4.4.2.d Support the Maui County Energy Alliance Plan where consistent with the MIP.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and classrooms on County owned property at the BHS campus, and is not applicable to the goal, objective, and policies for emerging sectors of the economy.**			
SMALL BUSINESS DEVELOPMENT			
Goal:			
4.5 Small businesses will play a key role in Maui's economy.			✓
Objective:			
4.5.1 Increase the number of and revenue generated by small businesses and decrease the percentage of small business failures.			✓
Policies:			
4.5.1.a Provide incentives and support for small businesses and entrepreneurs that incorporate sustainable technologies and practices into their operations, utilize local materials, or produce and sell locally-made goods or services.			✓
4.5.1.b Assist traditional "mom and pop" business establishments.			✓
4.5.1.c Reduce barriers to small business development.			✓
4.5.1.d Require, where feasible, the government procurement of goods and services from locally-owned, small businesses.			✓
4.5.1.e Support community markets and venues that sell locally-made produce, goods, and services.			✓
Analysis: **The proposed project is anticipated to have positive impacts on the local economy, but is not applicable to the goal, objective, and policies for small business development.**			
HEALTH CARE SECTOR			
Goal:			
4.6 Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
4.6.1 Expand the economic benefits of the health care sector.			✓
Policies:			
4.6.1.a Encourage expanded services at MMMC and at other medical facilities.			✓
4.6.1.b Support expansion of federally qualified health centers with the direct involvement of the residents of the communities served.			✓
4.6.1.c Support the use of multimedia as a means to provide healthcare information.			✓
4.6.1.d Encourage digitalization of all diagnostic equipment at all facilities on Maui to enable sharing of data and more efficient use of limited provider workforce, consistent with data protection and patient privacy.			✓
4.6.1.e Support the expansion of telemedicine.			✓
4.6.1.f Encourage expansion and improved access to emergency care in all communities.			✓
Objective:			
4.6.2 Be more efficient in the delivery of health care services and in minimizing health care costs.			✓
Policies:			
4.6.2.a Support expansion of health care providers and facilities to improve access to quality care throughout the island.			✓
4.6.2.b Encourage the expansion of veteran health care services.			✓
4.6.2.c Allow home-based out-patient medical care that does not interfere with surrounding neighborhoods.			✓
Objective:			
4.6.3. Expand Maui's alternative health care services, including spiritual practices.			✓
Policies:			
4.6.3.a Support efforts to promote alternative medicine.			✓
4.6.3.b Allow small-scale home-alternative medicine businesses such as massage, chiropractic care, traditional Hawaiian healing, and acupuncture that do not interfere with surrounding neighborhoods.			✓
Analysis: **The proposed project involves improvements to sports and classroom facilities at the BHS campus and is not applicable to the goal, objective, and policies for the health care sector.**			
EDUCATION AND WORKFORCE DEVELOPMENT			
Goal:			
4.7 Maui will have effective education and workforce development programs and initiatives that are aligned with economic development goals.	✓		
Objective:			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
4.7.1 Improve preschool and K-12 education to allow our youth to develop the skills needed to successfully navigate the 21st century.	✓		
Objective:			
4.7.1.a Encourage the State to implement programs such as:			✓
(1) Universally available preschool for children between the ages of one and five;			✓
(2) Mandatory kindergarten;			✓
(3) Mandatory K-5th grade classroom size limits of 1 teacher to 20 students;			✓
(4) Mandatory nutrition programs; and			✓
(5) Mandatory Native Hawaiian programs at all grade levels.			✓
4.7.1.b Encourage the DOE to extend the school day by at least an hour.			✓
4.7.1.c Encourage the State to increase funding for public education so that Hawai‘i is among the top 10 states nationally as measured by investment per pupil.			✓
4.7.1.d Encourage the State to ensure teacher certifications relate to effective delivery and improved student performances, and develop an industry experience/equivalency certification to assure our DOE students have access to career technical education and training.			✓
4.7.1.e Encourage the UHMC to provide dormitory space for high school students.			✓
4.7.1.f Encourage the development and implementation of curriculum on native Hawaiian history, culture, and practices, in consultation with native Hawaiian groups and associations.			✓
Objective:			
4.7.2 Encourage an increase in the number of certificate recipients and associate, bachelors, and graduate degrees conferred.			✓
Policies:			
4.7.2.a Encourage the State to increase the number of articulation agreements between the UHMC and four-year universities, particularly the University of Hawai‘i at Manoa.			✓
4.7.2.b Encourage the State to expand accredited 2-year, 4-year, and graduate programs through the UHMC.			✓
4.7.2.c Encourage the education and training of our residents to meet the needs of a diversified economy.			✓
4.7.2.d Support education and training programs such as student internships, vocational training, and career development opportunities to ensure a highly skilled workforce			✓
4.7.2.e Work with educational institutions to improve and expand access to education and training through multiple modes, including distance learning.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
4.7.3 Strive to ensure that more of Maui's jobs are developed in STEM-related sectors by 2030.			✓
Policies:			
4.7.3.a Support the development of STEM-related certificates and degrees at the two- and four year levels.			✓
4.7.3.b Support the education initiatives of the Maui Agricultural Development Plan.			✓
4.7.3.c Expand and seek funding for internships, mentoring, job shadowing, etc. to foster interest in health and green workforce careers.			✓
4.7.3.d Work with MEDB, UHMC, and other similar organizations to expand internship/education programs to support STEM careers.			✓
4.7.3.e Continue to partner with the MEDB and other similar organizations to recruit, assist, and retain emerging industries, research and development activities, and educational/workforce opportunities.			✓
Analysis: **The proposed project involves development of athletic and classroom facilities on County owned property at the BHS campus and is directly applicable to the goal, objective, and policies related to education and workforce development. The proposed project provides direct funding to enhance educational facilities and programs offered to students to help them develop skills to meet the needs of a diversified economy.**			
CHAPTER 5 – HOUSING			
Goal:			
5.1 Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.			✓
Objective:			
5.1.1 More livable communities that provide for a mix of housing types, land uses, income levels, and age.			✓
Policies:			
5.1.1.a Promote livable communities (compact/walkable/bikeable, access to transit) that provide for a mix of housing types and land uses, including parks, open space, and recreational areas.			✓
5.1.1.b Promote planning approaches that provide a mix of multifamily and single-family housing units to expand housing choices.			✓
5.1.1.c Discourage gated communities.			✓
5.1.1.d Provide incentives for the rehabilitation or adaptive reuse of historic structures to facilitate more housing choices.			✓
5.1.1.e Use planning and regulatory approaches to provide higher housing densities.			✓
Objective:			
5.1.2 Better monitoring, evaluation, and refinement of affordable housing policy in conjunction with the economic cycle.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Policies:			
5.1.2.a Improve data on resident and nonresident housing.			✓
5.1.2.b Utilize the following approaches to promote resident housing and to minimize offshore market impacts:			✓
(1) Ensure that the future housing stock is composed of a mix of housing types (multifamily, small lots, ohana units, co-housing, cottage houses, etc.);			✓
(2) Encourage new housing in proximity to jobs and services, in places that are conducive/affordable to island residents; and			✓
(3) Explore taxation alternatives and building fee structures.			✓
Objective:			
5.1.3 Provide affordable housing, rental or in fee, to the broad spectrum of our island community.			✓
Policies:			
5.1.3.a Consider regulations that can help keep affordable housing available at affordable rents.			✓
5.1.3.b Seek to have ownership of affordable for-sale and rental housing vested in a non-profit community land trust, or other qualified housing provider, committed to keeping such housing affordable in perpetuity.			✓
5.1.3.c Facilitate the use of public lands in urban areas that are suitable for affordable housing.			✓
5.1.3.d Develop or support partnerships and initiatives that provide housing-related education/outreach.			✓
5.1.3.e Support the continuing efforts of the County and its community partners to:			✓
(1) Disseminate information on different housing/financial assistance programs (loans, grants, etc.) including information on housing rehabilitation/restoration/adaptive reuse;			✓
(2) Provide housing-related counseling including budget, credit, and financial planning assistance; and			✓
(3) Create and maintain a comprehensive/master list of available affordable housing to help residents secure a unit that satisfies their need.			✓
Objective:			
5.1.4 Provide infrastructure in a more timely manner to support the development of affordable housing.			✓
Policies:			
5.1.4.a Prioritize the development of infrastructure that supports the development of affordable housing.			✓
5.1.4.b Utilize appropriate financing approaches and assistance tools to encourage the development of infrastructure and public facilities.			✓
5.1.4.c Tailor infrastructure requirements to correspond with appropriate level-of-service standards to help control housing costs and to maintain safety.			✓

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Objective:			
5.1.5 A wider range of affordable housing options and programs for those with special needs.			✓
Policies:			
5.1.5.a Ensure that residents with special needs have access to appropriate housing.			✓
5.1.5.b Encourage housing to be built or rehabilitated to allow the elderly and those with special needs to live in their homes.			✓
5.1.5.c Ensure and facilitate programs to assist those with special needs from becoming homeless.			✓
5.1.5.d Promote programs that stimulate the production of sustainable homeless shelters and alternative housing technologies.			✓
5.1.5.e Support programs that offer home modification counseling on low-interest retrofit loans and grants to those with special needs.			✓
Objective:			
5.1.6 Reduce the cost to developers of providing housing that is affordable to families with household incomes 160 percent and below of annual median income.			✓
Policies:			
5.1.6.a Support fast-track processing procedures for the following housing-related entitlements: affordable housing projects/units; indigenous Hawaiian housing/units; and special-needs housing units (seniors, disabled, homeless, etc.).			✓
5.1.6.b Require the construction of affordable for-sale and rental housing units as part of the construction of new housing developments.			✓
5.1.6.c Offer extra incentives in boom periods and withdraw incentives during slack periods.			✓
Objective:			
5.1.7 Increased preservation and promotion of indigenous Hawaiian housing and architecture.			✓
Policies:			
5.1.7.a Preserve, promote, and give priority to Hawaiian housing/architecture forms to preserve Hawaiian culture.			✓
5.1.7.b Provide for indigenous architecture as an allowable structure for native Hawaiian uses to include hula and lāʻau lapaʻau.			✓
Analysis: **The proposed project involves sports facilities and classroom improvements to the BHS campus and is not applicable to the goal, objective, and policies for housing.**			
CHAPTER 6 – INFRASTRUCTURE AND PUBLIC FACILITES			
SOLID WASTE			

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Goal:			
6.1 Maui will have implemented the ISWMP thereby diverting waste from its landfills, extending their capacities.		✓	
Objective:			
6.1.1 Meet our future solid waste needs with a more comprehensive planning and management strategy.		✓	
Policies:			
6.1.1.a Update and publicize the ISWMP every ten years.			✓
6.1.1.b Strengthen inter-agency coordination including Planning and Environmental Management departments.			✓
6.1.1.c Divert waste from the landfills and educate the public about the recommendations of the ISWMP.		✓	
6.1.1.d Minimize future active, unlined landfill cells to the extent feasible.			✓
Objective:			
6.1.2 Divert at least 60 percent of solid waste from the island's landfills.		✓	
Policies:			
6.1.2.a Require residents and commercial enterprises that generate waste to pay a fair proportion of disposal costs.			✓
6.1.2.b Encourage environmentally safe waste-to-energy solutions.			✓
6.1.2.c Facilitate the reduction of solid waste generated by packaging, food service products, construction waste, etc.		✓	
6.1.2.d Educate residents and visitors about the impacts of and methods to reduce, reuse, and recycle.			✓
6.1.2.e Discourage the disposal of landfill leachate by diversion to wastewater treatment plants, where practicable.			✓
Analysis: **The proposed project is indirectly applicable to the goal, objective, and policies for infrastructure and public facilities related to solid waste. Solid waste generated by the proposed project will be collected by a private service provider and deposited at the Central Maui Landfill which has the capacity to process the solid waste generated by the proposed project. In addition, BHS provides recycle bins throughout the campus in an effort to reduce the stream of solid waste disposed at the Central Maui Landfill.**			
WASTEWATER			
Goal:			
6.2 Maui will have wastewater systems that comply with or exceed State and Federal regulations; meet levels-of-service needs; provide adequate capacity to accommodate projected demand; ensure efficient, effective, and environmentally sensitive operation; and maximize wastewater reuse where feasible.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
6.2.1 A wastewater planning program capable of efficiently providing timely and adequate capacity to service projected demand where economically feasible and practicable.			✓
Policies:			
6.2.1.a Encourage the use of renewable energy in support of wastewater treatment facilities.			✓
6.2.1.b Focus the expansion of wastewater systems to accommodate planned growth consistent with the MIP Directed Growth Strategy.			✓
6.2.1.c Establish new wastewater treatment plant(s) outside the tsunami zone.			✓
Objective:			
6.2.2 Adequate levels of wastewater service with minimal environmental impacts.			✓
Policies:			
6.2.2.a Meet or exceed all State and Federal standards regulating wastewater disposal or reuse.			✓
6.2.2.b Encourage tertiary treatment for all municipal wastewater that is disposed through deep injection wells. Phase out all municipal and private injection wells in coordination with water reuse programs, where feasible, by 2020.			✓
6.2.2.c Improve and upgrade the County's existing wastewater collection, treatment, and reuse facilities consistent with current and future plans and the County's CIP.			✓
6.2.2.d Maintain an ongoing sewer inspection program for public and private multi-user systems to identify potential problems and forecast each system's residual life.			✓
6.2.2.e Require all new developments to fund system improvements in proportion to the development impact and in accordance with the County's wastewater functional plan.			✓
6.2.2.f Require appropriate funding mechanisms, such as a sinking fund, to adequately maintain or replace aging water-system components.			✓
6.2.2.g Strongly encourage the phase out of cesspools.			✓
Objective:			
6.2.3 Increase the reuse of wastewater.			✓
Policies:			
6.2.3.a Strengthen coordination between the Department of Water Supply (DWS) and the WWRD to promote reuse/recycling of wastewater.			✓
6.2.3.b Expand the reuse of wastewater from the Central Maui, Kīhei, Lahaina, and other wastewater systems.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Analysis: **The proposed project involves development of a new sports and classroom facilities on County owned property at the BHS campus and will be serviced by the County wastewater. However, the proposed project is not applicable to the objectives or policies for wastewater and wastewater systems.**			
WATER			
Goal:			
6.3 Maui will have an environmentally sustainable, reliable, safe, and efficient water system.			✓
Objective:			
6.3.1 More comprehensive approach to water resources planning to effectively protect, recharge, and manage water resources including watersheds, groundwater, streams, and aquifers.			✓
Policies:			
6.3.1.a Ensure that DWS actions reflect its public trust responsibilities toward water.			✓
6.3.1.b Ensure the WUDP implements the State Water Code and MIP's goals, objectives, and policies.			✓
6.3.1.c Regularly update the WUDP, to maintain compliance with the General Plan.			✓
6.3.1.d Ensure that the County's CIP for water-source development is consistent with the WUDP and the MIP.			✓
6.3.1.e Where desirable, retain and expand public ownership and management of watersheds and fresh-water systems.			✓
6.3.1.f Encourage and improve data exchange and coordination among Federal, State, County, and private land use planning and water resource management agencies.			✓
Objective:			
6.3.2 Increase the efficiency and capacity of the water systems in striving to meet the needs and balance the island's water needs.			✓
Policies:			
6.3.2.a Ensure the efficiency of all water system elements including well and stream intakes, water catchment, transmission lines, reservoirs, and all other system infrastructure.			✓
6.3.2.b Encourage increased education about and use of private catchment systems where practicable for nonpotable uses.			✓
6.3.2.c Maximize the efficient use of reclaimed wastewater to serve nonpotable needs.			✓
6.3.2.d Work with appropriate State and County agencies to achieve a balance in resolving the needs of water users in keeping with the water allocation priorities of the MIP.			✓
6.3.2.e Ensure water conservation through education, incentives, and regulations.			✓

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6.3.2.f Acquire and develop additional sources of potable water.			✓
Objective:			
6.3 Improve water quality and the monitoring of public and private water systems.			✓
Policy:			
6.3.3.a Protect and maintain water delivery systems.			✓
Analysis: **The proposed project is located within the County water service area. There is existing capacity in the system to service the proposed project. However, the proposed project is not applicable to the objectives or policies for water or water systems.**			
TRANSPORTATION			
Goal:			
6.4 An interconnected, efficient, and well-maintained, multimodal transportation system.			✓
Objective:			
6.4.1 Provide for a more integrated island-wide transportation and land use planning program that reduces congestion and promotes more efficient (transit-friendly) land use patterns.			✓
Policies:			
6.4.1.a Plan for an integrated multi-modal transportation system comprised of public transit, bicycle, pedestrian, automobile, and other transportation modes.			✓
6.4.1.b Refocus transportation investment from the construction of additional roadways only for the automobile to the expansion of a multimodal transportation system.			✓
6.4.1.c Encourage the use of “complete streets” design methods.			✓
6.4.1.d Encourage employers to implement TDM strategies.			✓
Objective:			
6.4.2 Safe, interconnected transit, roadway, bicycle, equestrian, and pedestrian network.			✓
Policies:			
6.4.2.a Ensure transit-, roadway-, and pedestrian-facilities design and level-of-service standards respect the unique character of our communities.			✓
6.4.2.b Prioritize transportation improvements list to cost-effectively meet existing and future needs consistent with the MIP.			✓
6.4.2.c Require new development, where appropriate, to integrate sidewalks, pathways, bikeways, and transit infrastructure into new commercial and residential projects while enhancing community character.			✓
6.4.2.d Identify and improve hazardous and substandard sections of roadways, drainage infrastructure, and bridges, provided that the historical integrity of the roads and bridges are protected.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
6.4.2.e Consider identification, acquisition where appropriate, and utilization of abandoned right of-ways for bikeways, pedestrian pathways, and open-space networks.			✓
6.4.2.f Support the implementation of the *Central Maui Pedestrian & Bicycle Master Plan* (March 2012), when consistent with the MIP.			✓
Objective:			
6.4.3 An island-wide, multimodal transportation system that respects and enhances the natural environment, scenic views, and each community's character.			✓
Policies:			
6.4.3.a Ensure that the roadway and transit alignments respect the natural environment and scenic views.			✓
6.4.3.b Ensure that roadways and transit systems in rural areas and small towns enhance community character.			✓
6.4.3.c Design all transit systems to respect visual corridors and Maui's character.			✓
Analysis: **The proposed project involves sports and classroom facility improvements to the existing BHS campus and is not applicable to the goal, objective, and policies for transportation.**			
TRANSIT			
Goal:			
6.5 An island-wide transit system that addresses the needs of residents and visitors and contributes to healthy and livable communities.			✓
Objective:			
6.5.1 An integrated transit system that better serves all mobility needs of Maui's residents and visitors.			✓
Policies:			
6.5.1.a Maximize access to public transit in town centers, commercial districts, and employment centers.			✓
6.5.1.b Expand regional and inter-regional transit services, where appropriate, in heavily traveled corridors and within communities			✓
6.5.1.c Increase the frequency of current service, add additional bus routes as demand requires, and transition to nonpolluting transit vehicles, as funding permits.			✓
6.5.1.d Provide adequate transit infrastructure (e.g., bus pullouts, waiting benches and shelters, signs) along existing and future transit right-of-ways.			✓
6.5.1.e Require new development where appropriate, to provide right-of-ways (ROWs) to accommodate transit circulation and support facilities.			✓
6.5.1.f Identify, protect, and preserve, or acquire corridors for future inter-community transit use, including but not limited to, rail and also multimodal use corridors.			✓
6.5.1.g Establish transit corridors by planning for and securing right-of-way when appropriate for alternative modes of transportation (such as rail and water ferry service).			✓

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

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

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
6.6.3.c Collaborate with the State and private land owners to ensure perpetual access and proper stewardship of traditional trails and access systems.			✓
6.6.3.d Facilitate the development of well-managed noncommercial campgrounds throughout the island.			✓
6.6.3.e Consider requiring commercial bike rental businesses to provide funding that supports a mauka-to-makai Haleakalā bikeway improvement program.			✓
6.6.3.f Ensure ADA compliance and seek opportunities to make all parks and recreational facilities accessible to people with disabilities.	✓		
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is directly applicable to the goal, objective, and policies for parks. The proposed project will be carried out by the State DOE on County owned lands and supports the objective of improving joint use facilities and grounds. The improvements will reduce the schools' reliance on County facilities currently being utilized and will help provide a sense of open space in an urban community.**			
PUBLIC FACILITIES			
Goal:			
6.7 Maui will have adequate public facilities that meet the diverse needs of residents.	✓		
Objective:			
6.7.1 More effective planning for public facilities to meet community needs.	✓		
Policies:			
6.7.1.a Ensure the development and update of island-wide public facilities functional plans that incorporate prioritized facilities, programs, and a financial component.			✓
6.7.1.b Establish appropriate level-of-service standards for public facilities provided by the County.			✓
6.7.1.c Pursue improvements and upgrades of County public facilities consistent with the public facilities functional plan.			✓
6.7.1.d Recognize Wailuku Town as Maui's Civic Center and support the revitalization of the Civic Center District by consolidating government office spaces, enhancing landscape beautification, and providing adequate public parking.			✓
6.7.1.e Support, with community input, the relocation of the Maui Community Correctional Center from Wailuku to an appropriate location in Puʻunēnē.			✓
6.7.1.f Adequately plan and fund public safety facilities (fire, police, ambulance, civil defense) to meet community needs.			✓
6.7.1.g Increase joint facilities utilization and program coordination between State and County agencies such as baseyards, communication centers, recreational facilities, etc., where feasible.	✓		
6.7.1.h Focus future expenditures for additional government office space, parking, and related facilities in Wailuku's Civic Center District.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
6.7.1.i Encourage continuous and safe walkways for children within one mile of each school.			✓
6.7.1.j Encourage public-private partnerships to identify and resolve public facility plan shortcomings when consistent with the General Plan.			✓
6.7.1.k Incorporate community/area residents' input to determine the appropriate location and design of public facilities.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is directly applicable to the goal, objective, and policies for public facilities. The proposed project is intended to reduce the school's reliance on County park and recreation facilities which will increase the inventory of park and public facilities for use by the public.**			
SCHOOLS AND LIBRARIES			
Goal:			
6.8 Maui will have school and library facilities that meet residents' needs and goals.	✓		
Objective:			
6.8.1 Assist in providing appropriate school and library facilities in a timely manner and in strategic locations.	✓		
Policies:			
6.8.1.a Work in partnership with all educational institutions to meet current and future needs including appropriate location, timing, and design of future facilities.	✓		
6.8.1.b Allow for the expansion and intensification of uses at the UHMC including satellite campuses operating in remote areas.			✓
6.8.1.c Encourage the DOE to build and maintain smaller, community-oriented schools.			✓
6.8.1.d Encourage better cooperation by the State and County for use of State and County facilities.	✓		
6.8.1.e Encourage the State to upgrade, modernize, and expand school facilities, including those in remote communities.	✓		
6.8.1.f Work with the State to develop a master plan for the expansion of UHMC in accordance with the MIP.			✓
6.8.1.g Support partnerships (public/private/nonprofit) to build and staff new schools and improve existing facilities.			✓
6.8.1.h Work with the BOE HSPLS to provide centralized library services (including telecommunications) to all areas of Maui.			✓
6.8.1.i Work with the State to expedite planning and construction of Kīhei High School, including the integration of the high school with the Maui Research and Technology Park.			✓
6.8.1.j Work with the State to identify intermediate school sites in Central Maui and other areas where needed.			✓
Objective:			
6.8.2 Provide a more expansive network of safe and convenient pedestrian-friendly streets, trails, pathways, and bikeways between neighborhoods and schools where appropriate.			✓

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Policies:			
6.8.2.a Encourage the State to build new school facilities in appropriate locations that minimize time and distance for students to travel to and from school.	✓		
6.8.2.b Encourage the State to implement the Safe Routes to School initiative with funding commitments to help the County plan and fund projects that ensure safe access routes to school.			✓
Analysis: **The proposed project involving the construction of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and a permanent classroom building on County owned property at the BHS campus and is directly applicable to the goal, objective, and policies for schools and libraries. The proposed project will upgrade the existing BHS campus with adequate sports facilities to reduce reliance on neighboring County facilities. The various facilities and practice fields proposed will be located in a more convenient location for students. Furthermore, the proposed project encourages cooperation between the State DOE and the County since the proposed project will be located on County owned land.**			
HEALTH CARE			
Goal:			
6.9 All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.			✓
Objective:			
6.9.1 Greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
Policies:			
6.9.1.a Encourage the State to give greater autonomy to the Maui region in their efforts to improve medical care on the island.			✓
6.9.1.b Support innovative financial solutions, such as capital partnerships, joint ventures, and consolidations for MMMC and other health institutions.			✓
6.9.1.c Support MMMC as a major core medical center that provides a greater range of services.			✓
6.9.1.d Support the immediate development of a critical access hospital in West Maui.			✓
6.9.1.e Support the expansion of regional critical-access facilities, where allowed by Federal regulations.			✓
6.9.1.f Improve medical service to remote and outlying regions.			✓
6.9.1.g Support transportation services for dialysis patients and community dialysis programs.			✓
6.9.1.h Work with the State to determine the feasibility of appropriate medical facilities in South Maui and Hāna, including the possible reestablishment of a small community hospital in Hāna, the establishment of a hospital in South Maui, and assist the State in securing funding to meet Maui's health care needs.			✓
Objective:			
6.9.2 An expansion of long-term care facilities and long-term care alternatives to meet the needs of our aging population.			✓

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Policies:			
6.9.2.a Support efforts to increase Maui's long-term care bed capacity to cover current and future needs, close to large population centers.			✓
6.9.2.b Recognize that facilities for low-income elders who need long-term care are a needed form of affordable and subsidized housing.			✓
6.9.2.c Evaluate the needs of the long-term disabled and provide planning support for their care, if there is a need for long-term care facilities.			✓
6.9.2.d Consider long-term care facilities as a major potential employment base and encourage the recruitment and training of potential employees.			✓
Objective:			
6.9.3 More support to home-care and community-based programs so they become alternatives to traditional nursing homes.			✓
Policies:			
6.9.3.a Support the establishment of a program to assist the elderly and people with disabilities to remain in their homes or in a home-like setting.			✓
6.9.3.b Support the establishment of senior and adult-day-care centers and senior housing.			✓
6.9.3.c Continue to support existing senior centers (e.g. Kaunoa), and establish new senior centers that will provide day-care sites and programs for the disabled and elderly.			✓
6.9.3.d Support funding alternatives for community-based services that assist home-care efforts.			✓
6.9.3.e Encourage the State to adopt the recommendations contained within the Legislative Reference Bureau's report entitled "Gimme a Break: Respite Care Services in Other States," (December 2007) where appropriate, feasible, and consistent with the MIP.			✓
Objective:			
6.9.4 Improved preventative medicine and primary health care.			✓
Policies:			
6.9.4.a Develop and utilize health-status benchmarks to measure prevention and primary health care service delivery.			✓
6.9.4.b Support programs that provide family planning assistance.			✓
Analysis: **The proposed project involves high school sports facilities improvements and is not applicable to the goal, objective, and policies for health care.**			
ENERGY			
Goal:			
6.10 Maui will meet its energy needs through local sources of clean, renewable energy, and through conservation.			✓
Objective:			
6.10.1 Reduce fossil fuel consumption. Using the 2005 electricity consumption as a baseline, reduce by 15 percent in 2015; 20 percent by 2020; and 30 percent by 2030.			✓

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Policies:			
6.10.1.a Support energy efficient systems, processes, and methods in public and private operations, buildings, and facilities.			✓
6.10.1.b Support the Maui Solar Rooftop initiative.			✓
6.10.1.c Support Hawai`i Energy and other Public Utility Commission (PUC) approved energy efficiency programs.			✓
Objective:			
6.10.2 Increase the minimum percentage of electricity obtained from clean, renewable energy sources. By 2015, more than 15 percent of Maui's electricity will be produced from locally-produced, clean, renewable energy sources, 25 percent by 2020, and 40 percent by 2030.			✓
Policies:			
6.10.2.a Evaluate available renewable energy resource sites and applicable technologies.			✓
6.10.2.b Encourage the installation of renewable energy systems, where appropriate.			✓
6.10.2.c Support the establishment of new renewable energy facilities at appropriate locations provided that environmental, view plane, and cultural impacts are addressed.			✓
6.10.2.d Encourage all new County facilities completed after January 1, 2015, to produce at least 15 percent of their projected electricity needs with onsite renewable energy.			✓
Objective:			
6.10.3 Increased use of clean, renewable energy.			✓
Policies:			
6.10.3.a Support efforts in the PUC to upgrade Maui's power grid to integrate renewable energy from multiple sources and wheeling of electricity.			✓
6.10.3.b Encourage the PUC to work with the County to implement and expedite community supported renewable energy projects.			✓
6.10.3.c Encourage efforts to produce more renewable energy using distributed generation.			✓
6.10.3.d Encourage import substitution by MECO and the broader community to become more self-sufficient in energy production.			✓
6.10.3.e Educate the public on the economic and environmental benefits from the increased use of renewable energy.			✓
6.10.3.f Encourage support from the Federal government, State, and the private sector for Maui's renewable energy objectives.			✓
6.10.3.g Encourage incentives to support the development and use of renewable energy.			✓

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Objective:			
6.10.4 More efficient distribution of power throughout the island while preserving island beauty.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and classroom facilities, and is not applicable to the goal, objective, and policies for energy.**			
HARBORS AND AIRPORT			
Goal:			
6.11 Maui will have harbors and airports that will efficiently, dependably, and safely facilitate the movement of passengers and cargo.			✓
Objective:			
6.11.1 Upgraded harbor facilities to handle larger volumes of freight and passengers and additional small boat harbors.			✓
Policies:			
6.11.1.a Support the expansion and upgrade of Kahului Harbor through the following, provided that any expansion is respectful of cultural practices and existing recreational uses and supports improved water quality:			✓
(1) Accommodate increasing volumes of cargo;			✓
(2) Provide deeper pier depths and greater fuel-receiving and storing capacities; and			✓
(3) Ensure safe and efficient work areas, including separating passenger operations from fuel and cargo operations.			✓
6.11.1.b Work with public and private entities to provide adequate pier slips, utilities, repair facilities, and waste-disposal capabilities.			✓
6.11.1.c Encourage the State to safely separate passenger (cruise and ferry) operations from hazardous bulk fuels and heavy cargo transporting operations, while not decreasing harbor's capacity to safely support various recreational uses.			✓
6.11.1.d Encourage the State to develop cargo inspecting sites and facilities for efficient cargo and container processing and transportation and to prevent alien species entry.			✓
6.11.1.e Support a State and County task force to study the feasibility of a second commercial harbor on Maui.			✓
Objective:			
6.11.2 Establish more economically thriving and environmentally sensitive small boat harbors accommodating resident and business activity, including fishing, recreation, and tour boats.			✓
Policy:			
6.11.2.a Provide for needed shore-side facilities and capabilities to support small boat harbor users (e.g. repair facilities, parking, cold storage, and mass-transit connections).			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
Objective:			
6.11.3 Upgraded airport facilities and navigation aids to serve the needs of passengers, freight movements, and general aviation.			✓
Policies:			
6.11.3.a Protect the island's airports from encroaching urbanization that may negatively impact the airport operations.			✓
6.11.3.b Support State efforts to improve Kahului Airport operations to better serve passenger and cargo needs.			✓
6.11.3.c Support State efforts to identify sites and plan to relocate and accommodate small and rotary wing aircraft.			✓
6.11.3.d Encourage the State to improve airport safety including lighting, fuel transmission, fuel safety, etc.			✓
6.11.3.e Consider expansion of rental car facilities in West and South Maui.			✓
6.11.3.f Consider expansion of mass transit (bus, fixed-rail, shuttle, and taxis, bicycle, and pedestrian facilities) to and from Kahului Airport and not limited to passenger movements (allowing for luggage and cargo).			✓
6.11.3.g Encourage the State to maintain airport capacity and to encourage more responsive air services to Hāna and Kapalua.			✓
Analysis: **The proposed project involves sports and classroom facilities improvements and is not applicable to the goal, objective, and policies for harbors and airport.**			
CHAPTER 7 – LAND USE			
AGRICULTURAL LANDS			
Goal:			
7.1 Maui will have a prosperous agricultural industry and will protect agricultural lands.			✓
Objective:			
7.1.1 Significantly reduce the loss of productive agricultural lands.			✓
Policies:			
7.1.1.a Allow, where appropriate, the clustering of development on agricultural lands when approved as a CSD plan or similar approval mechanism.			✓
7.1.1.b Require, where appropriate, the review and approval of CSD plans prior to the subdivision of agricultural land.			✓
7.1.1.c Discourage developing or subdividing productive agricultural lands for residential uses in which the residence would be the primary use and any agricultural activities would be secondary uses.			✓
7.1.1.d Consider requirements for public notification and review of the subdivision of agricultural land into four or more lots.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable	DA	IA	NA
7.1.1.e Focus urban growth, to the extent practicable, away from productive and important agricultural lands.			✓
7.1.1.f Strongly discourage the conversion of productive and important agricultural lands (such as sugar, pineapple, and other produce lands) to rural or urban use, unless justified during the General Plan update, or when other overriding factors are present.			✓
7.1.1.g Further develop the requirements for agricultural assessments found under Section 19.510, MCC.			✓
7.1.1.h Provide incentives for landowners to preserve and protect agricultural lands from development through the use of TDR/PDR, tax credits, easement programs, or similar means.			✓
7.1.1.i Promote the use of U.S.D.A. Farm and Ranch Lands Protection Program grants to fund the acquisition of conservation easements on eligible agricultural lands.			✓
7.1.1.j Require all major developments adjacent to agricultural lands to provide an appropriate and site-specific agricultural protection buffer as part of a required site plan.			✓
7.1.1.k Support and promote the viability of Maui's agricultural businesses through property tax incentives and other programs and subsidies.			✓
7.1.1.l Encourage future community plan efforts to identify lands within the County Agricultural zoning district that are primarily being used for large-lot residential or rural use and consider such lands for reclassification to an appropriate County Rural zone.			✓
Objective:			
7.1.2 Reduction of the island's dependence on off-island agricultural products and expansion of export capacity.			✓
Policies:			
7.1.2.a Coordinate with the agricultural community, associations/community groups, agricultural landowners, and the State to designate IALs.			✓
7.1.2.b Support an incentive package for productive Agricultural Lands which aims to ensure agricultural viability for small- and commercial-scale agricultural producers.			✓
7.1.2.c Actively look to acquire land and provide infrastructure to expand the agricultural park and establish new agricultural parks.			✓
7.1.2.d Support the designation of a research and development area within agricultural parks to help farmers stay attuned to new technology and research.			✓
7.1.2.e Support local cooperative extension services to facilitate timely technology transfer opportunities.			✓
7.1.2.f Support plans and programs to develop additional sources of water for irrigation purposes.			✓
7.1.2.g Consider appropriate subdivision requirements (gravel roads, above-ground utilities, etc.) in those subdivisions creating Agricultural Parks where lots are limited to agricultural production with no dwellings.			✓

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7.1.2.h Support the recommendations, policies, and actions contained within the Maui Agricultural Development Plan, July 2009, when consistent with the MIP.			✓
7.1.2.i Allow water and tax discounts for legitimate farming operations on rural and agricultural land.			✓
7.1.2.j Give priority in delivery and use of agricultural water and agricultural land within County agricultural parks to cultivation of food crops for local consumption.			✓
7.1.2.k Support programs that control pests and diseases that affect agriculture.			✓
7.1.2.l Support the development of training and apprenticeship programs to encourage an adequate supply of agricultural workers.			✓
Objective:			
7.1.3 Support and facilitate connectivity between communities.			✓
Policies:			
7.1.3.a Evaluate the impact of gated communities on interconnectivity.			✓
7.1.3.b Discourage land use and urban design that impedes interconnectivity between adjacent communities.			✓
Analysis: **The proposed project involves sports and classroom facilities improvements in an urban area of Wailuku and is not applicable to the goal, objective, and policies for land use related to agriculture.**			
RURAL AREAS			
Goal:			
7.2 Maui will have a rural landscape and lifestyle where natural systems, cultural resources and farm lands are protected and development enhances and compliments the viability and character of rural communities.			✓
Objective:			
7.2.1 Reduce the proliferation and impact of residential development outside of urban, small town, and rural growth boundaries.			✓
Policies:			
7.2.1.a Focus development to areas inside urban, small town, and rural growth boundaries to preserve natural, cultural, and agricultural resources.			✓
7.2.1.b Encourage cluster development with a mandatory buffer requirement/clear edge at the interface of country towns, agricultural uses, and surrounding rural landscapes.			✓
7.2.1.c Encourage or require, where appropriate, CSDs and the use of green spaces/natural separations to protect the character of rural landscapes.			✓
7.2.1.d Encourage basic goods/services in business country towns.			✓
7.2.1.e Allow for mixed uses, including residential uses, within Business Country Town Districts.			✓
7.2.1.f Encourage the use of alternative stormwater management techniques that minimize land disturbance and preserve natural drainage features.			✓

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7.2.1.g Encourage green belts, open space buffers, and riparian zones to minimize conflicts between agriculture and residential uses.			✓
7.2.1.h Evaluate the impact of gated communities on inter-connectivity.			✓
Objective:			
7.2.2 More appropriate service/infrastructure standards to enhance and protect the island's rural character and natural systems.			✓
Policies:			
7.2.2.a Minimize impermeable surfaces within rural areas.			✓
7.2.2.b Protect and support the character, economic viability, and historic integrity of Maui's small towns.			✓
7.2.2.c Use infrastructure, public service, and design standards that are appropriate to rural areas.			✓
7.2.2.d Discourage land use and urban design that impede interconnectivity between adjacent communities.			✓
Analysis: **The proposed project will be located in an urban area of Wailuku is not applicable to the goal, objective, and policies for land use related to rural areas.**			
URBAN AREAS			
Goal:			
7.3 Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.	✓		
Objective:			
7.3.1 Facilitate and support a more compact, efficient, human-scale urban development pattern.			✓
Policies:			
7. 3.1.a Ensure higher-density compact urban communities, infill, and redevelopment of underutilized urban lots within Urban Growth Boundaries.	✓		
7.3.1.b Maintain a distinct separation between communities, such as but not limited to, Wailuku and Waikapū; Wailuku and Waiheʻe; Pukalani and Makawao; Pukalani and Kula; Makawao and Hāliʻimaile; Lahaina and Kāʻanapali; Kīhei and Māʻalaea; and Māʻalaea and Waikapū, to protect the character and identity of Maui's communities.			✓
7.3.1.c Strengthen evaluation requirements for new urban expansion, new towns, and major urban infill projects within urban growth areas. Tailor submittal requirements to reflect the impact or scale of different projects.			✓
7.3.1.d Ensure future amendments to urban growth boundaries achieve the following: (1) provide a beneficial extension of the existing community; (2) are in areas where it is cost-effective to provide and operate infrastructure/public service facilities; and (3) do not promote automobile-oriented land use patterns.			✓
7.3.1.e Evaluate the impact of gated communities on inter-connectivity.			✓

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7.3.1.f Encourage the development and implementation of neighborhood design standards that are environmentally friendly, such as LEED for Neighborhood Development (LEED – ND) standards.		✓	
7.3.1.g Discourage future pyramid zoning within the industrial zoning districts, while allowing accessory commercial uses and grandfathering existing uses.			✓
7.3.1.h Promote agriculture by encouraging community gardening, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓
7.3.1.i Discourage land use and urban design that impedes inter-connectivity between adjacent communities.			✓
Objective:			
7.3.2 Facilitate more self-sufficient and sustainable communities.			✓
Policies:			
7.3.2.a When developing new communities, provide sufficient lands for commercial, appropriate industrial, educational, spiritual, and non-profit uses to serve the daily needs of community residents.			✓
7.3.2.b Site community facilities such as schools, parks, libraries, and community centers within walking and biking distance of residences.		✓	
7.3.2.c Facilitate self-sufficient communities and shorten commutes by:			✓
(1) Directing residential development to job-rich areas;			✓
(2) Allowing for appropriate commercial development and community services to shorten commutes; and			✓
(3) Allowing home occupations or home-based businesses that are compatible with surrounding neighborhoods and lifestyles.			✓
7.3.2.d Ensure, where appropriate, that affordable employee housing and multi-modal transportation opportunities are located near major employment centers.			✓
7.3.2.e Discourage the establishment of bedroom communities where long commutes are required to employment centers.			✓
7.3.2.f Facilitate the development of housing by focusing projects in locations where land and infrastructure costs facilitate the development of affordably-priced housing.			✓
7.3.2.g Provide incentives to facilitate the development of multifamily housing.			✓
7.3.2.h Encourage the placement of rental housing projects in the same areas as for-sale housing to facilitate mixed-income communities.			✓
7.3.2.i Develop communities that provide sufficient parks, schools, libraries, and other essential public facilities and services to serve resident needs.	✓		
7.3.2.j Promote agriculture by encouraging community gardening, edible landscaping, community-supported agricultural programs, and farmers markets within and adjacent to urban areas.			✓

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Objective:			
7.3.3 Strengthen the island's sense of place.			✓
Policies:			
7.3.3.a Protect and enhance the unique architectural and landscape characteristics of each community.			✓
7.3.3.b Encourage Hawaiian architecture and tropical building designs.			✓
7.3.3.c Support the continued revitalization of historic country towns, Wailuku Town, and Kahului's commercial core and harbor-front without displacing traditional, cultural, recreational and customary uses.			✓
7.3.3.d Strongly encourage the preservation of buildings, structures, and sites of historic significance.			✓
7.3.3.e Require community input through Design Workshops for major new urban expansion, new towns, and major urban infill projects.			✓
7.3.3.f Require design enhancement, landscaping, and integration of park and rides, bicycle parking areas, and mass-transit infrastructure to mitigate the effect of parking lots and structured parking on the urban landscape.			✓
7.3.3.g Ensure that safe and attractive public spaces (e.g., plazas, parks, town/village squares) are provided throughout the island's urban areas.			✓
Objective:			
7.3.4 Strengthen planning and management for the visitor industry to protect resident quality of life and enhance the visitor experience.			✓
Policies:			
7.3.4.a Discourage the conversion of hotel units to timeshares and fractional ownership.			✓
7.3.4.b Monitor and manage the amount of, and impacts from, timeshares and fractional ownership.			✓
7.3.4.c Manage short-term rentals and bed-and-breakfast homes through a permitting and regulatory process in accordance with adopted ordinances and community plan policies.			✓
7.3.4.d Limit large-scale resort development to the four existing resort destination areas of Wailea, Mākena, Kapalua and Kāʻanapali. "Large Scale Resort" is defined as complexes that include multiple accommodation facilities, activity businesses, retail complexes, and other amenities.			✓
Objective:			
7.3.5 Ensure that Maui's planning and development review process becomes more transparent, efficient, and innovative.		✓	
Policies:			
7.3.5.a Encourage greater community involvement in land use planning and decision making.		✓	
7.3.5.b Establish a predictable and timely development review process that facilitates the approval of projects that meet planning and regulatory requirements.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
7.3.5.c	Increase inter-agency coordination between the Department of Planning and all State and County agencies responsible for infrastructure and public facilities provision, particularly as it relates to the mitigation of long-term cumulative impacts resulting from development projects.		✓	
7.3.5.d	Provide greater certainty and transparency in the development review process.	✓		
7.3.5.e	Expand and maintain land use and geographic information system databases for improved decisions, and make data and products available to the public.			✓
Analysis: **The proposed project involves development of a boys' locker room, a girls' locker room, weight training rooms, new sports practice fields, and classroom facilities on County owned property at the BHS campus and is directly applicable to the goal, objective, and policies for urban areas. The enhanced physical educational facilities serves the needs of the high school student population. The proposed project is located within an area designated for urban growth and is an efficient and sustainable land use providing recreational benefits and green open space resources.**				
CHAPTER 8 – DIRECTED GROWTH PLAN				
URBAN AND SMALL TOWN GROWTH AREA				
Goal:				
8.1	Maui will have well-serviced, complete, and vibrant urban communities and traditional small towns through sound planning and clearly defined development expectations.	✓		
Policies:				
8.1.a	The County, with public input, will be responsible for designating new growth areas where infrastructure and public facilities will be provided, consistent with the policies of the MIP and in accordance with State and County infrastructure plans.			✓
8.1.b	Amendments to a UGB or STB shall be reviewed as a MIP amendment. A UGB or STB shall only be expanded if the island-wide inventory (maintained by the Department of Planning) of existing land uses (residential, commercial, industrial) indicates that additional urban density land is necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓
8.1.c	Community plans shall provide for urban density land use designations only within UGBs and Small Towns. The County may only support and approve State Urban Land Use Designations for areas within UGBs, STBs, and Rural Villages.			✓
8.1.d	The unique character and function of existing small towns shall be protected to retain and preserve their sense of place.			✓
8.1.e	New development shall be consistent with the UGBs, STBs, and all other applicable policies of the MIP. New urban-density development shall not be allowed outside of a UGB or STB.	✓		
8.1.f	The County, as a condition of development approval, shall require developers of privately owned infrastructure systems to provide financial insurance (bonding, etc.) for the operation and maintenance of these systems.			✓
8.1.g	The County shall implement a zoning program to comprehensively redistrict and rezone lands within UGBs according to updated community plan policies and map designations.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
8.1.h	The County will seek to focus capital improvements (schools, libraries, roads, and other infrastructure and public facilities) within the UGBs and STBs in accordance with the MIP.			✓
8.1.i	The County will promote (through incentives, financial participation, expedited project review, infrastructure/public facilities support, etc.) appropriate urban infill, redevelopment and the efficient use of buildable land within UGBs to avoid the need to expand the UGBs.			✓
8.1.j	The MIP's UGBs and STBs shall not be construed or implemented to prohibit the construction of a single-family dwelling on any existing parcel where otherwise permitted by law.			✓
Analysis: **The proposed project involves improvements to the existing BHS campus and is indirectly applicable to the goal, objective, and policies for the directed growth plan for urban areas. The proposed project is located in an Urban Growth Boundary (UGB) of the Maui Island Plan (MIP). The proposed project is consistent with the UGB and applicable policies of the MIP as set out in this assessment table.**				
RURAL GROWTH AREA				
Goal:				
8.2	Maui will maintain opportunities for agriculture and rural communities through sound planning and clearly defined development expectations.			✓
Policies:				
8.2.a	Amendments to a RGB shall be reviewed as an MIP amendment. A RGB shall only be expanded if an island-wide inventory of existing land uses (residential, commercial, industrial) indicates that additional lands are necessary to provide for the needs of the projected population growth within ten years of that inventory; or, during the decennial update of the MIP.			✓
8.2.b	New development shall be consistent with RGB and all other applicable policies and requirements of the MIP. Public, quasi-public, civic, and limited commercial or industrial uses may be allowed in the RGB when the proposed uses demonstrate a public need and are consistent with the Community Plan and zoning.			✓
8.2.c	Environmental protection and compatibility will be a top priority in rural growth areas.			✓
8.2.d	All development within rural growth areas should avoid encroachment upon prime agricultural land.			✓
8.2.e	Rural growth areas include Rural Residential Areas and Rural Villages. Rural residential areas may be designated when they are located in association with or on the border of urban growth areas or Small Towns; and/or when they provide for complete, self-sufficient rural communities with a range of uses to be developed at densities that do not require urban infrastructure.			✓
8.2.f	Community plans shall provide for rural density land use designations only within RGBs; provided that limited community plan urban designations may be allowed within Rural Villages. New rural growth areas shall not be located where urban expansion may ultimately become necessary or desirable. New rural-density development shall not be allowed outside of a RGB.			✓

Maui Island Plan Goals, Objectives and Policies Key: DA = Directly Applicable, IA = Indirectly Applicable, NA = Not Applicable		DA	IA	NA
8.2.g	New rural growth areas intended to be complete, self-sufficient rural communities must be located a significant distance from existing urban areas, distinctly separated by agricultural or open lands.			✓
8.2.h	Urban-scale infrastructure and public facilities shall not be provided in rural areas except as described in the defined Level-of-Service (LOS) standards. There should be no expectations of urban services in rural areas.			✓
8.2.i	Urban development standards shall not be required within RGBs except in fulfillment of Federal law.			✓
8.2.j	The unique character and function of existing small towns and rural communities shall be protected to retain and preserve their sense of place.			✓
8.2.k	Preserve rural landscapes in which natural systems, cultural resources, and agricultural lands are protected and development compliments rural character and contributes to the viability of communities and small towns.			✓
8.2.l	The MIP's RGBs shall not be construed or implemented to prohibit the construction of a single family dwelling on any existing parcel where otherwise permitted by law.			✓
8.2.m	The County shall implement a zoning program to comprehensively redistrict and rezone lands within RGBs, and to implement community plan policies and map designations.			✓
8.2.n	At the time of zoning from agricultural to rural, Council will consider prohibiting restrictions on agricultural activity.			✓
Analysis: **The proposed project will be located in an urban area outside of the Rural Growth Boundary (RGB) and is not applicable to the goal, objective, and policies for directed growth plan for rural areas.**				
PROTECTED AREA POLICY				
8.3.a	The Protected Areas in Diagrams E-1, NW-1, N-1, NE-1, S-1, SE-1, and WC-1 should be concurrently reviewed with Table 8-2 and with any proposed land uses that may result in an adverse impact on a Protected Area. The County Council and the Administration should be notified if a Protected Area may be compromised by a development proposal.			✓
Analysis: **The proposed project is not located within a Protected Area and is not applicable to the Protected Area Policy.**				

MUNEKIYO HIRAGA

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