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Ka Hope Luna Ho'okele

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
Ka 'Oihana 'Āina Ho'opulapula Hawai'i
P. O. BOX 1879
HONOLULU, HAWAII 96805

03/30/2026

Ms. Mary Alice Evans, Director
Environmental Review Program, Office of Planning and Sustainable Development
Department of Business, Economic Development & Tourism
State of Hawai'i
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

SUBJECT: **Chapter 343, HRS Draft Environmental Assessment Publication**
Anticipated Finding of No Significant Impact
Department of Hawaiian Home Lands
Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility
TMK: portion of [4] 4-8-022:089
Anahola, Kaua'i, Hawai'i

Dear Ms. Evans:

With this letter, the Department of Hawaiian Home Lands (DHHL) hereby transmits the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the proposed Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility project for publication in the next available edition of *The Environmental Notice*.

We have uploaded an electronic copy of this letter and a searchable PDF file of the DEA-AFONSI to your online submittal site.

Should you have any questions, please contact Malachi Krishok of Bowers + Kubota Consulting, Inc. at (808) 846-3340 or mkrishok@bowersandkubota.com.

Mahalo,

Kali Watson

Kali Watson, Chairman
Hawaiian Homes Commission

cc: Malachi Krishok, Bowers + Kubota Consulting, Inc.

From: dbedt.opsd.erp@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Tuesday, March 31, 2026 12:46:23 PM

Action Name

Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility

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

Kawaihau, Kauaʻi

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

(4) 4-8-022:089 (portion)

Action type

Applicant

Other required permits and approvals

None

Discretionary consent required

Use of Hawaiian Home Lands

Agency jurisdiction

State of Hawaiʻi

Approving agency

Department of Hawaiian Home Lands

Agency contact name

Kali Watson

Agency contact email (for info about the action)

kali.watson@hawaii.gov

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mkrishok@bowersandkubota.com

Agency contact phone

(808) 620-9500

Agency address

91-5420 Kapolei Parkway

Kapolei, HI 96707
United States
Map It

Applicant

Kanuikapono Public Charter School

Applicant contact name

Lois Ann Ell

Applicant contact email

loisann.ell@kanuikapono.k12.hi.us

Applicant contact phone

(808) 320-3816

Applicant address

4333 Kukuihale Rd.
Anahola, HI 96703
United States
Map It

Is there a consultant for this action?

Yes

Consultant

Bowers + Kubota Consulting

Consultant contact name

Malachi Krishok

Consultant contact email

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Consultant contact phone

(808) 836-7787

Consultant address

94-408 Akoki Street
Suite 201-A
Waipahu, HI 96797
United States
Map It

Action summary

The proposed KPCS Master Plan Update includes upgrades to existing facilities and targeted campus expansion. Improvements include new classrooms, locker rooms and restrooms, a roofed play court, barn, photovoltaic canopies over the parking lot, secured vehicle enclosure, a contemporary hale over a hula pā, and a new pedestrian bridge. A new Pre-Kindergarten facility is proposed with four classrooms accommodating up to 20 students each, supported by administrative and ancillary spaces. The facility will include outdoor learning areas, a piko gathering space, and on-site parking with a designated drop-off area. Infrastructure improvements include extension of the existing waterline along Laula Street, a new septic system, and new underground electrical and telecommunications service lines.

Reasons supporting determination

Please refer to Section 6.2 Significance Criteria Findings

Attached documents (signed agency letter & EA/EIS)

- 260408-HISFA-Kanuikapono-DEA_Final_ADA_v21.pdf
- KanuikaponoDraftEA_TransmittalLetter_03112026_ADA1.pdf

Action location map

- Kanuikapono_PreK_ProjectArea2.zip

Compliance certification (HRS §368-1.5):

The authorized individual listed below certifies that documents submitted are unlocked, searchable, and compliant with the Hawaii Electronic Information Technology Disability Access Standards (including, but not limited to transcripts, captions, and other descriptions accompanying audio/video files). The individual acknowledges that the submitter retains the responsibility for compliance after documents have been published and any compliance queries will be directed back to the agency and/or applicant.

Authorized individual

Malachi Krishok

Authorized individual email

mkrishok@bowersandkubota.com

Authorized individual phone

(808) 836-7787

Authorization

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









Kanuikapono Public Charter School
Master Plan Update and Pre-Kindergarten Facility

TMK: (4) 4-8-022:089 (por.), Kawaihau, Kaua'i

DRAFT ENVIRONMENTAL ASSESSMENT

April 2026

Applicants:

State of Hawai'i
School Facilities Authority (SFA)
2759 S. King Street, Room H201
Honolulu, HI 96826
SFA Job No. SP-0012-25

Kanuikapono Public Charter School
4333 Kukuihale Road
Anahola, HI 96703

Approving Agency:

Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, HI 96707

Prepared by:

Bowers + Kubota Consulting, Inc.
94-408 Akoki St. Suite 201-A
Waipahu, HI 96797

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Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility

TMK: (4) 4-8-022:089 (por.)

Kawaihau, Kaua'i

DRAFT ENVIRONMENTAL ASSESSMENT

April 2026

Applicants:

State of Hawai'i
School Facilities Authority
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Approving Agency:

Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, HI 96707

Prepared by:

Bowers + Kubota Consulting, Inc.
94-408 Akoki Street, Suite 201-A
Waipahu, HI 96797

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PROJECT SUMMARY TABLE

This Draft Environmental Assessment (EA) has been prepared in accordance with the requirements of Chapter 343, Hawai'i Revised Statutes (HRS) and Hawai'i Administrative Rules (HAR) Title 11-200.1 Environmental Impact Statement Rules.

Project Name:	Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility
Applicants:	Hawai'i School Facilities Authority 2759 S. King Street, Room H201 Honolulu, HI 96826 Kanuikapono Public Charter School 4333 Kukuihale Road Anahola, HI 96703
Approving Agency:	Department of Hawaiian Home Lands/Hawaiian Homes Commission 91-5420 Kapolei Parkway Kapolei, HI 96707
Authorized Agent (EA Preparer):	Bowers + Kubota Consulting, Inc. 94-408 Akoki Street, Suite 201-A Waipahu, HI 96797
HRS §343 Trigger:	Proposed use of State lands and funds
Project Location:	4333 Kukuihale Road Anahola, HI 96703
Tax Map Key Parcel:	(4) 4-8-022:089 (por.)
Project Area:	7.5 acres
Landowner:	Department of Hawaiian Home Lands
Existing Uses:	Open area with grass
State Land Use District:	Agriculture
County of Kaua'i Zoning:	Agricultural and Residential (R-4)
DHHL Land Use Designation:	Residential
Special Management Area (SMA):	Outside of SMA
Flood Zone Designation:	X - Outside of the 1% annual chance floodplain

PROJECT SUMMARY TABLE (CONTINUED)

Proposed Action:	Master Plan Update (MPU) The proposed KPCS MPU features the following improvements to existing facilities and campus expansion: additional classrooms, locker rooms, restrooms, a new roof over the existing play court, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a pedestrian bridge. Pre-Kindergarten (Pre-K) Facility The proposed new Pre-K facility will feature four new classrooms, including an outdoor piko gathering area, outdoor learning environments, and administrative spaces with additional amenities. The four classrooms would each be approximately 1,000-1,200 square feet with a capacity to house 20 students, 2 teachers, and 1-2 family volunteer(s). Each classroom would also include a kitchenette and three toilets with separate handwashing stations. The outdoor learning environment would be approximately 4,850 square feet to accommodate up to 75 children at once. The outdoor piko area would be approximately 700 square feet to accommodate 80 children, plus up to 60 parents and/or staff. There will also be on-site public parking and a designated drop-off area. The new parking lot will consist of twelve stalls dedicated to staff and visitors. The Administrative Building will include a reception area, offices & meeting rooms, a staff/teacher's lounge, a health room, and restrooms. Ancillary spaces such as a laundry room, data closet, and storage spaces will be provided to support the facility. Infrastructure improvements to service the proposed facility include: the extension of the existing waterline along Laula Street and construction of new underground electrical and telecom service lines.
Permits and Approvals Needed for the Project:	• HRS Chapter 6E Compliance • National Pollutant Discharge Elimination System General Permit • Grading, grubbing, Stockpiling Permit • Building Permits for Building, Electrical, Plumbing, & Driveway
Anticipated Determination:	Anticipated Finding of No Significant Impact (AFONSI)

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LIST OF ACRONYMS

ALISH Agricultural Lands of Importance to the State of Hawai'i

amsl Above Mean Sea Level

BMP Best Management Practice

CDP Census Designated Place

CIA Cultural Impact Assessment

COK County of Kauai

CWPP Community Wildfire Protection Plan

CZM Coastal Zone Management

dBA Decibel (A-weighted sound level)

DFIRM Digital Flood Insurance Maps

DHHL Department of Hawaiian Home Lands

DLNR Department of Land and Natural Resources, State of Hawai'i

DOFAW Division of Forestry and Wildlife

EA Environmental Assessment

EKCCP East Kaua'i Community and Circulation Plan

EOEL Executive Office on Early Learning

EPA Environmental Protection Agency

ESA Environmental Site Assessment

FEMA Federal Emergency Management Agency

FONSI Finding of No Significant Impact

GHG Greenhouse Gas

HAR Hawai'i Administrative Rules

HCM Highway Capacity Manual

HEER Hazard Evaluation and Emergency Response Office

HIDOE Hawai'i Department of Education

HDOH Hawai'i Department of Health

HISFA Hawai'i School Facilities Authority

HRS Hawai'i Revised Statutes

HWMO Hawai'i Wildfire Management Organization

IAL Important Agricultural Lands

IPCC Intergovernmental Panel on Climate Change

KPCS Kanuikapono Public Charter School

KWDP Kap'a Wailua Development Plan

LOS Level of Service

LRFI Archaeological Literature Review and Field Investigation Report

LUC State Land Use Commission

mph Miles per Hour

MPU Master Plan Update

NWI National Wetlands Inventory

NEHRP National Earthquake Hazard Reduction Program

NOAA National Oceanic and Atmospheric Administration

NPDES National Pollutant Discharge Elimination System

OPSD Office of Planning and Sustainable Development, State of Hawai'i

SHPD State Historic Preservation Division

SLR-XA Sea Level Rise Exposure Area

SMA Special Management Area

TIAR Traffic Impact Analysis Report

TMK Tax Map Key

TPDK Transportation Plan for the District of Kaua`i

UHERO University of Hawai'i Research Organization

USGS United States Geological Survey

USFWS United States Fish and Wildlife Service

vph Vehicles per hour

1.0 PROJECT OVERVIEW

The proposed action consists of a Kanuikapono Public Charter School (KPCS) Campus Master Plan Update and the development of a new Pre-Kindergarten (Pre-K) Facility on Department of Hawaiian Home Lands (DHHL) property in Anahola, Kauaʻi. The project would expand and improve the existing KPCS campus and establish a new pre-kindergarten facility funded by the State of Hawaiʻi School Facilities Authority (HISFA).

1.1 BACKGROUND

Kanuikapono Public Charter School has operated in Anahola for approximately two decades. In June 2002, DHHL licensed an approximately three-acre area to the school on a portion of Tax Map Key (TMK) (4) 4-8-022:089. In 2006, an EA was prepared for the Kanuikapono Charter School Project. An Environmental Assessment for the initial three-acre campus was completed in May 2006, and KPCS transitioned fully to DHHL land in July 2010.

In February 2023, DHHL licensed an additional approximately 7.5 acres to KPCS, expanding the campus footprint to roughly 10.5 acres within TMK (4) 4-8-022:089. This expansion created an opportunity for more comprehensive long-range planning for the school and its role within the Anahola community. In August 2024, KPCS completed a Conceptual Master Plan aimed at expanding the school campus to be a community-based school and services center.

One component of the Conceptual Master Plan is the addition of a pre-kindergarten facility and program. Following the closure of the Kamehameha Schools preschool in Anahola, KPCS received a pre-kindergarten start-up grant from Kamehameha Schools to begin planning for a Pre-K program. In January 2025, the Hawaiʻi Public Charter School Commission and the Hawaiʻi School Facilities Authority (HISFA) selected KPCS as a site for a new Pre-K facility.

While overall implementation of the Conceptual Master Plan will be led by KPCS, the design and construction of the Pre-K Facility project will be funded and managed by HISFA through its pre-kindergarten program. Implementation of the Pre-K facility supports the State's *Ready Keiki* initiative, which seeks to provide expanded access to early childhood education across Hawaiʻi.

1.2 PURPOSE FOR ENVIRONMENTAL ASSESSMENT

Chapter 343 (Environmental Impact Statements), Hawaiʻi Revised Statutes (HRS), establishes a system of environmental review at the State and County levels to ensure that environmental concerns are given appropriate consideration in decision-making along with economic and technical considerations. The State of Hawaiʻi, Office of Planning and Sustainable Development's (OPSD) Environmental Review Program facilitates the environmental review process in Hawaiʻi.

This project triggers the State's environmental review process under HRS Chapter 343, as amended, and Title 11, Chapter 200.1 (Environmental Impact Statement Rules) of the State Department of Health's Hawaiʻi Administrative Rules (HAR), as amended (State of Hawaiʻi, 2019) because the action involves:

Use of State Funds. State funds would be used for the design and construction of the Pre-K Facility.

Use of State Lands. The Proposed Action involves the use of lands within the Hawaiian Home Lands Trust, which are administered by the Hawaiian Homes Commission through the State Department of Hawaiian Home Lands.

This Draft Environmental Assessment (Draft EA) document has been prepared in accordance with these regulations to allow for the use of State lands and funds for the construction of the project. Pre-assessment consultation comments received as part of the preparation of this Draft EA document are included in Appendix A.

1.2.1 APPLICANT BACKGROUND

There are two Applicants for this project: HISFA and KPCS.

HISFA was established in 2020 through Act 72 and further clarified by Act 271 in 2021. The Act aimed to streamline and enhance the management of capital improvement projects related to public schools, ensuring that these projects align with the State's educational goals and fiscal policies. As such, HISFA is responsible for the development, planning, and construction of public-school facilities across the State.

KPCS was established by the State Public Charter School Commission in 2001 and is led by a governing board composed of members nominated from the community. KPCS provides a Hawaiian Cultural-Based education opportunity and is accredited by the Western Association of Schools and Colleges (WASC) though June 30, 2028.

1.2.2 APPROVING AGENCY

The project is an "Applicant action" under the State's environmental review regulations and is triggered under HRS 343 due to the use of State land and funds. The Hawaiian Homes Commission will serve as the "Approving Agency" for the processing of this environmental assessment document and currently anticipates a Finding of No Significant Impact (FONSI) determination.

DHHL is governed by the Hawaiian Homes Commission Act of 1920 (HHCA), enacted by the U.S. Congress to protect and improve the lives of native Hawaiians (defined as individuals having at least 50 percent Hawaiian blood). The HHCA created HCC to administer certain public lands, called Hawaiian home lands, for homesteads. The Act was incorporated as a provision in the State Constitution in 1959 when Hawai'i was granted statehood and responsibility for the Commission and the Hawaiian home lands was transferred to the State. In 1960, the State Legislature created DHHL to manage Hawaiian home lands and administer the provisions of the HHCA. The primary responsibilities of DHHL are to implement the HHCA and the programs, policies, and direction established by the HHC on behalf of the native Hawaiian beneficiaries of the Trust.

Bowers + Kubota Consulting, Inc. (B+K) is serving as the "Authorized Agent" on behalf of the HISFA and KPCS (Applicants) in the preparation of this Draft EA. This Draft EA was prepared pursuant to Chapter 343, Environmental Impact Statements, HRS, as amended and the State Department of Health's HAR Title 11, Chapter 200.1, Environmental Impact Statement Rules (State of Hawai'i, 2019).

1.3 REGIONAL SETTING AND PROJECT LOCATION

The Project area is in the moku (district) of Kawaihau and ahupua'a of Anahola on eastern side of mokupuni (island) of Kaua'i. The Proposed Action, located at 4333 Kukuihale Road, encompasses approximately 7.5 acres out of the 27.4 acres of DHHL owned land (TMK (4) 4-8-022:089). See Figure 1.1. The Project area is on undeveloped land within the Hawaiian homestead community of Anahola. Adjacent existing land uses include residences to the north, west, east, and southwest and vacant agricultural land to the southeast.

1.4 PROJECT PURPOSE AND NEED

Anahola is the largest Hawaiian homestead community on Kaua'i with a homestead population reaching 2,243 residents according to the 2020 U.S. Census. The region is expected to experience growth driven in part by two major developments near the Proposed Action. To the east lies the Pi'ilani Mai Ke Kai residential development, a 71-acre project to provide 181 homestead lots. To the west, within a two-mile radius, is the forthcoming Anahola Kuleana Homestead Settlement Plan which is part of Kuleana Homestead Program. Anahola Kuleana Homestead Settlement Plan will provide a homesteading alternative for immediate access to raw land (without utilities) and an opportunity to create a new self-sufficient community.

With the growth of the Anahola Hawaiian homestead community, the Proposed Action supports KPCS' Hawaiian cultural-based education and the vision of KPCS's Master Plan Update which is to establish a community-based school and services center. KPCS' mission is to "*nurture 21st century skilled lifelong learners to be ready to embrace the Hawaiian culture with aloha and respect for self, family, community and the environment*" and vision of *"vibrant learning community grounded in Native Hawaiian education, academic rigor and community renewal".* In addition, the Proposed Action supports the increasing demand for early childhood education in Anahola. In June 2024, Kamehameha Preschool, which previously operated as the sole preschool in Anahola, was closed and relocated to Kapa'a. The former school served approximately 50 to 60 children aged 3 to 4.

Across the State of Hawai'i, there is a significant need for increased access and availability of preschool education, with more than 8,000 eligible children unable to attend due to high costs and limited availability of spots. According to the University of Hawai'i Research Organization (UHERO), only 55% of the 33,224 children aged 3 to 4 years in the state are currently enrolled in preschool programs. While about 20% of eligible families choose to opt out of preschool, the remainder are unable to access programs due to systemic factors. Research by the UH Center on the Family found that 86% of Hawai'i families lack access to preschools that are both affordable and conveniently located (Inafuku, 2024).

Research indicates that children who attend preschool are better prepared for kindergarten, less likely to repeat grades or need special education services and enjoy higher overall math and reading scores. They also tend to earn more, and exhibit reduced antisocial behavior in childhood and lower rates of adult crime and incarceration (Inafuku, 2024). Understanding these benefits, the Hawai'i State Legislature enacted Act 46, a landmark measure that established the goal to expand preschool access to all 3- and 4-year-olds statewide by the year 2032. The Ready Keiki initiative works to

achieve that goal through a mixed delivery model that includes the construction of new facilities, subsidies for preschool tuition costs and other means.

Lastly, the Proposed Action supports one of DHHL's Priority Project to establish an Anahola Place-Based Education Network as identified in the 2022 Anahola Regional Plan. The Proposed Action would provide a space for organizations to collaborate and share knowledge, resources, and information on ʻāina -and placed based education opportunities for youth and families in Anahola.

1.5 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action consists of a Kanuikapono Public Charter School (KPCS) Campus Master Plan Update and the development of a new Pre-Kindergarten (Pre-K) Facility. The project would expand and improve the existing KPCS campus, including construction of a new pre-kindergarten facility funded by the State of Hawaiʻi School Facilities Authority (HISFA).

KPCS Campus Master Plan Update (KPCS MPU)

To fulfill the KPCS Master Plan vision of establishing a community-based school and services center, the Proposed Actions of the KPCS MPU features the following improvements to existing facilities and campus expansion: additional classrooms, locker rooms, restrooms, a new roof over the existing play court, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a pedestrian bridge.

Proposed Pre-K Facility

The Proposed Pre-K Facility will feature four new classrooms, including an outdoor piko gathering area, outdoor learning environments, and administrative spaces with additional amenities.

The four classrooms would each be approximately 1,000-1,200 square feet with a capacity to house 20 students, 2 teachers, and 1-2 family volunteer(s). Each classroom would also include a kitchenette, three toilets with separate handwashing stations, and outdoor covered lanai areas.

The outdoor learning environment would be approximately 4,850 square feet to accommodate up to 75 children at once. The outdoor piko area would be roughly 700 square feet to accommodate 80 children, plus up to 60 parents and/or staff . There will also be on-site public parking and a designated drop-off area. The new parking lot will consist of 12 stalls dedicated to staff and visitors.

The Administrative Building will include a reception area, offices & meeting rooms, a staff/teacher's lounge, a health room, and restrooms. Ancillary spaces such as a laundry room, data closet, and storage spaces will be provided to support the facility.

Infrastructure improvements to service the Pre-K Facility include: extension of the existing waterline along Laula Street, connection to a newly installed on-site septic system, and construction of a new underground electrical and telecom lines.

1.6 PRELIMINARY PROJECT COST AND TIMELINE

The implementation of the KPCS Master Plan improvements and expansion is anticipated to occur within 5 to 10 years depending on available funds.

The Pre-K Facility received $6 million in funding from HISFA, part of a larger $100 million allotment from the State Legislature, which is aimed at expanding preschool opportunities across the State. The Pre-K Facility is anticipated to begin construction in Quarter 3 of 2027 and complete construction in Quarter 4 of 2028. Anticipated timeline and cost estimates for the full KPCS MPU build are yet to be determined.

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Figure 1.1: Project Location Map

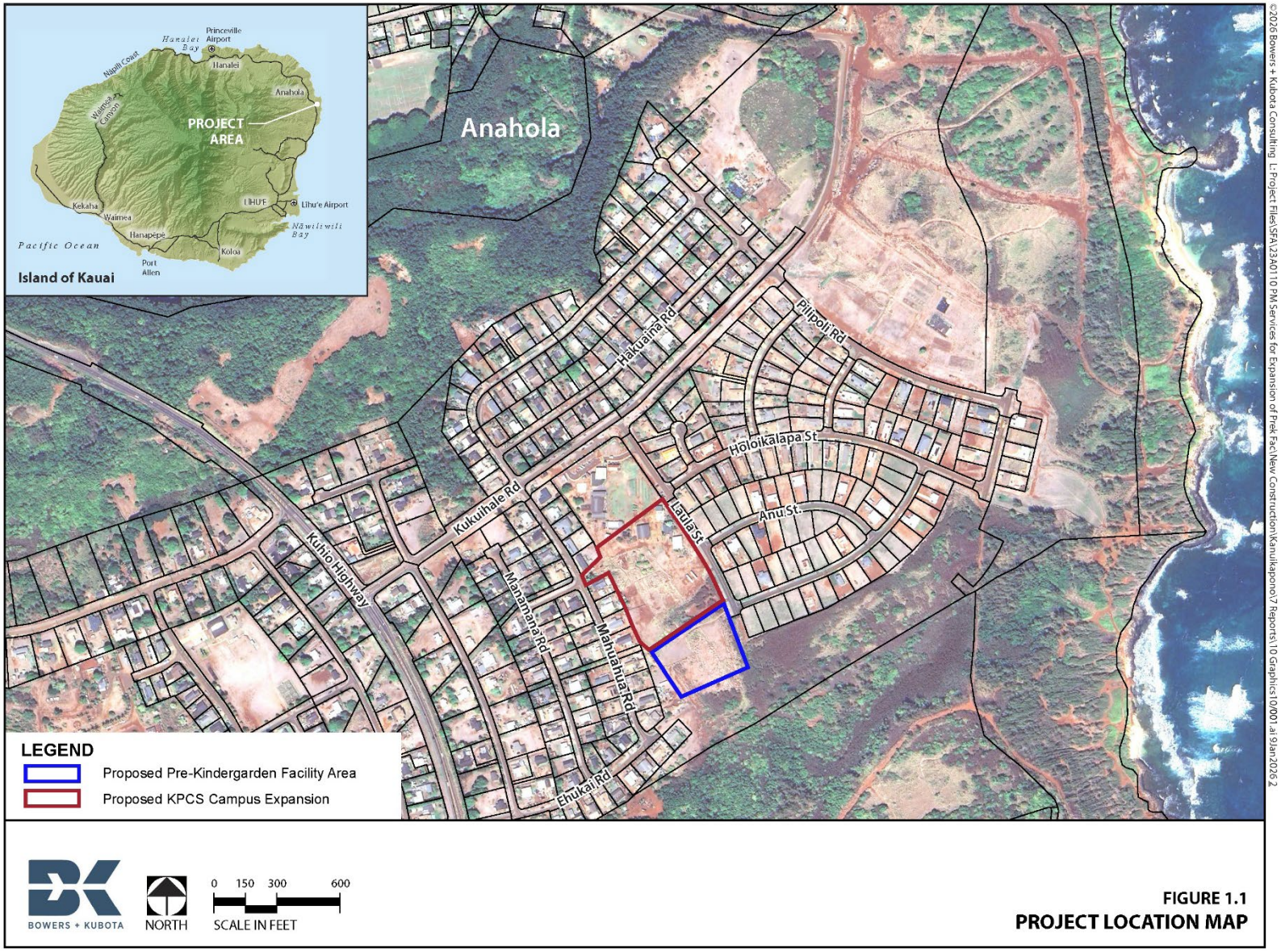
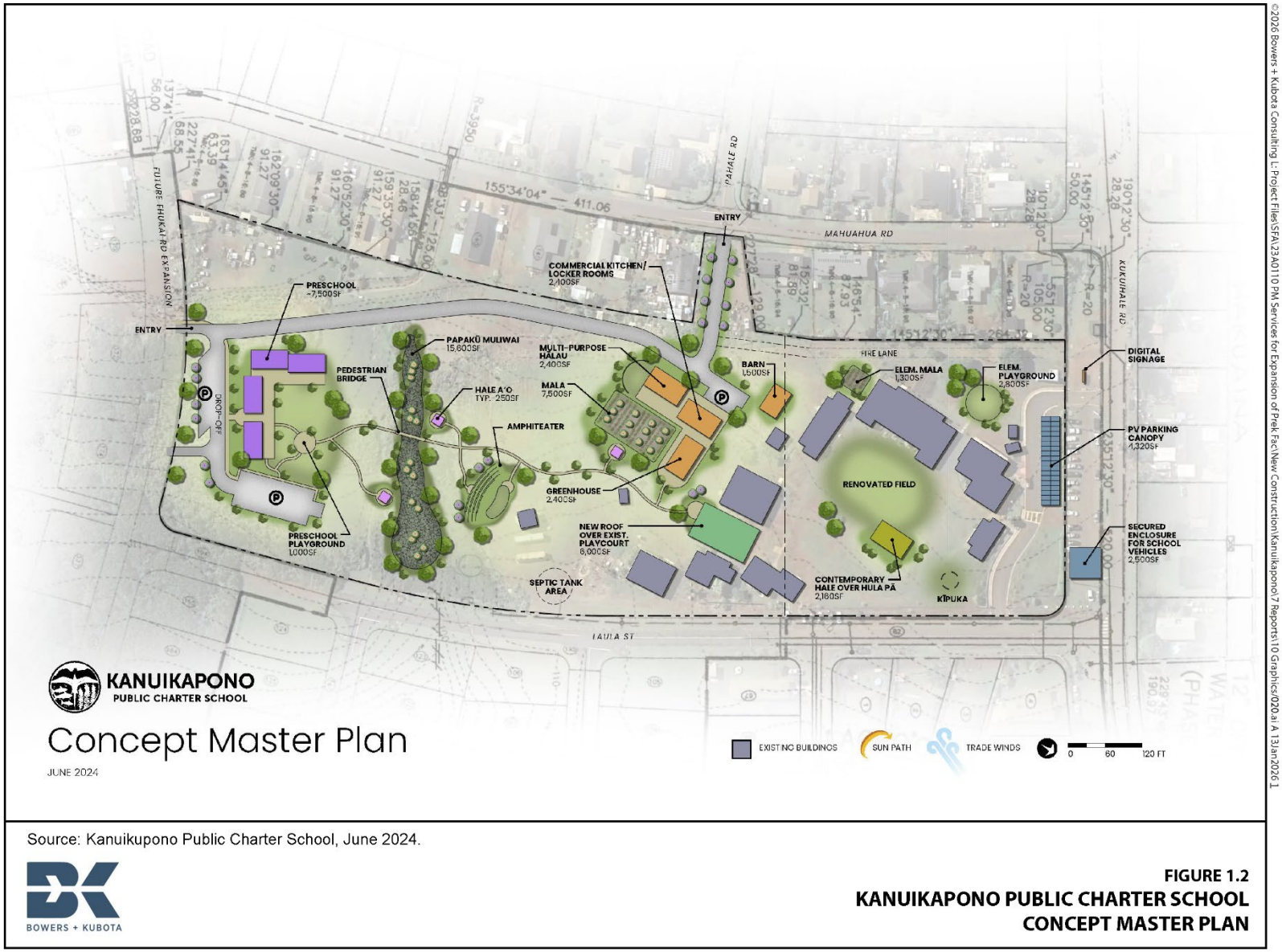


Figure 1.2: Kanuikapono Public Charter School Master Plan Update Concept



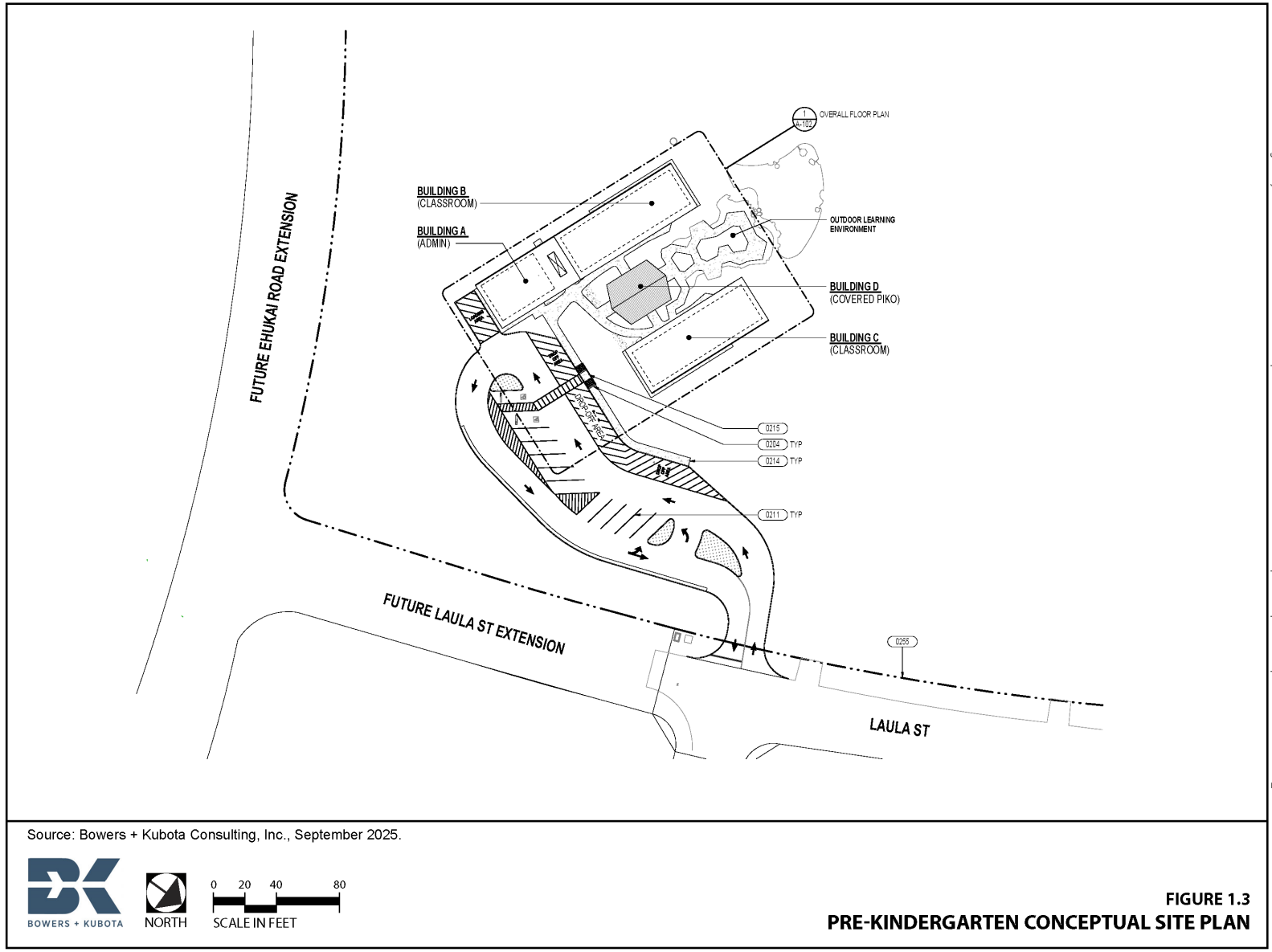
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Source: Kanuikupono Public Charter School, June 2024.

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FIGURE 1.2
KANUIKAPONO PUBLIC CHARTER SCHOOL
CONCEPT MASTER PLAN

Figure 1.3: Pre-Kindergarten Facility Conceptual Site Plan



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2.0 ALTERNATIVES CONSIDERED

As a requirement of HAR §11-200.1-18 (2019), this section identifies and considers alternatives to the Proposed Action that achieve the purpose and need of the project as discussed in Section 1.4. These alternatives are described in this section and include the no-action alternative, which involves not implementing the project, and locating the project on other state lands. However, these alternatives were eliminated from further consideration because they would not support the project need and objectives as well as the project (Proposed Action). There were also other factors associated with these alternatives that did not make them as feasible and practical as the Proposed Action.

2.1 ALTERNATIVE 1: NO-ACTION

The No-Action Alternative would entail KPCS and HISFA to not proceed with the construction of the campus improvements and expansion. The approximately 7.5 acres of land dedicated for the campus improvements and expansion would remain undeveloped and in its current condition or be utilized for another purpose in the future. The Anahola community would not benefit from expanded access to free, high-quality Hawaiian immersion education, and future workforce development benefits derived from Hawaiian immersion teaching and hands-on learning opportunities on campus would not be realized. Furthermore, this alternative fails to support the objectives of the Hawai‘i State Legislature’s Act 46 and the Lieutenant Governor’s Ready Keiki initiative.

2.2 ALTERNATIVE 2: LOCATE ON OTHER STATE LANDS

Under Alternative 2, the campus expansion including the Pre-K facility would be located on other State lands. Prior to selection of the proposed Project area, HISFA conducted a “shortfall analysis,” to assess areas across the State with unserved children of preschool age (3-5 years old). The assessment began by determining the overall shortfall for each island by comparing the existing pre-kindergarten capacity to the overall island population. Shortfall was allocated to areas using a weighted formula based on housing, job density, and traffic data. Once shortfall was determined, HISFA looked at sites on State land, with space to build, existing infrastructure, and partners with a viable plan to operate the Pre-K facility. From this analysis, the proposed Project area met all criteria and as such, locations on other state lands in the region were eliminated from consideration.

3.0 AFFECTED ENVIRONMENT, LIKELY IMPACTS, AND MINIMIZATION MEASURES

This section provides a description of the project's affected environment, and includes information utilizing suitable regional, location, and site maps. Each subsection identifies and analyzes the likely environmental impacts of the proposed action, and proposes minimization measures to address impacts, as applicable.

3.1 CLIMATE

3.1.1 EXISTING CONDITIONS

According to historical weather data (1991-2020) from the National Weather Service, Kaua'i's climate, particularly Lihue which is 15 miles south of Anahola, features mild temperatures year-round, typically ranging from 66°F to 85°F. September is the warmest month, with average highs near 85°F, while January tends to be the coolest, with lows around 66°F.

The Anahola coast is one of the windiest in Kaua'i. Prevailing northeast trade winds average between 10 to 20 miles per hour (RMBJ Consulting 2006).

3.1.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action would not measurably affect the climate of the Project area of region. The buildings will be single-story and will not affect wind patterns of the surrounding area.

3.2 GEOLOGY, TOPOGRAPHY, AND SOILS

3.2.1 GEOLOGY

Kaua'i is amongst the oldest of the Hawaiian Islands. The island was formed by a massive shield volcano made from basaltic lava flows. The formation began in the Tertiary period and was completed by the end of the Pliocene epoch. The summit of the shield volcano collapsed and formed a broad caldera (bowl-shaped volcanic depression) which is the largest in the Hawaiian Islands. Thereafter subsequent collapses occurred and created grabens (sunken blocks of the Earth's crust). Kaua'i experienced a long erosional period before the Koloa volcanic series began to erupt from minor vents across the eastern island (Cox, Davis, and Macdonald, 1960).

3.2.2 TOPOGRAPHY

Anahola is situated to the east of Kalaea, the prominent mountain range on the northeastern coast of Kaua'i. The Proposed Site is currently vacant, covered by grass and wild cane, indicating its former agricultural use. The site elevation is approximately 125 feet above mean sea level (amsl), sloping eastward to approximately 110 feet amsl. See Figure 3.1.

3.2.3 SOILS

According to the Department of Agriculture Natural Resources Conservation Service Soil Survey, soils within the Project area are composed of the Lihue Series including Lihue silty clay (LhB) 0 to 8 % and Lihue silty clay (LhC) 8 to 15 % slopes. See Figure 3.2. The Lihue Series consist of well-drained soils on tops of broad interfluves in the uplands. Historically, Anahola has been home to good quality soils for agriculture such as ʻulu (breadfruit), loʻi kalo (wetland taro cultivation), rice, sugarcane, pineapple, pasture, truck crops, orchards, wildlife habitat, and homesites. Soil permeability is moderately rapid, runoff is slow, and the erosion hazard is no more than slight. The surface layer of a representative profile is dusky red silty clay about 12 inches thick. The subsoil is generally more than 48 inches thick and is a dark-red and dark reddish-brown, compact silty clay. The surface layer is strongly acid, with a slightly acid to neutral subsoil. The substratum is soft, weathered rock.

The National Earthquake Hazard Reduction Program (NEHRP) soil classification system categorizes soils based on their potential to amplify seismic waves during an earthquake. This system classifies soils into five categories: A, B, C, D, and E. Category A represents hard rock with the highest shear wave velocity, while Category E includes soft soils with the lowest shear wave velocity. The area of NEHRP Class D and E soils for the Island of Kauaʻi is unknown and has not been determined.

According to the Agricultural Lands of Importance to the State of Hawaiʻi (ALISH), the Project area is considered Prime. See Figure 3.3. However, there are no Important Agricultural Lands (IAL) present within or adjacent to the Project area.

3.2.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action would not change the Project area's potential exposure to geological hazards or prevent the use of any significant geological resources in the area. The Proposed Action will require grading prior to construction and will be constructed in accordance with County requirements and building codes relating to the onsite seismic conditions as well as educational specifications for Pre-school facilities, and all other applicable codes and regulations. While the Project area is considered Prime ALISH (see Figure 3.3), no IAL lands are present within or near the project area and the site has not been actively farmed since the close of the Līhuʻe Plantation. The proposed KPCS Master Plan includes spaces for gardening and a greenhouse, which would represent an increase in agricultural activity within the project site. As such, there are no anticipated impacts to agricultural lands.

The project would have minimal short- or long-term impacts on the existing soils associated with this site. Effects on soils from construction activities would be limited to temporary ground disturbance activities such as minor grading. Some material may need to be imported to the site to prepare foundations for the buildings subject to geotechnical design recommendations. However, this would have a minimal effect on existing soil conditions. The temporary land-disturbing activities could cause minor short-term effects and nuisances, such as soil erosion during periods of heavy rainfall or high winds.

No long-term adverse impacts to geography, topography, or soils are anticipated during construction or operation of the Proposed Action and no additional mitigation measures are required.

The exact amount of ground disturbance will be dependent on topography, ground conditions and space needs, which will be accounted for in the final design of the Proposed Action. Efforts will be made to limit cut, fill, and grading to produce the least amount of ground disturbance. The Proposed Action will be subject to the Kaua'i County Code 1987 §22-7.5 – Grading, Grubbing, Stockpiling regarding best management practices (BMPs).

All demolition, excavation and grading activities will be regulated by the applicable provisions of all state and federal laws. Excavation and grading activities will implement top soil management to minimize soil loss and erosion to protect coastal water quality by incorporating BMPs. BMPs would be installed before construction and maintained throughout the construction period. Some BMP measures may include, but not be limited to:

- Installation of a perimeter construction fence.
- Installation of silt fence or filter socks adjacent to and down slope from disturbed areas.
- Installation of dust screens around disturbed areas.
- Utilization of methods to ensure mud, dirt, or debris would be kept onsite and minimized on roadways.
- Use of temporary sprinklers in non-active construction areas and stationing water trucks nearby during construction to provide sprinkling in active areas.
- Installing stabilized construction entrances, tire wash areas, and concrete washout areas.
- Cleaning affected pavements and roads after construction activities.
- Cleaning construction-related equipment of pollutants before and after construction. Collecting and placing building debris, as it is created, into roll-off bins or trucks for hauling and removal from the site.

The Applicant would obtain all required permits and comply with permit conditions to minimize construction impacts on soils. Permits would include, but not be limited to, the following:

- *National Pollutant Discharge Elimination System (NPDES) General Permit* for construction stormwater discharge. An NPDES General Permit would be required as construction activities would disturb at least one-acre of land.
- *Grading Permit* would be obtained from the County of Kaua'i Department of Public Works for the excavation or fill of soil, gravel, or rock and grubbing of vegetation.

Figure 3.1: Site Topography

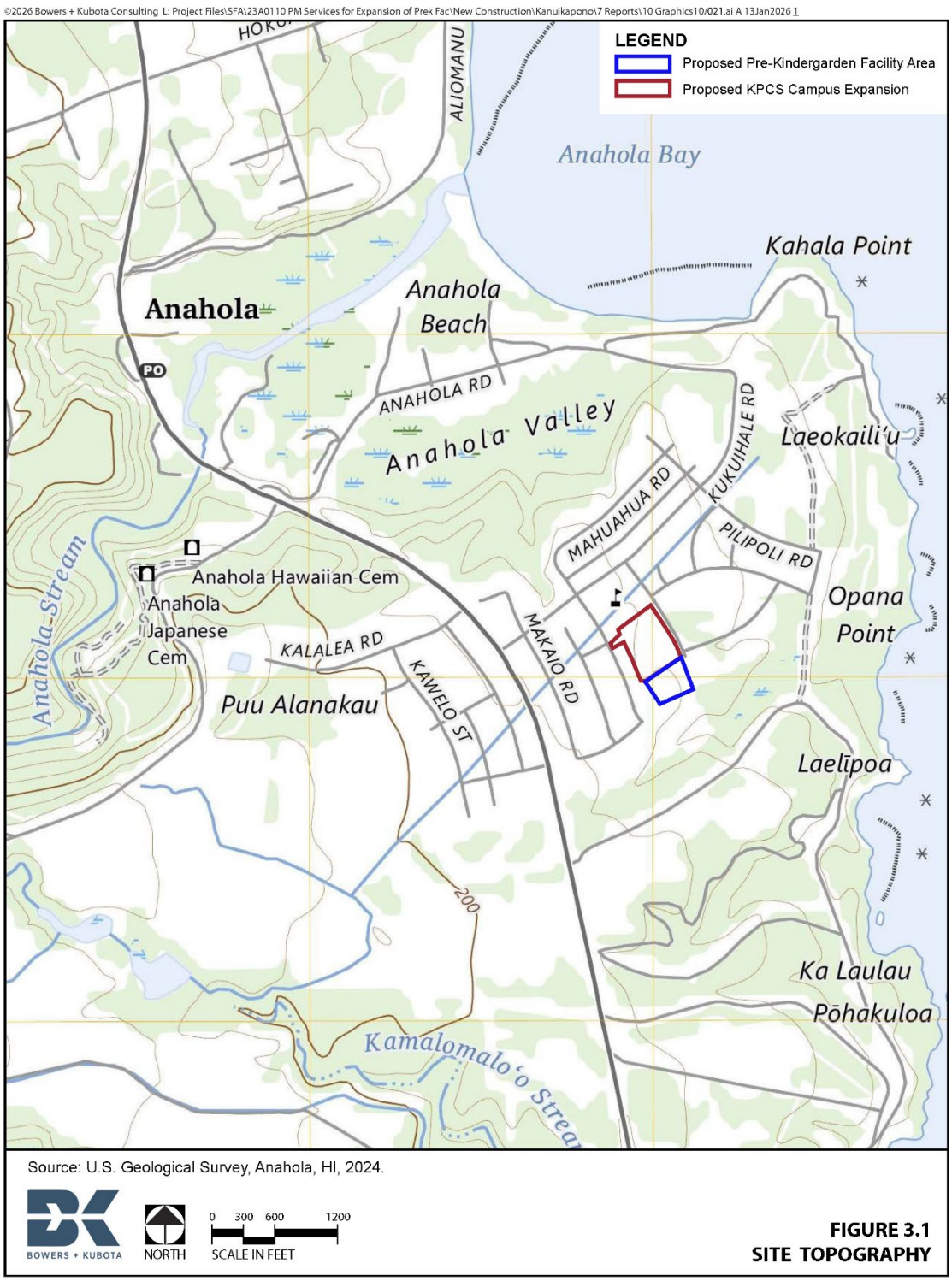


Figure 3.2: Soils

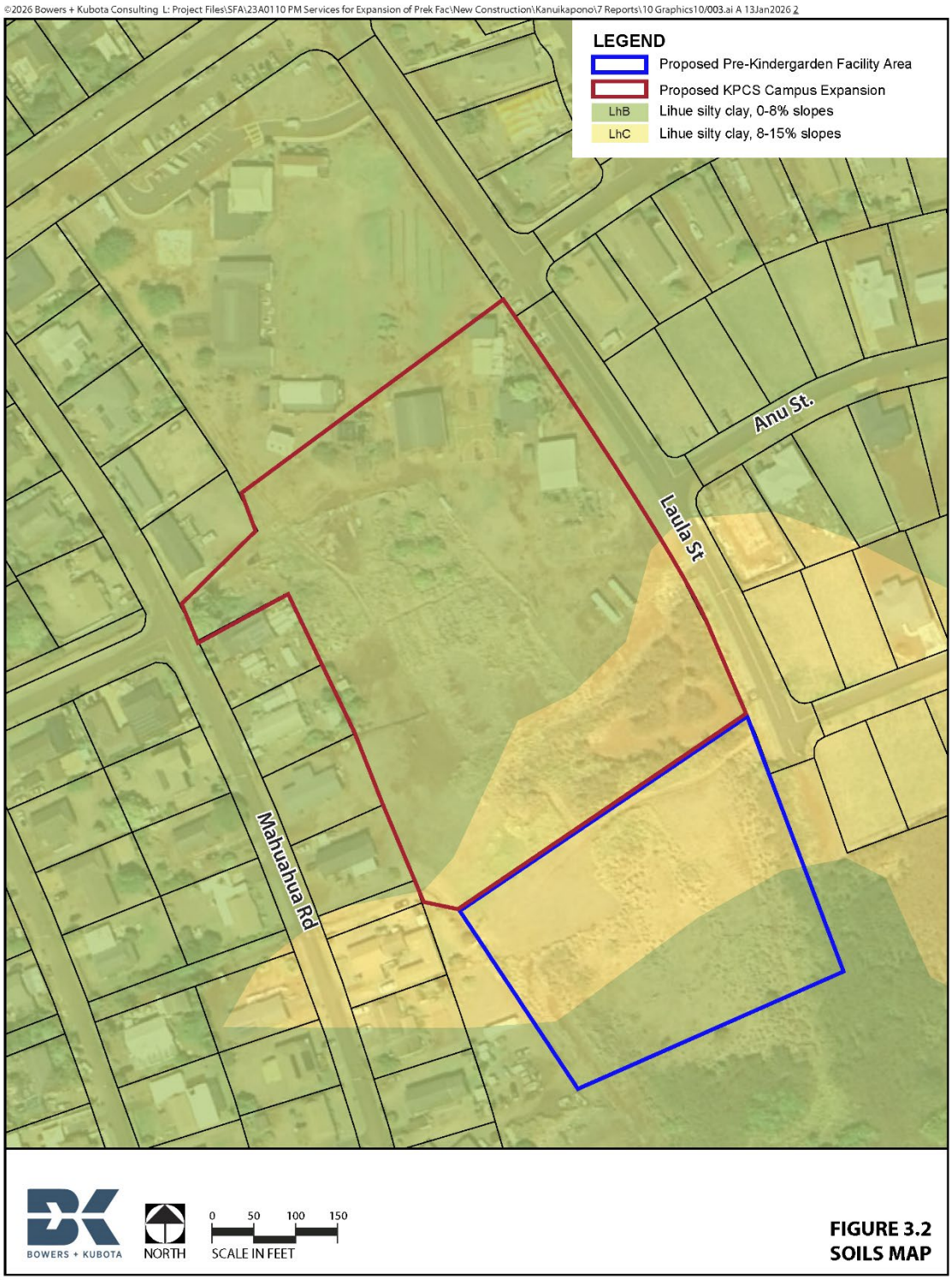
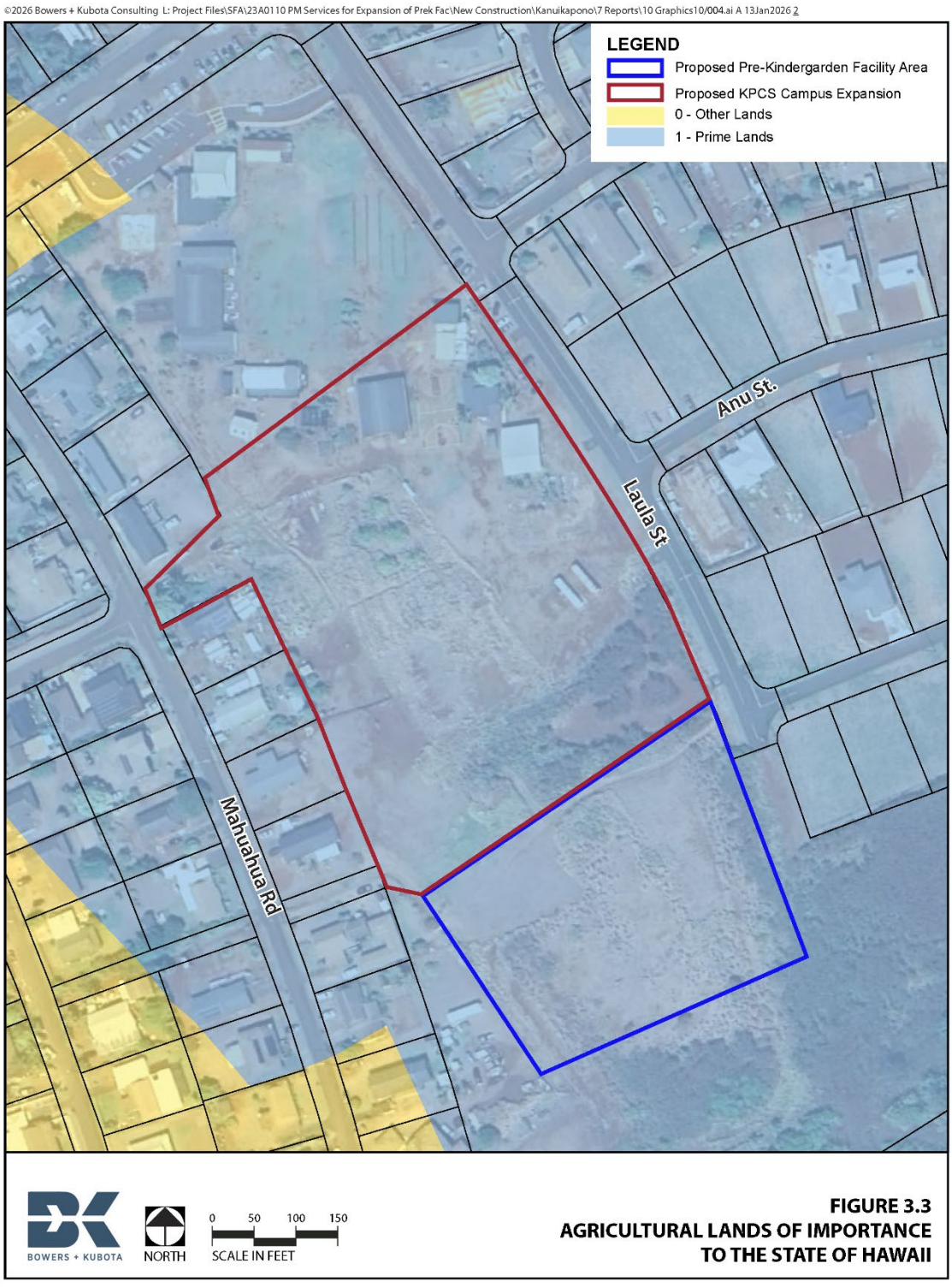


Figure 3.3: Agricultural Lands of Importance to the State of Hawaii



3.3 HYDROLOGY

3.3.1 RAINFALL, WATERSHED, AND SURFACE WATERS

The climate in Project Area is mild and moist, with high humidity and frequent rainfall. According to the University of Hawai'i Rainfall Atlas, Anahola receives an annual average of approximately 59 inches of rain with a wet season from November to April and dry season from May-October.

The Project area is located within the Anahola watershed which is identified with Division of Aquatic Resource (DAR) Code 22001 which reflects the island and region. The DAR cluster code (based on physical and ecological characteristics) is 3 which means that the watershed is medium small, steep in upper watershed, and with some embayment. The watershed encompasses an area of 10.9 square miles (Parham, 2008).

3.3.2 COASTAL WATERS

The Project area is located approximately 0.4 miles from the nearest shoreline and outside of the Special Management area (SMA). See Figure 3.5. The coastal waters in the vicinity of Anahola Bay are classified "A" in the State Department of Health (DOH) water quality regulations. The objective of Class A waters is for recreational purposes and aesthetic enjoyment. According to HAR Chapter 11-54-3(c)(2), Class A waters "shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class."

3.3.3 GROUNDWATER

The Project Site lies within the Anahola Aquifer System, which includes both upper and basal aquifers. The upper aquifer is classified as unconfined and is currently used as a source of fresh drinking water. It is considered irreplaceable and highly vulnerable to contamination. In contrast, the basal aquifer is classified as confined and is also actively used as a source of fresh drinking water (RMBJ Consulting, 2006). Figure 3.5 presents the hydrology in the Anahola area.

The drinking water supply for the Anahola Water System is from the Anahola Well A (90-A), Well B, and Well C. It is then distributed to a 150,000-gallon tank and 500,000-gallon tank (COK, 2025)

In relation to groundwater protection and management, it is important to note that the Anahola area contains both an Underground Injection Control (UIC) line and numerous On-Site Sewage Disposal Systems (OSDS). The UIC line is located along Kuhio Highway and is located approximately 0.30 miles west of the Project Site. According to OSDS inventory data, the Wailua–Anahola region of Kaua'i has one of the highest densities of OSDS in the state, exceeding 40 units per square mile. These systems, particularly cesspools, pose risks to human health and critical ecosystems (Whittier & El-Kadi, 2014).

3.3.4 WETLANDS

According to the U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Online Wetlands Mapper, there is a freshwater emergent wetland within the central area of the Project Site and to the south outside of the Project's parcel, there is also freshwater emergent wetland and a

riverine. See Figure 3.5. The freshwater emergent wetland that continues to the east of the Project Site as shown in the USFWS NWI, has been confirmed to not be a wetland during previous studies for DHHL projects within the area such as the Pi'ilani Mai Ke Kai residential development (PBR Hawaii, 2005).

A natural resources assessment conducted in September 2025 and December 2025, confirmed that the soils within the Project Site (Lihue silty clay (LhB) 0 to 8 % and Lihue silty clay (LhC) 8 to 15 % slopes) are classified as nonhydric with no hydrophytic vegetation and not necessarily associated with wetlands (AECOS, Inc., December 2025).

After completion of the natural resources assessment, the U.S. Army Corps of Engineers (USACE), Honolulu District, issued an Approved Jurisdictional Determination (AJD) for the Project Site. Based on review of site-specific information, the USACE determined that the approximately 3.89-acre review area consists entirely of uplands and does not contain waters of the United States, including wetlands, as defined under 33 CFR Parts 328 and 329. Accordingly, the USACE concluded that a Department of the Army permit under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act is not required for the Proposed Action.

Additional details can be found in Appendix B.

3.3.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action does not involve any work within or across streams or wetland features and is located outside of the SMA. Improvements to the Project Site would include grading and leveling as well as trenching for the installation of new utility connections for waterline along Laula Street and installation of a new on-site wastewater treatment system (septic system) to serve the campus and pre-k facility. Impermeable surfaces would be constructed; therefore, increased runoff would be managed onsite in accordance with Kaua'i County Code 1987 §22-16 – Drainage. Because more than one acre would be disturbed, coverage under an NPDES permit would be required, and all grading would comply with Kaua'i County Code 1987 §22-7.5 – Grading, Grubbing, Stockpiling.

The septic system would be designed, installed, and operated in compliance with Hawai'i Department of Health requirements to protect groundwater quality. With proper design, permitting, and maintenance, the Proposed Action is not anticipated to result in significant long-term impacts to hydrologic resources.

3.4 AIR QUALITY

3.4.1 EXISTING CONDITIONS

The Environmental Protection Agency (EPA) and Hawai'i Department of Health, Clean Air Branch track levels of various gaseous and particulate air pollutants that may impact human health from both short-term and long-term exposure. Kauai has one air quality monitoring station, the Niumalu Station, located near Nawiliwili Harbor about 13.5 miles from the Project Site. This station was set up to assess the effects of cruise ships on local air quality and specifically gathers data on sulfur dioxide (SO_2).

Overall, air quality in Anahola and throughout the Hawaiian Islands is considered good. The State of Hawai'i meets all national ambient air quality standards and has not been designated as a nonattainment area (EPA, 2025).

There are no air quality impacts by motor vehicle traffic and aircraft flight operations near the Project Site. Kuhio Highway, the nearest arterial road to the Project Site, is approximately 0.26 miles to the west and Lihue Airport is approximately 10.5 miles south of the Project Site.

3.4.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed action would have short-term impacts on air quality during construction. There are two potential types of air pollution emissions that could result in direct short-term air quality impacts during the project's construction period:

(1) Fugitive dust from earth-moving activities, crushing and screening activities, unregulated stockpiling of soil material, and construction vehicle movements.

(2) Diesel and/or gasoline-powered emissions from construction vehicles and equipment.

To minimize any potential impacts, construction activities will implement BMPs to contain fugitive dust to the Project Site per HAR §11-60.1 Air Pollution Control. BMPs would be described in construction plans as well as specifications to minimize the discharge of air pollutants before and after construction. BMPs for fugitive dust and engine emissions would be installed before construction and maintained throughout the construction period. Some general BMPs which are consistent with measures recommended by DOH in the Fugitive Dust Fact Sheet (DOH, 2024), may include, but not be limited to:

- Develop and implement a dust control plan.
- Use water or suitable chemical compounds in the demolition of existing structures, construction operations, and grading or clearing of land.
- Apply water, dust suppressants, or suitable compounds on roads, and material stockpiles.
- Pave ingress and egress points to the site.
- Establish and monitor speed limits for onsite vehicles.
- Cover all moving, open-bodied trucks transporting soil or dusty material.
- Install dust screens or wind barriers around the construction site.
- Stabilize and cover stockpile materials.
- Limit areas to be disturbed at any given time.
- Clean nearby pavements and paved roads affected by construction.
- Provide a buffer zone between the construction site and residential areas.
- Move heavy construction equipment during periods of lower traffic volume.
- Adjust schedules of commuting construction workers to avoid peak hours in the project vicinity.
- Implement emission control methods on construction equipment.

As discussed in Section 3.11, the Proposed Action is not anticipated to significantly impact traffic during peak hours of traffic, once operational. Indirectly, there may be short-term air quality impacts from slow-moving construction equipment traveling to and from the Project Site, and from a temporary increase in local traffic caused by commuting construction workers

Figure 3.4: Special Management Area

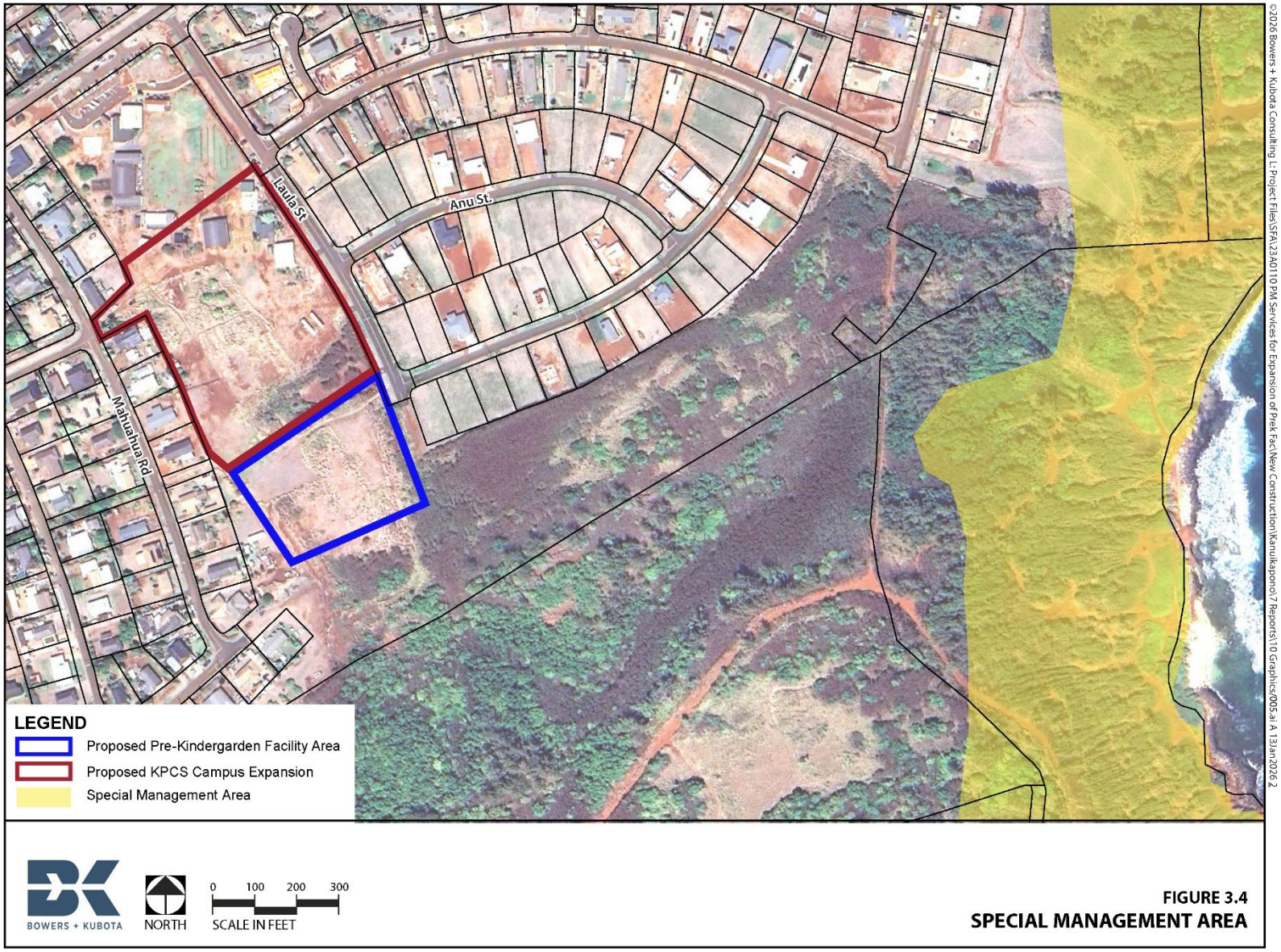


Figure 3.5: Hydrology

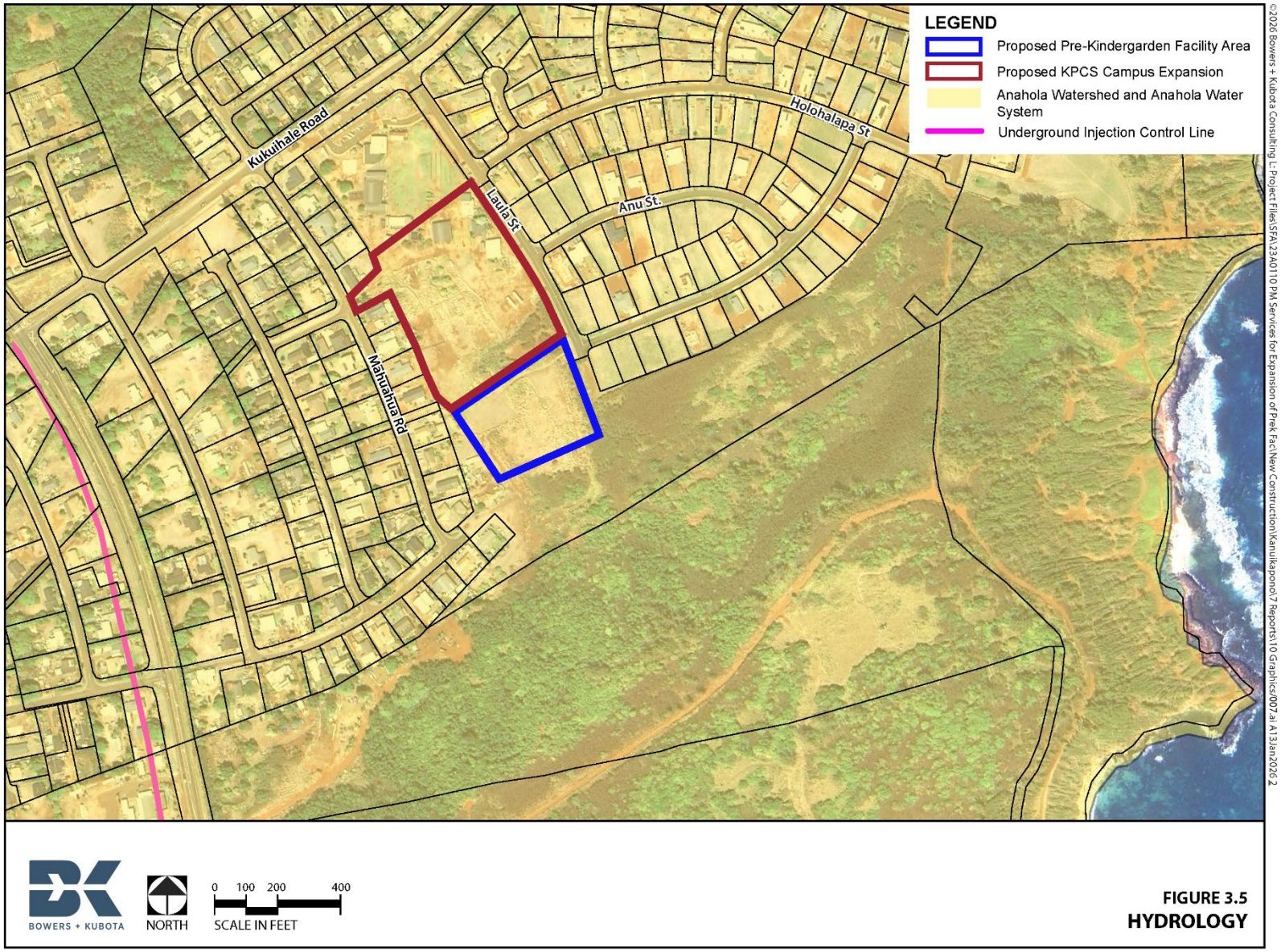
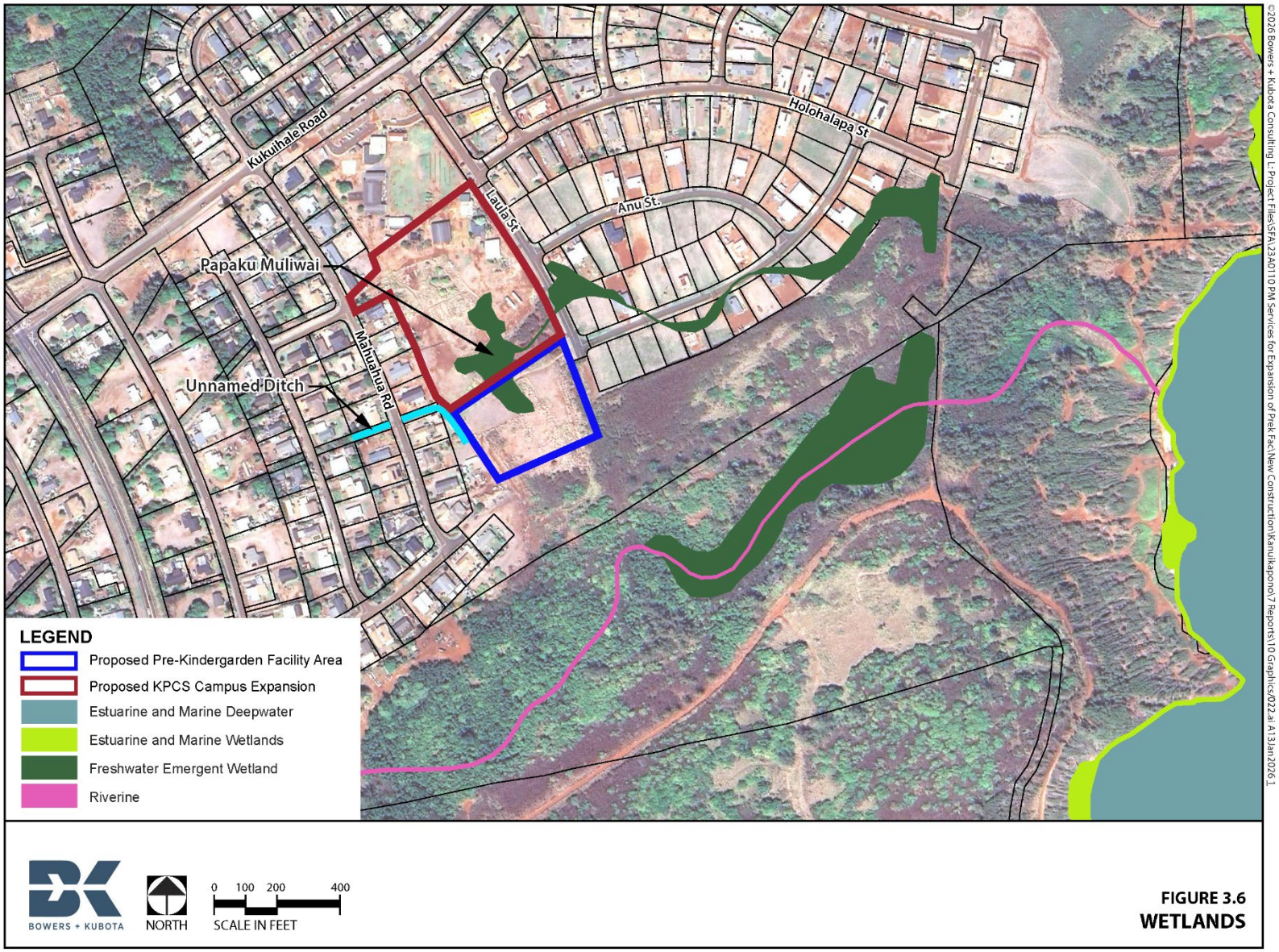


Figure 3.6: Wetlands



3.5 NOISE

3.5.1 EXISTING CONDITIONS

The Noise Control Act of 1972 is a federal law designed to protect public health by regulating noise. The EPA, together with state and local agencies, established standards now enforced under Hawai'i's Environmental Quality Act (HRS Chapter 342F – Noise Pollution). The State Department of Health's Indoor and Radiological Health Branch oversees HRS Chapter 342F, which regulates noise pollution and sets up community noise control measures.

Noise levels are influenced by multiple variables, including sound frequency, duration of exposure, and variations or fluctuations occurring throughout the exposure period. The DOH regulates noise exposure in the following rules:

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

The DOH requires contractors engaged in construction activities to comply with HAR §11-46 Community Noise Control, which defines the maximum permissible sound levels that can be produced during construction depending on the surrounding land use as shown in Table 3.1 below. The land use designation for the Project Site is Agriculture and thus would be regulated under the Class C Zoning District.

Table 3.1 Maximum Permissible Sound Levels in dBA [1]

Zoning Districts	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Class A (lands zoned residential, conservation, preservation, public space, open space, or similar type)	55 dBA	45 dBA
Class B (lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type)	60 dBA	50 dBA
Class C (lands zoned agriculture, country, industrial, or similar type)	70 dBA	70 dBA

The Proposed Action is adjacent to an existing residential area to the west and Pi'ilani Mai Ke Kai residential lots to the east, which have one remaining development phase.

[1] Hawaii Administrative Rules, Section 11-46, Community Noise Control. 2015.

3.5.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

Noise generated from the Proposed Action would primarily be associated with short-term construction activities within the Project Site. Noise generated off-site would include construction vehicles traveling to or from the construction site typically when starting or ending activities for the day. Construction activities on-site would be generated from construction equipment that would likely include, but not be limited to excavators, bulldozers, water trucks, chain saws, and trucks. Table 3-2 shows typical noise levels from commonly used heavy equipment 50 feet away from the source.

If noise is expected to exceed the State's "maximum permissible" property line noise levels, a Community Noise Permit will be obtained. Prior to issuing the noise permit, DOH may require the contractor to incorporate noise mitigation into the construction plan or require the contractor to conduct noise monitoring or community meetings to discuss construction noise.

No significant increase in noise levels over existing levels is anticipated from the operation of the Proposed Action. Typical sound levels associated with pre-school land uses including indoor learning environments and outdoor play, generally fall within the maximum permissible sound levels for Class A. In addition, according to HAR Section 11-46-5, any school activity which is approved by school authorities is exempt from State noise controls if activities are from the hours of 7:00 a.m. to 10 p.m. (HAR, 2015).

Table 3.2 Typical Noise Levels

Equipment	Typical Noise Level 50 Feet from Source
Backhoe	80 dBA
Dozer	85 dBA
Generator	81 dBA
Grader	85 dBA
Loader	85 dBA
Paver	89 dBA
Scraper	89 dBA
Truck	88 dBA

3.6 FLORA AND FAUNA

AECOS, Inc. (AECOS) performed a natural resource assessment of jurisdictional waters, flora, fauna, and for the Proposed Action. Additional details can be found in Appendix B.

3.6.1 FLORA

AECOS surveyed the Project Site on September 24 to 25 and December 2, 2025. The AECOS botanists used wandering transects and identified plant species as they were encountered. Any plant not immediately recognized during the survey was photographed and/or a representative feature (fruit, flower, branch) collected for later identification at the laboratory.

Vegetation within the Project Site was observed to be dominated by Guinea grass and koa haole. A total of 65 species of vascular plants were recorded all of which are angiosperms (flowering plants). These plants were categorized as follows:

- 2 indigenous (3%) – hala and naio
- 1 endemic (2%) – koa
- 8 early Polynesian introductions (12%) – kalo, coconut, ti, banana, ʻolena, kukui, breadfruit, and noni
- 54 plants introduced to the Hawaiian Islands after 1778 (83%)
    - 47 naturalized species and 7 ornamentals

3.6.2 FAUNA

AECOS conducted an Avian Survey and Mammalian survey of the Project Site. Birds were identified to species by visual observation, aided by Leica 8 X 42 binoculars, and by listening for vocalizations.

A total of 14 bird species, representing 7 separate families, were recorded during the survey. Majority of the species recorded are non-native introductions that have become naturalized in Hawaiʻi; except the Great Frigatebird and the Pacific Golden-Plover. Pacific Golden-Plover is a native, indigenous migratory shorebird species which nests in the high Arctic during the late spring and summer months, returning to Hawaiʻi and the Tropical Pacific to spend the fall and winter months each year. The birds usually leave Hawaiʻi for their migration back to the Arctic in late April or the very early part of May. This plover is widely distributed across the Hawaiian Islands during the cooler months.

No seabirds or suitable habitats were observed at the Project Site. However, protected night-flying Hawaiian seabirds including Wedge-Tailed Shearwater, Hawaiian Petrel, Newell's Shearwater, and Band-Rumped Storm-Petrel is anticipated to fly over or use the Project Site.

Mammals encountered during the survey included domesticated horses and goats.

3.6.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

No impacts to plants, avian, or mammalian species listed as endangered or threatened species are anticipated due to the following:

- No plants proposed or listed as threatened or endangered species as set forth in the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1543; USFWS, nd-a; HDLNR, 1998) were seen in the Project Site. Although native flora is present within the Project Site, these plants are common species and are more abundant outside of the survey area. The landscaping plan considers and includes native plant species that are appropriate for the area.
- No federal delineated critical habitats are present within the Project Site.
- No mammalian species currently proposed for listing or listed under either federal or state endangered species statutes (HDLNR 1998, 2015; USFWS, n.d.-a) were recorded on the Project Site. All introduced mammalian species are detrimental to the native biota.

The natural resource assessment provides recommendations based on the U.S. Fish and Wildlife Service, Animal Avoidance and Minimization Measures (USFWS-PIFWO, 2023).

- Seabirds – Hawaiian Petrel, Band-rumped Storm-Petrel, and Newell's Shearwater nest at high elevations within mountainous regions, thereby minimizing the likelihood of nesting disturbance at the Project Site. However, it is recommended to minimize or avoid impacts to protected night-flying seabirds by not conducting night-time construction and ensure installation of outdoor lighting be properly shielded or dark sky compliant (HDLNR-DOFAW, 2016).
- *Hawaiian Hoary Bat* – The endangered Hawaiian hoary bat possibly utilizes resources in the area. Potential adverse impacts from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 m (15 ft) between June 1 and September 15, the period in which bats may have pups as well as avoid installation of barbed wire fencing (USFWS-PIFWO, 2023).

3.7 NATURAL HAZARDS

Due to Kauai's location in the Pacific Ocean, the island's topographic landscape, geologic makeup, and climate, Hawai'i is vulnerable to several natural hazards that can threaten both communities and physical infrastructure. These hazards include flooding, sea level rise, hurricanes, tsunamis, earthquakes, volcanic eruptions, and wildfires. Some of these hazards have the potential for greater impacts in the future due to climate change. The vulnerability of the project to these hazards are described below:

3.7.1 CLIMATE CHANGE

According to the Intergovernmental Panel on Climate Change (IPCC), climate change impacts are affecting every region on earth in a variety of ways. This includes rising temperatures, intensification of the water cycle and changing rainfall patterns (IPCC, 2021). These changes are already being seen in Hawai'i. Statewide temperatures have been rising and 2019 was the hottest summer in recorded history. Additionally, rainfall has decreased over the past 35 years and may decrease an additional 10% by the end of the century (Frazier, A.G., et al., 2016). The IPCC have confirmed that climate change impacts are the result of human produced greenhouse gas (GHG) emissions, which include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and sulfur oxides (Frazier, A.G., et al., 2016).

3.7.2 SEA LEVEL RISE

Current best available science has pointed to 3 to 4 feet of sea level rise by 2100 as a mid-range scenario for Hawai'i (HSCC, 2022). The Sea Level Rise Exposure Area (SLR-XA) is a tool used extensively by state and county agencies for adaptation planning purposes. SLR-XA combines projected footprint that maps three chronic flooding hazards with a 3.2-feet sea level rise scenario: passive flooding, annual high-wave flooding, and coastal erosion, (HSCC, 2022). The Project Site is approximately 0.4 miles from the nearest shoreline and is outside of the SLR-XA.

3.7.3 FLOODING

The Federal Emergency Management Agency (FEMA) has identified Special Flood Hazard Areas or high-risk areas that are vulnerable to flooding. These Flood Hazard Areas are delineated on FEMA's Digital Flood Insurance Rate Maps (DFIRM). The Project Site falls within areas designated flood zone X. Zone X is not considered a special flood hazard zone and is described to be the area determined to be outside the 500-year flood occurrence or 0.2-percent-annual-chance of flood.

Field investigations and background data indicate that the Project Site does not contain streams, wetlands, or other active surface water features, and no evidence of flood-related hydrology was observed onsite. Although the area experiences seasonal rainfall, stormwater flows are limited to overland runoff during heavy rain events. With compliance with applicable drainage requirements and onsite stormwater management measures, the Proposed Action is not anticipated to be subject to flooding hazards. See Figure 3.6.

3.7.4 TROPICAL STORMS AND HURRICANES

The Hawaiian Islands are seasonally affected by tropical storms and hurricanes in the Pacific Ocean from June 1 to November 30. Tropical storms (winds between 39 to 73 miles per hour [mph]) are tropical cyclones that occur over tropical or subtropical oceans and gain their energy from warm ocean waters (NOAA, 2020). Characterized by high winds, heavy rainfall, and large storm surges, these tropical cyclones can have devastating impacts to coastal areas Hurricanes (wind speeds exceeding 74 mph), pose even greater hazards due to three primary elements: 1) strong winds and gusts; 2) large waves and storm surge; and 3) heavy rainfall (FEMA, 1993). Even when a hurricane does not make direct landfall on the island, its impacts can lead to beach erosion, large waves, high winds, and marine over-wash (USGS, 2002).

According to the 2024 State of Hawai'i Data Book, Kaua'i has experienced multiple powerful storms, with the major ones being Hurricane Iwa (Category 1) in November 1983 and Hurricane Iniki (Category 4) in September 1992. Hurricane Iniki was the most destructive hurricane to strike the Hawaiian Islands with estimated peak winds over Kaua'i of between 92-143 miles per hour and water-level rise along the coastline from wave forces.

It should be anticipated that due to rising ocean temperatures driven by climate change may create more favorable conditions for the development of tropical cyclones in the Pacific Ocean, resulting in storms that are more frequent, unpredictable, and intense as they approach the Hawaiian Islands.

3.7.5 TSUNAMI

The Project Site is located approximately 0.4 miles from the nearest shoreline and is outside the tsunami evacuation zone. See Figure 3.7.

3.7.6 EARTHQUAKES

No mapping of fault lines or earthquake-sensitive soil classifications have been developed for Kaua'i. The 2021 U.S. National Seismic Hazard Model for Hawai'i indicates the probability of seismic hazards

is low for the island of Kauaʻi. See Figure 3.8. Section R301.2.2.1 of the State Building Code Council's Hawaiʻi State Residential Code, identifies seismic design categories from A (very low risk) to E (very high risk). Kauaʻi has a seismic design category of "B" which indicate that buildings and structures are subject to a low to moderate seismic hazard.

3.7.7 LAVA FLOW

According to the USGS, Lava Flow Hazard Zones are divided into 9 zones, each with its own level of hazard. The zones range from high hazard (Zone 1) to low hazard (Zone 9) based on factors such as proximity to recently active vents, topography, and past volcanic activity. USGS reports no potential active volcanoes on the island of Kauaʻi and as a result there are no lava flow hazards. There are a total of six potentially active volcanoes in the State: one is located on Maui and five are located in Hawaiʻi Island.

3.7.8 WILDFIRES

Wildfires are uncontrolled fires that burn wildland vegetation, often occurring in undeveloped or rural areas. Increased wildfires in the State have been occurring from declining managed agricultural land leaving more fire-prone dry invasive grasses and shrubs, and the changing native Hawaiian wilderness to one comprised of drying grasslands. Prolonged periods of drought exacerbated from climate change also contribute to these conditions. However, the primary source of wildfire ignition is human activity, accounting for 95% of reported incidents. Undeveloped lands between Kūhiō Highway and the coastline, and south of the project area have recently been prone to wildfires.

The DLNR, Division of Forestry and Wildlife in partnership with the Hawaiʻi Wildfire Management Organization (HWMO) conducted an assessment of communities at risk from wildfire across the major Hawaiian Islands and assigned risk ratings to each community. According to the 2024 Kauaʻi Community Wildfire Protection Plan (CWPP), Anahola is classified as being at "high" risk. See Figure 3.9. Historically, Anahola has ranked among the top five communities most frequently affected by wildfires.

3.7.9 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action is not anticipated to cause adverse effects related to climate change or other natural hazards. The pre-k project area is currently dominated by invasive grasses, which are a wildfire risk during dry season. The expansion of the campus would incorporate applicable wildfire risk reduction measures, such as defensible space, site access for emergency response, and compliance with fire code requirements. With implementation of these measures, no additional mitigation is required.

3.8 HAZARDOUS MATERIALS

3.8.1 EXISTING CONDITIONS

There are no known facilities on or near the Project Site that would release contamination into the soil. The lands adjacent to the Project Site include residential development to the north, west, and east and to the south, undisturbed agricultural land. The State DOH Environmental Health Portal, administered by the Hazard Evaluation and Emergency Response (HEER) Office shows no sites or incidents in the vicinity of the Project Site.

3.8.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

Environmental Site Assessments (ESA) have been undertaken to evaluate the potential presence of hazardous substances resulting from historical agricultural activities on the parcel. The findings are as follows:

- A Phase I and II Site Assessment and Site Characterization Study conducted in 2003 identified marginally elevated concentrations of metals, specifically arsenic, chromium, iron, and manganese. However, these concentrations do not exceed EPA thresholds and are not considered a health risk. It is hypothesized that exposure to volcanic ash may account for these levels, though further analysis is required to confirm this (RMBJ Consulting, 2006).
- A Phase I ESA conducted in 2004 reported results consistent with the Site Characterization Study completed in 2003, indicating no identified environmental concerns related to hazardous materials for the parcel. The assessment also found no evidence of other hazardous substances or petroleum products that could be released into groundwater resources (RMBJ Consulting, 2006).

The Proposed Action is not anticipated to have an impact on the potential for hazardous materials at the Project Site.

3.9 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

As required by HRS §343, HRS §6E-8, HAR §13-275 and HAR §13-276, an investigation was conducted to determine if any historic, cultural, or archaeological resources are present within the Project Site. An archaeological literature review and field inspection (LRFI) was conducted by ASM Affiliates (ASM) to identify and evaluate the potential of any historic, cultural, or archaeological resources being found on the Project Site. The LRFI is included in Appendix C.

3.9.1 HISTORIC AND CULTURAL BACKGROUND

The project Site is located within the Anahola ahupua‘a and the moku (district) of Kawaihau. The name Anahola means "hourglass," while Kawihau is translated as "the ice water." Prior to being placed in Kawaihau in 1877, Anahola was within the traditional moku of Ko‘olau, (meaning “windward”) which was the common designation for an area of an island that faces the trade winds.

Pre-Contact

Historical records indicate that the Anahola region was home to a substantial and prosperous

population at the time of European contact in 1778. This demographic growth can be attributed, in part, to the abundant water resources provided by the Anahola River, the largest in the Kawaihau District, which supported the development of wetland agriculture in the surrounding area. Terraces have been identified upstream along the Anahola River, with loʻi (irrigated fields) situated approximately two to four miles inland on both the Anahola River and Kaʻalua Stream. The river delta also features terraced formations. Early voyagers noted extensive ʻulu (breadfruit) planting on the southern and leeward sides of Kauaʻi as well as many breadfruit trees in Anahola. Breadfruit was largely secondary as a staple in the diet of Native Hawaiians in addition to other staple foods such as taro or sweet potatoes.

A limited selection of moʻolelo (stories) and oli (chants) make specific reference to Anahola. The existing narratives that address Anahola primarily highlight significant landscape features within the ahupuaʻa, notably Kalalea (a mountain situated in the region) and a distinctive hole in this mountain, which is referred to as Konanae in one song.

Māhele

By the mid-1800s, increasing numbers of Westerners in Hawaii led to political, economic, and demographic changes that encouraged Euro-American land ownership. The introduction of private land ownership through the Māhele process represented a major transformation during this period. Native tenants on the lands that were initially divided up among the Crown, Konohiki (head manager of an ahupuaʻa), and Government could claim the kuleana parcels that they actively worked or lived on. The Board of Commissioners oversaw the program and administered the kuleana as Land Commission Awards (LCAs). As a result of the Māhele, the Anahola Ahupuaʻa was given to William Lunalilo. However, he relinquished the land to Kamehameha III and as a result, Anahola became Crown Land. There are no LCAs located within or near the footprint of the current project area.

Plantation Era

Until late 19th century, after the Māhele, the Anahola region transformed by the boom of commercial sugarcane cultivation. This led to the building of a landing harbor port, warehouses, a railroad, and other plantation infrastructure to support the sugarcane industry. According to a 1914 Hawaii Territory Survey Map of Anahola and Kamalomalo (HTS Plat 3003-A), the Project Site was within the immediate vicinity of the harbor buildings, warehouses, and railroad route to the west. In the 1924 Hawaiian Territory Survey map of Anahola, the landing harbor port was dismantled in 1920, and the railroad line was dismantled and replaced by a roadway in 1964.

In addition to the cultivation of sugarcane, the commercial rice and pineapple industries emerged in Anahola during the early 20th century. However, due to rising costs of production these industries experienced a decline in the 1930s.

Homesteading

Homesteading was initiated in Anahola during the 1950s to offer Native Hawaiians opportunities to lease land designated for residential and agricultural purposes. As of 2022, a total of 577 homestead leases have been granted in Anahola, making it the largest homestead community on Kauaʻi Island.

3.9.2 ARCHEOLOGICAL LITERATURE REVIEW AND FIELD INSPECTION (LRFI)

The LRFI consisted of detailed historic, cultural, and archaeological background research and a pedestrian field inspection of the Project Site by ASM on August 28, 2025 and December 26, 2025. The studies provided background on the area's early historical period, and changes to landownership and land use to the present day. More information on the ethnohistorical background of the area is available in the LRFI in Appendix C.

No previous archaeological investigations were conducted within the footprint of the Project Site. However, within 500m of the Project Site, an on-the-ground archaeological investigation and island-wide survey was conducted. Table 3.3 summarizes these previous archaeological studies. The earliest studies in Anahola were noted to be relatively brief compared to the studies of recent decades, because it was aimed at the time to cover the entire island or a large region. These earlier studies focused on surface features, instead of test excavations to identify possible subsurface features.

Table 3.3: Summary of Previous Archaeological Studies

STUDY	TYPE	FINDINGS
Bennett (1931)	Island-Wide Survey	Identified SIHP Site # 50-30-04-0113 to -0117
Monahan and Powell (2004)	Archaeological Monitoring	No properties identified.

The island-wide survey conducted by Bennett in 1931, recorded five sites in Anahola Ahupua'a, located north and west of the Project Site. These sites included:

- SIHP Site # 50-30-04-0113, Aikanaka Heiau
- SIHP Site # 50-30-04-0114, Paeaea Heiau
- SIHP Site # 50-30-04-0115, Kahua Heiau
- SIHP Site # 50-30-04-0116, dune burials
- SIHP Site # 50-30-04-0117, two lo'i

The archaeological monitoring in 2004 by Monahan and Powell resulted in no findings of cultural materials or sandy deposits along Kuhio Highway and Kukuihale Road.

3.9.3 FIELD INSPECTION RESULTS

ASM carried out a field inspection of the proposed Pre-K Facility site on August 28, 2025. A subsequent inspection was completed on December 26, 2025, focusing on the additional area designated for KPCS MPU improvements and campus expansion. A visual inspection of the entire parcel's ground surface was conducted by performing pedestrian transects oriented north to south, with intervals maintained at 10 meters. On the December 26, 2025 field inspection, the field crew plotted the locations of any previous land disturbance, conspicuous landforms, vegetation, isolated artifacts, and historic properties observed using EOS Arrow 100 Global Navigation Satellite System (GNSS) receivers—Global Positioning System (GPS) receivers.

The Project Site was observed to be previously graded and cleared of vegetation. There are few portions of the Project Site with overgrown guinea grass (*Megathyrsus maximus*) and koa haole (*Leucaena leucocephala*).

Overall, there is no evidence of previous plantation infrastructure. The level of grading suggests the potential for subsurface archaeological deposits is unlikely. No archaeological sites, features, or deposits were identified, and no subsurface sampling was conducted. As a result, an effect determination of "no historic properties affected" pursuant to HAR §13-275-7 was recommended for the Proposed Action.

3.9.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

No historic properties were identified within the project Site and previous studies have indicated that there is no evidence of traditional gathering uses or other cultural practices in the vicinity. As such, the Proposed Action would not likely impact any significant cultural, historical or archaeological resources. Rather, the project provides greater access Hawaiian immersion and perpetuation of Hawaiian culture, which will benefit cultural resources and practices.

Prior to construction, the proposing agency will consult with the SHPD, pursuant to HRS §6E-8. Should historic or archaeological sites or remains be discovered on-site, all construction work in the area would cease and the find would be protected from damage. Construction personnel would contact the SHPD who will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

Figure 3.7: Flood Zones

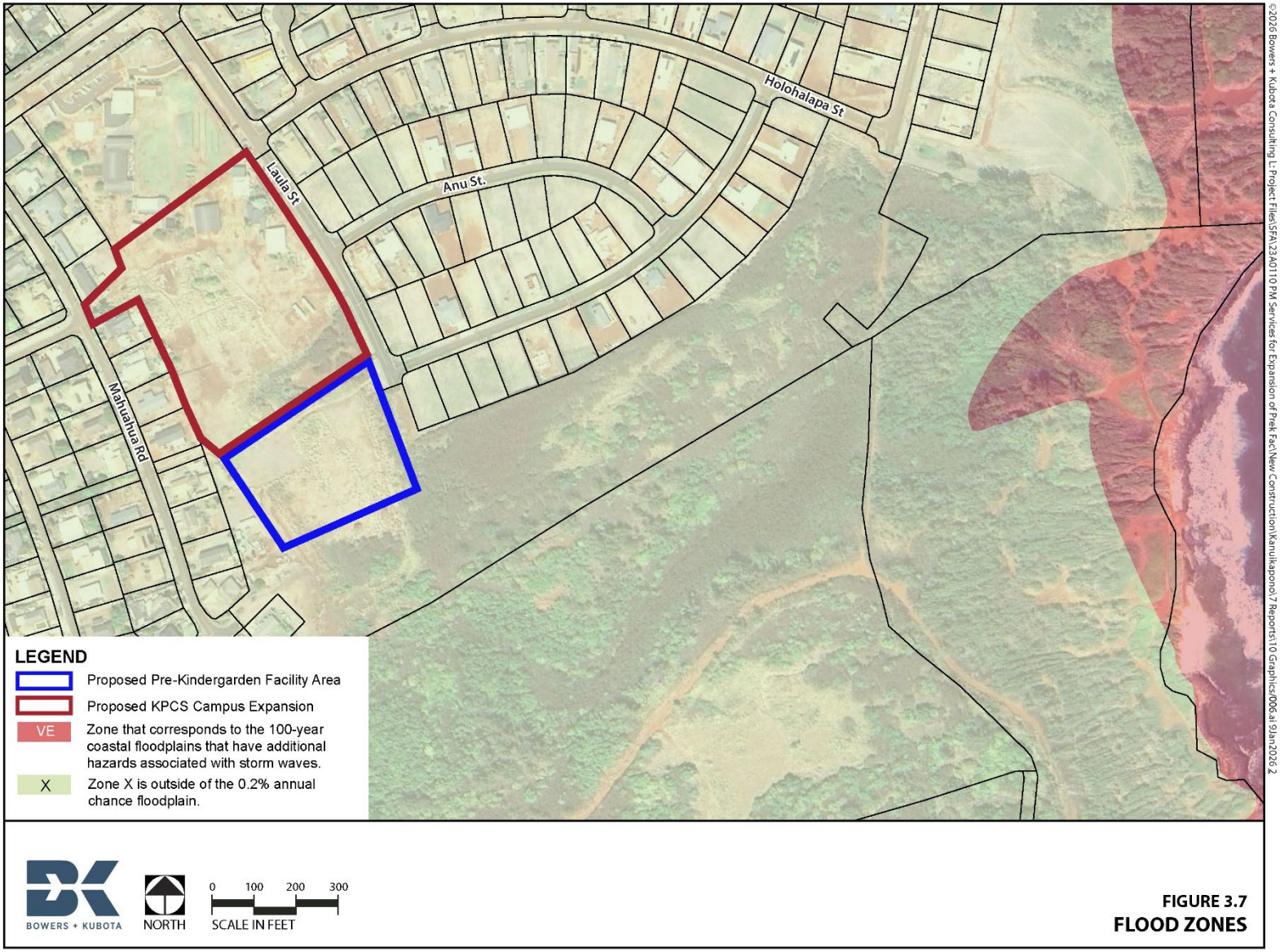


Figure 3.8: Tsunami

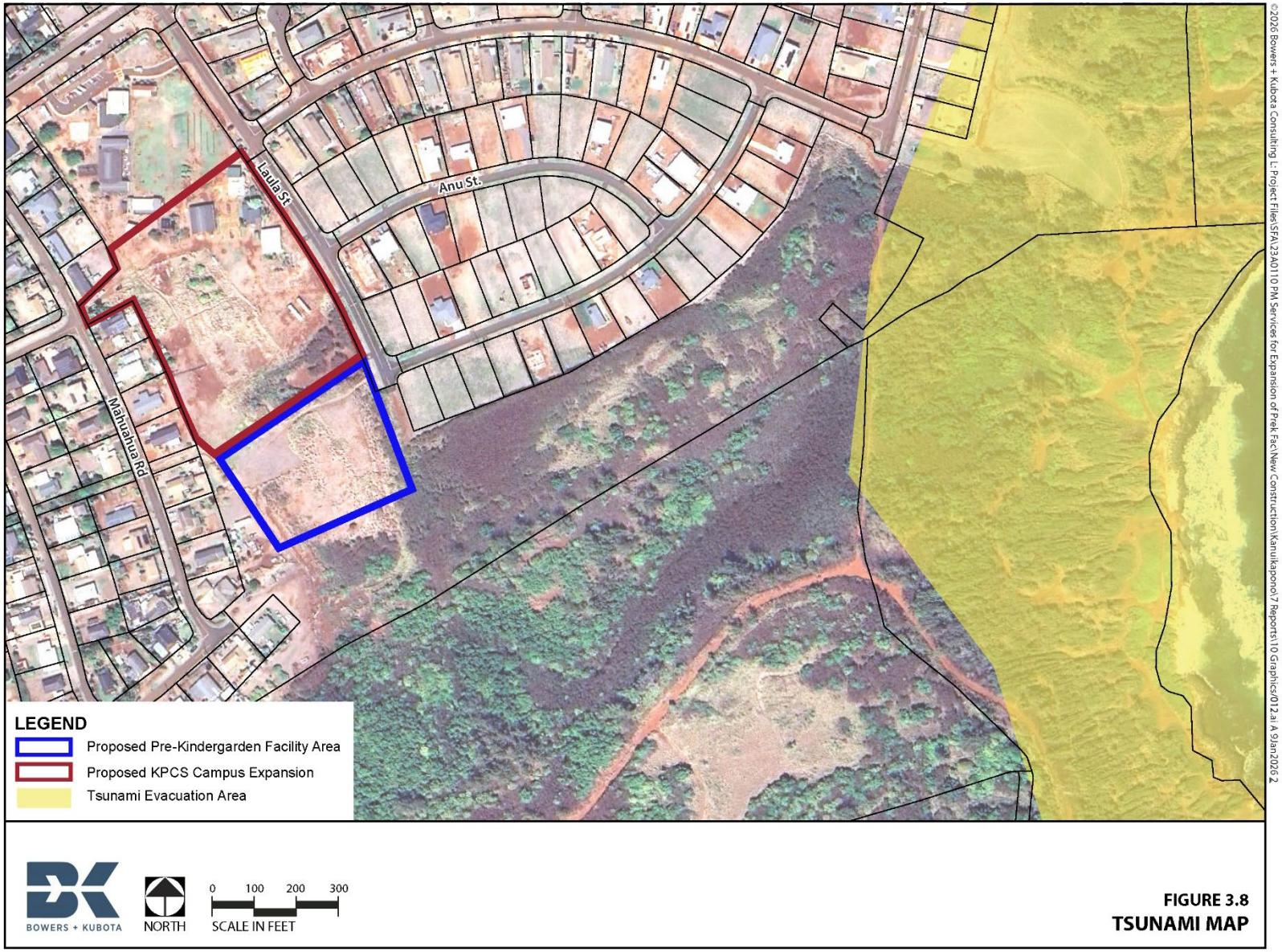
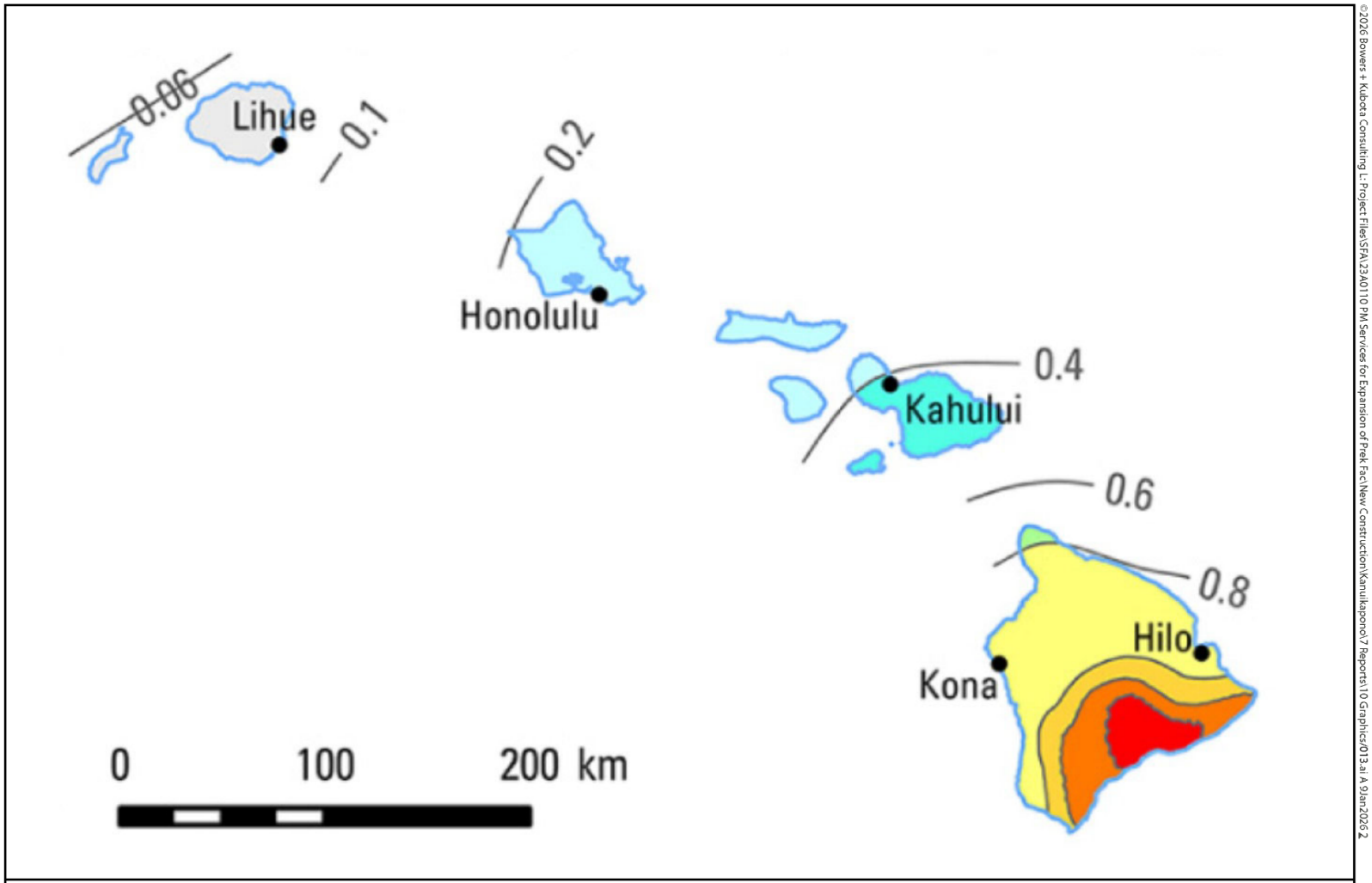


Figure 3.9: Seismic Hazard (Earthquakes)



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Figure 3.10: Wildfires

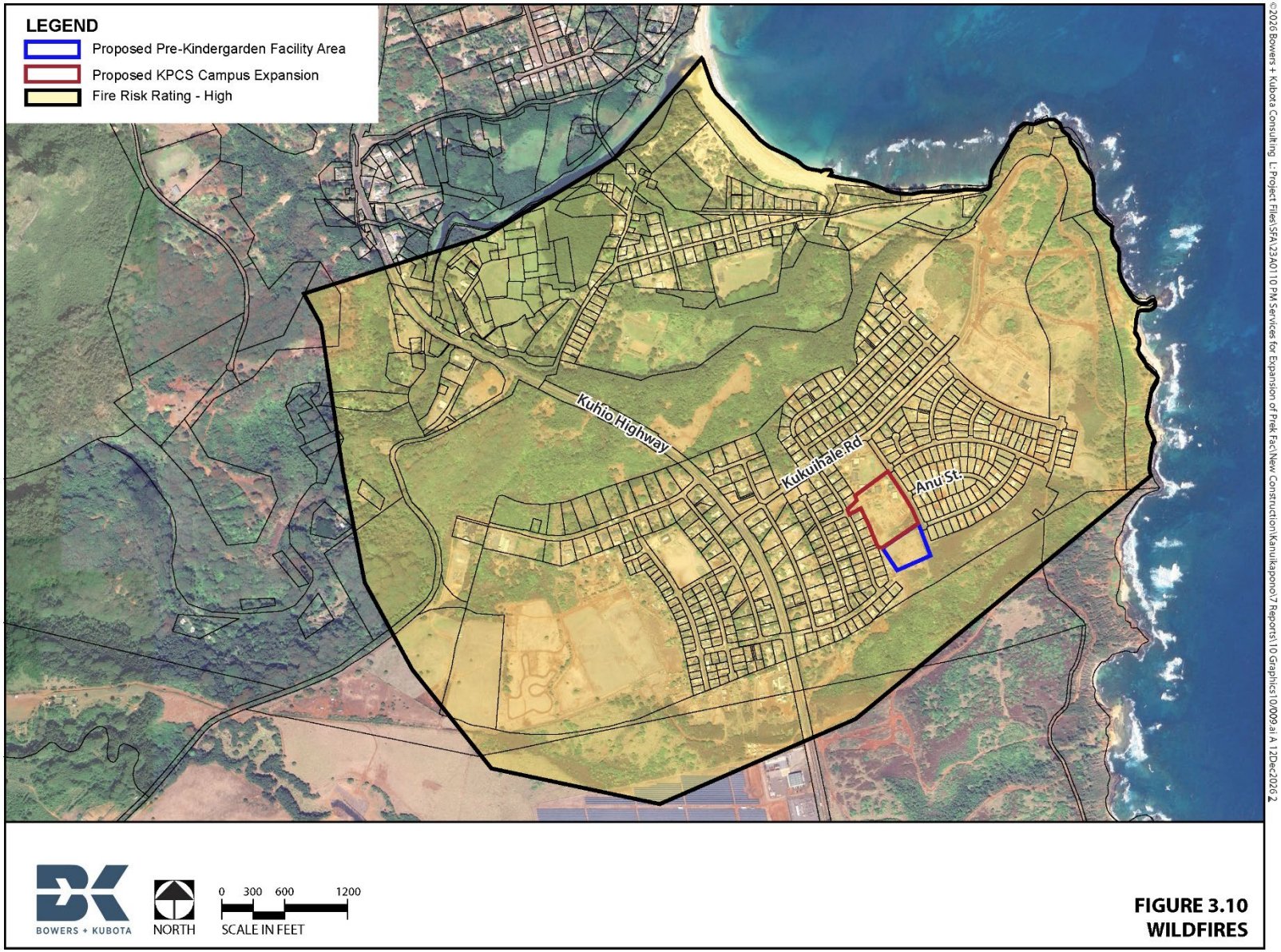
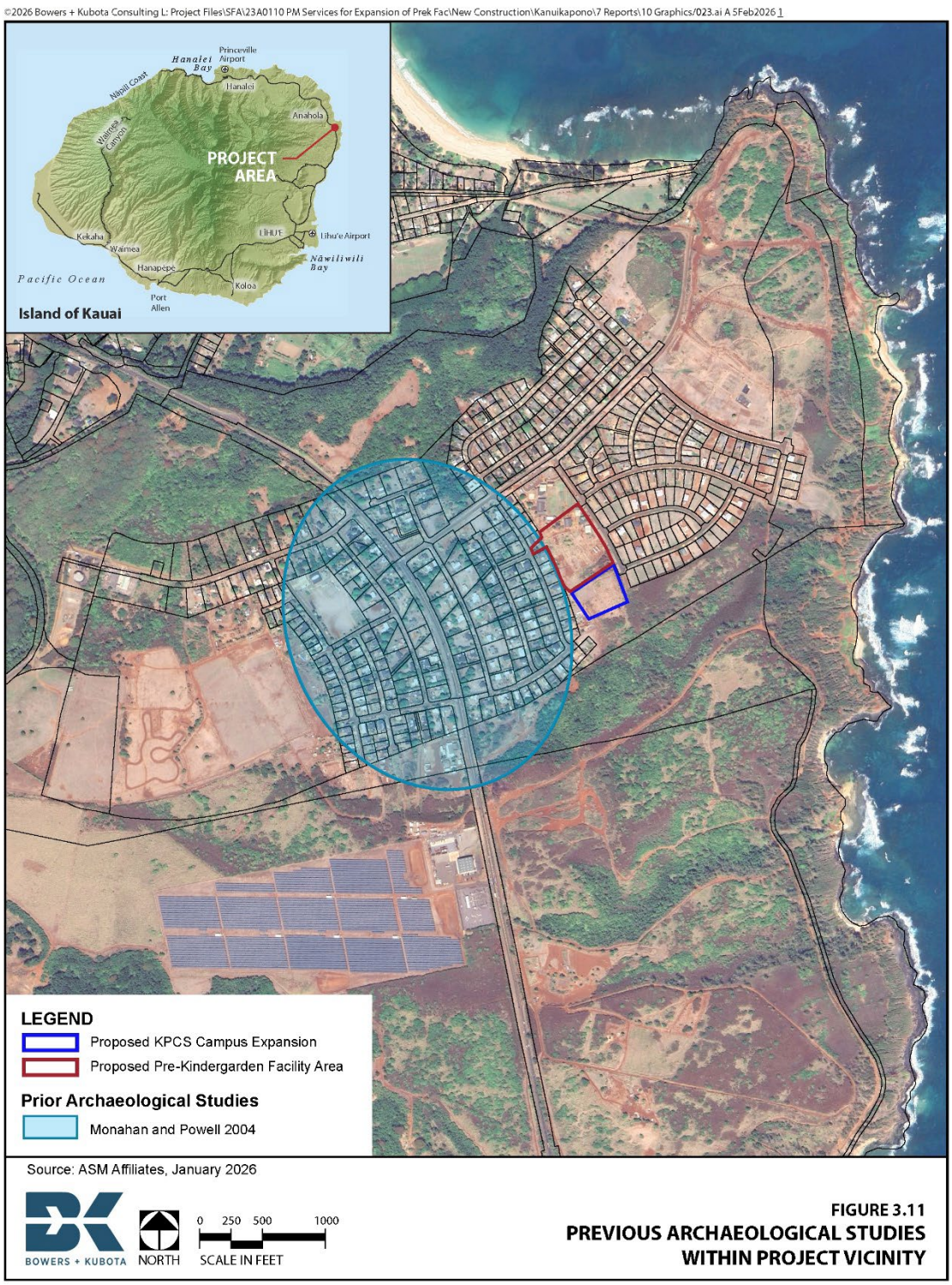


Figure 3.11: Previous Archaeological Studies Within Project Vicinity



3.10 SCENIC RESOURCES

3.10.1 EXISTING RESOURCES

The Project Site is not located near any visually sensitive areas, designated scenic resources, or areas considered significant for its scenic character under the Kaua'i County General Plan. Furthermore, the National Park Service confirms that Hawai'i does not have any rivers designated as Wild and Scenic under the National Wild and Scenic Rivers System.

The proposed development will be visible to motorists traveling along Kukuihale Road and to adjacent residences on both the east and west sides. Surrounding views from the project Site offer ocean vistas to the east and mountain views to the west.

3.10.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action would not have significant adverse impacts on scenic resources. The Pre-K facilities are designed as single-story buildings. No short- or long-term adverse impacts to scenic resources are anticipated during construction or operation of the Proposed Action and no additional mitigation measures are required.

3.11 TRANSPORTATION FACILITIES

A Traffic Impact Analysis Report (TIAR) was prepared to evaluate existing traffic patterns within the local traffic roadway network, as well as the projected impacts to the local traffic roadway network from the Proposed Action. Refer to Appendix D for additional details. The TIAR was developed by Community Planning and Engineering, Inc. in compliance with the Highway Capacity Manual, 7th Edition (HCM). Traffic count data (pedestrian traffic, crossing the roadways, and bicycle traffic) were collected on May 6, 2025. A summary of the key findings is presented below.

3.11.1 EXISTING ROADWAY AND FACILITIES

Regional access to the Project Site is provided by Kuhio Highway. Kukuihale Road is the collector road that connects the following local roads to Kuhio Highway: Makaio Road, Mahuahua Road, and Laula Street. Description of these roadways and its facilities are provided below:

- Kuhio Highway is a state-owned regional roadway consisting of two lanes supporting two-way traffic. The designated speed limit along this route is 35 mph.

- Kukuihale Road, owned by DHHL, is a two-lane, two-way street running east-west. It extends from Kuhio Highway to Anahola Beach Park on the eastern end and serves as the main link between the nearby neighborhood and Kuhio Highway. The posted speed limit is 25 mph.

- Makaio Road, Mahuahua Road, and Laula Street are owned by DHHL and all comprise of a two-lane road that runs north to south and allows traffic in both directions. These roadways connect nearby residencies to Kukuihale Road and have a speed limit of 25 mph.

- Pedestrian and bicycle facilities are absent along Kukuihale Road, Makaio Road, Mahuahua Road, and Laula Street; such amenities are available only on Kuhio Highway. Kukuihale Road, Makaio Road, Mahuahua Road, and Laula Street have grassed shoulders of which are in which DHHL's right-of-way and serve as informal pedestrian walking paths or vehicle parking areas.

3.11.2 EXISTING TRAFFIC CONDITIONS

To identify the traffic impacts associated with traffic demands during the peak periods of traffic, traffic conditions were analyzed and based on the concept of Level of Service (LOS). LOS is defined by LOS "A", free-flow traffic to LOS "F", congested traffic as presented in Table 3.4.

Table 3.4 Level of Service Descriptions

LOS	GENERAL DESCRIPTION	ACCEPTABILITY
A	Free-flow traffic	Ideal
B	Reasonable free-flow traffic	Satisfactory
C	Stable or near free-flow traffic	Satisfactory
D	Approaching unstable traffic flow	Acceptable
E	Unstable traffic flow	Unsatisfactory
F	Congestion/Forced traffic flow	Unacceptable

Turning movement traffic count surveys were collected during the weekday AM and PM peak periods of traffic at the following intersections:

- Kuhio Highway and Kukuihale Road
- Kukuihale Road and Makaio Road
- Kukuihale Road and Mahuahua Road
- Kukuihale Road and Laula Street

The existing peak hour of traffic during the AM occurred between 7:15 AM and 8:15 AM and during the PM between 3:45 PM and 4:45 PM. Majority of the roadways have a LOS B, reasonable free-flow traffic as shown in Table 3.5. The intersection that is near-optimal capacity (LOS "C"), is the westbound left-turns at the unsignalized intersection of Kuhio Highway and Kukuihale Road during the AM and PM peak hours.

In proximity to the Project Site, the unsignalized intersection of Kukuihale Road and Laula Street, the northbound west turn/through movement/right turn approaches approach of Laula Street operates at LOS "A" during the AM and PM peak hours.

The existing peak hour traffic volumes are depicted in Figure 3.12.

Figure 3.12: Existing Peak Hour Traffic Volumes



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Table 3.5 Existing Traffic Conditions

NORTH-SOUTH STREET ORIENTATION	EAST-WEST STREET ORIENTATION	APPROACH MOVEMENT	LOS AM PEAK HOUR	LOS PM PEAK HOUR
Kuhio Highway	Kukuihale Road	Southbound Left Turn	A	A
		Westbound Left Turn	C	C
		Westbound Right Turn	B	B
Makaio Road	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	B
Mahuahua Roard	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	A
Laula Street	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	A	A

3.11.3 FUTURE TRAFFIC CONDITIONS WITHOUT THE PROPOSED ACTION

Future traffic conditions without the Proposed Action considered the Federal-Aid Highways 2035 Transportation Plan for the District of Kaua`i (TPDK) and the surrounding development growth of the Piilani Mai Ke Kai Subdivision and Ulupono Anahola Development.

The TPDK contains long-range travel forecasts for Kaua`i based upon future socio-economic data. It is projected that the annual growth rate in vehicle trips in East Kaua`i is 0.7 %. In addition, annual growth rate of 1.0 % was applied to estimate background regional traffic growth and 1.0 % applied to the traffic volumes along Kuhio Highway.

The 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual was referenced to forecast the estimated number of trips that will be generated by the full build-out of the Piilani Mai Ke Kai Subdivision. The total estimated number of trips (entering and existing the Subdivision) from the Piilani Mai Ke Kai Subdivision would be approximately 89 during the AM peak hour and 83 during the PM peak hours. The TIAR completed in 2022 for the Ulupono Anahola Development estimated 20 directional trips to be generated on Kukuihale Road during the week day AM and PM peak hours.

Based on the TPDK and surrounding development growth, the projected traffic impact resulted in a decrease of LOS during the AM and PM peak hour for the following intersections:

- Westbound left-turns at the unsignalized intersection of Kuhio Highway and Kukuihale Road during AM peak hour is projected to be a LOS "D", approaching unstable traffic flow.

- Northbound approaches at the unsignalized intersection of Kukuihale Road and Laula Street near the Proposed Action are projected to go from an LOS "A" to "B".

Table 3.6 highlights the intersections with a decrease in LOS for the future traffic conditions and Figure 3.13 identifies the projected peak hour traffic volumes.

Table 3.6 Future (2029) Traffic Conditions – Without Proposed Action

NORTH-SOUTH STREET ORIENTATION	EAST-WEST STREET ORIENTATION	APPROACH MOVEMENT	LOS DURING AM PEAK HOUR	LOS DURING PM PEAK HOUR
Kuhio Highway	Kukuihale Road	Southbound Left Turn	A	A
		Westbound Left Turn	D	C
		Westbound Right Turn	B	B
Makaio Road	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	B
Mahuahua Road	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	A
Laula Street	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B

3.11.4 FUTURE TRAFFIC CONDITIONS WITH THE PROPOSED ACTION

The proposed expansion of the existing KPCS campus is expected to serve KPCS students with additional gathering areas, classrooms, and learning areas. As such, the proposed expansion of the KPCS campus is not expected to generate additional external trips to the project site. Thus the trip generation characteristics for the Kanuikapono Pre-K facility were based upon the ITE trip rates for a daycare center. It is expected to generate totals of 61 vph and 61 vph, during the AM and PM peak hours of traffic, respectively. The future traffic volumes with the Proposed Action volumes includes the future traffic volumes without the Proposed Action volumes plus the project related trips.

Some students attending the proposed pre-kindergarten facility are expected to have family and siblings that already attend the adjacent KPCS. These families are expected to drop-off both KPCS students and pre-kindergarten students simultaneously, thus not generating an additional vehicle trip. However, for the purpose of this TIAR, all trips are conservatively assumed to be vehicle trips generated from outside the surrounding area that enter and exit Kukuihale Road via Kūhiō Highway.

The traffic impact for this scenario resulted in a further decrease of LOS for the following intersections:

- Westbound left-turns at the unsignalized intersection of Kuhio Highway and Kukuihale Road is projected to be a LOS "D" during the PM peak hour.

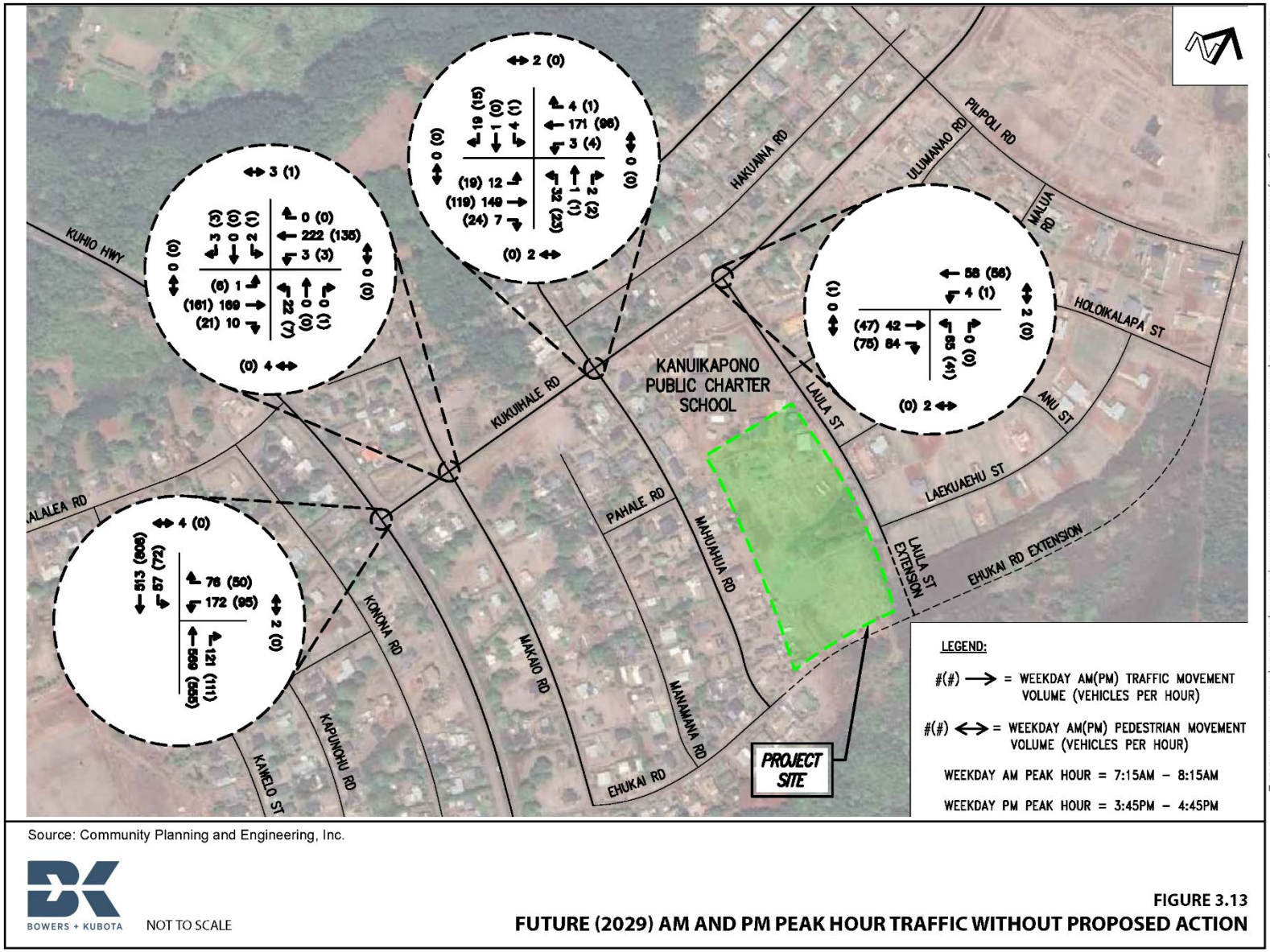
Under the Future (2029) With Project conditions, turning movements at the intersection of Kūhiō Highway and Kukuihale Road are expected to operate similar to Future (2029) Without Project conditions during the AM peak hour. During the PM peak hour, the southbound left-turn and westbound right-turn movements are expected to operate similar to existing conditions. The westbound left-turn movement is expected to operate at LOS D, approaching unstable traffic flow, compared to the expected LOS C under Future (2029) Without Project conditions. All other intersections are expected to operate similar to Future (2029) Without Project conditions.

Table 3.7 highlights the intersections with changes to LOS for future traffic conditions and Figure 3.14 identifies the projected peak hour traffic volumes.

Table 3.7 Future (2029) Traffic Conditions – With Proposed Action

NORTH-SOUTH STREET ORIENTATION	EAST-WEST STREET ORIENTATION	APPROACH MOVEMENT	LOS DURING AM PEAK HOUR	LOS DURING PM PEAK HOUR
Kuhio Highway	Kukuihale Road	Southbound Left Turn	A	A
		Westbound Left Turn	D	D
		Westbound Right Turn	B	B
Makaio Road	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	B
Mahuahua Road	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B
		Southbound Left Turn/Through Movement/Right Turn	B	A
Laula Street	Kukuihale Road	Northbound Left Turn/Through Movement/Right Turn	B	B

Figure 3.13: Future (2029) AM and PM Peak Hour Traffic without Proposed Action



Source: Community Planning and Engineering, Inc.

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FIGURE 3.13
FUTURE (2029) AM AND PM PEAK HOUR TRAFFIC WITHOUT PROPOSED ACTION

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Figure 3.14: Future (2029) AM and PM Peak Hour Traffic with Proposed Action



Source: Community Planning and Engineering, Inc.

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NOT TO SCALE

FIGURE 3.14
FUTURE (2029) AM AND PM PEAK HOUR TRAFFIC WITH PROPOSED ACTION

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3.11.5 MULTIMODAL ACCESS

An assessment of multimodal access via pedestrian, bicycle, and transit facilities in the vicinity of the Proposed Action was conducted.

The proposed project is expected to generate a limited number of pedestrian trips from the surrounding neighborhood. The surrounding roadway network consists of rural, low-volume local streets with no existing pedestrian facilities. Users walking to the Project Site are expected to use the grassed shoulders of the local roadway network, similar to existing conditions. Although few, if any, pedestrian trips are anticipated, it is recommended that the grassed shoulders fronting the Project Site are cleared and leveled to support informal pedestrian activity, similar to the existing grassed shoulders of the surrounding roadway network. The internal site layout will include walkways and a designated drop-off area to facilitate safe pedestrian movement between parked vehicles and school buildings. These on-site accommodations are expected to adequately address pedestrian safety and circulation needs associated with the facility.

Similar to pedestrians, the proposed Project Site is expected to generate a limited number of bicycle trips from the surrounding neighborhood. The surrounding roadway network consists of rural, low volume local streets with no existing bicycle facilities. Bicyclists traveling to the Project Site are expected to share the roadway with motorists. Given the nature of the proposed preschool development, any bicycle trips to the Project Site are expected to be limited primarily to staff or guardians. No modifications for the existing transportation system are recommended to address project-related bicycle trips.

The nearest public transit service is provided by the Kauai Bus, with stops located near the intersection of Kuhio Highway and Kukuihale Road. These bus stops are served by Kauai Bus Route 500, which runs between Lihue and Hanalei. While staff or parents may choose to use transit, the project is not expected to generate significant transit demand. Any additional transit demand should be accommodated by the existing bus service. No modifications for the existing transportation system are recommended to address project-related transit trips.

3.11.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

The analysis determined that the turning movements for the intersections of Kukuihale Road and Makaio Road, Kukuihale Road and Mahuahua Road, and Kukui Hale Road and Laula Street are expected to operate at LOS B or better during the AM and PM peak hours. At the intersection of Kuhio Highway and Kukuihale Road, delay is expected to slightly increase for the westbound left-turn movement.

The westbound left-turn movement currently operates at LOS C during the AM and PM peak hours. Under Future (2029) Without Project conditions, the movement is expected to operate at LOS D during the AM peak hour, and LOS C during the PM peak hour. Under Future (2029) With Project conditions, the movement is expected to operate at LOS D during both AM and PM peak hours.

The multimodal analysis found that the proposed project will have no significant impact to any existing pedestrian, bicycle, or transit facilities. Therefore, the proposed project is not expected to have significant impact on the local traffic roadway network.

Lastly, the TIAR also recommends the existing shoulders fronting the Project Site be cleared and leveled to allow for informal pedestrian travel to the area.

3.12 PUBLIC INFRASTRUCTURE AND PRIVATE UTILIITIES

The Proposed Action includes the construction of private utilities to service the proposed facilities. These utilities include wastewater, water, drainage, solid waste, electrical, and telecommunication infrastructure.

3.12.1 WATER

The County of Kauaʻi Department of Water (DOW) provides water service to the Kawaihau service area, which includes Anahola, Moloaʻa, and Kapaʻa-Wailua. DOW does not operate, maintain, or own a non-potable system on the island.

DHHL and DOW operate wells and storage facilities in Anahola. KPCS has secured from DHHL water credit agreement for installation of a water meter on the project site. The Proposed Action would require extension of the water lines on Laula Street to provide a safe and reliable water source, and adequate fire protection for the Project Site and surrounding community.

3.12.2 WASTEWATER

Anahola is not currently serviced by a municipal wastewater treatment system. The nearest sewer along Kuhio Highway in the Wailua and Kapaa corridor.

At KPCS, there is an existing 1,500-gallon septic tank that supports a demand of approximately 800 gallons per day (RMBJ Consulting, 2006). Plans for a new 11,000-gallon septic tank at the central area of the parcel have been approved by the State Wastewater Branch in September 2023 and the system is anticipated to complete installation in 2026. Wastewater generated on campus, including the Pre-K Facility, is anticipated to be treated by the new system. The existing 1,500-gallon septic tank is planned to be reused to support the proposed commercial kitchen. The private sewage disposal system meets the requirements of the Department of Public Works and the requirements of Chapter 57 of the Public Health Regulations of the State Department of Health.

3.12.3 DRAINAGE

Stormwater drainage is of natural occurring surface drainage as there are no existing drainage facilities on site. The drainage at the Project Site flows generally in an easterly direction toward the ocean. The Project Site and its surrounding area is designated Zone X (areas determined to be outside the 500-year flood plain) by the Flood Insurance Rate Map.

There is an existing 24-inch drain line that runs along Laula Street and several existing drain inlets on both sides of the street. The Proposed Action would design drainage improvements to ensure no

increased runoff toward adjacent properties and uses. At a minimum, proposed drainage improvements will be designed in compliance with the County's *Storm Water Runoff System Manual* (DPW, 2001).

3.12.4 SOLID WASTE DISPOSAL SERVICES

Solid waste services are provided by County of Kaua'i Public Works Department – Solid Waste Division, which operates the County's only landfill in Kekaha (located southwest of the island).

The County also operates four refuse transfer stations with the nearest being the Kapa'a Refuse Transfer Center, located 5 miles away from the project area.

3.12.5 ELECTRICAL AND TELECOMMUNICATION FACILITIES

The Kaua'i Island Utility Cooperative (KIUC) supplies electricity for the County of Kaua'i and telecommunication services are provided by Sandwich Isles Communication, and Hawaiian Telcom. These utilities are available from lines located along Kuhio Highway. Existing electrical lines runs overhead along Laula Street and communication lines run overhead along Kukuihale Road.

The Proposed Action includes construction of new underground electrical and telecom service.

3.12.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Proposed Action is not expected to significantly affect the demand for public facilities or infrastructure. Once fully operational, the Proposed Pre-K Facility is projected to accommodate up to 92 individuals daily, resulting in an estimated water and wastewater demand of 5,220 gallons per day. Water and wastewater demand in regard to the projects of the KPCS MPU will be further coordinated with the appropriate agencies prior to implementation which is dependent upon availability of funds.

To manage stormwater, the project includes drainage enhancements—such as catch basins, grading, and landscaping—to prevent increased runoff to adjacent properties and to support filtration and detention of stormwater. During the construction phase, solid waste generated from construction materials being sent to the Kekaha Landfill may have short-term impacts. The project would have minimal short-term construction-related effects on the County's water system and supply. Such water use would likely be associated with BMP measures such as watering developed site conditions to minimize erosion, seeding landscaping improvements, and BMPs for trucks and vehicles accessing the site (e.g., cleaning tires of debris).

The Proposed Action would have no anticipated long-term adverse impacts on public infrastructure and no additional mitigation measures are recommended.

3.13 PUBLIC SERVICES

See Figure 3.12 for locations of police stations, fire stations, educational facilities, medical services, and parks and recreation areas in relation to the Project area.

3.13.1 EDUCATIONAL FACILITIES

The Project Site is located within the Hawai'i Department of Education's (HDOE) Kapa'a- Kaua'i-Waimea School Complex Area, which includes nine elementary schools, three middle schools and three high schools. The schools nearest to the Project Site are Kapa'a High School, Kapa'a Middle School, and Kapa'a Elementary School, which are located approximately 3.8 to 5.6 miles south of the Project Site.

The two private schools nearest to the Project Site, located to the south, are Kamehameha Kapa'a Preschool (now operating on the former St. Catherine's campus) and Kahili Adventist School.

3.13.2 RECREATIONAL FACILITIES

Recreational facilities near the Project Site include: Anahola Hawaiian Homes Park, Anahola Village Park, Anahola Beach Park, and Lae Lipoa Beach. These parks are located north and approximately one mile away. These public recreational facilities would not be affected by the Proposed Action.

3.13.3 POLICE AND FIRE PROTECTION

The Kaua'i Police Department is divided into three districts: Lihue, Kawaihau, and Waimea. The Project Site is within the Kawaihau District which cover from Kapa'a to the Northshore. The Kapa'a Police Substation is nearest to the Project Site located at 4670 Kahau Street, approximately 5 miles south off of Kuhio Highway.

There are eight fire stations across Kaua'i. The fire station closest to the Project Site is the Kaiakea Station 8, which is located at 4-1881 Kuhio Highway in Kapa'a, approximately 5 miles from the Project Site. According to the National Fire Protection Association (NFPA) 1710 standards, the travel time for first responders should be within 240 seconds (4 minutes) for fire suppression incidents. For low and medium hazard incidents, the initial full alarm assignment should arrive within 480 seconds (8 minutes). For high hazard/high-rise incidents, within 610 seconds (10 minutes, 10 seconds). Given the proximity, the response time from Kapa'a to the Project Site is likely to be within this range, assuming normal traffic conditions and readiness.

3.13.4 MEDICAL SERVICES

The closest health care and emergency facility to the Project Site is the Samuel Mahelona Memorial Hospital located at 4800 Kawaihau Road in Kapa'a. The hospital is designated as a Critical Access Hospital by the Centers for Medicare and Medicaid Services and is equipped to provide 24-hour emergency care. Samuel Mahelona Memorial Hospital is approximately 4.7 miles south of the Project Site and an estimated 10-minute drive according to Google Maps and assuming light traffic.

3.13.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

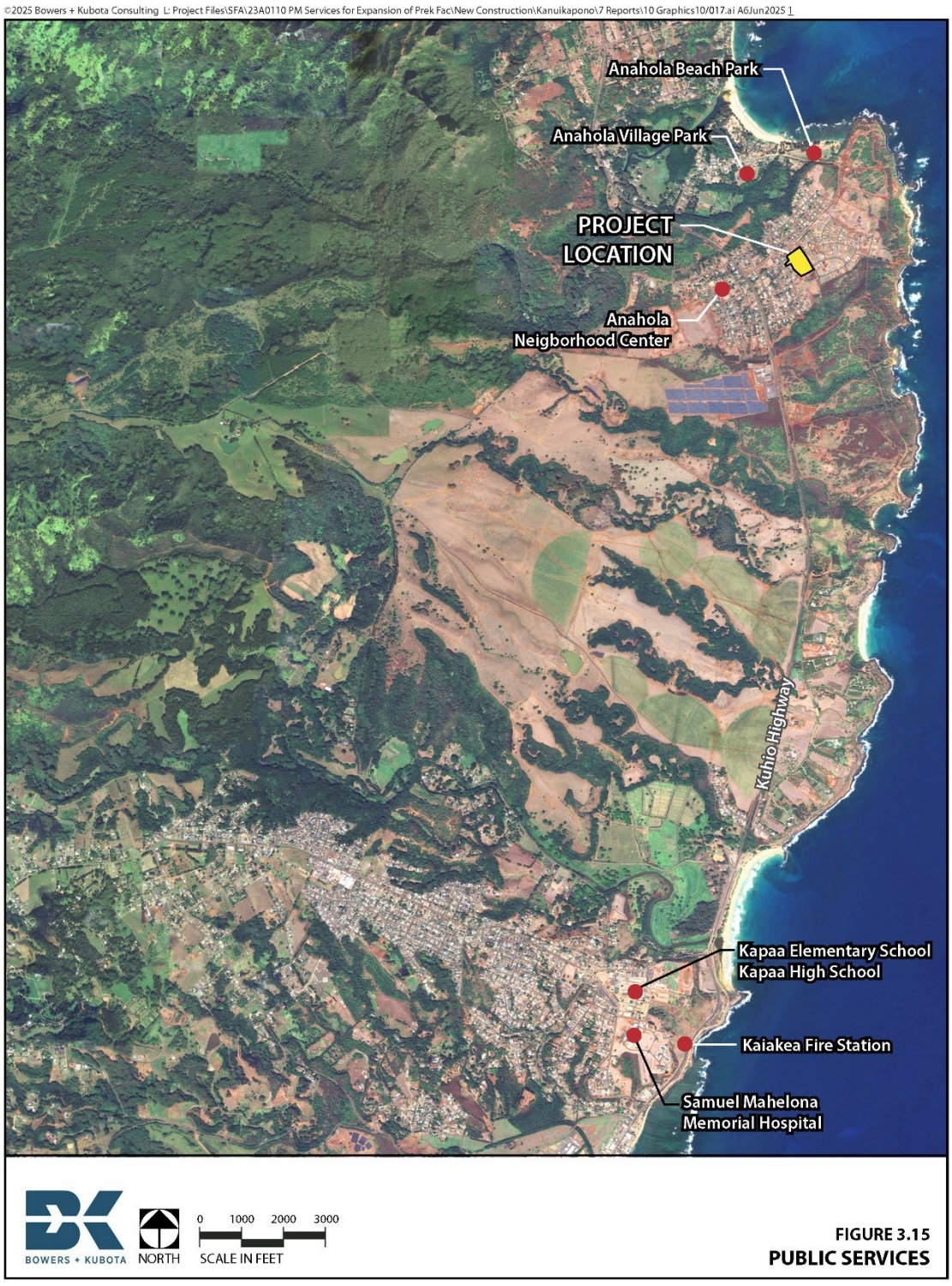
The Proposed Action would have a positive beneficial impact on the education system by providing additional access to early childhood education in Anahola especially with the relocation of Kamehameha Preschool to Kapa'a.

The Proposed Action is unlikely to affect the police and fire departments' ability to deliver protective services or interfere with their operations in the long term.

Additionally, since the proposal does not introduce new housing or other land uses that would increase the local population, it should not have long-term effects on medical or recreational facilities.

Overall, there may be minimal short-term noise impacts to the existing KPCS campus north of the parcel as discussed in Section 3.5.2, however, the construction noise would not likely impact other educational facilities that are farther away. As discussed in Section 3.4.2 BMPs in design plans would also include specifications to minimize the discharge of air pollutants during construction.

Figure 3.15: Public Services



3.14 SOCIOECONOMIC CHARACTERISTICS

3.14.1 OVERVIEW

According to the Department of Business Economic Development and Tourism (DBEDT), the population in Kaua'i County as of July 1, 2024 accounts for approximately 5% of the State's population. In the past decade, Kaua'i County's population has increased from 70,869 to 73,840, a 5% growth. By 2050, the population is anticipated to reach 85,180 residents (DEBDT, 2024).

As shown in Figure 3.13, the Project Site is located within the Anahola Census Designated Place (CDP). Anahola CDP has about 3,098 residents, making up 4.2% of Kaua'i County's population of around 73,840 (U.S. Census Bureau). Table 3.6 provides details on the population and socioeconomic characteristics of the Anahola CDP and Kaua'i County.

Table 3.8: Socioeconomic Profile, Anahola CDP

Characteristic	Anahola CDP	Kaua'i County
Resident Population	3,098	73,840
Median Age	40	43 years
% of Population Under 18	25.2 %	20.8 %
% of Population 65 or Older	22.2 %	24.7%
% of Population by Ethnicity		
White Alone	14 %	32 %
Asian Alone	5 %	29 %
Native Hawaiian and Other Pacific Islander	39 %	10 %
Two or More Races	41 %	27 %
Civilian Unemployment Rate	3.7 %	2.9 %
People Below the Poverty Level	9.9 %	7.4 %
Median Household Income	$96,207	$98,128
Housing Units	828	30,770
Owner Occupied	90 %	65 %
Average Household Size	3.9	3.1
Median Value of Owner-Occupied Unit	$119,100	$214,600
High School Diploma or Higher	52.6 %	94.7 %
Bachelor's Degree or Higher	15.1%	27.8%

The median age in the Anahola CDP is 40 years, reflecting a balanced mix of age groups. About 25.2% of the population is under 18 years old, while 22.2% are 65 years and older. According to the U.S. Census Bureau, 7.2% of Anahola's population is under 5 years old, which translates to around 222 preschool-age children near the Project Site.

Anahola is ethnically diverse with nearly 41% of residents claiming two or more races in the U.S. Census. Single-ethnicity population is 5% Asian, 14% White, 39% Native Hawaiian or Other Pacific Islander.

Median household income in the Anahola CDP is $96,207. However, approximately 9.9% of the population lives below the poverty line. Employment in Anahola spans various sectors, with a civilian unemployment rate of 3.7% and civilian labor force participation rate of 51.4%. Key industries in the area include accommodation and food services at 20%, retail trade at 13.9%, and construction at 13.4%.

Education is a strong focus in Anahola, with 52.6% of individuals aged 25 and over having at least a high school diploma, and 15.1% holding a bachelor's degree or higher.

The Proposed Action is located within the KPCS campus, which enrolls approximately 200 students. Prior to its relocation, Kamehameha Preschools served approximately 50-60 students, ages 3 and 4 in Anahola. According to the HDOE, in the school year 2025-2026 KPCS' eligibility for Title I federal financial assistance is based on minimum poverty threshold of 70.68% (Hawaii DOE, 2025) .

3.14.2 Potential Effects and Proposed Mitigation

The Proposed Action expands the school campus and does not include any residential development. As such, the Proposed Action would not have a direct impact on population change within the County or CDP. It would create temporary employment opportunities during construction and long-term employment and teacher training opportunities through the preschool and community-based school model. The State of Hawai'i Keiki Ready Initiative estimates that there are 6,737 unserved children of preschool age (3-4 years old). The Proposed Action would provide beneficial impacts in providing greater access to early childhood education within Anahola.

3.15 SECONDARY AND CUMULATIVE IMPACTS

3.15.1 Secondary Effects

Secondary effects, also referred to as indirect effects or secondary impacts, are effects caused by an action that is later in time or farther removed in distance but is still reasonably foreseeable as defined under Hawai'i Administrative Rules Title 11-200.1-2 (2019). A secondary effect may include a growth-inducing effect and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems, including ecosystems. Secondary impact assessments are concerned with impacts that are sufficiently "likely" to occur and not with the speculation of any impact that can be conceived of or imagined.

The Project would not result in secondary impacts that would have significant or adverse long-term impacts on the natural and human environment including ecosystems, social-economic conditions, infrastructure, or public facilities. The implementation of the KPCS MPU projects and construction of the Pre-K facility would not contribute to growth inducing effects or changes to resident population densities.

Once in operation, the Project may provide beneficial secondary economic effects associated with greater access to preschool education. Research shows that the economic benefits of expanding preschool access are substantial. Children from low- to middle-income households who attend preschool can expect to earn an additional $2,400 to $4,700 in annual income at age 35 (UHERO, 2024).

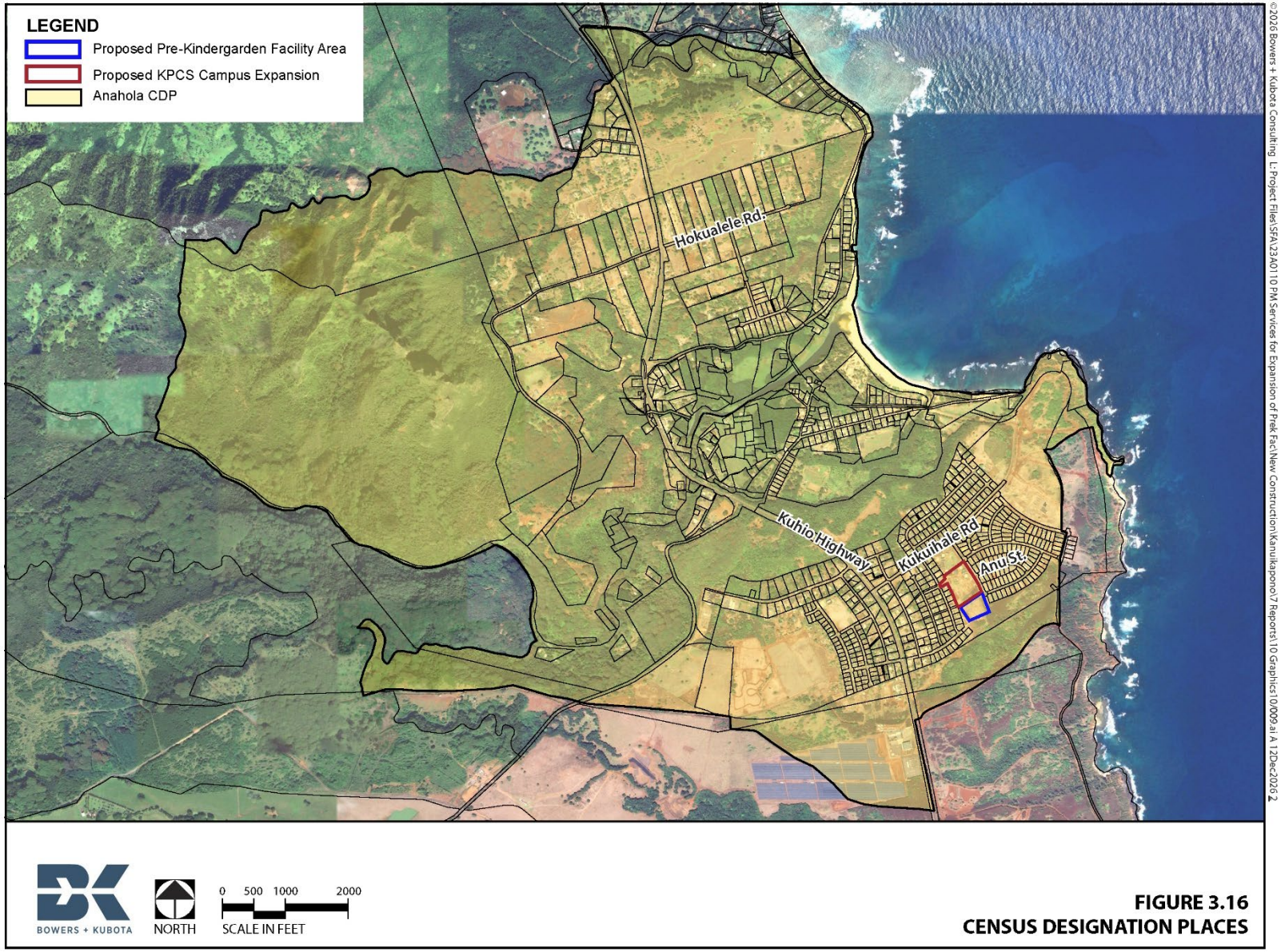
3.15.2 CUMULATIVE IMPACTS

"Cumulative Impact" as defined in HAR §11-200.1-2 is the impact on the environment that 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 the other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time associated with the analysis horizon. The focus is on "reasonably foreseeable" actions that are those likely to occur or probable rather than those that are merely possible or subject to speculation. The prediction of reasonably foreseeable impacts thus requires judgment based on information obtained from reliable sources such as approved development plans and land use entitlements received.

The primary reasonably foreseeable development in the vicinity of the Project Site is the Pi'ilani Mai Ke Kai residential development, located east of the Proposed Action. All 131 residential lots within the existing phases of Pi'ilani Mai Ke Kai have been awarded by DHHL. A third and final phase of this development is planned, which would add approximately 42 additional residential lots and include the extension of Laulā Street and 'Ehukai Road, both of which border the Project Site. Construction of this final phase is anticipated to occur within the next five years, subject to funding availability and completion of required approvals.

When considered cumulatively, the Pi'ilani Mai Ke Kai final phase and the Proposed Action would incrementally contribute to localized increases in traffic volumes, utility demand, and construction activity in the Anahola area. These potential cumulative effects have been evaluated in the relevant sections of this Draft EA, including transportation (Section 3.11), public infrastructure and utilities (Section 3.12), and hydrology and drainage (Section 3.4). As documented in those sections, the roadway network, infrastructure systems, and public services serving the Project Site are expected to operate within acceptable service levels under future conditions, and no substantial degradation of system performance is anticipated. The Proposed Action would not result in a substantial increase in resident population, as it does not include residential development, and while the Pi'ilani Mai Ke Kai final phase would introduce additional households to the area, this growth has already been contemplated through DHHL's planning process and does not represent an unanticipated or growth-inducing condition. Any short-term construction-related impacts would be temporary in nature and mitigated through compliance with County codes, State permits, and best management practices, and the combined effect of these actions is not expected to result in significant cumulative impacts to public services, schools, emergency response, or community facilities serving Anahola.

Figure 3.16: Census Designation Places



4.0 RELATIONSHIP TO PLANS AND POLICIES

As a requirement of HAR §11-200.1-18 (2019), this section provides a description of the relationship and compatibility of the Proposed Action to other land use plans and policies. This section discusses the proposed project's conformance with pertinent State and County land use plans and policies, which include the State Land Use District regulations, State Environmental Policy (Chapter 344, HRS), and the regulations, policies, and goals set forth by the County's General Plan, and Special Management Area (Chapter 205A, HRS).

4.1 STATE OF HAWAI'I

4.1.1 HAWAI'I STATE PLAN (HRS §226)

The Hawai'i State Plan, as amended, is a broad policy document that guides all activities, programs and decisions made by State and local agencies by establishing a set of themes, goals, objectives and policies meant to guide the State's long-term growth and development. The purpose of the plan is to: (1) improve the planning process; (2) increase the effectiveness of government and private actions; (3) improve coordination among agencies and levels of government; (4) provide for the use of Hawai'i's resources; and (5) guide the future development of the state.

Part I of the Plan references the Overall Theme, Goals, Objectives and Policies and Part III references the Priority Guidelines; because Part II pertains primarily to internal government affairs it is not applicable to the Proposed Action and was not addressed. Table 4.1 summarizes the 107 sections that comprise HRS §226 and identifies seven sections that are directly applicable to the Proposed Action.

Table 4.1: Summary of Applicability of HRS §226 to the Proposed Action

HRS Chapter 226 Hawai'i State Planning Act	Applicability to Proposed Action
Part I. Overall Theme, Goals, Objectives, and Policies	
§226-4 State Goals	**Applicable**
§226-5 Objective and policies for population	**Applicable**
§226-6 Objectives and policies for the economy--in general	Not applicable
§226-7 Objectives and policies for the economy--agriculture	Not applicable
§226-8 Objective and policies for the economy--visitor industry	Not applicable
§226-9 Objective and policies for the economy--federal expenditures	Not applicable
§226-10 Objective and policies for the economy--potential growth and innovative activities	Not applicable
§226-10.5 Objectives and policies for the economy--information industry	Not applicable
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources	Not applicable

HRS Chapter 226 Hawai'i State Planning Act	Applicability to Proposed Action
§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources	Not applicable
§226-13 Objectives and policies for the physical environment--land, air, and water quality	Not applicable
§226-14 Objective and policies for facility systems--in general	Not applicable
§226-15 Objectives and policies for facility systems--solid and liquid wastes	Not applicable
§226-16 Objective and policies for facility systems--water	Not applicable
§226-17 Objectives and policies for facility systems--transportation	Not applicable
§226-18 Objectives and policies for facility systems--energy	Not applicable
§226-18.5 Objectives and policies for facility systems-telecommunications	Not applicable
§226-19 Objectives and policies for socio-cultural advancement--housing	Not applicable
§226-20 Objectives and policies for socio-cultural advancement--health	**Applicable**
§226-21 Objective and policies for socio-cultural advancement--education	**Applicable**
§226-22 Objective and policies for socio-cultural advancement--social services	**Applicable**
§226-23 Objective and policies for socio-cultural advancement--leisure	Not applicable
§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being	Not applicable
§226-25 Objective and policies for socio-cultural advancement--culture	**Applicable**
§226-26 Objective and policies for socio-cultural advancement--public safety	Not applicable
§226-27 Objective and policies for socio-cultural advancement--government	Not applicable
Part III. Priority Guidelines	
§226-103 Economic priority guidelines	Not applicable
§226-104 Population growth and land resources priority guidelines	Not applicable
§226-105 Crime and criminal justice	Not applicable
§226-106 Affordable housing	Not applicable
§226-107 Quality education	**Applicable**
§226-108 Sustainability	Not applicable
§226-109 Climate change adaptation priority guidelines	Not applicable

The applicable objectives and policies are discussed below.

HRS §226-4 State Goals

(a) In order to ensure, for 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 Hawai'i's present and future generations.
>
> (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.

Discussion: The Proposed Action is consistent with the State Goals above. The project supports these principles and values as the Proposed Pre-kindergarten facilities will provide high quality free Hawaiian immersion early childhood education opportunities for local families. Research finds that expanding access to early childhood education has a plethora of benefits. Children who attend preschool are less likely to repeat grades, need special education services, and have higher high school graduation rates. They also tend to have higher earnings in adulthood.

HRS §226-5 Objective and policies for population

(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 of the State Plan.

(b) To achieve the population objective, it shall be the policy of this State to:

> (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.
>
> (3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.

Discussion: The Proposed Action provides early childhood education opportunities to support the demand from the continued population growth of the Anahola region as a result of major developments near the Proposed Action which include the Pi'ilani Mai Ke Kai residential subdivision and the Anahola Kuleana Homestead Settlement Plan. This initiative is particularly important given that Kamehameha Preschool previously served as the only preschool in the area. The Proposed Action would also provide a space for organizations to collaborate and share knowledge, resources, and information on 'āina -and placed based education opportunities for youth and families in Anahola.

HRS §226-20 Objectives and policies for socio-cultural advancement-health

(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:

(3) Elimination of health disparities by identifying and addressing social determinants of health.

(b) To achieve the health objectives, it shall be the policy of this State to:

(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.

Discussion: The Proposed Action increases access to preschool education, which has been shown to address social determinants of health and help eliminate health disparities, especially among lower-income families. High-quality preschool programs foster cognitive and emotional development, which are crucial for long-term health outcome.

HRS §226-21 Objective and policies for socio-cultural advancement-education

(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.

(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 Hawai‘i's cultural heritage.

(5) Provide higher educational opportunities that enable Hawai‘i's people to adapt to changing employment demands.

(8) Emphasize quality educational programs in Hawai‘i's institutions to promote academic excellence.

Discussion: The Proposed Action is directly applicable to the socio-cultural and educational advancement policies in the State Plan. Act 46 and the Ready Keiki program seek to address these policies by setting the goal of universal access to preschool education in the State of Hawai‘i. The initiative ensures adequate educational services and facilities, supports children with special needs, and promotes academic excellence. Additionally, it offers higher educational opportunities for future educators, helping Hawai‘i's workforce adapt to changing employment demands. Overall, Ready

Keiki aims to foster a comprehensive and inclusive educational environment that supports the development and well-being of all children in Hawai‘i.

HRS §226-22 Objective and policies for socio-cultural advancement-social services

(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.

(b) To achieve the social service objective, it shall be the policy of the State to:

> (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 Hawai‘i's communities.

Discussion: The Proposed Action is an example of public and private partnership to use public funds to develop the necessary facilities to facilitate increased access to preschool education and work with private and non-profit partners to administer a free early childhood education program specifically aimed to address the needs of the local population, especially Native Hawaiian residents. The Proposed Action also provide workforce development benefits, which may translate to great self-sufficiency, improving individuals and families well-being.

HRS §226-25 Objective and policies for socio-cultural advancement-culture

(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 Hawai‘i's people.

(b) To achieve the culture objective, it shall be the policy of this State to:

> (1) Foster increased knowledge and understanding of Hawai‘i's ethnic and cultural heritages and the history of Hawai‘i.
>
> (2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai‘i'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 Hawai‘i.
>
> (4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai‘i's people and visitors.

Discussion:. The Proposed Action supports the DHHL priority projects to establish an Anahola Place-Based Education Network in which organizations can collaborate and share knowledge, resources, and information on ‘āina -and placed based education opportunities for youth and families in Anahola.

HRS §226-107 Quality Education

Priority guidelines to promote quality education:

> (7) Develop resources and programs for early childhood education;
>
> (8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and
>
> (9) Strengthen and expand educational programs and services for students with special needs.

Discussion: The Proposed Project is an important piece of the overall Ready Keiki Initiative, which aims to provide preschool access for all 3- and 4-year-olds in Hawai'i by 2032. The Proposed Action addresses the need for early childhood education in Anahola after Kamehameha Preschool, previously the only preschool serving about 50–60 children aged 3 to 4, closed and relocated to Kapa'a in June 2024.

4.1.2 HAWAI'I STATE LAND USE DISTRICTS (HRS §205)

The Hawai'i State Legislature adopted the State Land Use Law, codified as HRS §205, in 1961 to establish an overall framework of land use management. The purpose of this law is to protect Hawai'i's valuable lands from development that resulted in short-term gains at the detriment to the long-term growth potential of the State's economy. HRS §205 classified all lands within the State in one of four land use districts: Urban, Agricultural, Conservation, or Rural. The State Land Use Commission (LUC) was established to administer HRS §205 and is responsible for the designated land use districts and preserving and protecting Hawai'i's lands.

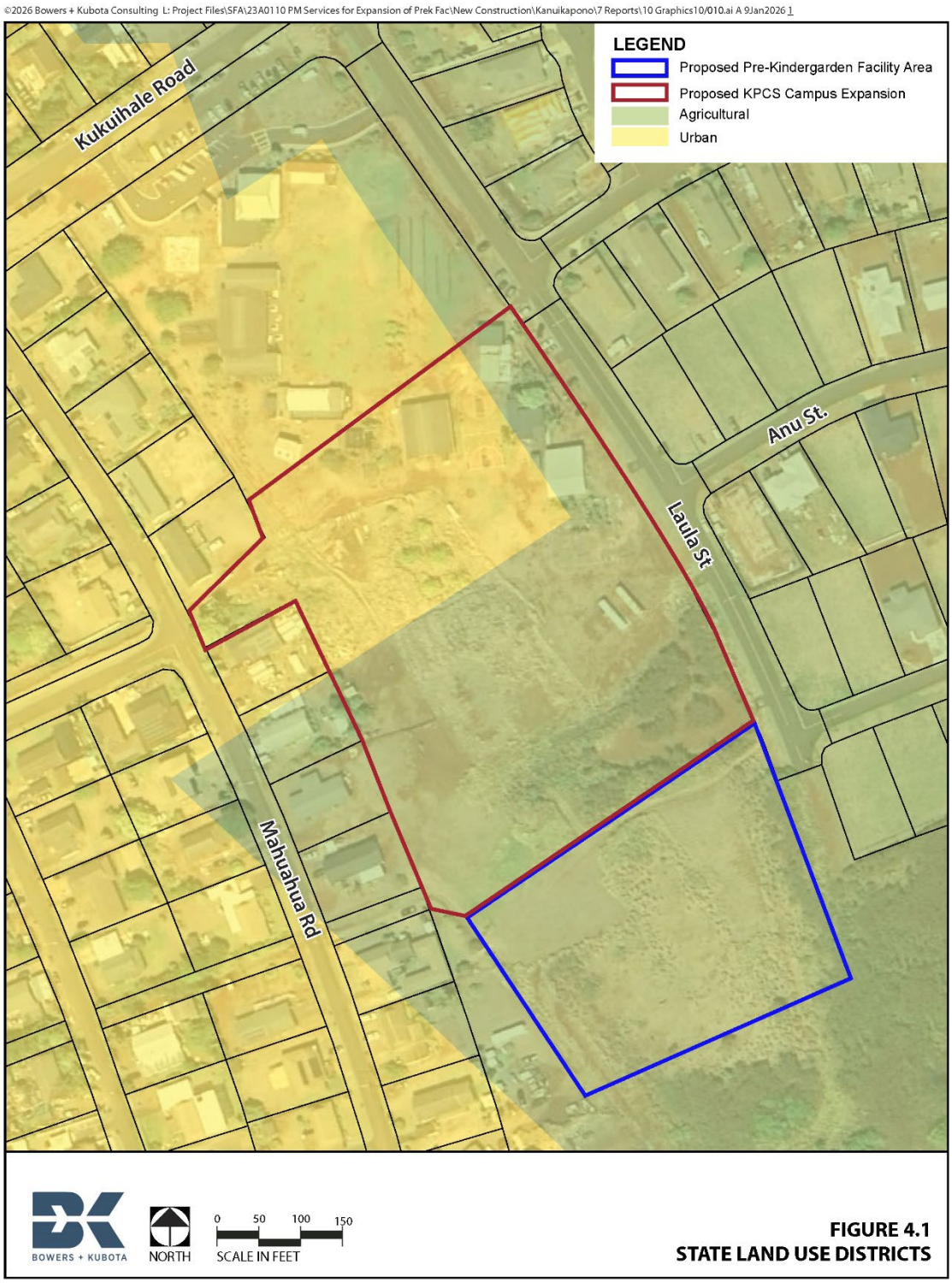
Discussion: As shown in Figure 4.1 The Proposed Action is within the State's Agricultural District which is characterized by land that supports agricultural production and rural open space. Per the Hawaiian Homes Commission Act of 1920, as amended, the Hawaiian Homes Commission has sole land use and zoning authority over Hawaiian Home Lands.

4.1.3 THE STATE ENVIRONMENTAL POLICY (HRS §344)

HRS § 344 establishes the State environmental policy that (1) encourages productive and enjoyable harmony between people and their environment, (2) promotes efforts that will prevent or eliminate damage to the environment and biosphere, (3) stimulates the health and welfare of humanity, and (4) enriches the understanding of the ecological systems and natural resources important to the people of Hawai'i.

Discussion: The Proposed Action adheres to the policies and direction provided under HRS §344 by way of this Environmental Assessment. The Proposed Action would not result in adverse impacts to the State's natural resources and environmental characteristics and proposes mitigation measures where necessary to minimize or eliminate potential impacts, as discussed in Section 3.

Figure 4.1: State Land Use Districts



4.1.4 STATE COASTAL ZONE MANAGEMENT PROGRAM (HRS §205A)

The Hawai'i Coastal Zone Management (CZM) Program was enacted in 1977 through the passage of HRS Chapter 205A. Administered by the State Office of Planning and Sustainable Development, the purpose of the CZM Program is to provide effective management, beneficial use, protection, and development of the lands within the coastal zone. Because there is no point of land more than 30 miles from the ocean, a definite land-sea connection exists throughout the state, thus the CZM area encompasses the entire State. As such, the Proposed Action is located within the CZM area.

Each of the four counties in Hawai'i are responsible for administering the program for their jurisdiction through the Special Management Area (SMA) permitting system. The SMA was established to regulate any use, activity, or operation of all "developments" along the shoreline to preserve, protect, and where possible, to restore the natural resources of the coastal zone, and that they comply with CZM objectives, policies, and guidelines. SMA boundaries are delineated for each county as areas where development needs to be regulated to protect coastal resources. The Proposed Action is not within the SMA.

The Proposed Action is consistent with the following objectives and policies of the Hawai'i CZM Program:

1.) Recreational Resources

Objectives: Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:

> (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
>
> (ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;
>
> (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
>
> (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
>
> (v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
>
> (vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

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

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

Discussion: The Proposed Action is not located on the coastline and does not impact shoreline recreational resources; therefore, policies regarding shoreline recreational resources are not applicable. The project would require an NPDES Permit, which requires compliance with BMPs during construction to minimize soil erosion into adjacent waterways and to maintain water quality during operation in order to comply with State water quality standards to protect coastal waters.

2.) Historic Resources

Objectives: 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.

Discussion: As discussed in Section 3.9, the Proposed Action is not expected to significantly impact historic resources. A LRFI was conducted and no historic properties were found near within the Project Site.

3.) Scenic and Open Space Resources

Objectives: 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.

Discussion: The Proposed Action is not located on the coastline and is not in an area with "valued scenic resources."

4.) Coastal Ecosystems

Objectives: 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;

Discussion: The Proposed Action includes earth-moving activities but does not include any work within existing streams or waterways. The project would require an NPDES Permit, which requires compliance with BMPs during construction to minimize soil erosion into adjacent waterways and to maintain water quality during operation in order to comply with State water quality standards to protect coastal waters.

5.) Economic Uses

Objectives: 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.

Discussion: The Proposed Action does not involve coastal development.

6.) Coastal Hazards

Objectives: 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;

Discussion: The Proposed Action is located away from areas exposed to coastal hazards. The Proposed Action would be designed using the International Building Code, 2018 Edition (IBC, 2018) to ensure it can withstand potential impacts from natural hazards.

7.) Managing Development

Objectives: 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;

Discussion: The Proposed Action does not involve coastal development. As previously discussed, BMPs would be utilized to minimize impacts due to stormwater runoff and erosion during construction. The project would also obtain all necessary development permits and approvals listed in Section 5. The EA review process requires public notification and allows public agencies and stakeholders to respond with any comments or concerns regarding the Proposed Action.

8.) Public Participation

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

Policies:
(A) Promote public involvement in coastal zone management processes;

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion: The EA review process requires public notification and allows for public agencies and stakeholders to respond with any comments or concerns regarding the Proposed Action.

9.) Beach 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.

Discussion: The Proposed Action does not involve coastal development, shoreline hardening, or activities that would directly impact coastal resources and interfere with natural shoreline processes.

10.) Marine and Coastal Resources

Objectives: (A) 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.

Discussion: The project does not include the use of marine or coastal resources and is not expected to directly impact coastal resources. This EA addressed the affected environment and analyzed the likely environmental impact from the project which would not have significant effects on the environment. BMPs discussed in various sections would be utilized to minimize impacts to marine and coastal resources due to construction-generated stormwater runoff and erosion.

4.2 DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) PLANS

DHHL's planning system includes three tiers. The first tier (Tier 1) is the General Plan, which identifies statewide goals and policies to guide land management and programs. Tier 2 includes Strategic Program Plans, which focus on statewide programs and policies, as well as Island Plans with longer-term, island-specific land use goals based on the General Plan. Tier 3 includes Regional Plans and Area Development Plans, which identify and address issues and opportunities relative to existing homestead communities and future development in that region.

4.2.1 DHHL GENERAL PLAN

The DHHL General Plan Update was adopted in 2022 as an update of the DHHL General Plan, which was initially adopted in 2002. The DHHL General Plan sets the vision and establishes goals and policies to guide the discussions and decision-making of the Hawaiian Homes Commission and the DHHL plans, programs, and policies for the next 20 years, taking the Trust to the planning horizon of 2040. The DHHL General Plan Update includes seven (7) priority topic areas under which goals, policies and monitoring and evaluation metrics are identified. The priority topic areas include:

- Land Use and Water Resources
- Infrastructure
- Housing
- Food Production
- Healthy Communities
- Natural and Cultural Resource Management
- Revenue Generation and Economic Development

The following section includes discussion of the Proposed Action's consistency with applicable goals and policies of the Health Communities priority in the DHHL General Plan Update:

Healthy Communities (HC)

Goal HC-2: Establish livable, sustainable, resilient, and healthy communities on Hawaiian home lands that provide space for or access to the amenities that serve the daily needs of its residents.

Policies:

- H2-2A: Partner with homestead communities, non-profits, government agencies, and ali‘i trusts to provide needed services to communities.
- H2-2C: Incorporate community planning principles to design homestead communities that are welcoming, safe, and foster a sense of place and community.
- H2-2E: Incorporate green infrastructure and low impact development principles in future homestead communities to manage stormwater in a way that promotes green, open spaces within homestead communities to the extent possible.
- H2-2F: Incorporate complete streets, Safe Routes to School, and other features to increase the safety and attractiveness of walking, biking, and transit in future homestead communities when possible.

Discussion: The Proposed Action is supported by various government agencies and non-profit organizations as it provides the needed service of early child education in Anahola. In addition, the Proposed Action supports the access to healthy built, social, economic, and natural environment which is a community planning principle. The Proposed Action will include green infrastructure within the campus and incorporate Safe Routes to School via access road and drop-off areas.

4.2.2 KAUA‘I ISLAND PLAN

The project is located on Hawaiian Home Lands on Kaua‘i and as such, it must adhere to land use guidelines provided in the DHHL Kaua‘i Island Plan (KIP). The KIP (2004) provides guidance for the overall land use patterns and development of DHHL on Kaua‘i for the next 20 years. The Proposed Action is consistent with the “Community Use” land use designation which includes *“a variety of community uses such as parks and open spaces, cultural centers, CBED projects, schools, camping areas, meeting pavilions, social service centers, cemeteries, and other amenities.”*

There are approximately 30 acres of Community Use lands in the adjacent Pi‘ilani Mai Ke Kai residential subdivision that have been developed as residential lots. During the master planning process for that subdivision, the community use area was adjusted and the area where the current KPCS campus is located operates as a Community Use. In 2022, a nearby project, the Kukulu Kumuhana o Anahola Ulupono Anahola Project, successfully petition the HHC to re-allocate 10 acres of the area currently designated for Community Use, the Ulupono Anahola Project site, which also adjacent to Pi‘ilani Mai Ke Kai subdivision. During the next Island Plan update, the Land Use Plan will be reevaluated to ensure that there is no net loss of Residential Homestead acreage in the area.

Discussion: The Proposed Action supports KIP’s goal/objective of providing areas for community use.

4.2.3 ANAHOLA REGIONAL PLAN

DHHL’s Anahola Regional Plan was initially adopted in 2010 and was updated in 2022. The purpose of the plan is to identify key issues facing the Anahola, Kamalomalo‘o, and Moloa‘a communities, prioritize solutions, and implementation strategy for a 2- to 4-year horizon. The Regional Plan provides opportunities to: build a sense of community and capacity, stimulate partnerships for

development and improvements, and give beneficiaries within the region an opportunity to work together and collaborate with DHHL in planning for their future. The Regional Plan identifies 5 priority projects:

1. Surface Water Resources Management (Non-Potable)
2. Hōʻākeolapono Trades Academy and Institute: Home Building Resources Center
3. Makai Management Plan
4. Anahola Place-Based Education Network
5. Mauka Farm Lot Plan

Discussion: The Proposed Action supports the Anahola Regional Plan's Priority Project of establishing an Anahola Place-Based Education Network. The implementation of a community-based school and services model would provide a space for organizations to collaborate and share knowledge, resources, and information. The addition of the Pre-K facility will expand access to ʻāina -and placed based education opportunities for youth and families in Anahola, particularly for early childhood education.

4.3 COUNTY OF KAUAʻI

4.3.1 COMPREHENSIVE ZONING ORDINANCE FOR THE COUNTY OF KAUAʻI

The Kauaʻi County Comprehensive Zoning Ordinance is defined in Title IV County Planning and Land Development, Chapter 8. As shown in Figure 4.2, majority of the Project area are located within an Agricultural (AG) district and a portion located southwest of the parcel is designated Residential (R-4) District.

Discussion: Hawaiian home lands are not subject to County zoning ordinance designations.

4.3.2 KAUAʻI COUNTY GENERAL PLAN

The 2018 County of Kauaʻi General Plan provides a guiding policy framework on the growth, land use, and development issues of the island. The plan aims to enhance and improve County's physical and natural environment and overall quality of life. The General Plan identifies:

- 4 vision and goals of the desired long-range outcome
- 19 policies to address the issues most important to Kauaʻi residents in the face of existing issues and future growth. These policies guide objectives and actions and inform the future land use map
- 8 goals for Community Planning of East Kauaʻi
- 10 sectors that represent important areas to be addressed when planning Kauaʻi's growth and development as well as proposed actions.

The visions, goals, policies, and sectors most relevant to the Proposed Action are discussed below:

Overall General Plan Vision and Goals

Goal 1: A Sustainable Island - Growing responsibly to meet the needs of current and future generations without depleting resources.

Goal 3: A Healthy and Resilient People - Increasing health, vitality, and resilience of communities through improving the natural, built, and social environment and responding to impacts from climate change.

Goal 4: An Equitable Place, With Opportunity for All- Fostering diverse and equitable communities with vibrant economies, access to jobs and housing, and a high quality of life.

Policies to Guide Growth

Policy #4: Design Healthy and Complete Neighborhoods - Ensure new and existing neighborhoods have safe roads and functional parks, as well as access to jobs, commerce, transit, and public services.

Policy #17: Nurture Our Keiki – Value youth as Kaua'i's most treasured resource. Provide them with safe communities, great schools and facilities, and financially sustainable jobs, housing, and transportation opportunities so they are able to seek livelihoods on Kaua'i.

Policy #19: Communicate with Aloha – Kaua'i's residents care about planning and decision-making. Government must share information, encourage input, improve public processes, and be responsive.

Goals for Community Planning of East Kaua'i

Goal#8: Support DHHL's Island General Plan and Anahola Plan

Action: Improve collaboration between the County, DHHL, and other stakeholders

Actions by Sector

Sector 10: Opportunity and Health for All

1. Social Equity: Social Equity is critical in promoting healthy and diverse communities on Kaua'i. We can achieve this by expanding access to economic opportunity, quality education, affordable housing, and health services, and ensuring that no racial or income group is unfairly disadvantaged**.**

1.1 Celebrating Kaua'i's Diversity by Addressing Equity Issues

1.3 Strengthening Community Networks

Actions Supporting Social Equity

C. Project and Program:

C.1 Develop funding sources to expand, improve, and maintain high-quality transportation, water, parks, broadband, and other infrastructure in underserved neighborhoods.

D. Partnerships:

D.1 Ensure low-income students receive quality public education through strategies including comprehensive, place-based cradle-to-career initiatives.

D.2: Support reform to school disciplinary policies to keep youth in school and on track to graduate.

2. Access to Quality Education and Training: The policy to nurture our keiki demands a strong, comprehensive, and quality education system. A positive educational experience encourages children to become lifelong learners who contribute to their communities and the world. Ultimately, education must provide our children, teens, college students, and adults with the knowledge and skills needed to obtain a well-paying job on Kauaʻi.

2.1 Increasing Access to Early Education and Care

2.2 Providing Quality Education and Facilities from K-12

2.3 Improving K-12 Education beyond the Classroom

2.5 Supporting the Language, Culture, and Knowledge of Kauaʻi

Actions to Supporting Quality Education and Training

A. Permitting and Code Changes

A1. For large residential projects and in new communities, ensure the development of adequate school facilities, either at existing schools or at new school sites.

A.3. Support the use, expansion, and development of family childcare homes, preschools, parent/child kindergarten readiness programs, and charter schools.

B. Projects and Programs

B1. Prioritize pedestrian, bicycle, and road safety improvements around and adjacent to schools.

C. Partnership Needs

C.1 Treat schools as community resources for learning about specialized environmental, cultural, and historic subjects pertinent to Kauaʻi.

C.2 Support community use of schools during non-school hours, such as recreational centers, meeting facilities, and emergency shelters.

C.3 Design school facilities to facility community use during non-school hours.

C.4 Retrofit existing facilities and design and construct new schools to serve as hurricane shelters.

C.6 Continue and expand the Safe Routes to School program to encourage healthy, safe, and active living.

C.8 Support both public and private education programs that emphasize the Hawaiian language and Native Hawaiian culture, science, and practices.

Discussion: DHHL as well as HISFA, KPCS and project partners will work with the County of Kauaʻi to ensure the Proposed Action is compatible with the long-range plan for the community and region. However, pursuant to the HHCA §206, Hawaiian home lands are not subject to zoning or other land use controls by the County.

4.3.3 KAPAʻA WAILUA DEVELOPMENT PLAN AND THE EAST KAUAʻI COMMUNITY AND CIRCULATION PLAN

The existing community plan covering the Anahola area is the Kapaʻa Wailua Development Plan (KWDP) which was adopted in December 1973. Currently, the East Kauaʻi Community and Circulation Plan (EKCCP) is being developed to update the KWDP. The planning process for the EKCCP is anticipated to span until Summer 2026.

The goals and objectives of the KWDP that are most relevant to the Proposed Action are discussed below:

Goals

I. Living, Housing and Employment

d) To create, develop and sustain an economy and a population that will require and encourage the educated youth to live on the island and contribute to the formulation of new dynamic society.

II. Education and Recreation

a) To create opportunities for a greater fulfillment of life through the development of a broad spectrum of educational and cultural pursuits

b) To provide for a maximum variety of outdoor recreational activities.

III. Community, Cultural Activities, and Beautification

c) To recognize those aspects of the island and its people which are historically significant, and to preserve and promote them as continuing expression of the island's physical and social structure.

IV. Transportation, Utilities, and Services

b) To promote and protect the health and safety and welfare of all residents.

Community Objectives

I. Living, Housing and Employment

a) Day care and nursery facilities should be investigated.

II. Education and Recreation

a) The educational program should be separated into three levels – kindergarten to sixth, seventh to ninth, and tenth to twelfth grades – corresponding to the three "social" levels of attitudes. There should be an expanded program of education and active recreation.

IV. Transportation, Utilities, and Services

b) Encourage and expedite adoption and implementation of sewer system for the Kapaʻa - Wailua area.

Discussion: DHHL as well as HISFA, KPCS and project partners will work with the County of Kauaʻi to ensure the Proposed Action is compatible with the long-range plan for the community. However, pursuant to the HHCA §206, Hawaiian home lands are not subject to zoning or other land use controls by the County.

Figure 4.2: DHHL Land Use Designations

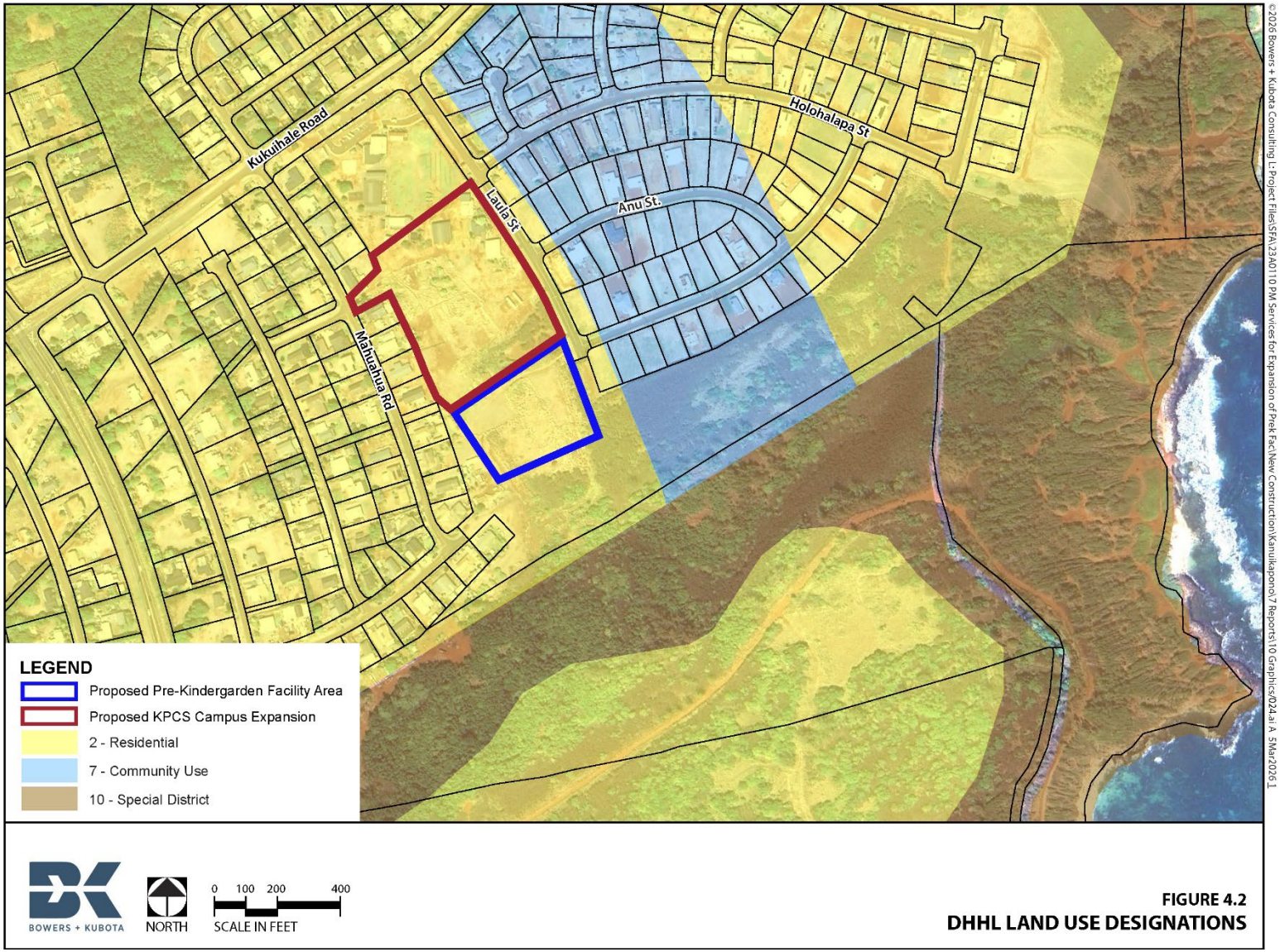


Figure 4.3: County of Kaua'i Zoning



5.0 LIST OF PERMITS AND APPROVALS REQUIRED

As a requirement of HAR §11-200.1-18 (2019), the Proposed Action will be subject to the following list of permits and approvals to be completed prior to the start of construction.

APPROVAL OR PERMIT	APPROVING AGENCY
HRS CHAPTER 343 COMPLIANCE	Hawai‘i School Facilities Authority; filed with State of Hawai‘i: Office of Planning and Sustainable Development, Environmental Review Program
HRS CHAPTER 6E COMPLIANCE	State of Hawai‘i: Department of Land and Natural Resources, State Historic Preservation Division
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT	State of Hawai‘i: Department of Health, Clean Water Branch
DCAB APPROVAL	State of Hawai‘i; Department of Health, Disability and Communication Access Board
COMMUNITY NOISE PERMIT, *IF APPLICABLE*	State of Hawai‘i: Department of Health, Indoor and Radiological Health Branch
GRADING, GRUBBING, STOCKPILING PERMIT	County of Kaua‘i Department of Public Works
BUILDING PERMITS FOR BUILDING, ELECTRICAL, PLUMBING, & DRIVEWAY	County of Kaua‘i Department of Public Works
WATER CONNECTION	County of Kaua‘i Department of Water Supply
WATER METER SERVICE ALLOCATION	Department of Hawaiian Home Lands

6.0 FINDINGS AND DETERMINATION

As a requirement of HAR §11-200.1-18 (2019), this section provides a description of the Approving Agency's anticipated determination for the project, including findings and reasons supporting the determination.

6.1 ANTICIPATED DETERMINATION

The Approving Agency's analysis of the Proposed Action evaluates its primary, secondary, cumulative, and short- and long-term environmental effects. This analysis results in one of two determinations: (1) the Proposed Action may have a significant impact on the environment, requiring issuance of an Environmental Impact Statement Preparation Notice; or (2) the Proposed Action will not have a significant impact on the environment, warranting a Finding of No Significant Impact (FONSI).

To support this determination, the project's environmental effects are evaluated against the 13 significance criteria set forth in the State Department of Health Administrative Rules, Title 11, Chapter 200.1. As discussed in Section 6.2, the assessment concludes that the Proposed Action is unlikely to result in significant environmental impacts.

Based on its review of the Proposed Action, the applicable significance criteria under HAR §11-200.1-13, and the proposed mitigation measures, the Approving Agency anticipates issuing a FONSI.

6.2 SIGNIFICANCE CRITERIA FINDINGS

The project was assessed against the thirteen (13) "significance criteria" set forth in HAR §11-200.1-13 to evaluate whether the project would have a significant impact on the surrounding environment which led to the anticipated determination of a FONSI. A discussion of the Proposed Action with each significant criteria to support that anticipated determination is discussed below.

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

The Proposed Action would not result in the irrevocable commitment to loss or destruction of any natural, cultural, or historic resources. Section 3 discusses the project's effect on natural resources and discusses how no historic properties were identified within the Project area and no sensitive natural resources were identified to be impacted. BMPs and mitigation measures to address any potential impacts will be implemented to minimize possible secondary impacts that would result in significant losses or destruction to natural or cultural resources not yet discovered.

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

The Proposed Action would remain consistent with the existing educational use of the Project area and there are no anticipated impacts that would curtail future beneficial uses of the environment.

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

The Proposed Action would not conflict with environmental policies in the Hawai'i State Plan, State Land Use Law, and Coastal Zone Management Program along with County plans and regulations. Potential adverse impacts that may occur with short-term construction activities would be mitigated through compliance with regulatory guidelines and BMPs.

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

The Proposed Action may have a short-term, positive economic impact due to the increase in construction-related spending and employment. Direct construction activities would result in an overall short-term positive economic impact by stimulating indirect and inducted employment within other industries on the island.

Furthermore, the Proposed Action would not adversely impact cultural practices of the community or State. Rather it may have beneficial impacts to cultural practices through the perpetuation of 'ōlelo Hawai'i (Hawaiian language) and cultural practices and activities taught through the Hawaiian-focused education program. The Proposed Action would address the growing demand for early childhood education.

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

The Proposed Action would not contribute any substantial adverse effects on public health. Construction would have some temporary impacts on air and noise quality in the areas surrounding the Project area. These short-term impacts would be minimized to the extent practicable through the utilization of BMPs and compliance with State and local regulations.

The project would not result in a long-term adverse impact on public health and resources. Research shows a wealth of positive outcomes associated with early childhood education and improved learning environments as they attribute to promoting healthy physical, social, emotional and cognitive development.

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

The Proposed Action would not cause substantial adverse secondary impacts to the social environment or public facilities. The updated KPCS Master Plan projects and the Pre-Kindergarten Facility would serve the local community and is not anticipated result in population changes that would result in adverse impacts to public facilities.

(7) Involve a substantial degradation of environmental quality.

The Proposed Action would not substantially degrade the environmental quality at the Project area or surrounding area. Construction activities would cause some impacts to air quality, noise, and traffic in the project area, but these impacts would be temporary and mitigated with BMPs in accordance with State and County regulations.

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

The Proposed Action would not have a considerable effect upon the environment and does not involve future commitments for larger actions beyond the current Proposed Action.

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

The Proposed Action is not anticipated to cause significant impact to rare, threatened or endangered species or habitats as none were observed during the natural resource assessment conducted by AECOS. As discussed in Section 3.6.3, construction activities would be restricted to daylight hours as much as practicable during seabird breeding season and proposed outdoor lighting would be shielded to minimize impacts to native seabirds that may frequent the area. BMPs would be utilized during vegetation removal and construction to minimize adverse impacts to the Hawaiian hoary bat or any endangered birds that are found in the Project area.

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

The Proposed Action would not create substantial long-term adverse effects on air, water, or noise conditions at the Project area. As discussed previously, it is anticipated that short-term and temporary impacts on air quality and noise levels would occur in the areas surrounding the Project area during construction. These impacts would be mitigated to the extent practicable in accordance with State and County permit regulations. Therefore, a substantial adverse effect on air or noise quality is not expected.

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

It is not anticipated that the Proposed Action would result in substantial adverse effects or risk of damage from natural hazards at the Project area. The entire Project area is located within the Flood Zone "X". The Project area is located outside of the coastal zone, tsunami evacuation zone, and the SLR-XA.

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

The Proposed Action would not significantly impact scenic vistas and viewplanes as no scenic vistas and viewplanes identified in the Kauaiʻi County General Plan would be adversely affected by the project.

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

Implementation of the Proposed Action will increase energy consumption but is not expected to require substantial energy consumption or emit substantial greenhouse gases.

7.0 AGENCIES AND ORGANIZATIONS CONSULTED

As a requirement of HAR §11-200.1-18 (2019), this section identifies agencies, citizen groups, and individuals solicited in the preparation of the Draft EA. Consultation with various government agencies, officials, and community members were undertaken to obtain information on agency requirements and comments about potential community issues so that they could be addressed in the EA. The consultation involved distributing a pre-assessment consultation letter with supporting documentation to various parties requesting their written comments. Table7.1 provides a list of the agencies and organizations that were consulted; those who provided a comment have been marked with a "✓" symbol. Copies of written comments received and responses to these comments are included in Appendix A.

Table 7.1: Agencies and Organizations Consulted

"✓"	AGENCY/ORGANIZATION
	FEDERAL
✓	U.S Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office
	STATE
	Department of Agriculture (DOA)
	Department of Business, Economic Development and Tourism (DBEDT)
	Department of Hawaiian Home Lands (DHHL)
	Department of Health (DOH)
✓	DOH – Clean Air Branch
✓	DOH – Environmental Management Division
✓	DOH – Wastewater Branch
	Department of Land and Natural Resources (DLNR) – Office of the Chairperson
	DLNR– Aha Moku Advisory Committee
✓	DLNR – Commission on Water Resource Management (CWRM)
	DLNR – Division of Forestry and Wildlife (DOFAW)
✓	DLNR – Engineering Division
	DLNR – Land Division
	DLNR – State Historic Preservation Division (SHPD)
	Department of Education (DOE)
	Department of Transportation (HDOT)
	Executive Office of Early Learning
	Hawaii State Public Charter School Commission
	Hawaiian Homes Commission (HHC)
✓	Office of the Governor – Kaua'i Representative
	Office of Hawaiian Affairs (OHA)
	Office of Planning and Sustainable Development (OPSD)

"✓"	AGENCY/ORGANIZATION
	COUNTY
	Department of Public Works
✓	Department of Water Supply
	Fire Department
	Office of the Mayor
	Planning Department
	Police Department
	ELECTED OFFICIALS
	State Senator Ronald D. Kouchi (Senate District 8)
	State Representative Nadine K. Nakamura (House District 15)
	County Councilmember Fern Halland
	UTILITY COMPANIES
	Hawaiian Electric Company
	Hawai'i Gas
	Hawaiian Telcom
	Kaua'i Island Utility Cooperative
	Spectrum
	COMMUNITY
	Aina Alliance
	Anahola Hawaiian Homestead Association
	Ho'akeolapono Trades Academy and Institute
	Kamehameha Schools - Hi'ialo Strategic Partnerships
	Kanuikapono Public Charter School (KPCS)
	Ko'olau Limu Project
	Kukulu Kumuhana O Anahola
	Piilani Mai Ke Kai Community Association
	Sovereign Council of Hawaiian Homestead Associations

8.0 REFERENCES

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Appendix A:

Pre-Assessment Consultation

Water has no substitute..... Conserve it

ENGINEERING DIVISION
DEPARTMENT OF WATER, COUNTY OF KAUA'I
JASON F. KAGIMOTO, P.E.

Department of Water County of Kaua'i

JOSEPH E. TAIT
MANAGER AND CHIEF ENGINEER

January 6, 2026

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
2153 N. King Street, Suite 200
Honolulu, HI 96819-4554

Dear Malachi Krishok:

Subject: Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Kanuikapono PCS Pre-K facility
Tax Map Key: (4) 4-8-022:089 (por)
Anahola, Kaua'i, Hawai'i

This is in regard to your letter dated September 23, 2025. We have no objections to the proposed Draft Environmental Assessment. The following are our comments to the subject Draft Environmental Assessment for the construction of a new pre-kindergarten facility located in Anahola.

Prior to the Department of Water (DOW) recommending building permit or water service approval, the applicant will be required to complete all applicable requirements at that time. At present time, the applicant will be required to:

1. Submit a formal request for water service for our review and approval. Include detailed water demand calculations (both domestic and irrigation) along with the proposed water meter size. Water demand calculations submitted by your engineer or architect should also include fixture count, water meter sizing worksheets, and floor plans. DOW's comments may change depending on the approved water demand calculations.

2. Obtain from the Department of Hawaiian Home Lands (DHHL) their written approval of water meter service allocation from the DHHL capacity allocation as identified in the "Water Credits Agreement for the Anahola Water System" to the applicant of the said water service. This is subject to DHHL having sufficient remaining allocation for the proposed use.

3. Be made aware that domestic and fire flow water demand, as well as the fire hydrant spacing as recommended by the DOW's Water System Standards (WSS), may be inadequate to the proposed development.

   The applicant must submit fire flow test data and calculations, which must be prepared and signed by an Engineer. The Engineer is also required to confirm that the fire hydrant is adequately spaced from the lot. The DOW's comments may change depending on the additional information provided.

   The applicant may utilize the "Alternative Methodology for satisfying fire protection requirements for non-residential structures" for fire protection as allowed under Section 2.f.ii. of the County of Kaua'i "2008 Amendments to the 2002 Water system Standards" to satisfy the fire flow requirements in lieu of Table 100-19A; fire flow Requirements for County of Kauai, "2008 Amendments to the 2002 Water System Standards".

4. Hire a professional civil engineer who is licensed in the State of Hawai'i to prepare, submit, and receive DOW's approval on the construction drawings for the necessary water system facilities. These facilities shall include but not be limited to:

   a. The domestic service connection.

   b. The fire service connection, if applicable.

   c. The interior plumbing with the appropriate backflow prevention device for the proposed and existing water meters. Be made aware that future water meters to the lot are required to have DOW approved backflow prevention devices installed.

      All backflow preventer devices require an annual test by a certified tester. For new devices, the first test must be submitted to DOW after installation is complete.

   d. Additional source and/or storage facilities, if applicable.

ENGINEERING DIVISION
DEPARTMENT OF WATER, COUNTY OF KAUA'I
JASON F. KAGIMOTO, P.E.

Department of Water County of Kaua'i

JOSEPH E. TAIT
MANAGER AND CHIEF ENGINEER

5. Pay the applicable charges in effect at the time of payment to the Department. At the present time, these charges shall include but not be limited to the Facilities Reserve Charge (FRC) based on the approved meter size. If DHHL issues their written approval and verifies that the water meter service will be from the DHHL Anahola water meter allocation, then the DOW FRC for the approved water meter shall not be collected from the applicant.

6. Hire a licensed contractor in the State of Hawai'i to construct the necessary water system facilities and receive a "Certification of Completion" notice from the DOW.

All conditions in this approval are subject to the Rules and Regulations of the DOW as amended or as will be amended. Any future request for water service will be dependent on the adequacy of the source, storage and transmission facilities existing at that time.

If you have any questions, please contact Ms. Jessica-Renee Polk at (808) 245-5459 or wrp@kauaiwater.org.

Sincerely,

Regina Reyes-Flores

Regina Reyes-Flores, P.E.
Water Resources and Planning Section
Engineering Division

4-8-022-089, 2026016, Kanuikapono PCS Pre-K facility, Draft EA, Bowers + Kubota Consulting, Inc.

BOWERS + KUBOTA

Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-008

Sent via email: wrp@kauaiwater.org

Ms. Regina Reyes-Flores, P.E.
Acting Chief Engineer
County of Kauai, Department of Water
Engineering Division
4398 Pua Loke Street
Lihue, Hawaii 96766

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Reyes-Flores:

Thank you for your letter dated January 6, 2026, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge that the Engineering Division of the County's Department of Water (DOW) has no objections to Draft EA. In addition, we confirm the following requirements be met prior to the DOW's recommendation of approval for building permit and water service:

1. Submit a formal request for water service with detailed water demand calculations, proposed water meter size, fixture county, water meter sizing worksheets, and floor plans.
2. Written approval of water meter service allocation from the Department of Hawaiian Home Lands (DHHL).
3. Submit fire flow test data and calculations.
4. Pay applicable charges in effect at the time of payment to the DOW.
5. Ensure a Hawaii licensed professional Civil Engineer submits and receives DOW's approval on the construction drawings for the necessary water system facilities.
6. Ensure a Hawaii licensed contractor constructs the necessary water system facilities and receive a "Certification of Completion" notice from the DOW.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the DHHL, the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project

involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

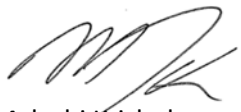
The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the initial comments and participation your participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com.

If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

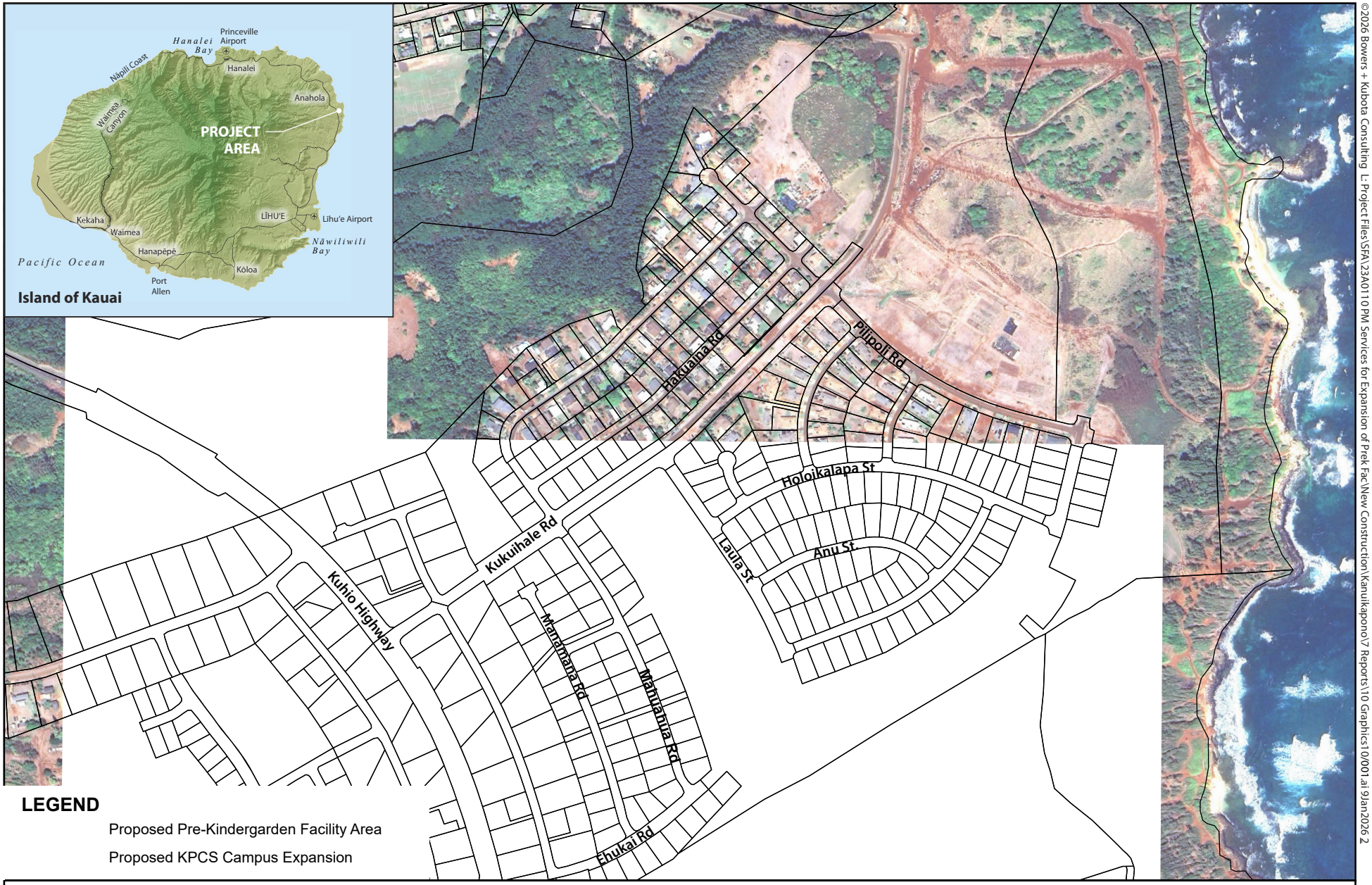


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

©2026 Bowers + Kubota Consulting L:\Project Files\SFA\23A0110 PM Services for Expansion of Prek Fac\New Construction\Kanuikapono\7 Reports\10 Graphics\10/001.ai 9Jan2026 2

From: Hazelton, Dana M <dana.m.hazelton@hawaii.gov>
Sent: Friday, October 24, 2025 3:44 PM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] Anahola school EA input

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]
Aloha Malachi,

Thank you for reaching out to my office for input on the EA on the pre-K school in Anahola operated by Kanuikapono. My input is that this project looks like it's been well thought out in it's location and outdoor space in this corridor of Anahola- especially facing east for trade wind flow so that the children have moist air ventilation circulating throughout the property – which can decrease airway issues for pediatrics. I just like that the design is healthy... as a Registered Nurse I find it's very important to design to the environment in which your clientele has the best health outcomes.

That is my 2 cents.

I would love to come to the groundbreaking ceremony at some point if that is possible, mahalo for your consideration and let me know if I can assist further.

Mahalo,

Dana Hazelton | Governor's Representative, Kauai

Office of the Governor | Ke Keʻena O Ke Kiaʻāina
State of Hawaiʻi
Mobile: (808) 272-1900| Office: (808) 274-3102
Email: dana.m.hazelton@hawaii.gov
Stay Connected with Governor Green

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BOWERS + KUBOTA

Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-014

Sent via email: dana.m.hazelton@hawaii.gov

Ms. Dana Hazelton
Governor's Representative, Kauai
State of Hawaii
Governor's Neighbor Island Liaison Office - Kaua'i
3060 Eiwa Street, #106
Lihue, HI 96766

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Hazelton:

Thank you for your email dated October 24, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge your support of the project's location and proposed outdoor space.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the initial comments and participation of the Governor's Neighbor Island Liaison Office in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

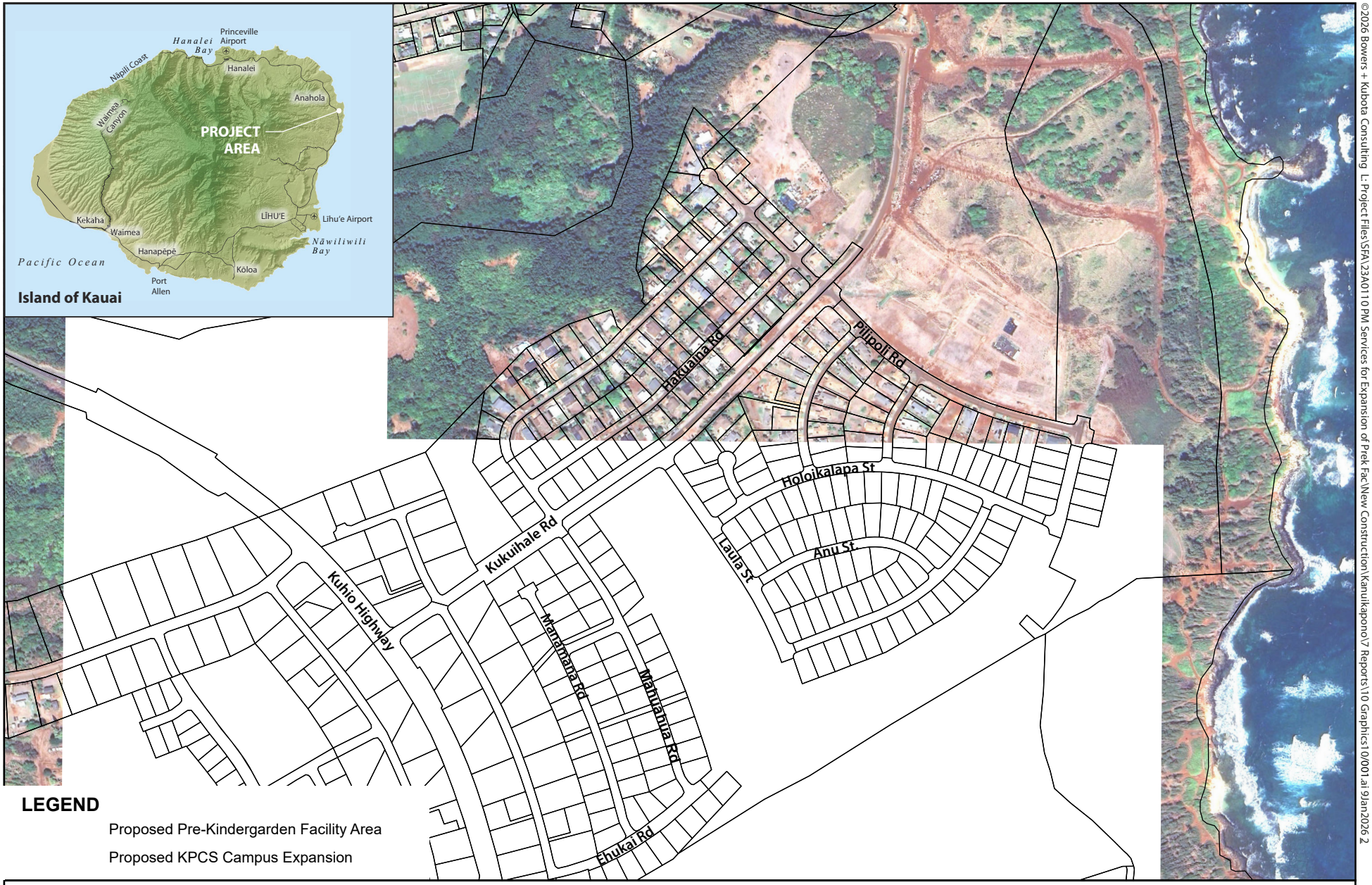


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

©2026 Bowers + Kubota Consulting L:\Project Files\SFA\23A0110 PM Services for Expansion of Prek Fac\New Construction\Kanuikapono\7 Reports\10 Graphics\10/001.ai 9Jan2026 2

From: Vierra, Dayna K <Dayna.K.Vierra@hawaii.gov>
Sent: Friday, October 24, 2025 2:15 PM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] Request for Comments: Pre-Assessment Consultation for an Environmental Assessment of Kanuikapono PCS Pre-K Facility, Kauai

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Aloha,

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

Attached are comments from the Hawai'i Department of Land and Natural Resources (DLNR) for the above-entitled subject project.

Please note that future requests for the DLNR's review and comments may be emailed to either of the following email addresses:

- dlnr@hawaii.gov
- dlnr.land@hawaii.gov

Thank you,
Dayna Vierra, Planner
Department of Land and Natural Resources, Land Division
1151 Punchbowl Street, Room 220
Honolulu, HI 96813
Tel: (808) 587-0423
Fax: (808) 312-6357

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

P.O. BOX 621
HONOLULU, HAWAII 96809

October 23, 2025

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
2153 N. King St., Suite 200
Honolulu, Hawaiʻi 96819-4544

via email: mkrishok@bowersandkubota.com

SUBJECT: Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343 Kanuikapono PCS Pre-K Facility, Analoa, Island of Kauaʻi, Hawaiʻi; TMK: (4) 4-8-022:089 (por.)

Dear Mr. Krishok,

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 comment.

Please find enclosed, comments from the Engineering Division and the Commission on Water Resource Management on the subject matter. Should you have any questions, please feel free to contact Dayna Vierra at (808) 587-0423 or email: dayna.k.vierra@hawaii.gov.

Sincerely,

Ian Hirokawa
Acting Land Administrator

Enclosure(s)

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

DAWN N.S. CHANG
CHAIRPERSON

KENNETH S. FINK, M.D., MGA, MPH
AURORA KAGAWA-VIVIANI, PH.D.
WAYNE K. KATAYAMA
LAWRENCE H. MIIKE, M.D., J.D.
HANNAH KIHALANI SPRINGER

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

Oct 23, 2025

REF: RFD.6526.2

TO: Mr. Ian Hirokawa, Acting Administrator
Land Division

FROM: Ciara W.K. Kahahane, Deputy Director
Commission on Water Resource Management

SUBJECT: Kanuikapono PCS Pre-K Facility

FILE NO.: RFD.6526.2
TMK NO.: (4) 4-8-022:089

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://dlnr.hawaii.gov/cwrm.

Our comments related to water resources are checked off below.

- [ ] 1. We recommend coordination with the county to incorporate this project into the next update of the county's Water Use and Development Plan (WUDP). Please contact the respective Planning Department and/or Department of Water Supply for further information.
- [ ] 2. We recommend coordination with the Engineering Division of the State of Hawai'i, Department of Land and Natural Resources (DLNR) to incorporate this project into the next update of the State Water Projects Plan (SWPP).
- [ ] 3. We recommend coordination with the State of Hawai'i, Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the associated agricultural water demands into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information at https://hdoa.hawaii.gov/contact/.
- [X] 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the project to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EAP as having high water efficiency can be found at http://www.epa.gov/watersense.
- [X] 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project on the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://planning.hawaii.gov/czm/initiatives/low-impact-development/.
- [ ] 6. We recommend the use of alternative water sources, wherever practicable.
- [ ] 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program.
- [X] 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawai'i. These practices can be found online at

https://hawaiiscape.com/index.php. Additional information can be found at https://dlnr.hawaii.gov/cwrm/planning/conservation/.

☐ 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health (HDOH) and the acceptance of any resulting requirements related to water quality.

☐ 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.

☐ 11. The Hawai'i Water Plan is directed toward the achievement of the utilization of reclaimed water for uses other than drinking and for potable water needs in one hundred per cent of State and County facilities by December 31, 2045 (§174C-31(g)(6), Hawaii Revised Statutes). We strongly recommend that this project consider using reclaimed water for its non-potable water needs, such as irrigation. Reclaimed water may include, but is not limited to, recycled wastewater, gray water, and captured rainwater/stormwater. Please contact the Hawai'i Department of Health, Wastewater Branch, for more information on their reuse guidelines and the availability of reclaimed water in the project area. Contact information can be found at https://health.hawaii.gov/about/contact/.

☐ 12. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.

☐ 13. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 14. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 15. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 16. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.

☐ 17. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.

☐ 18. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 19. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required by CWRM, or whether there are potential impacts to water resources.

☐ 20. The proposed water source(s) and projected water demands for the project, both potable and non-potable, should be identified. If the project will be provided water by a local water system we recommend consultation with them to ensure that system capacity is available to supply water for this project.

☒ OTHER: Planning -
The Commission strongly encourages the implementation of water conservation measures, best management practices to mitigate stormwater runoff, and the reuse of stormwater and other alternative non-potable sources, where practicable.

If you have any questions, please contact Ryan Imata of the Groundwater Regulation Branch at (808) 587-0225 or Katie Roth of the Planning Branch (808) 587-0216.

BOWERS + KUBOTA

Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-009

Sent via email: dlnr.cwrm@hawaii.gov

Ms. Ciara W.K. Kahahane
Deputy Director
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kauaʻi, Hawaiʻi

Dear Ms. Kahahane:

Thank you for your letter dated October 23, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge and confirm to incorporate the following recommendations in the Draft EA:

- Implement use of best management practices (BMP) for stormwater management to minimize the impact of the project on the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events.
- Adopt landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaiʻi.
- Implement water conservation measures, BMPs to mitigate stormwater runoff, and the reuse of stormwater and other alternative non-potable sources, where practicable.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawaiʻi Revised Statutes (HRS) and Section 11-200-7, Hawaiʻi Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for

school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the Commission on Water Resource Management's initial comments and participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.

Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

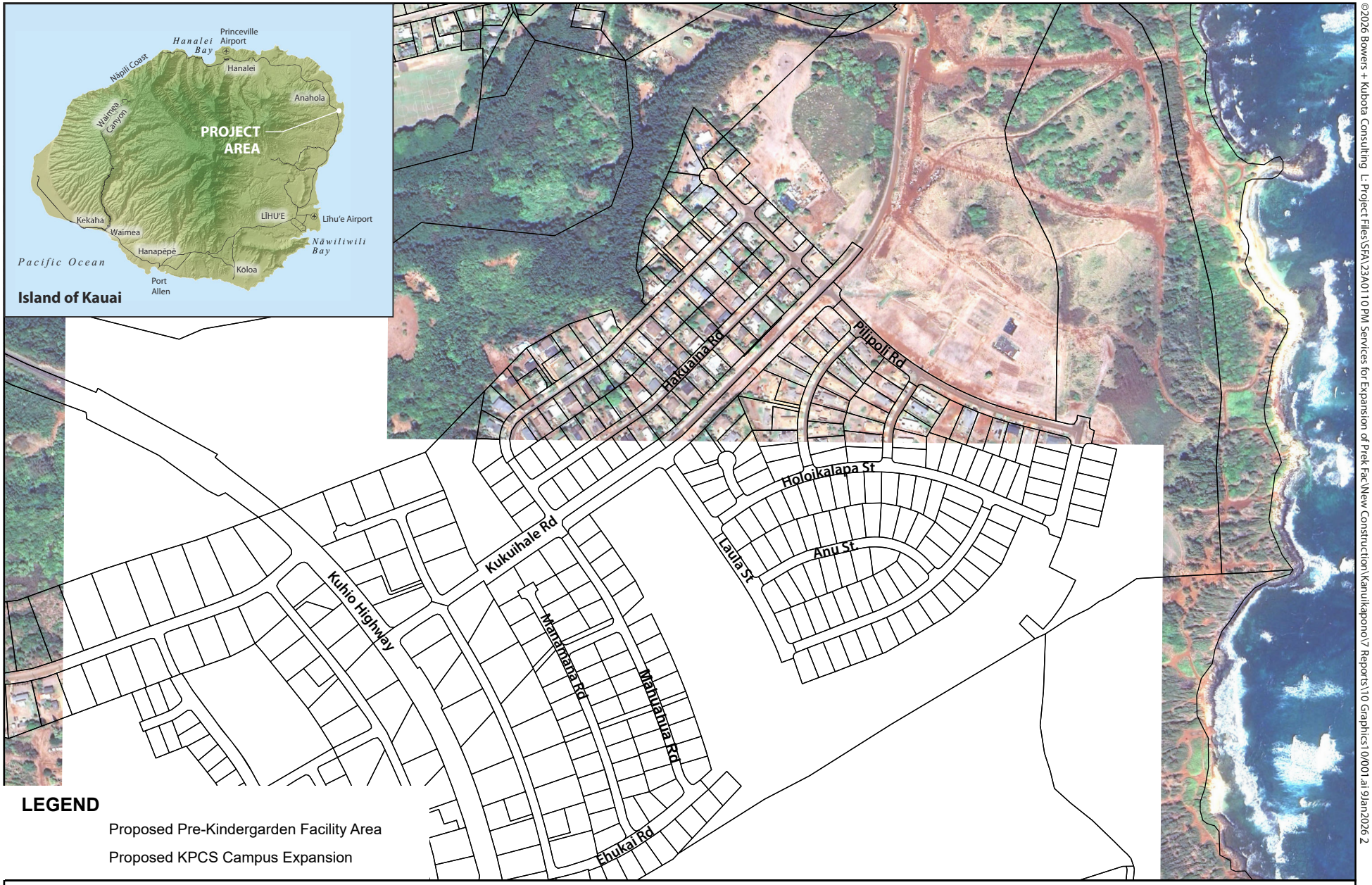


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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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

September 30, 2025

MEMORANDUM

FROM: ~~TO~~:

DLNR Agencies:
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
__Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
__Div. of State Parks (curt.a.cottrell@hawaii.gov)
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
__Office of Conservation & Coastal Lands (sharleen.k.kuba@hawaii.gov)
X Land Division – Kaua'i District (reynold.km.lee@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: ~~FROM~~: Ian Hirokawa, Acting Land Administrator
SUBJECT: Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343 Kanuikapono PCS Pre-K Facility
LOCATION: Analoa, Island of Kaua'i, Hawai'i; TMK: (4) 4-8-022:089 (por.)
APPLICANT: State of Hawai'i, Hawai'i School Facilities Authority (HISFA)

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit comments by **October 22, 2025.**

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 Dayna Vierra at dayna.k.vierra@hawaii.gov. Thank you.

BRIEF COMMENTS:

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

Signed:
Print Name: Dina U. Lau, Acting Chief Engineer
Division: Engineering Division
Date: Oct 21, 2025

Attachment(s)

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Ian C. Hirokawa

Ref: Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Kanuikapono PCS Pre-K Facility
TMK: (4) 4-8-022:089 (por.)
Location: Analoa, Island of Kaua'i, Hawai'i
Applicant: State of Hawai'i, Hawaii School Facilities Authority (HISFA)

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.

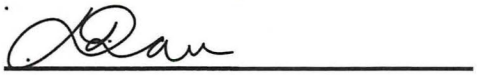
The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). 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: 
DINA U. LAU, ACTING CHIEF ENGINEER

Date: Oct 21, 2025

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February 9, 2026

23A0110.00 / 26P-010

Sent via email: dlnr.engr@hawaii.gov

Ms. Dina U. Lau
Acting Chief Engineer
Department of Land and Natural Resources
Engineering Division
P.O Box 621
Honolulu, HI 96809

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kauaʻi, Hawaiʻi

Dear Ms. Lau:

Thank you for your email dated September 30, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We confirm including the following in the Draft EA:

- Research of the flood hazard zone designation for the project and associated standards set forth in the National Flood Insurance Program (NFIP), Title 44 of the Code Federal Regulations (44CFR)
- Water demands and infrastructure required to meet project needs
- Water demands and calculations so it can be included in the State Water Projects Plan Update projections

In addition, we acknowledge that payment for charges on resource development and water facilities for transmission and daily storage will be required as the proposed action is a State project and will rely on water service from County of Kauai Department of Water Supply.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawaiʻi Revised Statutes (HRS) and Section 11-200-7, Hawaiʻi Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the initial comments and participation of the DLNR's Engineering Division in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

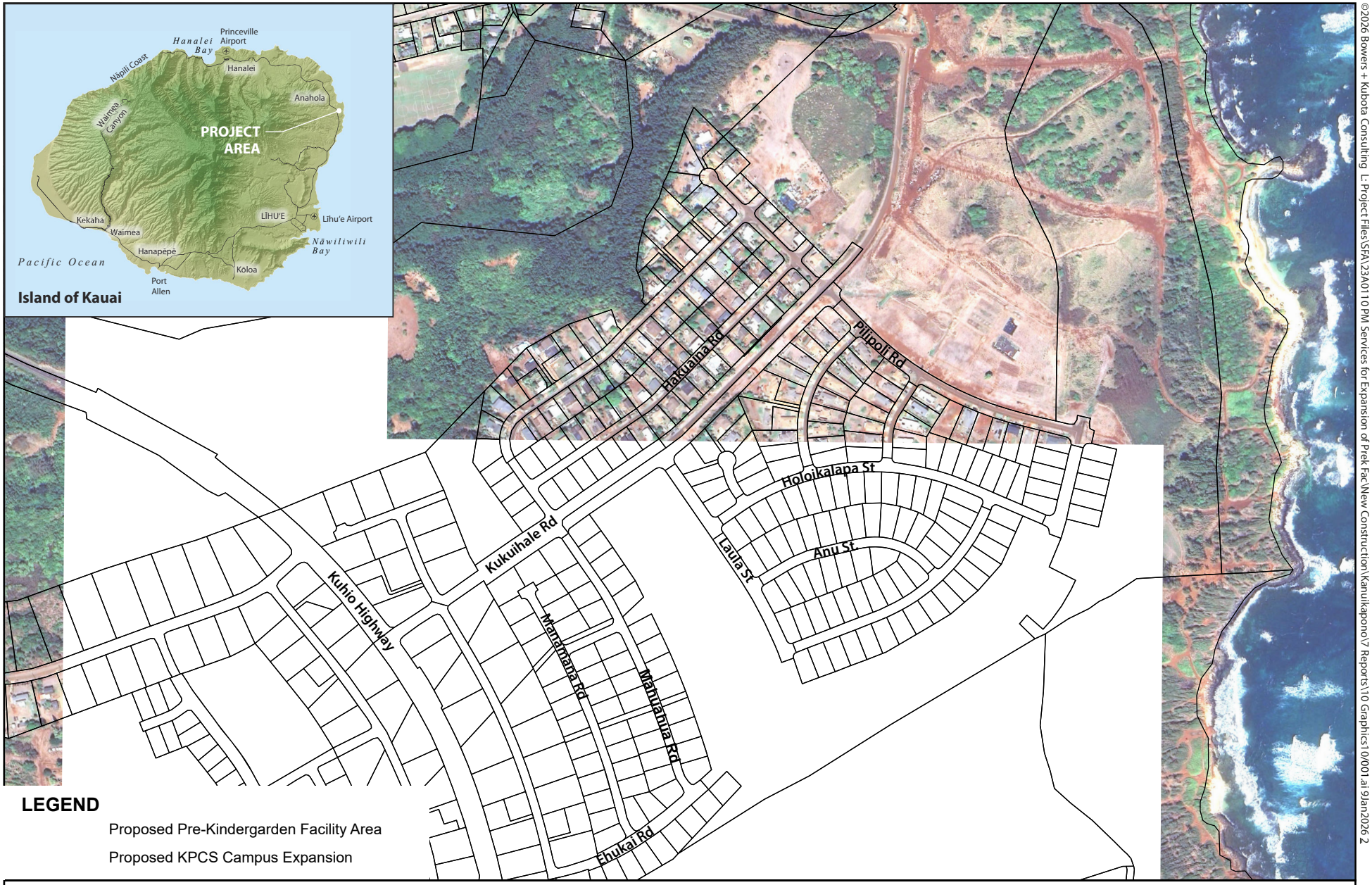


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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From: Browning, Joy <joy_browning@fws.gov>
Sent: Monday, September 29, 2025 8:44 AM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] PEA Kanuikapono PCS Pre-K Facility Anahola, Kauai

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Aloha,

The Pacific Island Fish and Wildlife Office (PIFWO) has transitioned to the use of 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 and designated critical habitat in your project area. Using IPaC expedites the process for species list distribution and takes minimal time to complete.

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 and refreshing your initial species list. We hope this process provides efficiencies to our partners in obtaining a species list.

Sincerely,

Joy Hiromasa Browning

Fish and Wildlife Biologist
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm 3-122
Honolulu, Hawaii 96850
Telephone: (808) 210-6137

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February 9, 2026

23A0110.00 / 26P-015

Sent via email: joy_browning@fws.gov

Ms. Joy Browning
Biologist
U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Service
300 Ala Moana Blvd, Room 3-122
Honolulu, HI 96850

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Browning:

Thank you for your email dated September 29, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge and confirm the Pacific Islands Fish and Wildlife Service's recommendation to use the Information for Planning and Consultation (IPaC) online portal to evaluate the potential impacts to flora and fauna in the Draft EA.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the Pacific Islands Fish and Wildlife Service's initial comments and participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope,

please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

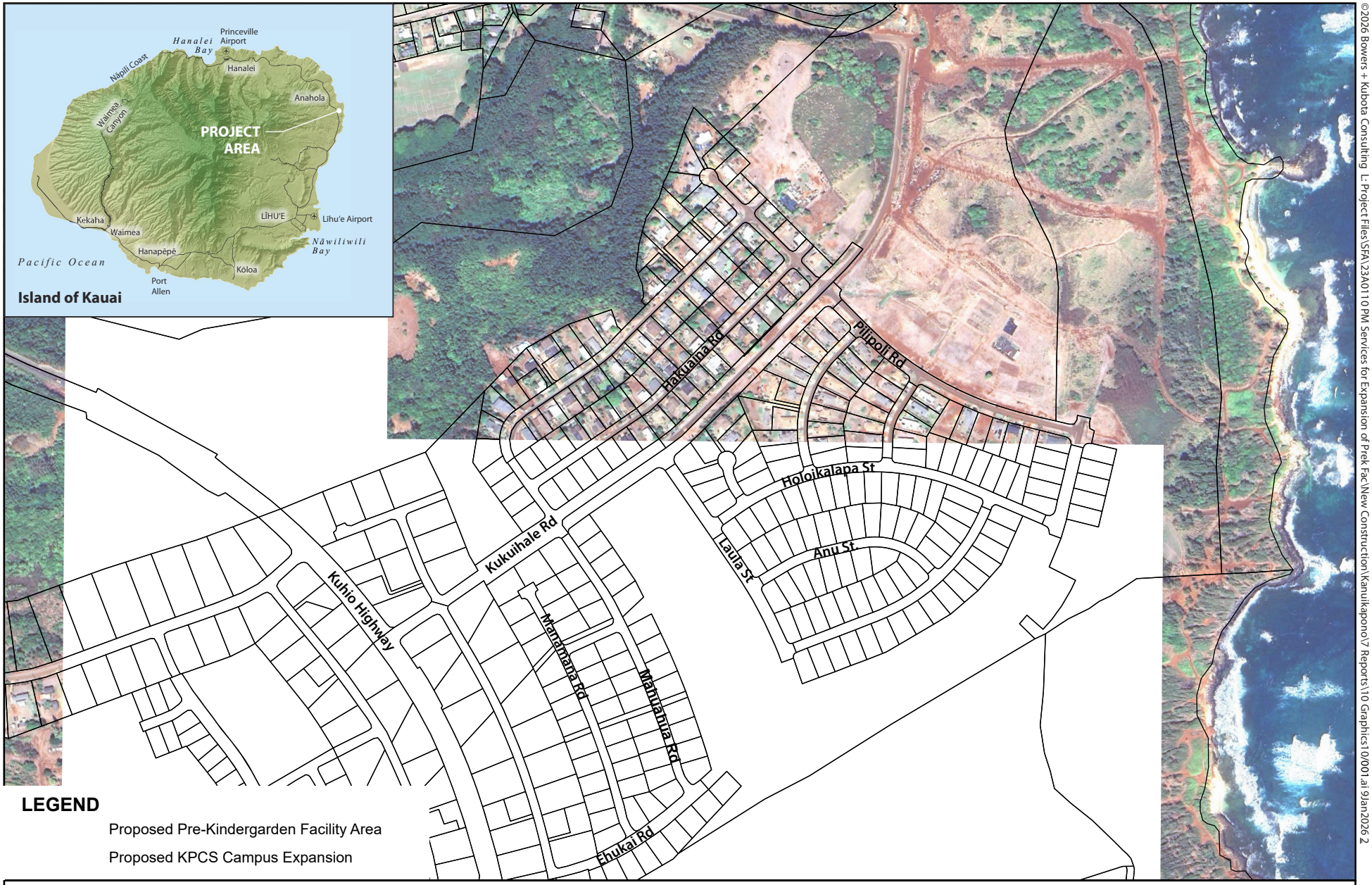


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

December 26, 2024

MEMORANDUM

SUBJECT: Wastewater Branch Standard Project Comments

TO: Agencies and Project Owners

FROM: JONATHAN NAGATO, P.E., CHIEF
Wastewater Branch

This memo is provided for your information and sharing. You are encouraged to share this memo with your project partners, team members, and appropriate personnel.

The Department of Health (DOH), Wastewater Branch (WWB) will no longer be responding directly to requests for comments on the following documents (Pre-consultation, Early Consultation, Preparation Notice, Draft, Final, Addendums, and/or Supplements), including but not limited to:

- Environmental Impact Statements (EIS)
- Environmental Assessments (EA)
- Conservation District Use Applications (CDUA)
- Special Management Area Permits (SMAP)
- Special Use Permit
- Shoreline Setback Areas (SSA)

For agencies or project owners requiring DOH-WWB comments for one or more of these documents, please utilize the DOH-WWB Standard Comments below regarding your project's responsibilities to maintain proper treatment and disposal of wastewater and any necessary permitting. DOH-WWB Standard Comments are also available on the DOH-WWB website located at: http://health.hawaii.gov/wastewater/.

DOH-WWB Standard Comments

The following information is for agencies and/or project owners who are seeking comments regarding environmental compliance for their projects with the Hawaii Administrative Rules (HAR), Chapter 11-62. You may be responsible for fulfilling additional requirements related to our program such as Board of Water Supply's pass and no-pass zones, Safe Drinking Water Branch's underground injection control program, etc.

1. As the project will be served by the City & County of Honolulu/ County/ Private sewer system, we have no objections to the project.

2. Per HAR, Ch. 11-62 section 11-62-05, all areas of the State are critical wastewater disposal areas. All wastewater systems must conform to applicable provisions of HAR, Ch. 11-62. We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Design plans should address any effect associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiian resources or the exercise of traditional cultural practices.

3. Large Capacity Cesspools (LCC):

   In 1999, EPA promulgated regulations under the Safe Drinking Water Act's Underground Injection Control (UIC) Program required closure of all existing large capacity cesspools (LCC) by April 5, 2005. Under federal regulations, a large capacity cesspool is a cesspool which serves multiple residential units, serves a mixed use of a residential and non-residential activity, or for nonresidential facilities has the potential to serve 20 or more persons per day. Operation of a large capacity cesspool after this date is a violation of federal regulations and subject to enforcement and fines. If you have any questions about LCC, please contact the Region 9 LLC Coordinator at r9_lcc_coordinator@epa.gov.

From: Morikami, Lori <lori.morikami@doh.hawaii.gov>
Sent: Monday, September 29, 2025 10:22 AM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] Pre-Assessment Consultation - EA, Kanuikapono PCS Pre-K Facility, Anahola, Kauai
-

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Good morning Malachi Krishok,

Subject: Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Kanuikapono PCS Pre-K Facility
Tax Map Key: (4) 4-8-022: 089 (portion)
Anahola, Kauai, Hawaii

Thank you for allowing us to review and comment the above subject project.
We have no objections as this time as the project's wastewater treatment and disposal will be handled by a treatment individual wastewater system (see below).

Please refer to the Standard Land Use Comments attached in pdf for your review.
Should you have any questions, please email the Planning & Design Supervisor, Mark Tomomitsu at mark.tomomitsu@doh.hawaii.gov

Mahalo,
Lori M at WWB on Oahu

P.S. We have in our database, Septic Tank, Permit 71485 - Submitted 5/10/2023, Reviewed 5/15/2023 and Plan Approved as of 9/14/2023.
Please keep in mind, "Approval for Use" has not been issued.

We are waiting for the Final Inspection / Construction Inspection Report for final review.
Then the Final Approval For Use will be issued.
FYI – Micah Kagimoto is the listed project engineer.

Mahalo,
Lori Morikami
Planner | Env. Mgmt. Div. | Wastewater Branch (PD)
Hawaii State Department of Health | Ka 'Oihana Olakino
2827 Waimano Home Road Room 207 | Pearl City | Hawaii 96782-1487
Office (808) 586-4294 | Website: https://health.hawaii.gov/wastewater/

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BOWERS + KUBOTA

Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-013

Sent via email: lori.morikami@doh.hawaii.gov

Ms. Lori Morikami
Planner
Department of Health
Wastewater Branch
2827 Waimano Home Road, Room 207
Pearl City, HI 96782-1487

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Kitahara

Thank you for your email dated September 29, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge that the Wastewater Branch has no objections since the project's wastewater treatment and disposal will be handled by a treatment individual wastewater system. We will also ensure the Draft EA incorporates the applicable Wasterwater Branch's standard comments for land use review as of December 26, 2024.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the Department of Health–Wastewater Branch's initial comments and participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope,

please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

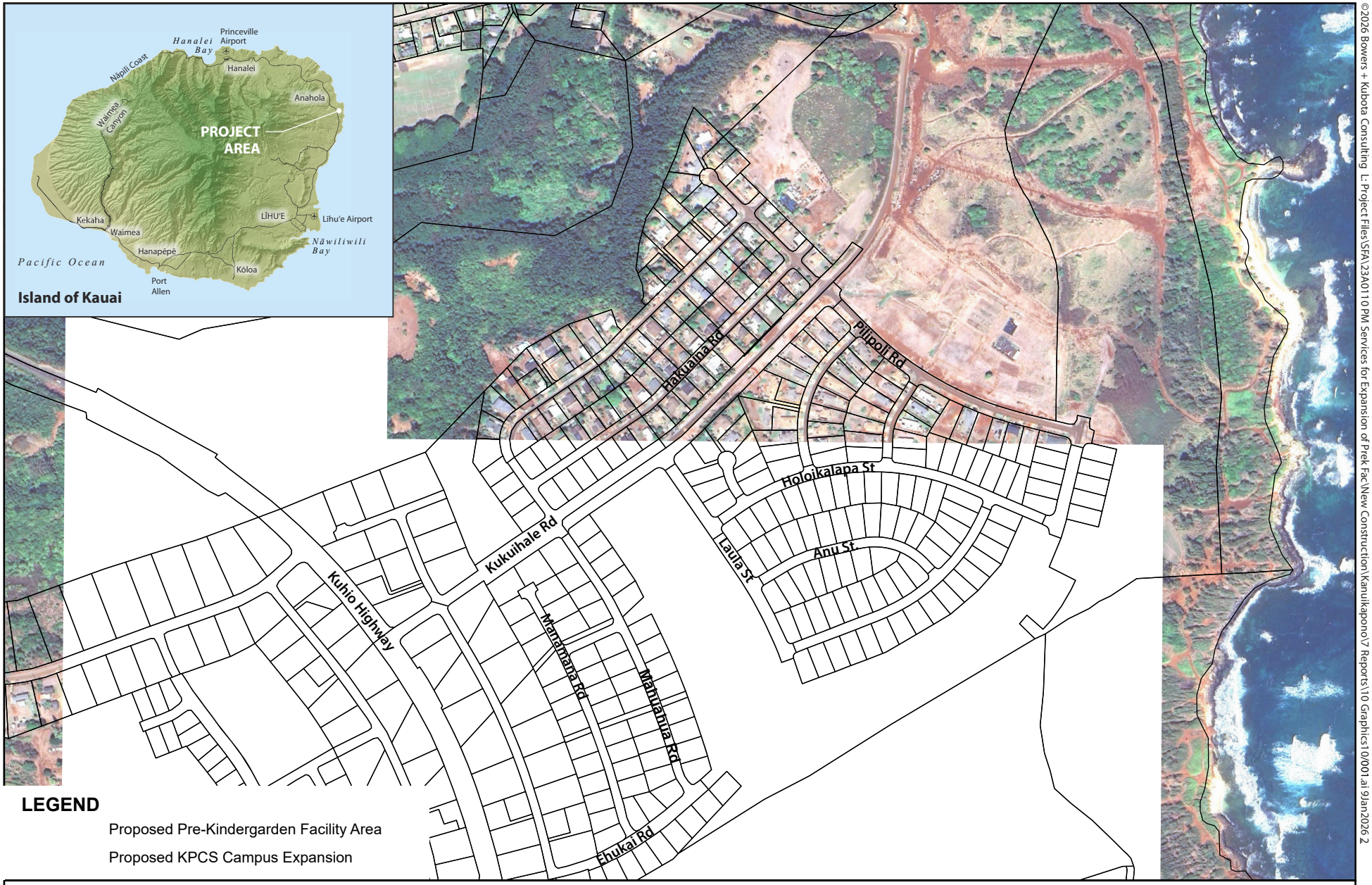


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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From: DOH.CABPASS <DOH.CABPASS@doh.hawaii.gov>
Sent: Monday, September 29, 2025 10:10 AM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] Comments: the Pre- Assessment Consultation for Environmental Assessment, HRS Chapter 343 Kanuikapono PCS Pre-K Facility

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Hello Matthew Fernandez,
Bowers + Kubota Consulting, Inc.

Thank you for the opportunity to review the Pre- Assessment Consultation for Environmental Assessment, HRS Chapter 343 Kanuikapono PCS Pre-K Facility; Tax Map Key: (4) 4-8-022:089 (por.); Anahola, Kaua'i Hawai'i. Please visit the Clean Air Branch (CAB) website to download and reference our Standard Comments for Land Use Reviews. The link is provided below.

https://health.hawaii.gov/cab/clean-air-branch/standard-comments-for-land-use-reviews/

Lisa Kitahara
Planning & Administrative Support Staff Supervisor | Clean Air Branch
Hawai'i State Department of Health | Ka 'Oihana Olakino
Office: (808) 586-4200

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BOWERS + KUBOTA

Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-011

Sent via email: doh.cabpass@doh.hawaii.gov

Ms. Lisa Kitahara
Planning & Administrative Support Staff Supervisor
Department of Health
Clean Air Branch
2827 Waimano Home Road, Room 130
Pearl City, HI 96782-1487

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Kitahara

Thank you for your email dated September 29, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge and confirm the Draft EA incorporates the applicable Clean Air Branch's standard comments for land use review as of July 3, 2024.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the Department of Health – Clean Air Branch's initial comments and participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com. If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

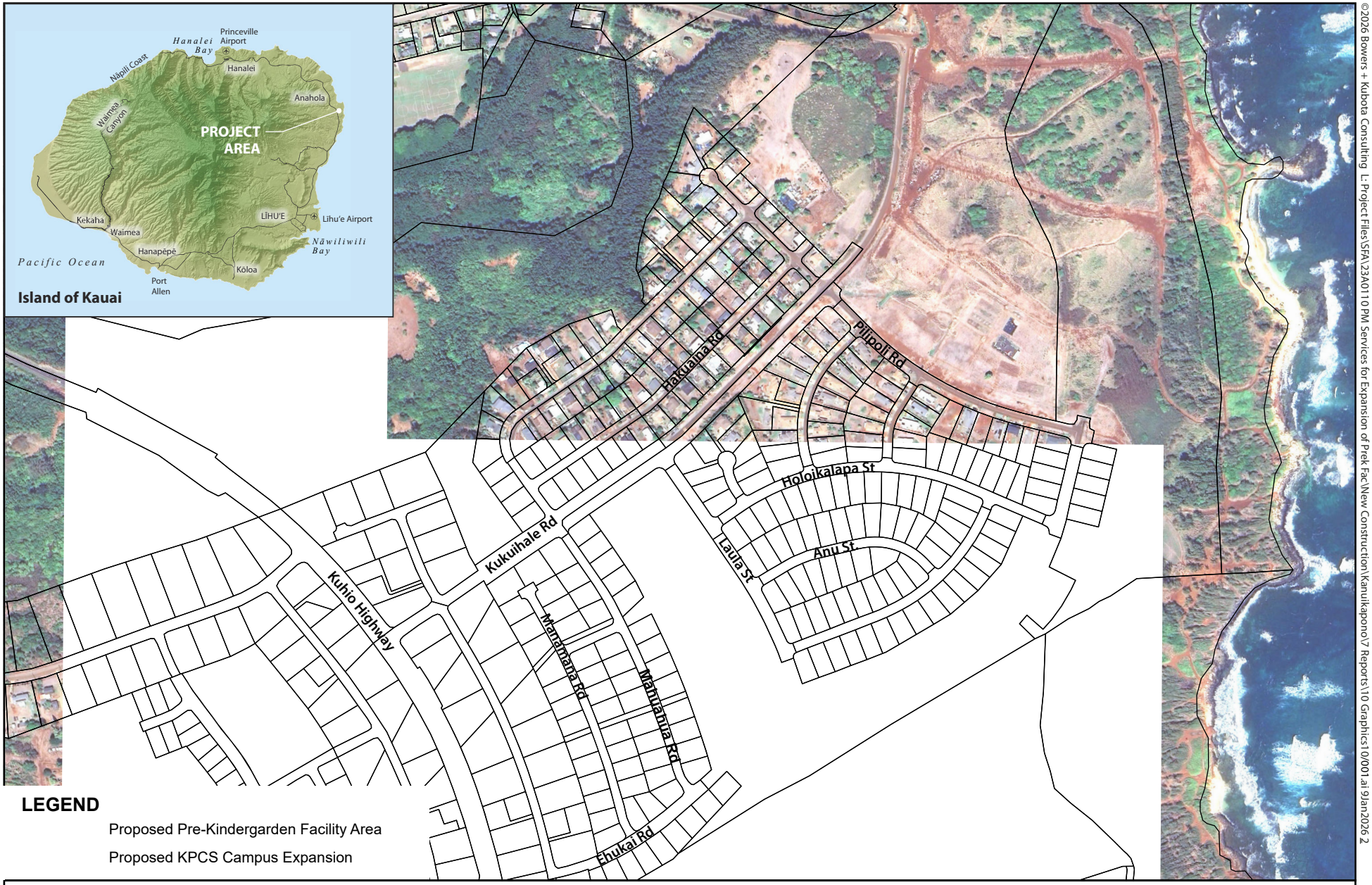


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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From: Seto, Joanna <joanna.seto@doh.hawaii.gov>
Sent: Friday, September 26, 2025 3:19 PM
To: Malachi Krishok <mkrishok@bowersandkubota.com>
Subject: [External] Pre-Assessment Consult for EA - Kanuikapono PCS Pre-K Facility

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]
Aloha Malachi,

For Standard Comments and Records Requests, please see the EPO Land Use Planning Review webpage at https://health.hawaii.gov/epo/landuse/ and contact the appropriate Environmental Health Administration branches and offices directly.

A comprehensive contact list is available at https://health.hawaii.gov/epo/files/2025/09/DOHEHALandUseContactList_20250917.pdf.

Mahalo!
Joanna

Joanna L. Seto, P.E.
Administrator | Environmental Management Division
Hawai'i State Department of Health | Ka 'Oihana Olakino
Hale Ola | 2827 Waimano Home Road, Room 234 | Pearl City, HI 96782-1487
Office: (808) 586-4305 | Mobile: (808) 292-8408

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Construction Management · A/E Design · Planning · Project Management

February 9, 2026

23A0110.00 / 26P-012

Sent via email: Joanna.seto@doh.hawaii.gov

Ms. Joanne L. Seto, PE
Administrator
Department of Health
Environmental Management Division
2827 Waimano Home Road, Room 234
Pearl City, HI 96782-1487

Subject: Kanuikapono Public Charter School Master Plan Update and Pre-Kindergarten Facility Pre-Assessment Consultation for Environmental Assessment, HRS Chapter 343
Tax Map Key: (4) 4-8-022:089 (por.)
Anahola, Kaua'i, Hawai'i

Dear Ms. Seto:

Thank you for your email dated September 26, 2025, in response to the pre-assessment consultation for the Environmental Assessment (EA) of the subject project. We acknowledge and confirm the Draft EA incorporates the applicable standard comments and adhere to the record requests posted from the https://health.hawaii.gov/epo/landuse/ website.

Furthermore, we are providing a project update since the initiation of this pre-consultation on September 25, 2025. After discussions amongst HISFA, KPCS, and the Department of Hawaiian Home Lands (DHHL), the project scope broadened to include the campus expansion and improvements of the KPCS Master Plan Update (MPU) input pursuant to Chapter 343-2, Hawai'i Revised Statutes (HRS) and Section 11-200-7, Hawai'i Administrative Rules (HAR), Chapter 200. Because the KPCS MPU introduces additional campus expansion elements beyond the pre-kindergarten facility, the consultation process is being reinitiated by HISFA in partnership with KPCS to gather updated agency and stakeholder. Since the proposed project involves Hawaiian Home Lands, the Hawaiian Homes Commission will serve as the approving agency for the EA.

The KPCS MPU projects includes additional classrooms, locker rooms, restrooms, a new roof over the existing playcourt, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā, and a papakū muliwai with a pedestrian bridge. The enclosed map delineates the proposed MPU campus expansion area and the pre-kindergarten facility.

We appreciate the Department of Health–Environmental Management Division's initial comments and participation in the process. If you have any questions, please contact me at (808) 846-3340 or via email at mkrishok@bowersandkubota.com.

If you wish to provide additional input on the updated project scope, please review the enclosures and submit your written comments to the address below within 30 days of receipt of this letter.

Bowers + Kubota Consulting, Inc.
Attn: Malachi Krishok
94-408 Akoki St., Suite 201-A
Waipahu, HI 96797

Sincerely yours,
Bowers + Kubota Consulting, Inc.



Malachi Krishok
Planning Project Manager

MK:kn

Enclosure:
Location Map

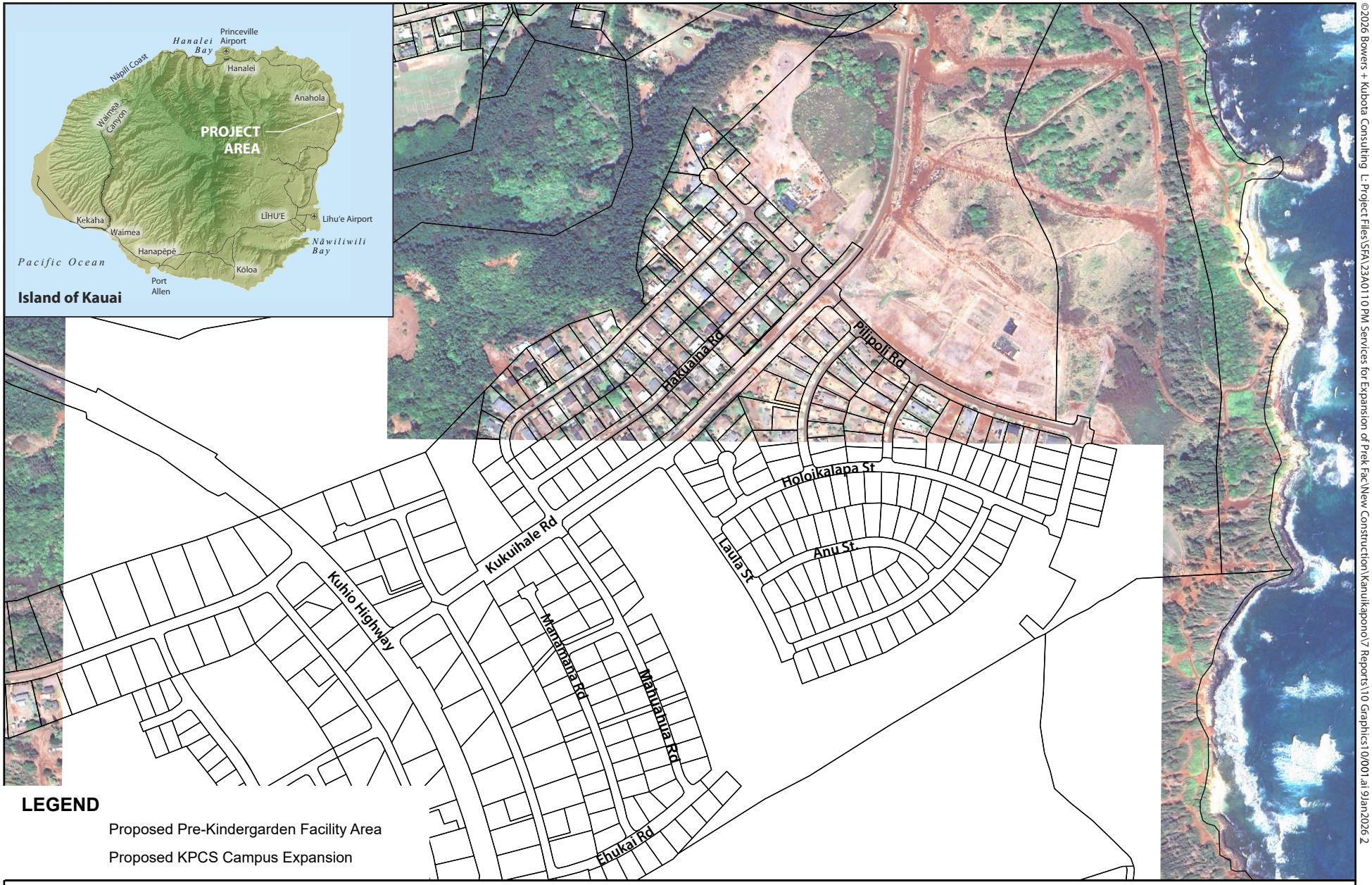


FIGURE 1.1
UPDATED PROJECT LOCATION MAP

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Appendix B:

Natural Resources Assessment Report



AECOS No. 1860B

A natural resources assessment for Kanuikapono Public Charter School Pre-K Facility in Anahola, Kauaʻi



AECOS Inc.
45-939 Kamehameha Highway
Suite 104
Kāneʻohe, Hawaiʻi 96744

February 9, 2026

A natural resources assessment for Kanuikapono Public Charter School Pre-K Facility in Anahola, Kauaʻi

February 9, 2026 *AECOS* No. 1860B

Anne Lee, Gioconda Lopez, PhD, and Kamryn Yoneshige
AECOS Inc.
45-939 Kamehameha Highway Suite 104
Kāneʻohe, Hawaiʻi 96744
Phone: (808) 234-7770 Fax: (808) 234-7775 Email: annelee@aecos.com

Introduction

The State of Hawaiʻi, through the Hawaiʻi School Facilities Authority (HISFA), is planning to design and construct a pre-kindergarten facility in Anahola on the Island of Kauaʻi (Figure 1; "Project"). Proposed is further developing a campus for a community-based school and services center and to provide improvements including new classrooms, locker rooms, photovoltaic panels, and more. *AECOS* Inc. was contracted by Bowers + Kubota Consulting Inc. to undertake a natural resources survey of the Project site and conduct a jurisdictional determination for a wetland located on the property.

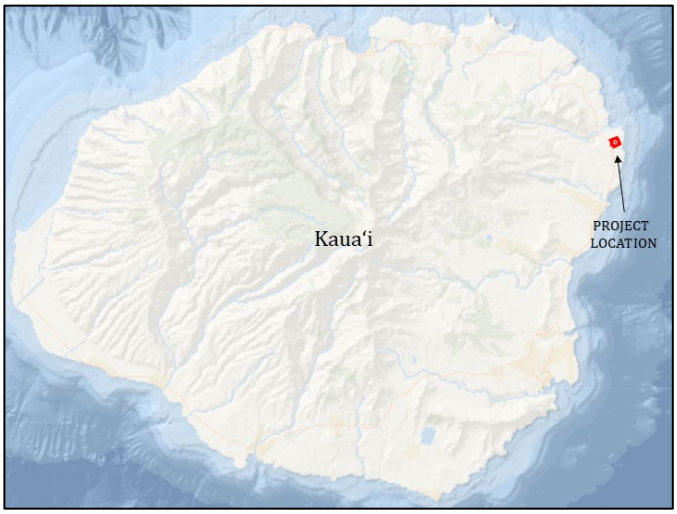


Figure 1. Project location on Kauaʻi.

Project Area Description

The Project will be built on an approximately 7.5-ac portion of Tax Map Key (TMK): (4) 4-8-022:089 owned by Department of Hawaiian Home Lands and leased to Na Kupa'a O Kūhiō. The Project is on the southern campus of Kanuikapono Public Charter School, bordered by Laula Street on the east, private home lots on the west, and undeveloped land on the south (Figure 2).



Figure 2. Map of the survey area (red polygon) in Anahola, Kaua'i.

The U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) identifies "Papakū Muliwai" as a seasonally saturated, palustrine wetland with persistent emergent vegetation (PEM1B) within the Project parcel (Figure 3).



Figure 3. Mapped wetlands as depicted in the National Wetlands Inventory (USFWS, n.d.-a).

Figure 4 shows the mapped soils in the area as Lihue silty clay, 0 to 8 percent slopes ("LhB") and Lihue silty clay, 8 to 15 percent slopes ("LhC", Soil Survey Staff USDA-NRCS, n.d.). These soils are classified as nonhydric (not necessarily associated with wetlands).



Figure 4. Mapped soil types (USDA-NRCS, 2025).

Precipitation in Anahola is seasonal with the "official" wet season from November through April and the dry season from May through October. The U.S. Climate Normal dataset reports average annual rainfall at the nearest climate normal station ("Koloko RSVR 1137, HI") as 1947.16 mm (76.66 in; NOAA-NCEI, 2025). "Anahola" is the nearest active National Oceanographic and Atmospheric Administration-National Weather Service (NOAA-NWS) rain gage. This rain gage

recorded a total of 522.99 mm (20.59 in) rainfall in the three months preceding our field visit in September, 73% of the 30-yr moving average for this location (NOAA-NWS, 2025). The Anahola rain gage recorded a total of 756.40 mm (29.78 in) rainfall in the three months preceding our field work,; 71% of the 30-yr moving average for this location (NOAA-NWS, 2025).

Jurisdictional Waters

Federal Jurisdiction

Waters of the US (also called "jurisdictional waters" or "federally jurisdictional waters") are surface waters that come under federal jurisdiction as authorized by the Clean Water Act (CWA) and the Rivers and Harbors Act (RHA). Authority over these waters is granted to various federal agencies, including the U.S. Environmental Protection Agency (USEPA), with the U.S. Army Corps of Engineers (USACE) having permit authority for some actions that impact jurisdictional waters. Jurisdictional waters include all tidal waters and a subset of streams, lakes, reservoirs, and wetlands.

Our jurisdictional assessment, as presented herein, is based upon best professional judgement, but the USACE must concur for our findings to become official determinations of federal jurisdiction. If a feature is determined by the USACE to be jurisdictional, certain activities would require a permit from that agency before undertaking work within the delineated boundaries of that feature.

In March 2023, the final "Revised Definition of 'Waters of the United States" ("2023 rule") took effect (USACE and USEPA, 2023a) and, in May 2023, a Supreme Court of the U.S. (SCOTUS) ruling (SCOTUS, 2023) eliminated jurisdiction over certain waters, revised the "adjacent wetlands" definition; and eliminated jurisdiction over intrastate wetlands. In September 2023, the agencies published a conforming rule for the Revised Definition of 'Waters of the United States' ("conforming rule" or "amended 2023 rule"; USACE and USEPA, 2023b) to comply with the SCOTUS opinion.[1]

Jurisdictional waters identified in the conforming rule include:

- tidal waters, also known as traditionally navigable waters (TNWs) [(a)(1)] [2];

[1] On November 20, 2025, the agencies published a proposed rule, "updated definition of wotus", (this time, providing notice and a comment period) to amend the 2023 rules in consideration of the SCOTUS ruling (USACE and USEPA, 2025).

[2] Numbers/letters given in brackets are from the final rule (USACE and USEPA, 2023a). Waterbody types are referred to by these designations.

- impoundments of jurisdictional waters [(a)(2)];
- tributaries of TNWs that have relatively permanent water (RPW) [(a)(3)];
- wetlands adjacent to TNWs [(a)(4)(i)] or wetlands adjacent to and with a continuous surface connection to RPW tributaries [(a)(4)(ii)]; and
- other waters not identified above that have RPW and a surface connection to a TNW or RPW tributary [(a)(5)].

Tributaries are defined in the 2023 rule as (USACE and USEPA, 2023a; p. 3080):

> … rivers, streams, lakes, ponds, and impoundments, regardless of their flow regime, that flow directly or indirectly through another water or waters to a traditional navigable water, the territorial seas, or an interstate water. Waters through which a tributary may flow indirectly include, for example, impoundments, wetlands, lakes, ponds, and streams. A tributary may flow through a number of downstream waters, including a non-jurisdictional tributary or non-jurisdictional feature, such as [an excluded ditch,] excluded waste treatment system, and jurisdictional waters that are not tributaries, such as an adjacent wetland"

Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar features characterized by wet ground (USACE, 1987; USACE and USEPA, 2023a). According to the Conforming Rule, adjacent wetlands must have a continuous surface connection to bodies that qualify as 'waters of the U.S.' in their own right (USACE and USEPA, 2023b).

State Jurisdiction

Unlike many other states, Hawai'i does not have a permitting program for state waters that are not regulated as waters of the U.S. Due to recently frequent changes in the definition of waters of the U.S. (e.g., the Clean Water Rule of 2015, the Navigable Waters Protection Rule of 2018, the Revised Definition of Waters of the U.S. of March 2023, the U.S. Supreme Court decision of May 2023, and the conforming rule of 2023), Hawai'i state agencies have begun to evaluate whether certain waterbodies are state waters, independent of whether they are waters of the U.S.

State waters fall under jurisdiction authorized under Hawai'i Revised Statutes (HRS), State Water Code (HRS § 174C-3, 2021), and Water Pollution Chapter

(HRS § 342D-1, 2022). The State Water Code defines a "stream" as "…any river, creek, slough, or natural watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing [*sic*] be uniform or uninterrupted. The fact that some parts of the bed or channel have been dredged or improved does not prevent the watercourse from being a stream." A "watercourse… means a stream or any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing [*sic*] be uniform or uninterrupted." State waters are defined in the Water Pollution Chapter as "all waters, fresh, brackish, or salt, around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches, ponds, reservoirs, canals, ground waters, and lakes; provided that drainage ditches, ponds, and reservoirs required as part of a water pollution control system are excluded."

Methods

Prior to the field survey, *AECOS* scientists reviewed literature and GIS data including published climate data and recent rainfall records (Hawaii Monthly Precipitation Summary; NOAA-NWS, 2025), the USFWS NWI (USFWS, n.d.-a), the USGS NGMDB (USGS, 2024), the Hawaii Watershed Atlas (Parham et al., 2008), and mapped soil types (USDA-NRCS, 2025).

Wetland Delineations

Wetland delineations follow the methods described in the *Corps of Engineers Wetland Delineation Manual* ("Manual"; USACE, 1987) and *Regional Supplement for Hawai'i and Pacific Islands* (USACE, 2012). The wetland status of plant species derives from the 2012 National Wetland Plant List (Lichvar, 2012) and a 2022 update (USACE, 2023).

A wetland determination sampling point ("SP") is used to evaluate the presence of either wetland or upland characteristics at a selected location in the landscape. The approach for wetland delineation for CWA purposes requires finding positive evidence of hydric soil, wetland hydrology, and hydrophytic vegetation at a SP. The federal boundary between wetland and upland (non-wetland) is established as a line outside of which at least one of the three wetland indicators is absent.

On September 24 to 25 and December 2, 2025, *AECOS* biologists surveyed the Project area to identify and delineate a wetland indicated in the NWI (USFWS, n.d.-a; see Fig. 3). We used a handheld global navigation satellite system (GNSS)

instrument (Trimble® 7x Series), providing sub-meter accuracy, to record our sampling points. The resulting shapefile was processed with Trimble® GPS Pathfinder® Office, including differential correction, and exported as ArcMap shapefiles projected in NAD 1983 UTM, Zone 4N. These data were used to prepare maps presented in our report. Wetland data determination forms are provided in Attachment A.

The National Wetland Plant List (NWPL), administered by the USACE, assigns a wetland indicator status to each species of vascular plant on a regional basis (Lichvar, 2012; USACE, 2023). Table 1 provides wetland status indicators and their definitions. The wetland indicator status of each species in the plant assemblage at a SP is used to determine if the SP has a "prevalence of vegetation typically adapted for life in saturated soil conditions."

Table 1. Wetland status indicators and their definitions (after Lichvar and Gillrich, 2011).

Status Indicator (CODE)	Qualitative Description
Obligate (OBL)	Almost always occurs in wetlands
Facultative wetland (FACW)	Usually occurs in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occurs in wetlands and non-wetlands
Facultative upland (FACU)	Usually occurs in non-wetlands, but may occur in wetlands
Upland (UPL)	Almost never occurs in wetlands

Hydric soils are soils that are sufficiently wet in the upper layers to develop anaerobic conditions; that is, soils that could be associated with wetlands. Soil saturation with water is what differentiates wetland soils from upland soils, as saturation greatly reduces the oxygen present between soil particles. In determining whether soil is hydric, we look for evidence of this saturation (e.g., reducing conditions). The soil need not be water-saturated at the time of inspection and indeed may be dry; evidence of saturation will remain long after a soil dries out.

Botanical Survey

AECOS botanist Gioconda López surveyed the Project area on September 24 to 25, and December 02, 2025, using wandering transects. Plant species were

identified as they were encountered. Any plant not immediately recognized during the survey was photographed and/or a representative feature (fruit, flower, leafy branch) collected for later identification at the laboratory. Species names follow *Manual of the Flowering Plants of Hawai'i* (Wagner, Herbst, & Sohmer, 1990; Wagner & Herbst, 1999) for native and naturalized flowering plants, and *A Tropical Garden Flora* (Staples & Herbst, 2005) for ornamental plants. More recent name changes for naturalized plant species follow Imada et al. (2025).

Terrestrial Vertebrates Survey

Avian Survey

On September 24 to 25 and December 02, 2025, *AECOS* biologists conducted avian surveys within the Project area. Birds were identified to species by visual observation, aided by Leica 8 X 42 binoculars, and by listening for vocalizations. Species observed were recorded as incidental observations. Weather conditions for all three days were ideal for avian detection during our survey, with unlimited visibility, no precipitation, and low winds (0-5 mph). The avian phylogenetic order and nomenclature used in this report follows the AOU *Checklist of North and Middle American Birds* 2024 (Chesser et al., 2024) and the 66th supplement to the checklist (Chesser et al., 2025).

Mammalian Survey

AECOS biologists recorded all mammals encountered. Mammalian phylogenetic order and nomenclature follow *Mammal Species of the World* (Wilson and Reeder, 2005). Nomenclature for the Hawaiian hoary bat follows Pinzari et al. (2020).

Results

In the past, Anahola was home to sugar plantations, and many irrigation ditches were excavated to irrigate the crops using water from area streams (Wilcox, 1997). Although these ditches no longer carry water, remnants can still be seen on the landscape.

Unnamed ditch

We observed an unnamed ditch not depicted in the USFWS NWI or USGS NGMD, which runs under Mahuahua Rd just off the southwestern border of the Project area (Figure 5). The ditch did not contain water. No stream bed or banks were

present or any other physical indicators of flow (Figure 6). Some portion of the ditch is overgrown with Guinea grass (*Megathyrsus maximus*) and vegetation is disturbed due to mowing in another section of the ditch. The flow path curves to the south from Mahuahua Rd. In the past, this ditch might have fed water into the shallow depression called Papakū Muliwai.



Figure 5. Unnamed ditch and SP 01 location in the Project area.



Figure 6. An unnamed ditch runs behind residential home near Mahuahua Road.

Wetlands

Although NWI identifies a wetland (Papakū Muliwai) within the Project area (Fig. 3), at the time of our survey, hydrophytic vegetation was not present, the soil was not hydric, and wetland hydrology was not evident (Figure 7) in the area shown in the NWI. A single SP (SP 01) was completed within the shallow basin feature (Fig. 5). The vegetation of SP 01 is predominately elephant grass (*Cenchrus purpureus*; FAC; 80% herb stratum cover), *koa haole* (*Leucaena leucocephala*; UPL; 10% tree stratum cover) and castor bean (*Ricinus communis*; FACU; 5% "tree stratum" cover). Papakū Muliwai does not feature wetland hydrology indicators nor hydric soil indicators. A wetland data determination sheet is provided as Attachment A.

Vegetation

The Project area consists of pastureland dominated by Guinea grass (*Megathyrsus maximus*) and *koa haole*. On the southeast side of the Project area, the shrub cover is denser with *koa haole*, fiddlewood (*Citharexylum caudatum*),



Figure 7. Papakū Muliwai is dominated by elephant grass and *koa haole*.

lantana (*Lantana camara*), and *Pluchea carolinensis.* A depression called Papakū Muliwai presents a dense patch of elephant grass that exceeds 6 ft in height.

Around Kanuikapono Public Charter School, the area is mowed and landscaped and presents planted native species (*hala* [*Pandanus tectorius*] and *naio* [*Myoporum sandwicense*]), as well as Polynesian introductions (so-called "canoe plant"), such as banana (*Musa* sp.) and *kalo* (*Colocasia esculenta*). A small section is fenced and planted with edible species such as bananas, Cuban oregano (*Coleus amboinicus*), and basil (*Ocimum basilicum*).

Flora

A botanical listing (flora) with approximate relative abundance for all plant taxa recorded is presented in Table 2. Entries are arranged alphabetically under family names and include scientific name, common name, status (i.e., native or non-native; see key at end of table), and a relative abundance value by survey area. "Status" reflects the state-wide distribution of the species.

Table 2. Plant species observed at Kanuikapono Public Charter School Project area

Species listed by family	Common name	Status	Abundance	Notes
FLOWERING PLANTS MONOCOTS				
ALOEACEAE				
Aloë vera (L.) N.L. Burman	aloe vera	Orn	R	
ARACEAE				
Colocasia esculenta (L.) Schott.	*kalo*	**Pol**	R	<2>
ARECACEAE				
Cocos nucifera L.	coconut palm; *niu*	**Pol**	U	
ASPARAGACEAE				
Cordyline fruticosa (L.) A. Chev.	ti; *kī*	**Pol**	U	<2>
CYPERACEAE				
Cyperus rotundus L.	nut grass	Nat	R	
MUSACAEAE				
Musa sp.	banana, *maiʻa*	**Pol**	U	<2>
PANDANACEAE				
Pandanus tectorius S. Parkinson ex Z	*hala*	**Ind**	R	<2>
POACEAE (GRAMINEAE)				
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	Nat	U	
Cenchrus echinatus L.	sandbur	Nat	R	
Cenchrus purpureus (Schumach.) Morrone	elephant grass	Nat	U	
Chloris barbata (L.) Sw.	swollen fingergrass	Nat	U	
Dactyloctenium aegypticum (L.) Willd.	beach wiregrass	Nat	R	
Megathyrsus maximus (Jacq.) B.K. Simon & W.L. Jacobs	Guinea grass	Nat	AA	
ZINGIBERACEAE				
Curcuma longa L.	*ʻolena*	**Pol**	R	<2>
FLOWERING PLANTS EUDICOTS				
AMARANTHACEAE				
Amaranthus viridis L.	slender amaranth	Nat	R	
Amaranthus spinosus L.	spiny amaranth	Nat	U	
Gomphrena celosioides Mart.	---	Nat	R	

Table 2 (continued).

Species listed by family	Common name	Status	Abundance	Notes
ANACARDIACEAE				
Mangifera indica L.	mango	Nat	R	
Schinus terebinthefolius Raddi	Christmas berry	Nat	R	
ANNONACEAE				
Annona muricata L.	soursop	Orn	R	<1>
APOCYNACEAE				
Plumeria obtusa L.	Singapore plumeria	Orn	R	
ASCLEPIADACEAE				
Calotropis gigantea (L.) W.T. Aiton	crownflower	Orn	R	
ASTERACEAE				
Emilia fosbergii Nicolson	Flora's paintbrush	Nat	R	<1>
Parthenium hysterophorus L.	false ragweed	Nat	O	
Pluchea carolinensis (Jacq.) G. Don	---	Nat	O	
Tridax procumbens L.	coat buttons	Nat	R	
BRASSICACEAE				
Lepidium virginicum L.	---	Nat	U	
CECROPIACEAE				
Cecropia obtusifolia Bertol.	guarumo	Nat	R	
CONVOLVULACEAE				
Ipomoea obscura (L.) Ker-Gawl.	---	Nat	U	
EUPHORBIACEAE				
Aleurites moluccana (L.) Wild.	*kukui*	**Pol**	R	
Euphorbia hirta L.	garden spurge	Nat	R	
FABACEAE				
Acacia koa A. Gray	*koa*	**End**	R	
Alysicarpus vaginalis (L.) DC.	Alyce clover	Nat	R	
Canavalia cathartica Thouars	*maunaloa*	Nat	O	
Chamaecrista nictitans (L.) Moench	partridge pea	Nat	U	
Clitoria ternatea L.	butterfly pea	Nat	U	
Crotalaria incana L.	fuzzy rattlepod	Nat	U	
Crotalaria pallida Aiton	smooth rattlepod	Nat	U	
Desmodium incanum DC.	Spanish clover	Nat	R	
Leucaena leucocephala (Lam.) deWit	*koa haole*	Nat	A	
Macroptilium atropurpureum (DC.) Urb.	---	Nat	U	
Mimosa pudica L.	sleeping "grass"	Nat	R	
Senna occidentallis (L.) Link	coffee senna	Nat	R	

Table 2 (continued).

Species listed by family	Common name	Status	Abundance	Notes
FABACEAE (cont.)				
Senna surattensis (N.L. Burm.) H. Irwin & Barneby	scrambled egg plant	Nat	R	
LAMIACEAE				
Coleus amboinicus Lour.	Cuban oregano	Orn	U	
Ocimum basilicum L.	sweet basil	Nat	U	<2>
MALVACEAE				
Malvastrum coromandelianum (L.) Garcke	false mallow	Nat	U	
Sida ciliaris L.	---	Nat	U	
Sida rhombifolia L.	Cuba jute	Nat	U	
Waltheria indica L.	*'uhaloa*	**Ind**	U	
MORACEAE				
Artocarpus atilis (Z) Fosberg	*'ulu,* breadfruit	**Pol**	R	<2>
Ficus carica L.	edible fig	Orn	R	<1>
MORINGACEAE				
Moringa oleifera Lam.	horseradish tree	Nat	R	
MYOPORACEAE				
Myoporum sandwicense A. Gray	*naio*	**Ind**	R	<2>
MYRTACEAE				
Psidium guajava L.	common guava	Nat	R	<2>
Syzygium cuminii (L.) Skeels	Java plum	Nat	R	
NYCTAGINACEAE				
Boerhavia coccinea Mill.	false *alena*	Nat	R	
PLANTAGINACEAE				
Plantago lanceolata L.	nrw-lvd. plantain	Nat	U	
PHYLLANTHACEAE				
Phyllanthus debilis Klein ex Willd.	*niruri*	Nat	R	
RUBIACEAE				
Morinda citrifolia L.	*noni*	**Pol**	R	<2>
SCROPHULARIACEAE				
Bontia daphnoides L.	bontia	Orn	R	
VERBENACEAE				
Lantana camara L.	lantana	Nat	C	
Pilea microphylla (L.) Liebm.	artillery plant	Nat	R	
Citharexylum caudatum L.	fiddlewood	Nat	C	
Stachytarpheta jamaicensis (L.) Vahl.	Jamaica vervain	Nat	U	

Table 2 (continued).

Legend to Table 2.

Status = distributional status

End = Endemic; native to Hawaii and found naturally nowhere else.
Ind = Indigenous; native to Hawaii, but not unique to the Hawaiian Islands.
Nat = naturalized, exotic, plant introduced to the Hawaiian Islands since 1778 and well-established.
Orn = exotic, ornamental or cultivated; plant not naturalized (not well-established outside of cultivation).
Pol = An early Polynesian introduction. Introduced before 1778.

Abundance = occurrence ratings for plants in survey area.

R - Rare – seen in only one or two locations.
U - Uncommon – seen at most in several locations.
O - Occasional – seen with some regularity.
C - Common – observed numerous times during the survey.
A - Abundant – found in large numbers; may be locally dominant.
AA - Very abundant - abundant and dominant; a defining vegetation type.

Notes:

<1> - Plant without flower or fruit; identification uncertain.
<2> - Plant intentionally cultivated for ornamental or edible purposes.

In all, we recorded a total of 65 species of vascular plants, all angiosperms (flowering plants). Native taxa comprise three indigenous species (**Ind**; native but also distributed elsewhere in the Pacific), representing 5% of the total species observed, and one endemic species (**End**; native to Hawaiʻi and found naturally nowhere else; 2%). Eight early Polynesian introductions (**Pol**; 12%) were observed. The remaining 53 species (82%) are plants introduced to the Hawaiian Islands after 1778, comprising 46 naturalized species (Nat, i.e., grow naturally in the wild) and 7 ornamentals (Orn).

The single endemic species recorded is *koa* (*Acacia koa*); the indigenous species are *hala* , *ʻuhaloa*, and *naio*; the Polynesian introductions are *kalo*, coconut (*Cocos nucifera*), *ti* (*Cordyline fruticosa*), banana, *ʻolena* (*Curcuma longa*), *kukui* (*Aleurites moluccana*), breadfruit (*Artocarpus atilis*), and *noni* (*Morinda citrifolia*). All endemic, indigenous, early Polynesian introductions, and ornamental plants were observed on Kanuikapono Public Charter school grounds and presumably all planted there.

Avian Fauna

A total of 14 bird species, representing seven separate families, were recorded during the survey and are presented in Table 3. Most of the species recorded are non-native introductions that have become naturalized in Hawai'i. The exceptions are the Great Frigatebird (*Fregata minor*) and the Pacific Golden-Plover (*Pluvialis fulva*). The Pacific Golden-Plover is an indigenous migratory shorebird species that nests in the high Arctic during the late spring and summer months, returning to Hawai'i and the Tropical Pacific to spend the fall and winter months each year.

Table 3. Avian species observed at Kanuikapono Public Charter School Project area.

Common Name	ORDER FAMILY *Species*	Status
	GALLIFORMES PHASIANIDAE - Pheasants & Partridges Phasianinae - Pheasants & Allies	
Red Junglefowl	*Gallus gallus*	A
	COLUMBIFORMES COLUMBIDAE - Pigeons & Doves Columbinae - Typical Pigeons and Doves	
Spotted Dove	*Spilopelia chinensis*	A
Rock Pigeon	*Columba livia*	A
	Raphinae - Fruit-Doves, Australian Doves & Allies	
Zebra Dove	*Geopelia striata*	A
	CHARADRIIFORMES CHARADRIIDAE - Golden-Plovers, Lapwings & Plovers Pluvialinae - Golden-Plovers	
Pacific Golden-Plover	*Pluvialis fulva*	IM

Table 3 (continued).

Common Name	ORDER FAMILY *Species*	Status
	SULIFORMES FREGATIDAE - Frigatebirds	
Great Frigatebird	*Fregata minor*	IR
	PELECANIFORMES ARDEIDAE - Herons, Bitterns & Allies	
Western Cattle-Egret	*Ardea ibis*	A
	PSITTACIFORMES PSITTACULIDAE - Lories, Lovebirds, and Indomalayan and Papua-Australasian Parrots Psittaculineae - Indomalayan and Papua-Australsian Parrots	
Rose-ringed Parakeet	*Psittacula krameri*	A
	PASSERIFORMES MUSICAPIDAE - Old World Flycatchers	
White-rumped Shama	*Copsychus malabaricus*	A
	MIMIDAE - Mockingbirds & Thrashers	
Northern Mockingbird	*Mimus polyglottos*	A
	STURNIDAE - Starlings	
Common Myna	*Acridotheres tristis*	A
	ESTRILDIDAE - Estrildid Finches	
Common Waxbill	*Estrilda astrild*	A
	FRINGILLIDAE - Fringilline and Carduline Finches & Allies Carduelinae - Carduline Finches and Hawaiian Honeycreepers	
House Finch	*Haemorhous mexicanus*	A
	THRAUPIDAE - Tanagers Thraupinae - Core Tanagers	
Red-crested Cardinal	*Paroaria coronata*	A

Table 3 (continued).

Legend to Table 3.

STATUS = distributional status for the Hawaiian Islands:
A = Alien, non-native introduced established in the Hawaiian Islands.
IM = Indigenous migratory species not unique to the Islands, does not nest in the Hawaiian Islands.
IR = Indigenous resident species that nests in the Hawaiian Islands.

Mammals

The only mammals we encountered during our survey were domesticated horse (*Equus caballus*) and domesticated goat (*Capra hircus*).

Discussion and Recommendations

Recommendations are partly based on U.S. Fish and Wildlife Service Animal Avoidance and Minimization Measures (USFWS-PIFWO, 2023). Implementation of the recommendations (provided below as bulleted items) by the Project contractor will minimize impacts to listed species to the maximum extent practicable.

Jurisdictional Waters

In consideration of the 2023 Revised Definition of Waters of the United States Rule and Revised Definition of the United States Conforming Rule (USACE and USEPA, 2023a; 2023b), the Project area does not contain federal jurisdiction wetlands or streams. The wetland that we surveyed did not have hydrophytic vegetation, hydric soil, or hydrology indicators.

Floral Resources

Although occurrences of native flora are present within the survey area. These plants are common species, and their respective populations are more abundant outside of the survey area. No plants proposed or listed as threatened or endangered species as set forth in the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1543; USFWS, n.d.-b; HDLNR, 1998) were seen in the Project area. For plants, state listing follows the federal listing.

Avian Resources

Seabirds

No seabirds or suitable habitat were found within the Project area. However, protected night-flying Hawaiian seabirds may overfly or otherwise use the parcel. Protected seabirds in Hawaiʻi include Wedge-tailed Shearwater (*Ardenna pacifica*), Hawaiian Petrel (*Pterodroma sandwichensis*), Newell's Shearwater (*Puffinus newelli*), and Band-rumped Storm-Petrel (*Hydrobates castro*). In the summer and fall, night-flying seabirds (especially fledglings) transiting to the sea from inland can become disoriented by exterior lighting. If disoriented, seabirds may collide with man-made structures or the ground. If not killed outright, dazed or injured birds are targets of opportunity for feral mammals (Podolsky et al., 1998; Ainley et al., 2001; Day et al., 2003). The primary cause of mortality in these seabird species is predation by alien mammalian species at the nesting colonies (USFWS, 1983; Ainley et al., 2001). Collision with man-made structures is considered the second-most significant cause of mortality of these seabirds in Hawaiʻi. Three of the night-flying Hawaiian seabird species (Hawaiian Petrel, Newell's Shearwater, and Band-rumped Storm-petrel) nest at high elevations in the mountains, precluding nesting disturbance at the Project site.

- The Project can minimize or avoid risks to protected night-flying seabirds by not conducting night-time construction at the site and ensuring that all installed outdoor lighting is properly shielded (dark sky compliant; see HDLNR-DOFAW, 2016).

Mammalian Resources

No mammalian species currently proposed for listing or listed under either federal or state endangered species statutes (HDLNR 1998, 2015; USFWS, n.d.-a) were recorded on the Project property. All introduced mammalian species are deleterious to the native biota.

Hawaiian Hoary Bat

It is possible that the endangered Hawaiian hoary bat, *Ōpeʻapeʻa* (*Lasiurus semotus*), uses resources in the area. This species of bat uses multiple roosts within a home territory (Bonaccorso, 2015), so the disturbance associated with removal of any particular tree would be minimal. However, an exception is during the bat pupping season, when a female bat carrying a pup or an unattended pup may be unable to rapidly vacate a roost tree that is being felled. The potential for

adverse impact of the Project on the Hawaiian hoary bat would occur only if trees on the site are cleared.

- Cutting of trees can avoid adverse impact to Hawaiian hoary bat if done outside of the bat pupping season (June 1 to September 15 of each year).
- Potential adverse impacts to Hawaiian hoary bat can be minimized by avoiding the use of barbed wire for fencing (USFWS-PIFWO, 2023).

Other Resources of Potential Concern

Critical Habitat

Federally delineated Critical Habitat is not present in the Project area (USFWS, 2020). No equivalent designation exists under state law.

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Attachment A

Wetland determination data forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Hawai'i and Pacific Islands Region
See ERDC/EL TR-12-5; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1860B Hawaiian School Facilities Anahola Preschool City: Anahola Sampling Date: 09/24/2025 Time: 11:10
Applicant/Owner: Bowers & Kuboda State/Terr/Comlth.: Hawai'i Island: Kauai Sampling Point: SP 01
Investigator(s): al, ky TMK/Parcel: (4) 4-8-022:089
Landform (hillside, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave
Lat: 2448066.78 N Long: 469026.89 E Datum: UTM 1983 4N Slope (%): 4
Soil Map Unit Name: LhC (Lihue silty clay, 8 to 15 percent slopes) NWI classification: Wetland (PEM1B)
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
surrounding areas disturbed with horse grazing and mowing, NWI shows wetland in area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Leucaena leucocephala*	10	Yes	UPL
2. *Ricinus communis*	5	Yes	FACU
3.			
4.			
5.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Leucaena leucocephala*	2	No	UPL
2.			
3.			
4.			
5.			
	2	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Saccharum spontaneum*	80	Yes	FAC
2. *Canavalia cathartica*	1	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	81	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	6	x 4 =	24
UPL species	12	x 5 =	60
Column Totals:	98 (A)		324 (B)
Prevalence Index = B/A =			3.31

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:
lots of elephant grass debris at surface

SOIL

Sampling Point: SP 01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 3/4	100					Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Guam, CNMI, and American Samoa)**
- ___ Dark Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
gravelly, potential filled area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) **(Guam, CNMI, and American Samoa)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
230 OTAKE STREET, CEPOH-RO
FORT SHAFTER, HAWAII 96858-5440

February 27, 2026

SUBJECT: Approved Jurisdictional Determination and No Permit Required HI Department of Hawaiian Home Lands, Kanuikapono Public Charter School, Pacific Ocean, Anahola, Island of Kauai, Hawaii Department of the Army File No. POH-2025-00110

Kali Watson
HI Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, HI 96707

Dear Mr. Watson:

The Honolulu District, U.S. Army Corps of Engineers (Corps), Regulatory Branch has received your request for an approved jurisdictional determination (AJD) and determination whether a Department of the Army (DA) permit is required for the proposed construction of a new public charter school located at 4333 Kukuihale Road TMK (4) 4-8-022:089 Anahola, Kauai, Hawaii (22.136709º, -159.300084º). Please reference Department of the Army (DA) file number POH-2025-00110 in any future correspondence related to this action.

The review area for this AJD is the 3.89-acre portion of the parcel at the location described above, consisting entirely of uplands, and as depicted on the enclosed map (Enclosure 1).

Based on our review of the information you provided dated December 15, 2025, the Corps has determined the site does not contain waters of the U.S., including wetlands or navigable waters of the U.S., as defined by 33 CFR Parts 328 and 329, respectively. Therefore, a DA permit under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899 is not required.

This AJD is valid for a period of five (5) years from the date of the AJD form, unless new information supporting a revision is provided to us before the expiration date. The basis for this determination can be found in the enclosed AJD form(s) (Enclosure 2). Additionally, a Notification of Administrative Appeal Options and Process and Request for Appeal form regarding this AJD (see section labeled “Approved Jurisdictional Determination”) is enclosed (Enclosure 3).

While a DA permit is not required for your proposed project, you are responsible for obtaining all other applicable Federal, state, or local authorizations required by law.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this authorization, please contact me at 808-835-4309 or via e-mail at Joshua.H.Moffi@usace.army.mil and CEPOH-RO@usace.army.mil, referencing the project number POH-2025-00110 in the email subject. For additional information about our Regulatory Program, please visit our web site at https://www.poh.usace.army.mil/Missions/Regulatory.aspx.

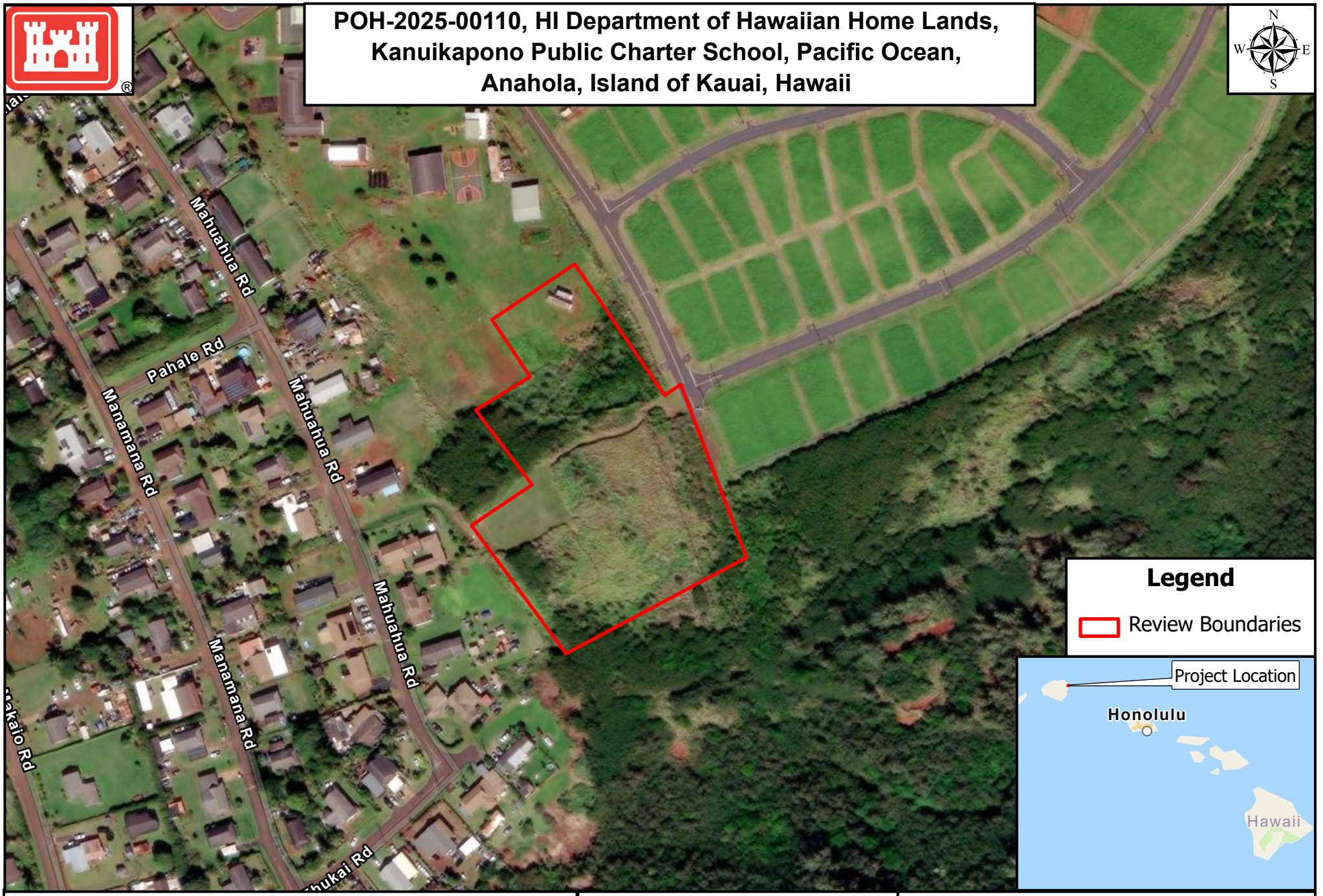
Sincerely,



Joshua Moffi
Project Manager, Regulatory Branch

Enclosures

POH-2025-00110, HI Department of Hawaiian Home Lands, Kanuikapono Public Charter School, Pacific Ocean, Anahola, Island of Kauai, Hawaii



Description:
Jurisdictional Determination review area of 3.89 acres for the construction of a new public charter school.

0 100 200 400
Feet

Map Center:
159.299897°W 22.137135°N

Produced By: Joshua Moffi
Date: February 20, 2026

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
230 OTAKE STREET, CEPOH-RO
FORT SHAFTER, HAWAII 96858-5440

CEPOH-RO 20 February 2026

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1] POH-2025-00110.[2]

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[3] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[4]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[5] the 2023 Rule as amended,

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[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.

[2] When documenting aquatic resources within the review area that are jurisdictional under the Clean Water Act (CWA), use an additional MFR and group the aquatic resources on each MFR based on the TNW, the territorial seas, or interstate water that they are connected to. Be sure to provide an identifier to indicate when there are multiple MFRs associated with a single AJD request (i.e., number them 1, 2, 3, etc.).

[3] 33 CFR 331.2.

[4] Regulatory Guidance Letter 05-02.

[5] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

1. SUMMARY OF CONCLUSIONS.

    a. The review area is comprised entirely of dry land (i.e., there are no waters such as streams, rivers, wetlands, lakes, ponds, tidal waters, ditches, and the like in the entire review area and there are no areas that have previously been determined to be jurisdictional under the Rivers and Harbors Act of 1899 in the review area). The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) Mapper shows a palustrine emergent wetland in the northern section of the review area. The area of this wetland which is located to the properties west of TMK (4) 4-8-022:089 was covered under a JD for POH-2019-00137 and was found to be non- jurisdictional. The portion of the wetlands reviewed under POH-2019-00137 have since been filled. The original request was for JD covering an area of 2.5 acres was expanded to 3.89 acres to include the entire wetland which was identified in the NWI as entering the review area and is the only remaining area of this wetland complex. There have been no aquatic features identified connecting this wetland to make it potentially jurisdictional. The National Resources Conservation Service's Web Soil Survey Mapper shows the entire area as Lihue silty clay soil which has a high runoff rate and is listed as a non-hydric soil. Additionally, the Natural Resources Assessment submitted by the applicant contains photo and wetland delineations point data to document that the review area is an upland area. Based on the Natural Resources Assessment and information in the POH-2019-00137 Administrative Record the Corps has determined the review area consists entirely of uplands and was possibly miss mapped in the NWI.

2. REFERENCES.

    a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

    b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023)

    c. *Sackett v. EPA*, 598 U.S. 651, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. The review area includes 3.89 acres of the 25.18 acre parcel known as 4333 Kukuihale Road TMK (4) 4-8-022:089, in Anahola, on the Island of Kauai, Hawaii. See POH-2025-00110_JDMap in the AR for a map of the location and review area.

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. [6] The closest Territorial Sea is the Pacific Ocean which is located approximately 2,150 feet east of the site.

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. From the site water would flow off to the southwest into a small gulch running just off the western edge of the site which runs approximately 410 feet southeast to larger ravine. From there it runs approximately 2,265 feet to the Pacific Ocean.

6. SECTION 10 JURISDICTIONAL WATERS[7]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[8] N/A

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

---

[6] This MFR should not be used to complete a new stand-alone TNW determination. A stand-alone TNW determination for a water that is not subject to Section 9 or 10 of the Rivers and Harbors Act of 1899 (RHA) is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established.

[7] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

[8] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

a. Traditional Navigable Waters (TNWs) (a)(1)(i): N/A

b. The Territorial Seas (a)(1)(ii): N/A

c. Interstate Waters (a)(1)(iii): N/A

d. Impoundments (a)(2): N/A

e. Tributaries (a)(3): N/A

f. Adjacent Wetlands (a)(4): N/A

g. Additional Waters (a)(5): N/A

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

   a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[9]
   There are no aquatic features in the review area. The closest aquatic feature is a drainage running just off the western edge of the review area. There has been no jurisdictional determination made for this feature.

   b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).
   N/A

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

[9] 88 FR 3004 (January 18, 2023)

a. A natural resources assessment for Kanuikapono Public Charter School Pre-K Facility in Anahola, Kauaʻi. Submitted by the applicant and produced by AECOS Inc. Dated December 15, 2025.

b. Google Earth Pro, Accessed December 18, 2025.

c. Google Maps, Accessed December 18, 2025.

d. Digital Globe, Accessed December 18, 2025.

e. National Resources Conservation Service's Web Soil Survey Mapper, Accessed December 18, 2025. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

f. U.S. Fish and Wildlife Service's National Wetlands Inventory Mapper, Accessed September 16, 2025. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

g. U.S. Geological Survey's National Hydrography Dataset Plus Mapper, Accessed September 16, 2025. Available at: https://usgs.maps.arcgis.com/apps/MapTools/index.html?appid=41a5c2ca49bd4a83b239450e61022d53

10. OTHER SUPPORTING INFORMATION. N/A

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Appendix C:

Archaeological Literature Review and Field Investigation Reports



DRAFT Literature Review and Field Inspection for the Hawai‘i School Facilities Authority (HISFA) Kanuikapono New Pre-K Construction Project

TMK: (4) 4-8-022:089

Ahupua‘a of Anahola
District of Kawaihau
Island of Kaua‘i

DRAFT VERSION



Prepared By:
Kent Manchen, M.A.
Nick Belluzzo, M.A.

Prepared For:
Bowers + Kubota, Inc.
94-408 Akoki Street, #201A
Waipahu, HI 96797

Proposing Agency:
State of Hawai‘i
School Facilities Authority
2759 S. King Street, Room H201
Honolulu, Hawai‘i 96826

November 2025

AFFILIATES
Hilo: 507A E. Lanikaula St., Hilo, Hawai'i 96720 • (808) 969-6066
Honolulu: 820 Mililani St., Suite 700, Honolulu, Hawai'i 96813 • (808) 439-8089
Kahului: 149 Ma'a St., Suite 100, Kahului, Hawai'i 96732 • (808) 736-6665

ASM Project Number 49180.00

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DRAFT Literature Review and Field Inspection for the Hawai‘i School Facilities Authority (HISFA) Kanuikapono New Pre-K Construction Project

TMK: (4) 4-8-022:089

Ahupua‘a of Anahola
District of Kawaihau
Island of Kaua‘i

ASM AFFILIATES

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MANAGEMENT SUMMARY

At the request of Bowers + Kubota, Inc., on behalf of the State of Hawai‘i, School Facilities Authority, ASM Affiliates conducted a literature review and field inspection of a 3.8-acre project area in support of the Hawai‘i School Facilities Authority Kanuikapono New Pre-K Construction project in the ahupua‘a of Anahola, district of Kawaihau, island of Kaua‘i.

This literature review and field inspection was conducted in support of Hawai‘i Revised Statutes Chapter 6E-8 review, under the auspices of a Memorandum of Understanding between the State of Hawai‘i Department of Land and Natural Resources, State Historic Preservation Division and the State of Hawai‘i School Facilities Authority, and in accordance with Hawai'i Administrative Rules §13-275.

Archival research indicates that the project area has been highly disturbed by historic agricultural activity (commercial sugarcane cultivation) and historic and recent residential development. Prior to that time, a freshwater emergent wetland within and surrounding the project area was likely the location of traditional Hawaiian subsistence gathering and agriculture.

The field inspection was conducted on August 28, 2025, by ASM Affiliates personnel Nick Belluzzo, M.A., Principal Investigator and Susan Jaques, M.A. Fieldwork consisted of an intensive pedestrian survey of the project area.

No historic properties were observed within the project area. As such, for the purposes of Hawai'i Revised Statutes Chapter 6E-8 review, we recommend a determination of effects of “No historic properties affected” for this proposed project.

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1. INTRODUCTION

At the request of Bowers + Kubota, Inc., on behalf of the State of Hawai‘i, School Facilities Authority (HISFA), ASM Affiliates (ASM) conducted a literature review and field inspection (LRFI) of a 3.8-acre project area in support of the Hawai‘i School Facilities Authority Kanuikapono New Pre-K Construction project in the ahupua‘a[1] of Anahola, district of Kawaihau, island of Kaua‘i (Figures 1, 2, and 3). The proposed project area is located at 4333 Kukuihale Road and includes a 3.8-acre portion of a 27.4-acre parcel owned by the State of Hawai‘i Department of Hawaiian Home Lands with Tax Map Key (TMK) (4) 4-8-022:089.

This LRFI was conducted in support of Hawai‘i Revised Statutes Chapter 6E-8 review, under the auspices of a Memorandum of Understanding (MOU) between the State of Hawai‘i Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) and the State of Hawai‘i School Facilities Authority (HISFA), and in accordance with relevant sections of Hawai'i Administrative Rules §13-276.

PROJECT DESCRIPTION

The proposed project is part of a larger effort, called “Ready Keiki,” by the HISFA to expand access to pre-kindergarten education throughout Hawai‘i. This broader effort involves renovating existing elementary school classrooms at various schools to convert them into classrooms to support preschool children. Typically, one classroom at a school is converted. Work generally involves interior renovations to an existing classroom that starts with demolishing unusable classroom features such as cabinetry, flooring, etc. The classroom is then improved with flooring, walls, electrical improvements, painting, etc. to meet preschool requirements. A restroom serving both boys and girls is also improved with improved fixtures, etc. and deep cleaned. Finally, outdoor fencing with gates is provided outside the classroom to create a secure playground area for preschool children (MOU draft: Attachment 1).

The purpose of this specific proposed project is to construct a new pre-kindergarten classroom within the Kanuikapono Public Charter School parcel at 4333 Kukuihale Road (Figure 4). The proposed project would also include ground disturbance for underground utilities and construction of paved access paths and parking areas.

[1] Hawaiian words are not italicized because ‘Ōlelo Hawai‘i (the Hawaiian language) is an official language, not a foreign language, in the state of Hawai‘i.



Figure 1. Project area shown on a portion of a United States Geological Survey topographic map.

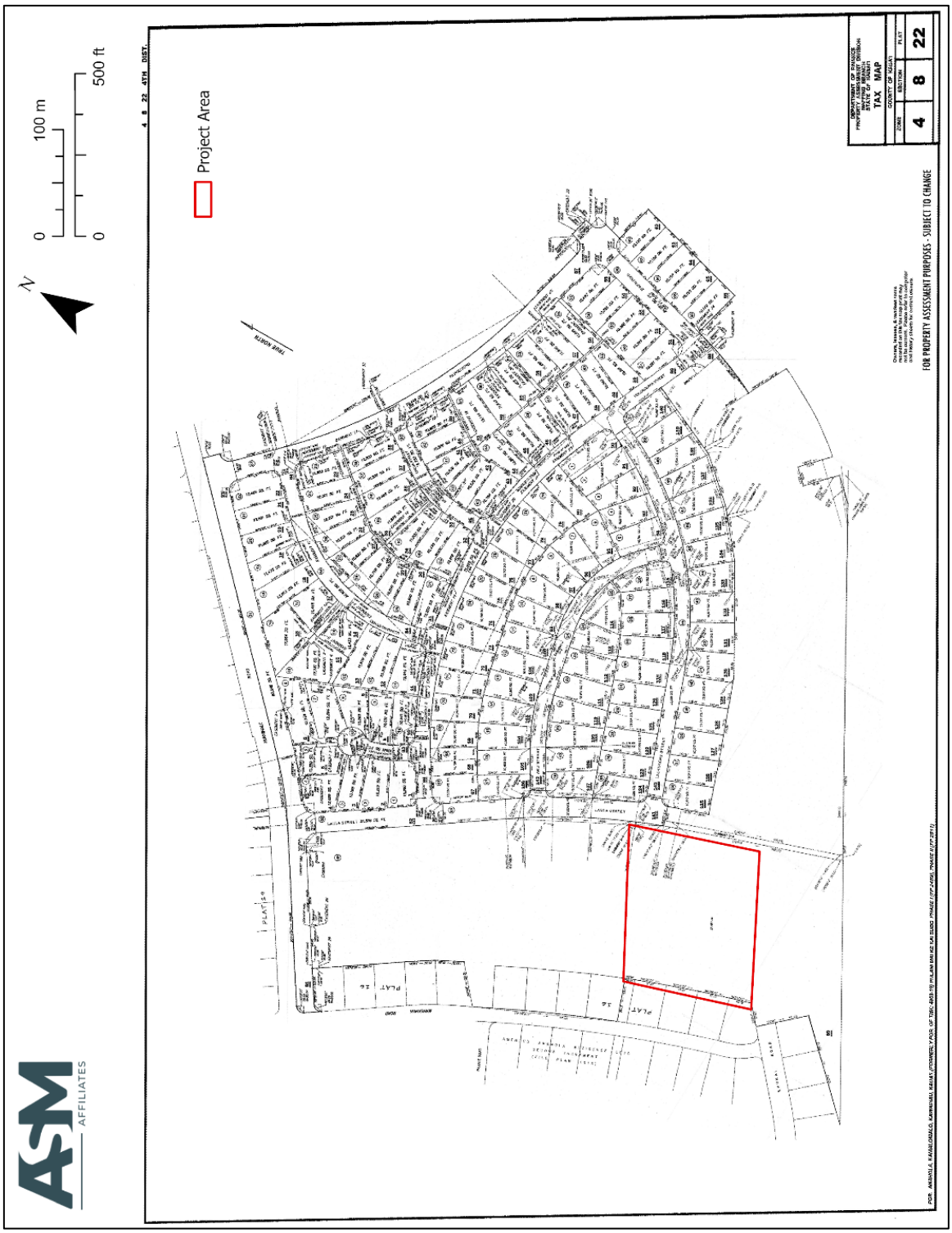


Figure 2. Project area shown on portion of tax plat map 4-8-22.



Figure 3. Project area shown on aerial imagery.

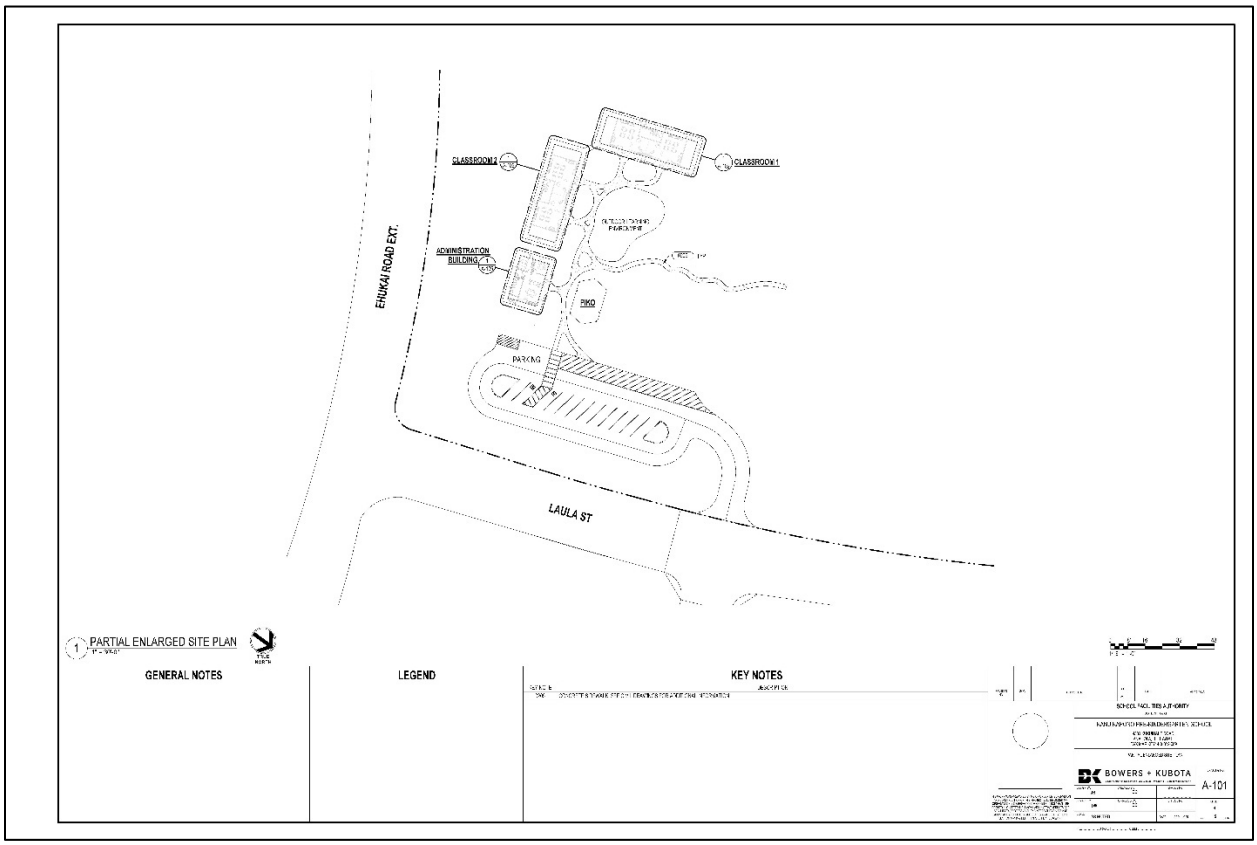


Figure 4. Proposed project plans.

PROJECT AREA

The project area is located within a previously disturbed portion of the 27.401-acre parcel at 4333 Kukuihale Road in Anahola Ahupua‘a, Kawaihau District, Island of Kaua‘i (TMK (4) 4-8-022:089). In particular, the project area is within the Kanuikapono Public Charter School, located on land owned by the State of Hawai‘i. The project area is bounded by agricultural development to the south and by residential development to the west, north, and east (see Figure 3).

The Kanuikapono Public Charter School was opened in 2001 and operated out of three temporary locations before settling into its current location (RMBJ Consulting 2006). It now has over 200 students. It provides a high-quality education based on Hawaiian knowledge from kindergarten through high school, with a dedication to community renewal.

REPORT ORGANIZATION

This LRFI is organized as follows: Section 1 contains a brief project overview. Section 2 summarizes the physical environmental characteristics and relevant cultural background information for the project area and discusses previous archaeological investigations and known historic properties within and around the project area. Section 3 presents the field inspection methods employed. Section 4 presents the results of the field inspection. Section 5 provides a summary of the results and recommendations.

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2. BACKGROUND

Completing natural environment and cultural history research of the Anahola area is necessary to contextualize and evaluate any historic properties that may be identified during the field inspection. Likewise, an overview of previous archaeological investigations and historic properties within and around the project area is necessary to help the field crew identify any historic properties, or other cultural resources, they may observe during fieldwork.

The cultural history research and previous archaeological investigations overview were conducted by ASM using various analog and digital collections. Primary resource collections and databases were found at multiple state agencies, including the Hawai‘i State Historic Preservation Division (SHPD), the Hawai‘i State Archives, and the Department of Accounting and General Services Land Survey Division, as well at private organizations such as the Office of Hawaiian Affairs Papakilo and Kīpuka databases, Waihona ‘Āina, the Ulukau Hawaiian Electronic Library, the Hawai‘i Genealogical Indexes, and Newspapers.com. Secondary collections and databases were found at ASM's Honolulu office and included general reference information about the history of land use, politics, and culture change in Hawai‘i.

NATURAL ENVIRONMENT

Topography

Situated in the ahupua‘a of Anahola, the project area is located approximately 0.61 kilometers (0.38 miles) inland and on relatively flat terrain. Elevation of the project area is approximately 36.6 meters (120 feet) above mean sea level.

Vegetation

Vegetation within the project area is secondary growth following previous grading of the parcel and consists primarily of cane grass (Cenchrus purpureus) with scattered stands of Guinea grass (Megathyrsus maixmus), koa haole (false koa, Leucaena leucocephala), and Formosan koa (Acacia confusa).

Geology and Soils

The underlying geology in the vicinity of the project area includes deposits of Lihue silty clay (LhB) with 0 to 8 percent slopes and Lihue silty clay ((LhC) with 8 to 15 percent slopes (Soil Survey Staff 2022) (Figure 5). These deposits are formed of alluvium (Qa) originating from Koloa volcanics (Hawaii State Office of Planning 2021) (Figure 6).

Climate

Average annual temperature in the region over the last five years has trended downward from 22.5ºC (72.5ºF) in 2020 to 21.5ºC (70.7ºF) in 2024 (Longman et al. 2024). Average annual rainfall in the project area vicinity is 42 inches (Giambelluca et al. 2013).

Hydrology

A portion of the project area is mapped as freshwater emergent wetland (see Figure 7) (United States Fish and Wildlife Service 2024).



Figure 5. Soils present in the project area.

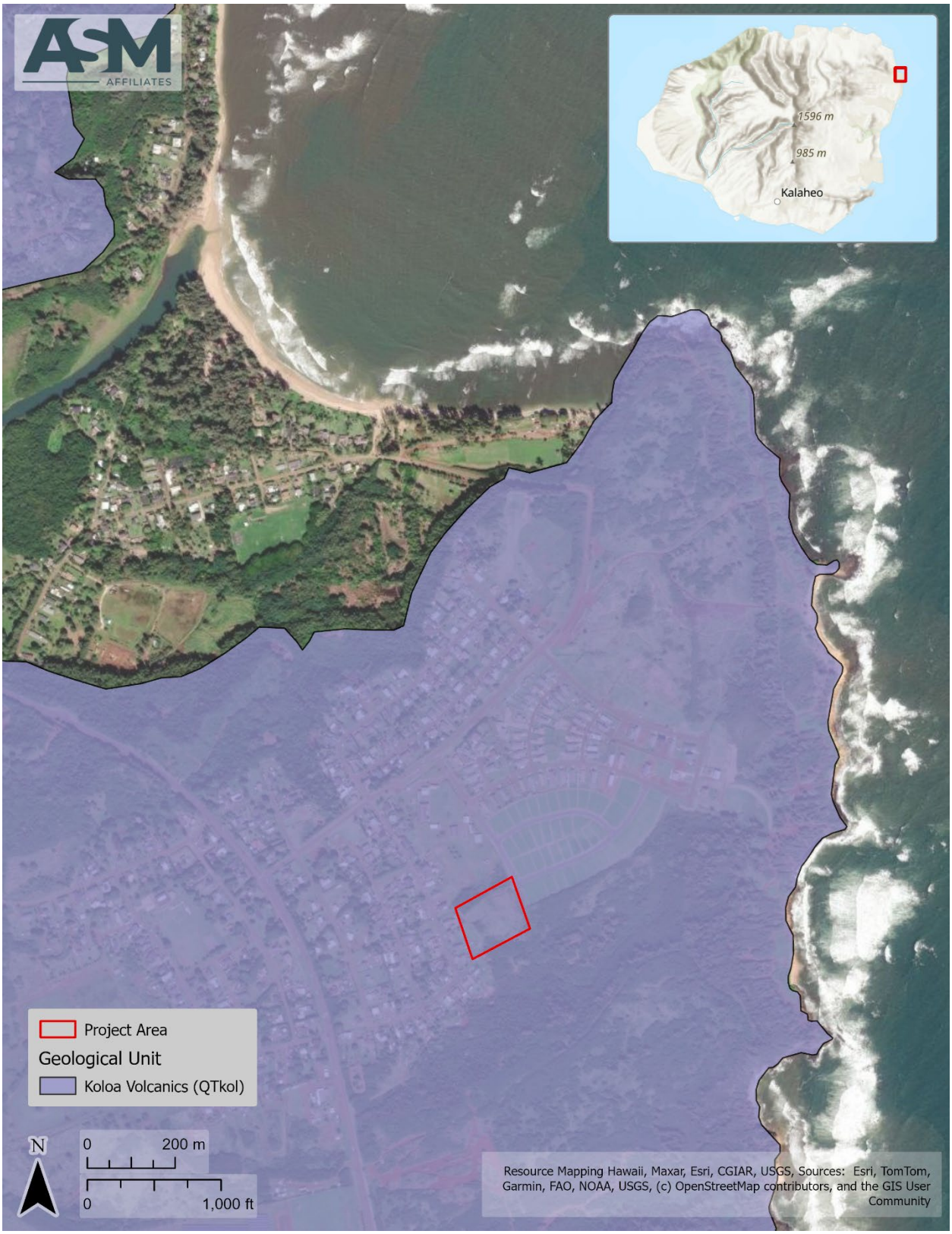


Figure 6. Geological units present in the project area.

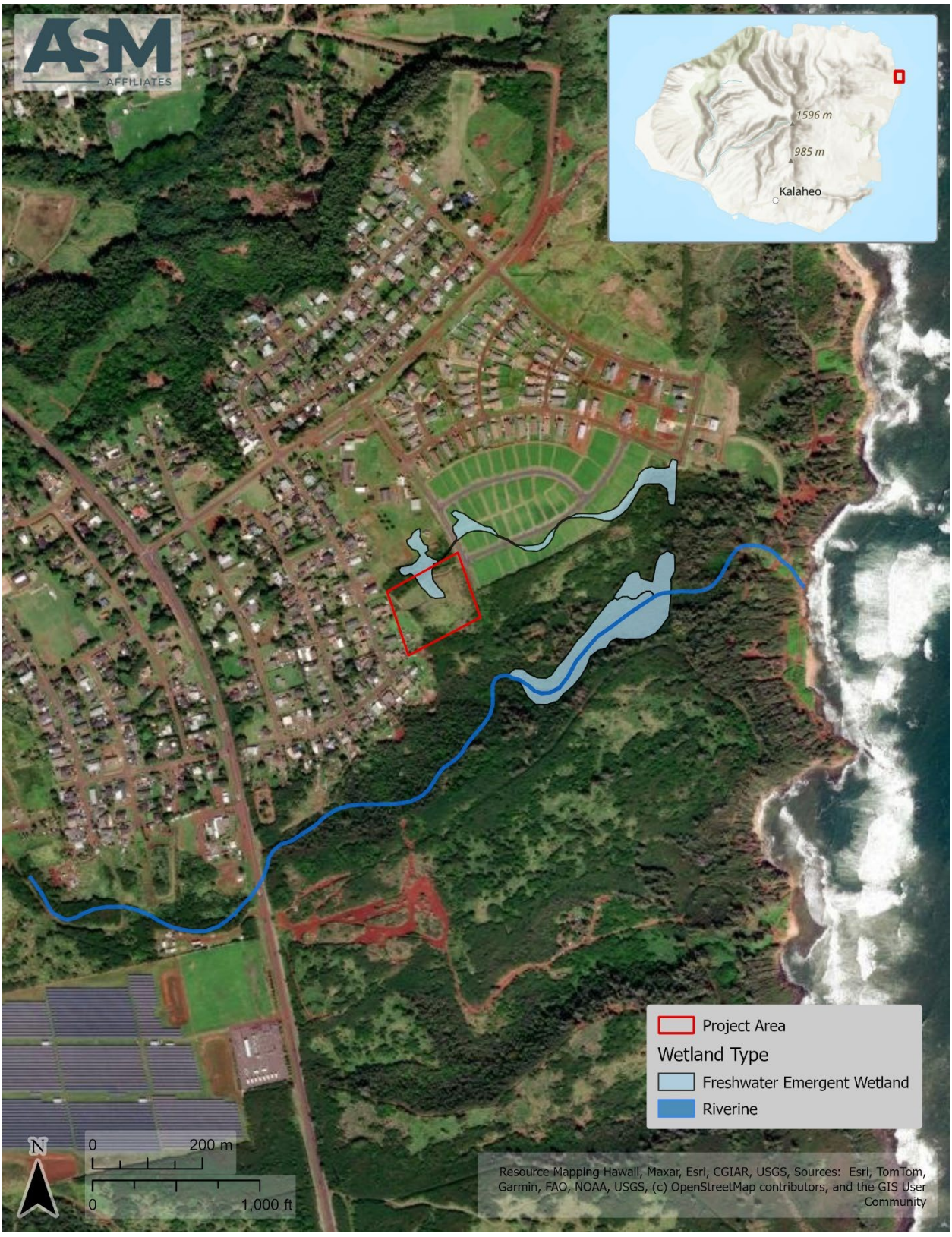


Figure 7. Streams and wetlands near the project area.

CULTURAL HISTORY

The project area is located within the ahupua‘a of Anahola and the district of Kawaihau. Prior to being placed in Kawaihau, Anahola was within the moku (district) of Ko‘olau, which is shown in the land divisions dataset used by the Office of Hawaiian Affairs (Figure 8). A district contains smaller land divisions called ahupua‘a that customarily extend inland from the ocean and upland into the mountains. Traditionally, household groups living within the ahupua‘a were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each ahupua’a to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). ‘Ili ‘āina—often simply called ‘ili—are subdivisions of ahupua’a and were traditionally administered by the chief who controlled the ahupua’a (Lyons 1875:33; Lucas 1995:40). Mo‘o‘āina are narrow strips of land within an ‘ili. A kuleana is the smaller land holding within an ‘ili that belonged to the tenant who lived or worked there (Lucas 1995:61).

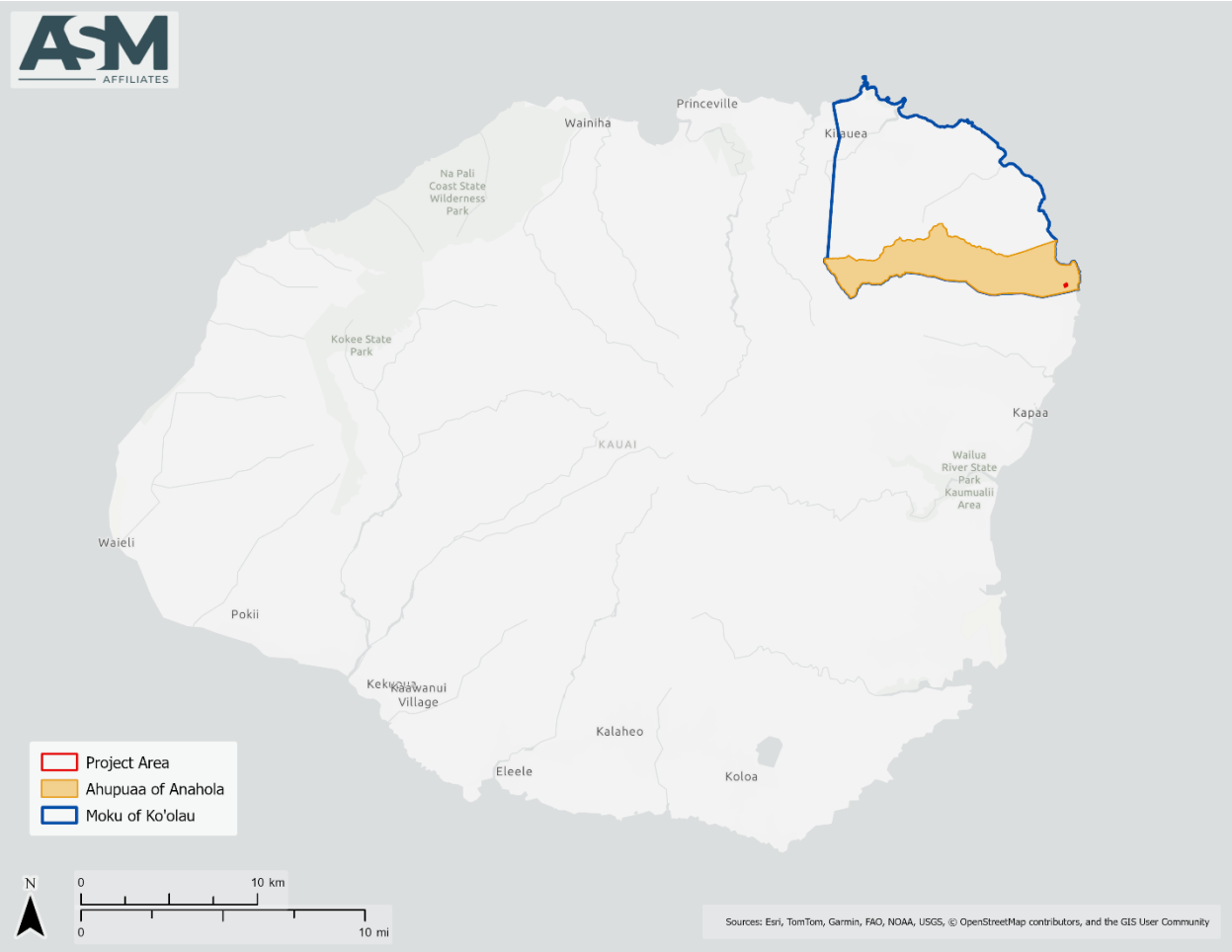


Figure 8. Location of the project area within traditional Hawaiian land divisions.

The chronological summary presented below begins with the peopling of the Hawaiian Islands and includes the presentation of a generalized model of Hawaiian Precontact Period and a discussion of the general settlement patterns for Kaua‘i. The discussion of the Precontact Period is followed by a summary of Historical events in the district that begins with the arrival of foreigners in the islands and then continues with the history of land use in Anahola after contact. The summary includes a discussion of the changing lifeways and population decline of the early Historic Period, a review of land tenure in the study ahupua‘a

during the Māhele ʻĀina of 1848, and documentation of the transition from traditional land use practices to the commercial sugar industry during the late nineteenth and early twentieth century. A synthesis of the Precontact settlement patterns and the Historically documented land use, combined with a review of the findings of previously conducted archaeological studies, provides a means for predicting the types of archaeological features that may be encountered within the study area, and forms a basis for assessing the function, age, and significance of any encountered archaeological sites.

Pre-Contact

Paleoenvironmental and archaeological research suggests that settlement of the Hawaiian Islands occurred between A.D. 940 and 1130, with the likeliest range being between A.D. 1000 and 1100 (Athens et al. 2014; see also Kirch 2011). The initial settlers were most likely drawn first to the fertile windward valleys, and only periodically visited leeward areas, where excellent fishing and arable drylands offered an attractive subsistence base. These communities then later spread to other areas as local populations increased over the following few hundred years.

Early sources record a large, prosperous population occupying the Anahola region at the time of European contact in 1778. In part, this was due to the abundant water provided by the Anahola River, the largest river in the Kawaihau District, which allowed for the development of wetland agriculture within its vicinity. Terraces are recorded upstream along the Anahola River, while the lower uplands had loʻi (irrigated agricultural systems) located two to four miles inland along the Anahola River and Kaʻalua Stream (Handy et al. 1991:423). The delta of the river was also terraced. While early voyagers note the extensive ʻulu (breadfruit, Artocarpus altilis) planting on the southern and leeward sides of Kauaʻi more often than the windward side, Keahi Luahine, a Native Hawaiian kumu hula (teacher) who danced in the court of King Kalakaua, observed that there were also many breadfruit trees in Anahola (Handy et al. 1991:152). Compared to other staple foods such as taro or sweet potato, breadfruit was largely secondary as a staple in the diet of Native Hawaiians. However, Captain James Cook observed the abundance of breadfruit produced by trees in Kauaʻi saying, “breadfruit thrived here, not in such abundance, but produced double the quantity of fruit that they do on the plains of Otahite” (Cook 1784, Vol 3: 120 in Handy et al. 1991:153).

Significant Places and Place Names

Place names are often suggestive of a location’s meaning, value, and significance. The Native Hawaiian names of places can inform the cultural context of traditional Hawaiian land use and provide elements of this context that may not be available from archaeological investigations. Kikiloi (2010:75) asserts that the recovery of traditional place names “help[s] to transform once-empty geographic spaces into cultural places enriched with meaning and significance.” As such, researching place names helps provide a deeper, richer cultural context to any project area.

The current project area is situated in the ahupuaʻa of Anahola, located within the district of Kawaihau on the northeast coast of Kauaʻi. Today, while Anahola is located within the district of Kawaihau, its traditional moku was Koʻolau, which was later changed to Anahola with the same boundaries (King 1935). Koʻolau translates to windward, a common designation for the side of the island that faces the trade winds (Pukui et al. 1974:117; Wichman 1998). The origin of Kawaihau District is found in a 1935 publication written by the Principal Engineer (Robert King) of the Survey Department of the Territory of Hawaii, which outlines the evolution of the districts of the Hawaiian Islands. Per King, at the time of the Māhele (ca. 1848), Kauaʻi was divided into five districts: “Kona, Puna, Koolau, Halelea, and Napali” (1935:215). Pukui et al. also mention that portions of the Kawaihau District were “sometimes called Puna” (ibid.:193). Then, in 1859, an act of the legislature divided the Hawaiian Islands into districts “for taxation, educational and judicial purposes” and as a result, Kauaʻi was divided as follows:

> 1. From Nualolo to Hanapepe, inclusive, to be styled the Waimea district; 2. From Wahiawa to Mahaulepu, inclusive, to be styled the Koloa district; 3. From Kipu to Kamalomalo, inclusive, to be styled the Lihue district; 4. From Anahola to Kilauea, inclusive, to be styled the Anahola district; 5. From Kalihiwai to Honopu, inclusive, to be styled the Hanalei district. (King 1935:216)

The names and boundaries of the districts remained the same until 1878, at which time the Līhuʻe (formally Puna Moko) and Anahola districts were subdivided, "reducing Līhuʻe district about a third, and adding to what was then known as Anahola district the ahupuaas of Olohena, Waipouli, Kapaa, Kealia, and Kamalomalo", which resulted in the creation of the Kawaihau District; "from Waipouli to Kilauea, inclusive" (ibid.). The Honolulu Star Advertiser (January 30, 2014; also see Honolulu Star Bulletin 1949: 36 and Pukui at al. 1974:98) recounts the origins of the naming of Kawaihau District. The Prince Leleiohoku's glee club, called Hui Kawaihau or the "ice water club, " named to honor an American woman and friend of the King who drank only ice water as opposed to the members of the choral group and who supposedly rebuffed the Kings advances, and thus was considered "ice cold". In 1877, following the growth of the sugarcane industry, the members of Hui Kawaihau were convinced by the King to move from Honolulu to Kauaʻi with their families to pursue sugarcane cultivation. They settled above Kapaʻa and established a mill and surrounding town under the tutelage and financial support of Captain James Makee, a sugar planter from Maui and the Makee Sugar Company. The Hui Kawaihau ultimately failed at farming as the "drinking, dancing and the lives of urban courtiers did not mesh well with farming on Kauai" and the last members of the former choral society gave up the enterprise in 1881 (Honolulu Star Advertiser 2014). However, despite the failure of their plantation, the town of Kapaʻa flourished around the mill they established. Ultimately, in 1877, King Kalakaua established the Kawaihau District as including the land between the Wailua River and Moloaʻa Valley (King 1935).

The districts of Kauaʻi again underwent additional minor changes in 1886 when Lepeuli, Waipake, and Pilaʻa of Hanalei District were added to the Kawaihau District and in 1887, Kawaihau was again adjusted to include the lands from Wailua to Kealaakaiole, which more or less restored the district boundaries to how they were in 1880. The district's boundaries remained unchanged until 1921, when "a slight amendment was made to the boundary between Lihue and Kawaihau districts" (King 1935:221) and the Wailua River was established as southern boundary of the district.

Regarding the translation of Anahola, Pukui et al. (1974) does not provide a translation. The Hawaiian Dictionary by Pukui and Elbert (1971:24) defines Anahola as hourglass; however, the name appears to pre-date European arrivals to Kauaʻi and therefore, there are no clear connections between the translation and the name of the ahupuaʻa. Frederick Wichman, a Kauaʻi historian, attributes the naming of the ahupuaʻa to a moʻo, a lizard kupua who transformed into a man on land and a merman in the sea (Wichman 1998:90).

The following map and list (Table 1) provides a summary of the key place names in the project area vicinity.

Table 1. List of significant places within and around the project area.

Place Name	Place Type	Meaning	Source(s)
Kawaihau	District	lit. "the ice water"	Pukui et al. 1974:98
Koʻolau	Moku	lit. "windward"	Pukui et al. 1974:117
Anahola	Ahupuaʻa	lit. "hourglass"	Pukui and Elbert (1971:24)

Deities, Legends, and Traditional Stories

Very few moʻolelo (stories) and oli (chants) that refer to Anahola directly were found in the course of this study. Those that do discuss Anahola tend to focus on the prominent features of the landscapes within the ahupuaʻa, especially Kalalea, a mountain in the ahupuaʻa, and a hole in this mountain which one song refers to as Konanae (Monahan et al. 2018:39). In 1981, a landslide closed the hole in Kalalea and while reporting on the story, The Honolulu Advertiser (1981:1) recounts the multiple moʻolelo about the origin of the hole. One story tells how Hulu, a supernatural bird who can transform between a bird and a man, wanted to look down on Anahola while standing on the mauka side of the mountain. Thus, he used his beak to poke a hole in the mountain which allowed him to see the ocean. Another moʻolelo recalls how Konanae was created when Kamehameha, frustrated with his failed attempts to conquer Kauaʻi hurled a spear from Oʻahu which crashed into Kalalea. A third moʻolelo recalls the Kauaʻi hero, Kawelo, as the spear thrower who created the hole during battle with Kauahoa, a giant and the strongest man on Kauaʻi (also see The Garden Island 1915: 4).

In addition to these moʻolelo, several mele (songs) also contain references to Kalalea in Anahola. In Monahan et al. (2018:39), a mele, composed by Jeremiah Kaialoa, Sr. and entitled Anahola, recalls features of the landscape including Kalalea, Konanae, and Amu, the wind in Anahola:

Hanohano Kalalea kau mai I luna	Majestic Kalalea rises above
ʻO ka pali 14aila14a aʻo Anahola	The famous cliff of Anahola
ʻAlawa iho ʻoe iā Konanae	You glance at Konanae
ʻO ka hoapili like o kuʻu milimili	The beloved close companion
I 14aila hoʻi au ʻike ihola	I was there and I saw
Nā kaula likini mōliolio	The rigging lines pulled tautly
Huli aku nānā iā Amu	Turn and look at Amu
I ka makani ʻalo ʻehu hele ulūlu	The wind that blows fiercely
Haʻina ʻia mai ana ka puana	The story be told
ʻO ka pali kaulana aʻo Anahola	Of the famous cliff of Anahola

In another mele, composed by Kealiʻikuaʻāina Kahanu & Kaleialoha Williams, also features Kalalea:

Kiʻekiʻe Kalalea`a I ka makani	Kalalea stands majestically in the wind
ʻO ka pali kaulana o Anahola	Famed cliff of Anahola
Noho iho e ka ʻohu noe I nā pali	The mist rests upon the cliffs
A he nani maoli nō mai ʻō a ʻō	Simply exquisite from end to end
A ke aku la e ʻike	I yearn to see
I ke kai nehe aʻi Hālaulani	The rustling sea at Hālaulani
ʻO ka pā kolonahe a ka makani	The gentle breeze
I aila māua me kuʻu aloha	That’s where I am with my sweetheart

Early Historic (1778–1847)

The island of Kauaʻi was the first of the Hawaiian Islands to be reached by Europeans, which occurred in 1778 when Captain James Cook's ships the Discovery and the Resolution anchored at Waimea. In the years leading up to the first contact with Europeans, the Hawaiian Islands were under the control of various mōʻī. These high-ranking chiefs acted as kings or sovereigns of the different moku (districts) and in some cases ruled entire islands. Inter-island and intra-island warfare resulted in tremendous loss of life and power shifts across the island chain. A decade after Hawaiʻi's first contact with the Western world, Hawaiians began to acquire firearms and cannons, which resulted in even greater casualties (Hommon 2013).

In 1790, Kamehameha I was still battling for complete control of Hawaiʻi Island. During this time, he invaded Maui, Lānaʻi, and Molokaʻi, wresting control from Kahekili, then king of Maui and Oʻahu. In 1791, Kahekili's half-brother Kaeo (Kaeokulani) was king of Kauaʻi and joined Kahekili in successfully reclaiming the islands of Maui, Lānaʻi, and Molokaʻi. Later that same year, Kaeo and Kahekili tried to invade the island of Hawaiʻi and were defeated by Kamehameha in a sea battle known as "the battle of the red-mouthed guns" (Joesting 1984:55). Shortly thereafter, Kamehameha was able to unite the island of Hawaiʻi under his rule, upon the sacrificial death of his greatest rival Keoua, the high chief of Kaʻū. Kahekili died on Maui in 1794. Soon after, Kaeo stopped in Oʻahu on his way back to Kauaʻi and was killed at the hands of his own forces and foreign reinforcements as he attempted to suppress a rebellion. With Kaeo and Kahekili gone, Kamehameha was able to conquer Maui, Molokaʻi, Lānaʻi and Oʻahu by October of 1795, and set his sights set on the last holdouts: Kauaʻi and Niʻihau. At this time, the island of Kauaʻi was host to its own civil war, which had erupted upon the death of Kaeo because his son Keawe "decided to ignore his father's wishes that Kaumualiʻi become king" (Joesting 1984:58). As a result of this feud, the brothers fought bitterly and by July of 1796, Keawe successfully defeated Kaumualiʻi. Rather than kill Kaumualiʻi, Keawe kept him under house arrest, but Keawe died soon after taking him prisoner. As a result, Kauaʻi and Niʻihau came under the rule of Kaumualiʻi, a mere teenager at the time.

In April 1796, while Kaumualiʻi was still his brother's prisoner, Kamehameha I had mounted a failed invasion of Kauaʻi. Kamehameha I and his troops fell prey to the strong currents and dangerous winds of the Kaieie Waho channel (between Oʻahu and Kauaʻi) and were forced to turn back to Oʻahu before they even reached their target. About eight years later, Kamehameha I prepared for a second invasion of Kauaʻi. However, an epidemic swept through Oʻahu, which depleted his ranks and claimed the lives of his most trusted advisors before they had a chance to set sail across the channel, thereby foiling another invasion attempt (Joesting 1984). Kamehameha I endured five years of fruitless negotiations and Kaumualiʻi finally agreed to meet Kamehameha face to face in Honolulu in 1810. As a result of this meeting, Kaumualiʻi retained control of the Kauaʻi by pledging his allegiance to Kamehameha I; although Kauaʻi had officially become part of Kamehameha's kingdom.

This arrangement lasted until a few years after the death of Kamehameha I (c. 1819). In 1821, Kamehameha's son Liholiho (Kamehameha II) kidnapped Kaumualiʻi from Kauaʻi and took him to Oʻahu. Within days, Kaumualiʻi was forced to marry Kamehameha I's widow Kaʻahumanu. A few days after that, Kaʻahumanu also took Kaumualiʻi's son Kealiʻiahonui as her husband, thereby sealing the alliance between the leeward and windward islands (Joesting 1984). Kaumualiʻi, the last independent king of Kauaʻi, died in 1824 in Honolulu, having never returned to Kauaʻi after Liholiho lured him away (Donohugh 2001). According to most accounts, Kaumualiʻi was remembered favorably by kamaʻāina and foreigners alike. Upon Kaumualiʻi's death, Kauaʻi became divided over whether to be loyal to Kamehameha II and the windward chiefs who had taken it upon themselves to fill in for the late king of Kauaʻi; or pursue the independence they had enjoyed in the early days under Kaumualiʻi's rule (Donohugh 2001). After Kaumualiʻi's death, Keʻeaumoku, the first appointed governor, died shortly after his appointment. Keʻeaumoku was replaced by Kahalaia (Joesting 1984). However, as a result of the mounting tensions

throughout Kauaʻi, Kaʻahumanu's cousin Kalanimoku, the prime minister and treasurer of the kingdom, ventured to Waimea, Kauaʻi on August 1, 1824, to diffuse the situation (Del Piano 2009).

In an attempt to reclaim sovereignty for Kauaʻi and Niʻihau, on August 8, 1824, a small group of rebels that included Kaumualiʻi's son, George (Humehume), mounted a failed uprising against the Hawaiian presence at the Pāʻulaʻula in Waimea (Del Piano 2009; Joesting 1984). Prince George and the other insurgents were forced to retreat and sought refuge in Hanapēpē Valley. In response, some Kauaʻi natives armed themselves to fight the rebels and Kalanimoku called in reinforcements from Oʻahu and Maui. On August 20, 1824, experienced troops armed with muskets arrived in Kauaʻi and defeated Humehume and his small group of rebel supporters in the battle of Hanapēpē-Wahiawa. The rebels who survived the battle, fled; however, many of them were later caught and held captive. Humehume was among these men and was brought before Kalanimoku, who spared the prince's life (Del Piano 2009). The repercussions of this decisive battle resulted in the realization of Kamehameha I's aspirations for the unification of all the Hawaiian Islands under one rule, albeit five years after his death.

Various historic accounts of the battle of Hanapēpē-Wahiawa and its aftermath describe the extreme brutality meted out by the invaders, which included violent acts against unarmed women and children (Joesting 1984). The invaders looted the island, stripped the chiefs of their lands, and deported them to Hawaiʻi, Oʻahu, and Maui. Kaʻahumanu continued to influence Hawaiian history during this time. She had assumed control over the Hawaiian Kingdom since 1823 when her son Liholiho had set sail for England, and upon notification of Liholiho's death in 1825, she became the self-appointed regent of Hawaiʻi. After Kaumualiʻi's death, Kaʻahumanu redistributed many of the Kauaʻi chiefs' lands to members of the royal family (descendants of Kamehameha) or gave them out as rewards to favored court advisors and proven warriors, all of whom acted as absentee landlords because they resided on other islands (Joesting 1984). In his history of Kauaʻi, Joesting (1984) opines that the motives for these vengeful attacks upon Kauaʻi after Kaumualiʻi's death had been building for generations. Some of the windward island rulers resented the power inherent in the birthright of the kings of Kauaʻi and likely held grudges from earlier invasions of the windward islands; while others may have felt that they had unfinished business after Kamehameha I's two failed invasion attempts. In addition, some of the windward fighters may have gone to Kauaʻi in an effort to root out the missionary presence that Kaumualiʻi had so warmly welcomed there.

The Māhele and Land Commission Awards (1848–1851)

By the mid-1800s, the ever-growing population of Westerners in the Hawaiian Islands forced political, socioeconomic, and demographic changes that promoted the establishment of a Euro-American style of land ownership (Kameʻeleihiwa 1992:169–170, 176; Kuykendall 1938:145). The establishment of private land ownership, during a process called the Māhele, was one of these significant changes.

Native tenants on the lands that were initially divided up among the Crown, Konohiki (head manager of an ahupuaʻa), and Government could claim, and acquire title to, the kuleana (land in which one has a rightful interest) parcels that they actively worked or lived on. The Board of Commissioners oversaw the program and administered the kuleana as Land Commission Awards (LCAs). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent, after which they could take legal possession of the property (Chinen 1961:16).

In conjunction with the Māhele, the King also authorized the issuance of Royal Patent Grants to purchase tracts of Government land larger than those generally available through the Land Commission. Unlike in the kuleana claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about

geographical features of the grant lands, and describe boundary markers, such as rock piles and vegetation, but they generally do not say anything about improvements to the land or land use.

As a result of the Māhele, Anahola Ahupuaʻa was given to William Lunalilo. However, he relinquished his interest in the land to Kamehameha III and as a result, Anahola became Crown Land. Subsequently, 67 Kuleana awards, including a total of 105 parcels, were given within Anahola Ahupuaʻa. There are no LCAw located within or near the footprint of the current project area (Office of Hawaiian Affairs 2018).

Land Grants, Land Use, and Changes in Tenure in the Vicinity of the Study Area (1850-1863)

In conjunction with the Māhele, the King also authorized the issuance of Royal Patent Grants to purchase tracts of Government land larger than those generally available through the Land Commission. The process for applications was clarified by the "Enabling Act," which was ratified on August 6, 1850. The Act resolved that portions of the Government Lands established during the Māhele of 1848 should be set aside and sold as grants ranging in size from one to fifty acres at a cost of fifty cents per acre. The stated goal of this program was to enable native tenants, many of whom were not awarded kuleana parcels during the Māhele, to purchase lands of their own. Despite the stated goal of the land grant program, this provided the mechanism that allowed many foreigners to acquire large tracts of the Government Lands. Unlike in the kuleana claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about geographical features of the grant lands, and describe boundary markers, such as rock piles and vegetation, but they generally do not say anything about improvements to the land or land use. Fifty-two of these Royal Patent Grants were purchased within Anahola Ahupuaʻa. The current project area is not included within or near any of these grant parcels (Office of Hawaiian Affairs 2018).

The Plantation Era in Anahola

The latter half of the 19th century resulted in significant land-use changes in Anahola Ahupuaʻa and the greater Koʻolau region as people moved away from traditional land use practices. In 1849, William Dewitt Alexander described the Anahola Valley as "chequered with kalo patches, and studded with houses" and as having an "abundance of water" (Alexander 1991:123 in Dixon et al. 2005). However, only 16 years later in 1965, William T. Brigham described Anahola as "abrupt in places and very red from the soil" and "few trees except the pandanus were seen" (Lydgate 1991:136 in Dixon et al. 2005). Dixon et al (2005) attribute these changes to the effects of deforestation caused by non-traditional agricultural practices. Thus, following the Māhele much of the land in the general area appears to have been transformed by the introduction and subsequential boom of commercial agricultural, especially that of sugarcane.

Several sugarcane companies began planting along the eastern coast of Kauaʻi. Lihue Plantation Company was originally established on 3,000 acres under the name Henry A. Peirce & Co. in 1849 by Charles Reed Bishop, Judge William L. Lee, and Henry A. Peirce, and constructed a mill in Nawiliwili, located on the southeast coast of Kauaʻi (Saito and Campbell 1987). In 1859, a new partnership resulted in a name change to Lihue Plantation Company and, in 1866, 300 acres at Ahukini were added to the cane lands. In 1870, under the management of Paul Isenberg, Lihue Plantation purchased 17,000 acres at Hanamāʻulu and established Hanamaulu Plantation with its own mill under the management of Albert Spencer Wilcox (Dorrance and Morgan 2000). In 1878, Lihue Plantation leased another 30,000 acres of land located at Wailua, at which time Paul's brother, Carl Isenberg, took over management of the plantation and instituted a reforestation program therein (Saito and Campbell 1987).

Around this time (ca. 1877), the Makee Sugar Company was established in Kapaʻa by Captain James Makee by order of King Kalākaua and inefficiently run by Hui Kawaihau. Kalākaua and the members of Hui Kawaihau purchased the Ernest Krull sugar estate and by 1889, 1,030 workers at Makee Sugar Company

produced 5,000 tons of sugar (Saito and Campbell 1987). Makee's son-in-law, Colonel Z. S. Spalding, had purchased lands at Keālia and set up a mill there. Upon his father-in-law's death, Spalding took over Makee Sugar Company, merged his Makee's mill equipment with that of Keālia and was the first manager to institute 24-hour harvesting and milling in Hawai'I (Saito and Campbell 1987). In 1922, American Factors (formerly Hackfeld & Co.) bought controlling interest in Lihue Plantation, and in 1933, Lihue Plantation merged with Makee Sugar Company (Sommer 2000). Thus, in 1933, "the properties of Lihue Plantation included Makee Plantation, Ahukini Railway Co., Nawiliwili Transportation Co., East Kauai Water Co., Princeville Ranch, Waiahi Electric Co., and pineapple lands leased to Hawaiian canneries" (Saito and Campbell 1987:2).

Lands in Anahola were leased by both Makee Sugar Company and later, the Lihue Sugar Company. However, records suggest that commercial sugarcane cultivation was not introduced into Anahola until the last years of the 19th century. In 1899, the Hawaiian Star reported that Anahola was home to many homesteaders in the last years of the 19th century and had been for years. However, "little cane was grown there until the last year or two," when the Makee Sugar Company expanded into Anahola (Hawaiian Star 1899). The growth of the Makee Sugar Company resulted in strains on the harbors at Kapa'a, which was the primary landing port for the company. Furthermore, Kapa'a Harbor was considered a difficult and dangerous landing, which often resulted in ships waiting for poor weather to clear near Anahola Bay, just north of Kapa'a. Consequently, in 1899, George Fairchild, the manager of the Makee Sugar Company, instigated the building of a new harbor in Anahola, a project which newspapers believed would create one of the "best and safest harbors in the Islands" (Hawaiian Star 1899:1). This new harbor was located north of the current project area.

In addition to the landing, warehouses, a railroad, which ran from the landing to the plantation, and other plantation infrastructure were built to support the growing sugarcane industry in Anahola. A 1914 Hawaii Territory Survey Map of Anahola and Kamalomalo (HTS Plat 3003-A) displays the project area just immediately west of the new harbor buildings and warehouses with a railroad route running over the stream, presumably over former iteration of the existing Olokauha Culvert (see Figure 11). From such documents, we can infer that a railroad track and possibly a portion of planation harbor warehouse buildings once existed within the project area.

Information about the original bridge over Olokauha Stream, such as the date of the original construction and the type of bridge, is unknown. However, a Hawaiian Territory Survey (HTS) map indicates a bridge adjacent to the railroad route, was located in the project area as early as 1924 (see Figure 12). Additionally, construction plans for the Olokauha Culvert on file at the County of Kauai Department of Public Works, indicate this previous bridge was longer than the current Olokauha Culvert (see Figure 13). Consequently, in 1957,when Olokauha Culvert was built to replace this older bridge, the west bank of the stream was significantly infilled, as was the east bank to a lesser extent, during the installation of the bridge and culverts. As a result, much of the current Olokauha Culvert is constructed on fill.

Following the construction of the aforementioned wharf in Anahola, all shipping for the Makee Sugar Company was conducted from this port. The Makee Sugar company continued to lease land from the government in Anahola as is indicated on a 1924 Hawaiian Territory Survey map of Anahola (HTS Plat 3032; Figure 12). The wharf was dismantled in 1920 (The Garden Island 1920:1). The railroad line which ran through the project area was granted by the government to Lihue Plantation in November 1934. By 1955, the railroad line appears to have been dismantled and a road constructed (HTS Plat 3003-C; Figure 14) and in 1964, the road was surrendered to the government by Lihue Plantation (HTS Plat 3003-F; Figure 15).

In 1922, American Factors (formerly Hackfeld & Co.) bought controlling interest in Lihue Plantation, and in 1933, Lihue Plantation merged with Makee Sugar Company (Sommer 2000). At the time of this merger,

"the properties of Lihue Plantation included Makee Plantation, Ahukini Railway Co., Nawiliwili Transportation Co., East Kauai Water Co., Princeville Ranch, Waiahi Electric Co., and pineapple lands leased to Hawaiian canneries" (Saito and Campbell 1987:2). Thus, by 1990, only five of the 31 plantations that formerly existed on Kauaʻi ca. 1877 remained in operation (Dorrance and Morgan 2000) and Lihue Plantation, which was then owned by Amfac/JMB, continued in operation until 2000 (Sommer 2000). Lihue Plantation leased land in Anahola, including near the project area until at least the 1950s, when the government established new homestead plots in the area (HTS Plat 3003-C). In November of 2000, Amfac/JMB put 17,000 acres of former Lihue Plantation land up for sale and the remaining 6,000 acres that were still planted in cane produced their last harvest after 150 years of operation in east Kauaʻi.

In addition to the cultivation of sugarcane, the commercial rice industry also came to Anahola in the early 20th century. By the early 20th century, much of the traditional loʻi fields and terraces that had previously characterized the Anahola landscape had been converted into rice fields (Char 1979). Chinese rice markets boomed until the 1930s, when they saw a dramatic decline due to rising costs of production (Dixon et al. 2005). Commercial pineapple production also emerged in Anahola, but, like rice and sugarcane, the industry declined in the 1930s.

Homesteading

Homesteading began within Anahola in the 1950s which served to provide opportunities for Native Hawaiians to lease land on residential and agricultural lots. The first homestead in Anahola was leased in 1957, and in 1987, a development plan for the homesteading community that, "envisioned the region as a contemporary ahupuaʻa providing a mixture of land uses for cultural, homesteading, agricultural, pastoral, income-generating and public purposes" (Hawaiian Home Lands 2022:27). As of 2022, 577 homestead leases have been awarded within Anahola, including 531 residential lots and 46 agricultural. Consequently, Anahola is the largest homestead community on Kauaʻi Island (Hawaiian Home Lands 2022:22).

Residential Development

The project area is within a portion of Hawaiian Home Lands. Most of the homes surrounding the school were constructed in the late 1970s, although homes nearest Kūhiō Highway were built in the 1950s and new homes are currently being constructed east of the project area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

No previous archaeological investigations have been conducted within the footprint of the current project area and only one on-the-ground archaeological investigation has been conducted within 500 m of the project area (Figure 11; Table 2), plus one island-wide survey. The earliest studies in Anahola were relatively cursory compared to the studies of recent decades, in part because they aimed to cover the entire island or a large region. They also often focused on surface features, rather than undertaking test excavations to identify possible subsurface features.

Table 2. Previous archaeological studies conducted within 500 m. of the project area.

Year(s)	Author(s)	Type of Study	Summary of Results
1931	Bennett	Island-wide Survey	Identified SIHP Site # 50-30-04-0113 through -0117
2004	Monahan and Powell	Archaeological Monitoring	No historic properties identified

Bennett (1931) conducted early archaeological research on Kauaʻi. He recorded five sites in Anahola Ahupuaʻa, all north and west of the current study area, that include: SIHP Site # 50-30-04-0113, Aikanaka

Heiau at Anahola Point on the south shore of Anahola Bay; SIHP Site # 50-30-04-0114, Paeaea Heiau at the back of Anahola Bay; SIHP Site # 50-30-04-0115, Kahua Heiau on the edge of the north bluff of Anahola Valley; SIHP Site # 50-30-04-0116, dune burials in the sands around Anahola Bay; and SIHP Site # 50-30-04-0117, two lo‘i inland within Anahola Valley.

In 2004, Scientific Consultant Services, Inc. conducted archaeological monitoring (Monahan and Powell 2004) of a project to install underground fiber optic lines beneath several streets on either side of Kuhio Highway to the west of the current project area, including Kukuihale Road. No cultural materials or sandy deposits were identified during the monitoring.

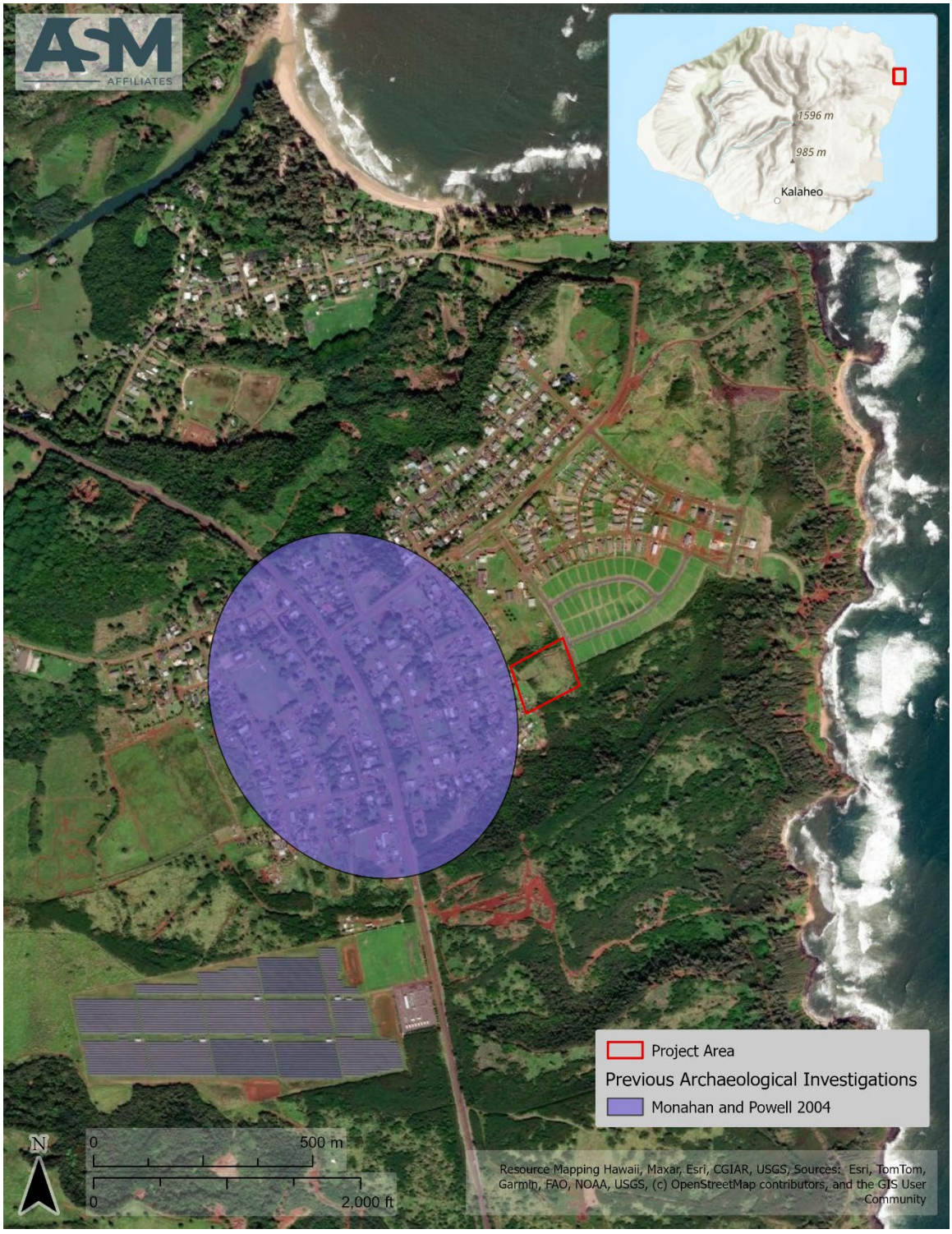


Figure 9. Locations of previous archaeological investigations within 500 m of the project area.

Table 3. Historic properties recorded by Bennett (1931:129) in the broader vicinity of the project area.

Bennett's Site Number	Description
113	Aikanaka Heiau, small heiau located at Anahola Point near end of bluff
114	Paeaea Heiau, small and round heiau located inland from government road on the north side of the valley
115	Kuhua Heiau, on the edge of the north bluff of Anahola Valley
116	Dune burials, various locations around Anahola Bay
117	"Taro terraces," inland Anahola Valley

HISTORIC PROPERTY TYPES EXPECTED WITHIN THE PROJECT AREA

The APE and surrounding area have been subject to intense disturbance, particularly related to sugarcane plantation operations starting in the late 1800s until construction of the school that exists today. This means that, although possible, traditional Hawaiian artifacts, deposits, features, or sites are not likely to be observed, at least not in their primary archaeological contexts.

Historic artifacts, features, or sites are more likely to be present within the project area. For instance, remnants of sugarcane infrastructure such as roads, ditches, flumes, or pipes, may be present. An unimproved road is shown to bisect the project area in the 1963 USGS topographic 7.5-minute map (Figure 10). Note, however, that sugarcane ditches were often re-purposed and/or modified versions of traditional Hawaiian loʻi ʻauwai (irrigation channels).

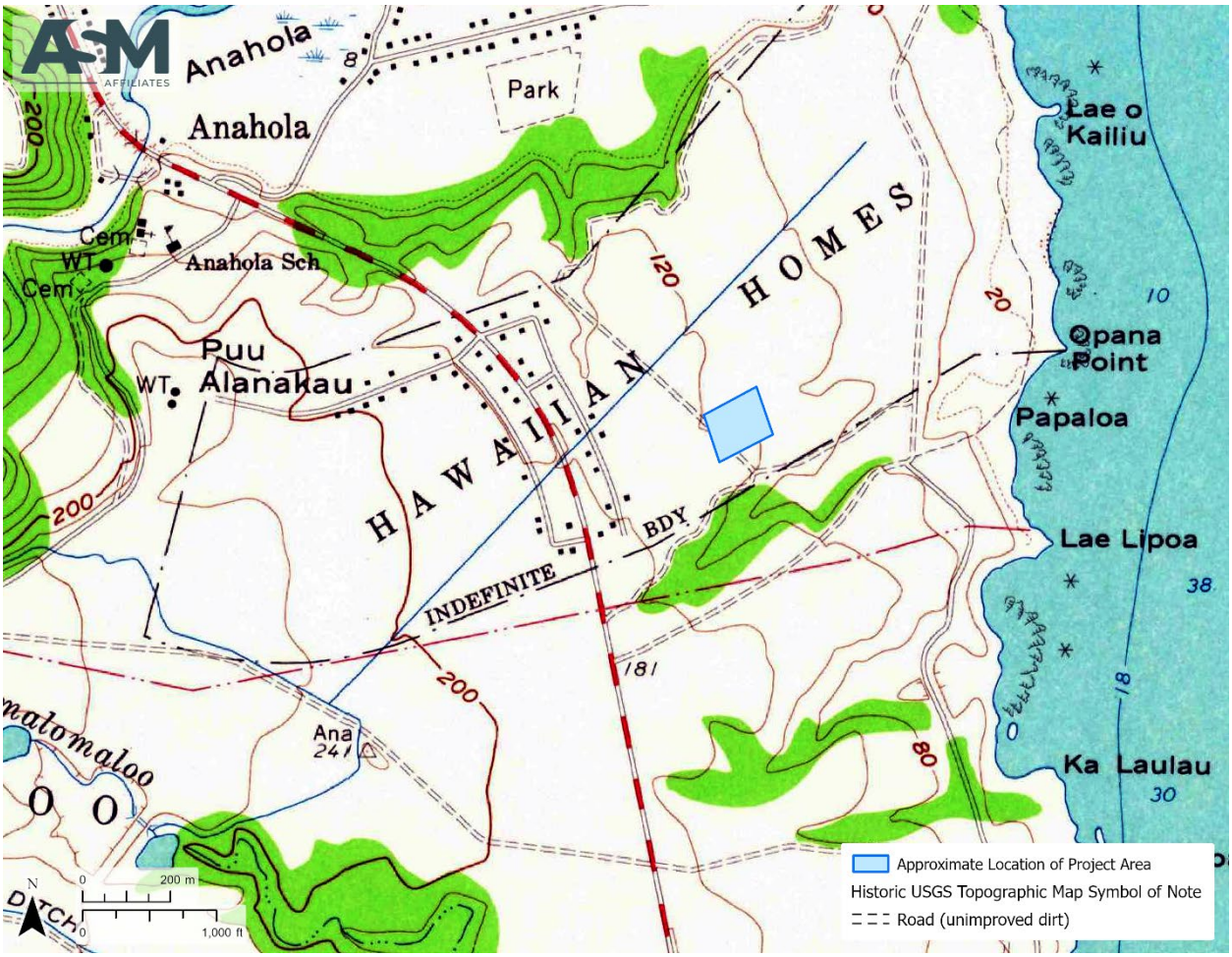


Figure 10. Portion of 1963 USGS Topographic map showing an unimproved road bisecting the approximate project location.

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3. FIELD INSPECTION METHODS

On August 28, 2025, ASM conducted a field inspection of the proposed project area. Fieldwork was conducted by Nick Belluzzo, M.A., (Principal Investigator) and Susan Jaques, M.A., (Senior Archaeologist). The ground surface of the entire parcel was visually inspected utilizing north/south pedestrian transects, maintaining 10-meter spacing intervals. Representative photographs were taken throughout the project area (Figure 11 through Figure 22).

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4. FIELD INSPECTION RESULTS

The entire project area had been previously graded and cleared of vegetation. Secondary-growth vegetation is present in the southern extent and some perimeter portions of the project area (Figure 15, Figure 21, and Figure 22) with a more recently graded and cleared area in the center (Figure 16, Figure 20, and Figure 21). Several bulldozer push piles and berms were also observed within the project area (see Figure 14, 17, and 18). No evidence of previous plantation infrastructure was observed, and the level of grading suggests the potential for subsurface archaeological deposits is unlikely.

As a result of the field inspection, no archaeological sites, features, or deposits were identified within the project area. No subsurface sampling was conducted as part of the fieldwork.



Figure 11. Overview of front portion of project area. View to the southwest.



Figure 12. Overview of front portion of project area. View to the south.



Figure 13. Front of lot facing existing school buildings. View to the north.



Figure 14. Bulldozer push pile near southeast corner of project area.



Figure 15. Overview of central portion of the project area. View to the southeast.



Figure 16. Graded area in central portion of project area. View to the southeast.



Figure 17. Bulldozer berm in central portion of project area. View to the southwest.



Figure 18. Portion of pushed embankment. View to the southwest.



Figure 19. Overview of graded area. View to the west.



Figure 20. Overview of graded area. View to the west.



Figure 21. Overview of southern extent of project area. View to the northeast.



Figure 22. Southern extent of project area facing toward the existing school buildings. View to the northwest.

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5. SUMMARY AND RECOMMENDATIONS

As a result of the current field inspection, no historic properties were identified within the project area. Therefore, an effect determination of "no historic properties affected" pursuant to HAR §13-275-7 is recommended for the proposed development of new Pre-K teaching facilities at Kukuihale Public Charter School on a portion of TMK (4) 4-8-022:089. In the unlikely event that any historic properties are encountered during ground-disturbing activities associated with this proposed development, such activities must be halted and DLNR-SHPD contacted immediately.

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Archaeological Literature Review and Field Inspection of an Additional 4-Acres for the Hawai‘i School Facilities Authority (HIFSA) Kanuikapono New Pre-K Construction Project

TMKs: (4) 4-8-022:089

Ahupua‘a of Anahola
District of Kawaihau
Island of Kaua‘i



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MANAGEMENT SUMMARY

At the request of Bowers + Kubota, Inc., on behalf of the State of Hawai‘i, School Facilities Authority, ASM Affiliates conducted a literature review and field inspection of a 4-acre project area in support of Kanuikapono Public Charter School’s Master Plan Update projects— which include facility improvements and campus expansion— in the ahupua‘a (Land division usually extending from the uplands to the sea) of Anahola, moku (district) of Kawaihau, island of Kaua‘i.

This literature review and field inspection was conducted in support of Hawai‘i Revised Statutes Chapter 6E-8 review, under the auspices of a Memorandum of Understanding between the State of Hawai‘i Department of Land and Natural Resources, State Historic Preservation Division and the State of Hawai‘i School Facilities Authority, and in accordance with Hawai'i Administrative Rules §13-275.

Archival research indicates that the project area has been highly disturbed by historic agricultural activity (commercial sugarcane cultivation) and historic and recent residential development. Prior to that time, a freshwater emergent wetland within and surrounding the project area was likely the location of traditional Hawaiian subsistence gathering and agriculture.

The field inspection was conducted on December 23, 2025, by ASM Affiliates personnel Kent Manchen, MA, under the direct supervision of Nick Belluzzo, MA, Principal Investigator. Fieldwork consisted of an intensive pedestrian survey of the project area.

No historic properties were observed within the project area. As such, for the purposes of Hawai'i Revised Statutes Chapter 6E-8 review, we recommend a determination of effects of “No historic properties affected” for this proposed project.

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1. INTRODUCTION

At the request of Bowers + Kubota, Inc., on behalf of the State of Hawai‘i, School Facilities Authority (HISFA), ASM Affiliates (ASM) conducted a literature review and field inspection (LRFI) of a 4-acre project area in support of Kanuikapono Public Charter School's Master Plan Update projects, which include facility improvements and campus expansion, in the ahupua‘a[1] (Land division usually extending from the uplands to the sea) of Anahola, moku (district) of Kawaihau, island of Kaua‘i (Figures 1, 2, and 3). The proposed project area is located at 4333 Kukuihale Road and includes a 4-acre portion of a 27.4-acre parcel owned by the State of Hawai‘i Department of Hawaiian Home Lands with Tax Map Key (TMK) (4) 4-8-022:089.

This LRFI was conducted in support of Hawai‘i Revised Statutes Chapter 6E-8 review, under the auspices of a Memorandum of Understanding (MOU) between the State of Hawai‘i Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) and the State of Hawai‘i School Facilities Authority (HISFA), and in accordance with relevant sections of Hawai'i Administrative Rules §13-276.

PROJECT DESCRIPTION

Kanuikapono Public Charter School (KPCS), in collaboration with the State of Hawai‘i School Facilities Authority (HISFA), is undertaking the implementation of its Master Plan Update (MPU) for campus improvements and expansion, which includes a Pre-Kindergarten (Pre-K) Facility. The vision of the KPCS MPU is to serve as a community-based school and services center. The implementation of the MPU is being led by KPCS and its consultants. The design and construction of the Pre-K Facility project is being led by HISFA and funded through the "Ready Keiki" initiative, which seeks to provide expanded access to early childhood education across Hawai‘i. (see Appendix A: MOU draft: Attachment 1).

The proposed projects of the KCPS MPU consist of additional classrooms, locker rooms, restrooms, a new roof over the existing play court, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā (platform for performing hula), and a papakū muliwai (streambed) with a pedestrian bridge. The proposed Pre-K Facility will feature four new classrooms, an outdoor piko (central) gathering area, outdoor learning environments, and administrative spaces with additional amenities. Proposed infrastructure improvements associated with the Pre-K Facility include extension of the existing waterlines along Laula Street, extension of the existing sewer line on Holoikalapa Street, and construction of new underground electrical and telecom lines (Figure 4). The proposed project would also include ground disturbance for construction of paved access paths and parking areas.

[1] Hawaiian words are not italicized because ‘Ōlelo Hawai‘i (the Hawaiian language) is an official language, not a foreign language, in the state of Hawai‘i.



Figure 1. USGS topographic map showing the location of the project area.

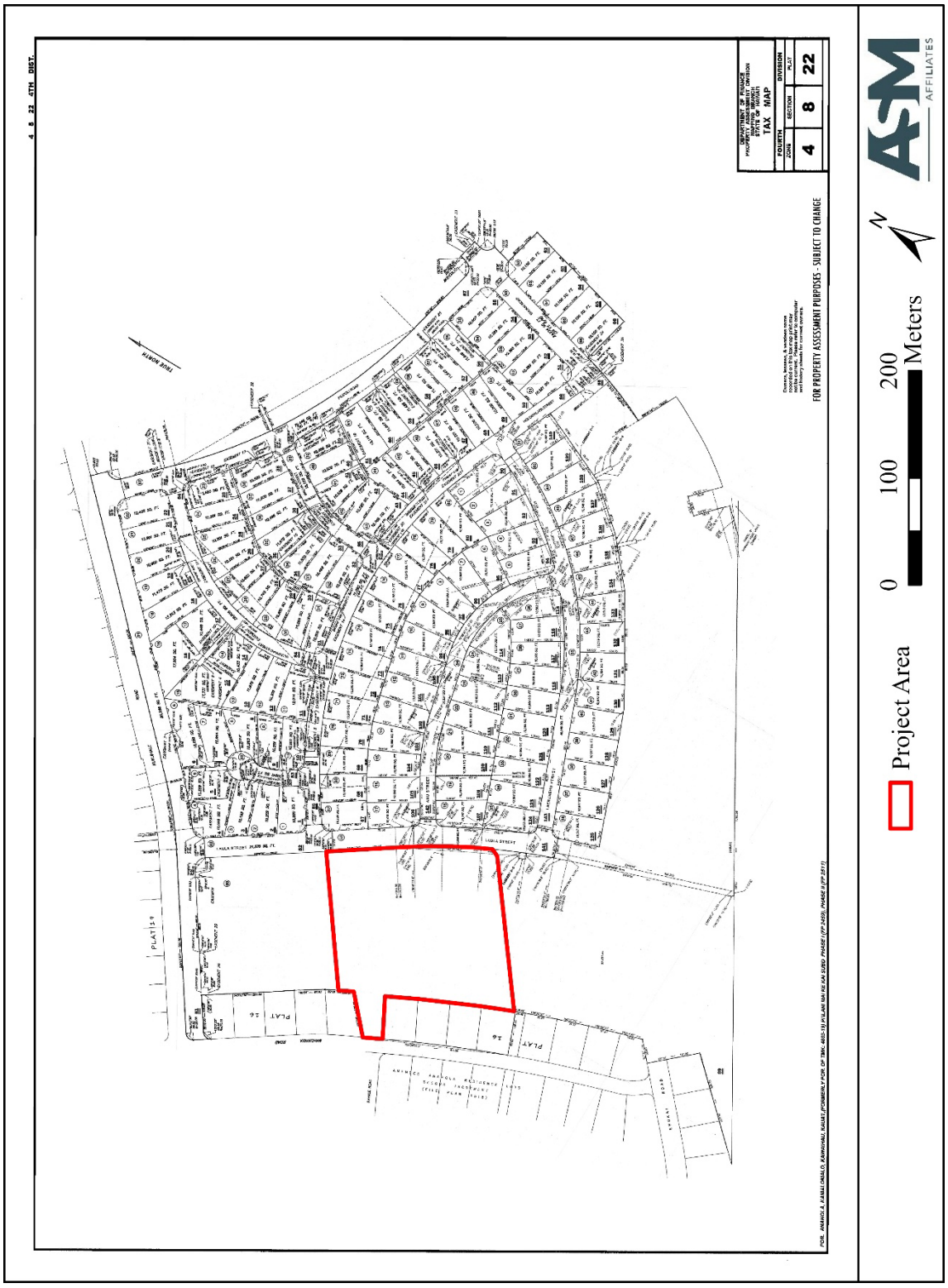


Figure 2. Project area overlaid atop Tax Map Key (TMK) (1) 1-1-009.



Figure 3. Recent aerial composite showing the current project area.

PROJECT AREA

The project area is located within a previously disturbed portion of the 27.401-acre parcel at 4333 Kukuihale Road in Anahola Ahupua‘a, Kawaihau District, Island of Kaua‘i (TMK (4) 4-8-022:089). In particular, the project area is within the Kanuikapono Public Charter School, located on land owned by the State of Hawai‘i. The project area is bounded by a portion of the Kanuikapono Public Charter School property to the south and by residential development to the west, north, and east (see Figure 3).

The Kanuikapono Public Charter School was opened in 2001 and operated out of three temporary locations before settling into its current location (RMBJ Consulting 2006). It now has over 200 students. It provides a high-quality education based on Hawaiian knowledge from kindergarten through high school, with a dedication to community renewal.

REPORT ORGANIZATION

This LRFI is organized as follows: Section 1 contains a brief project overview. Section 2 summarizes the physical environmental characteristics and relevant cultural background information for the APE and discusses previous archaeological investigations and known historic properties within and around the APE. Section 3 presents the field inspection methods employed. Section 4 presents the results of the field inspection. Section 5 provides a summary of the results and recommendations.



Figure 4. Proposed project plans.

2. BACKGROUND

Completing natural environment and cultural history research of the Anahola area is necessary to contextualize and evaluate any historic properties that may be identified during the field inspection. Likewise, an overview of previous archaeological investigations and historic properties within and around the project area is necessary to help the field crew identify any historic properties, or other cultural resources they may observe during fieldwork.

The cultural history research and previous archaeological investigations overview were conducted by ASM using various analog and digital collections. Primary resource collections and databases were found at multiple state agencies, including the Hawai‘i State Historic Preservation Division (SHPD), the Hawai‘i State Archives, and the Department of Accounting and General Services Land Survey Division, as well at private organizations such as the Office of Hawaiian Affairs Papakilo and Kīpuka databases, Waihona ‘Āina, the Ulukau Hawaiian Electronic Library, the Hawai‘i Genealogical Indexes, and Newspapers.com. Secondary collections and databases were found at ASM's Honolulu office and included general reference information about the history of land use, politics, and culture change in Hawai‘i.

NATURAL ENVIRONMENT

Topography

Situated in the ahupua‘a of Anahola, the project area is located approximately 0.61 kilometers (km) (0.38 miles (mi.)) inland and on relatively flat terrain. Elevation of the project area is approximately 36.6 meters (m)(120 feet (ft.)) above mean sea level.

Vegetation

Vegetation within the project area is secondary growth following previous grading of the parcel and consists primarily of Guinea grass (*Megathyrsus maximus*), koa haole (false koa, *Leucaena leucocephala*), banana (mai‘a, *Musa acuminata*), and breadfruit (‘ulu, *Artocarpus altillis*).

Geology and Soils

The underlying geology in the vicinity of the project area includes deposits of Lihue silty clay (LhB) with 0 to 8 percent slopes and Lihue silty clay ((LhC) with 8 to 15 percent slopes (Soil Survey Staff 2022) (Figure 5). These deposits are formed of alluvium (Qa) originating from Koloa volcanics (Sherrod et al. 2007) (Figure 6).

Climate

Average annual temperature in the region over the last five years has trended downward from 22.5ºC (72.5ºF) in 2020 to 21.5ºC (70.7ºF) in 2024 (Longman et al. 2024). Average annual rainfall in the project area vicinity is 42 inches (Giambelluca et al. 2013).

Hydrology

A portion of the project area is mapped as freshwater emergent wetland (Figure 7) (U.S. Fish and Wildlife 2024).

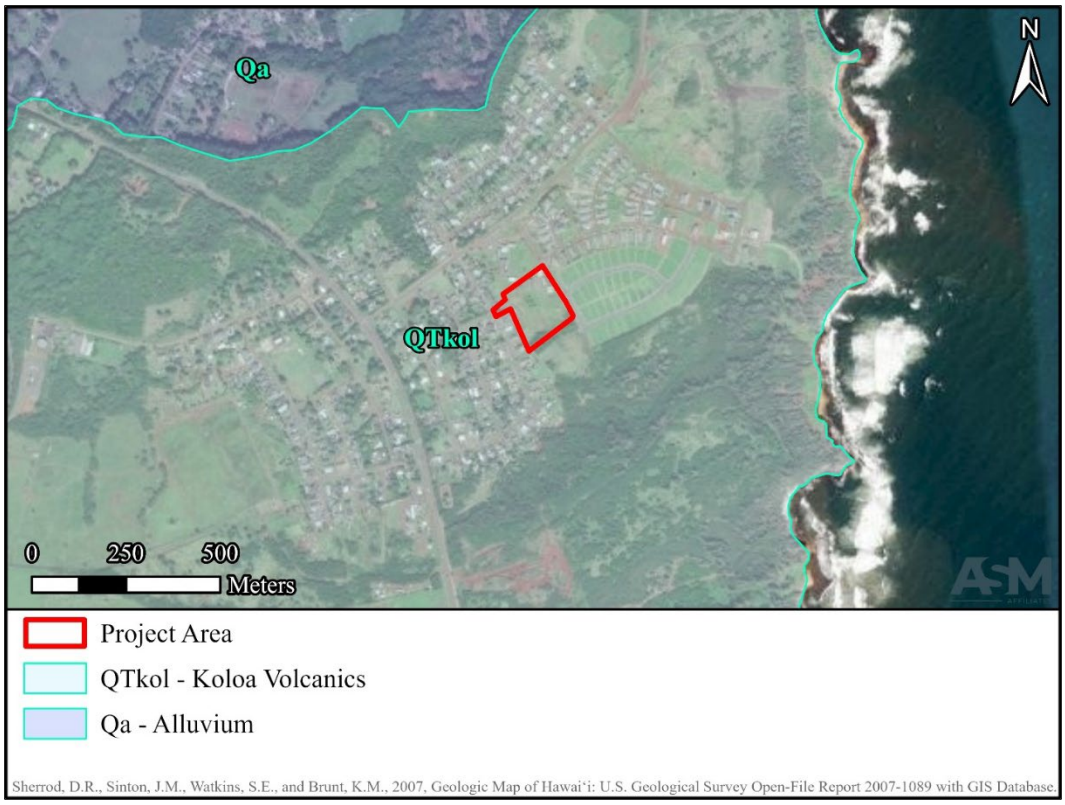


Figure 5. Geological deposits in the vicinity of the project area.

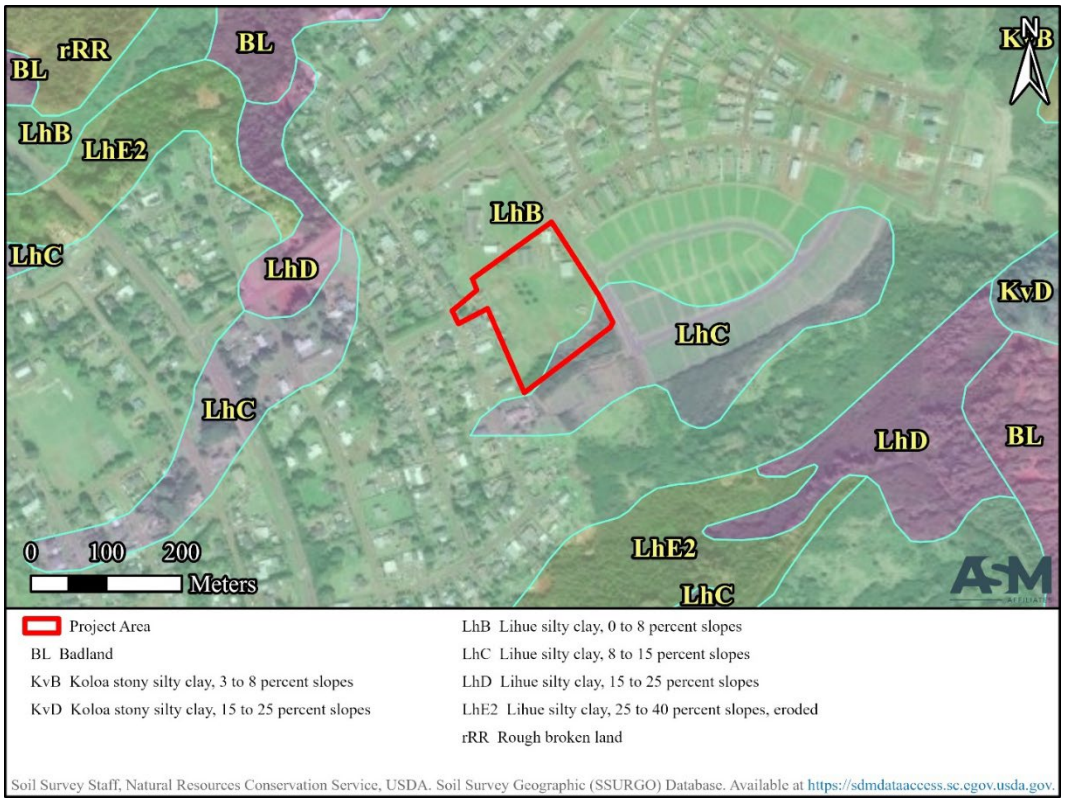


Figure 6. Soil deposits in the project area and vicinity.

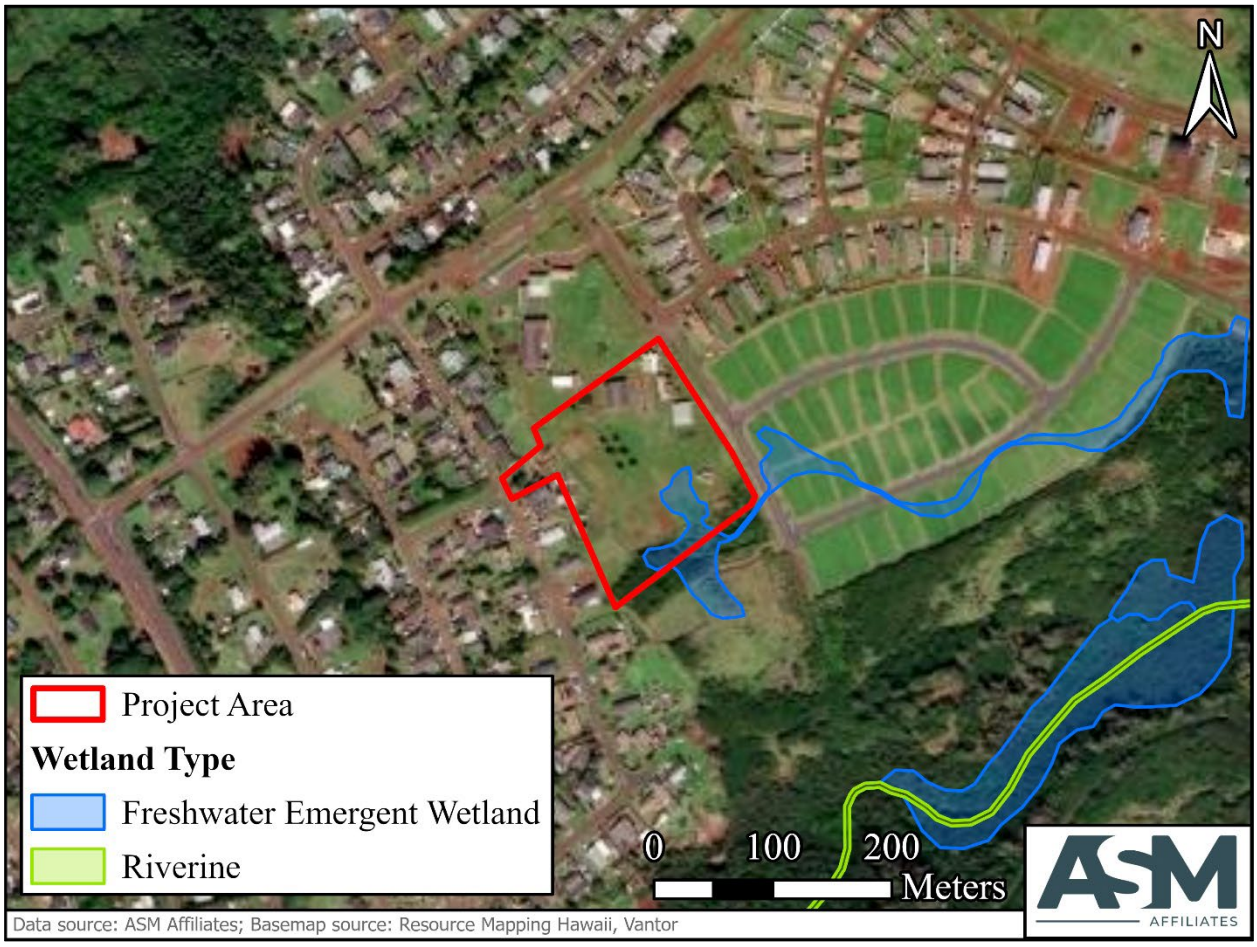


Figure 7. Wetland types present in the vicinity of the project area.

CULTURAL HISTORY

The project area is located within the ahupuaʻa of Anahola and the moku (district) of Kawaihau. Prior to being placed in Kawaihau, Anahola was within the moku of Koʻolau, which is shown in the land divisions dataset used by the Office of Hawaiian Affairs (Figure 8). A moku contains smaller land divisions called ahupuaʻa that customarily extend inland from the ocean and upland into the mountains. Traditionally, household groups living within the ahupuaʻa were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each ahupuaʻa to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). ʻIli ʻāina—often simply called ʻili—are subdivisions of ahupua'a and were traditionally administered by the chief who controlled the ahupua'a (Lyons 1875:33; Lucas 1995:40). Moʻoʻāina are narrow strips of land within an ʻili. A kuleana is the smaller land holding within an ʻili that belonged to the tenant who lived or worked there (Lucas 1995:61).

The chronological summary presented below begins with the peopling of the Hawaiian Islands and includes the presentation of a generalized model of the pre-Contact period and a discussion of the general settlement patterns for Kauaʻi. The discussion of the pre-Contact period is followed by a summary of historical events in the district that begins with the arrival of foreigners in the islands and then continues with the history of land use in Anahola after contact. The summary includes a discussion of the changing lifeways and population decline of the early Historic Period, a review of land tenure in the study ahupuaʻa during the Māhele ʻĀina of 1848, and documentation of the transition from traditional land use practices to the commercial sugar industry during the late nineteenth and early twentieth century. A synthesis of the pre-Contact settlement patterns and the historically documented land use, combined with a review of the findings of previously conducted archaeological studies, provides a means for predicting the types of archaeological features that may be encountered within the study area, and forms a basis for assessing the function, age, and significance of any encountered archaeological sites.

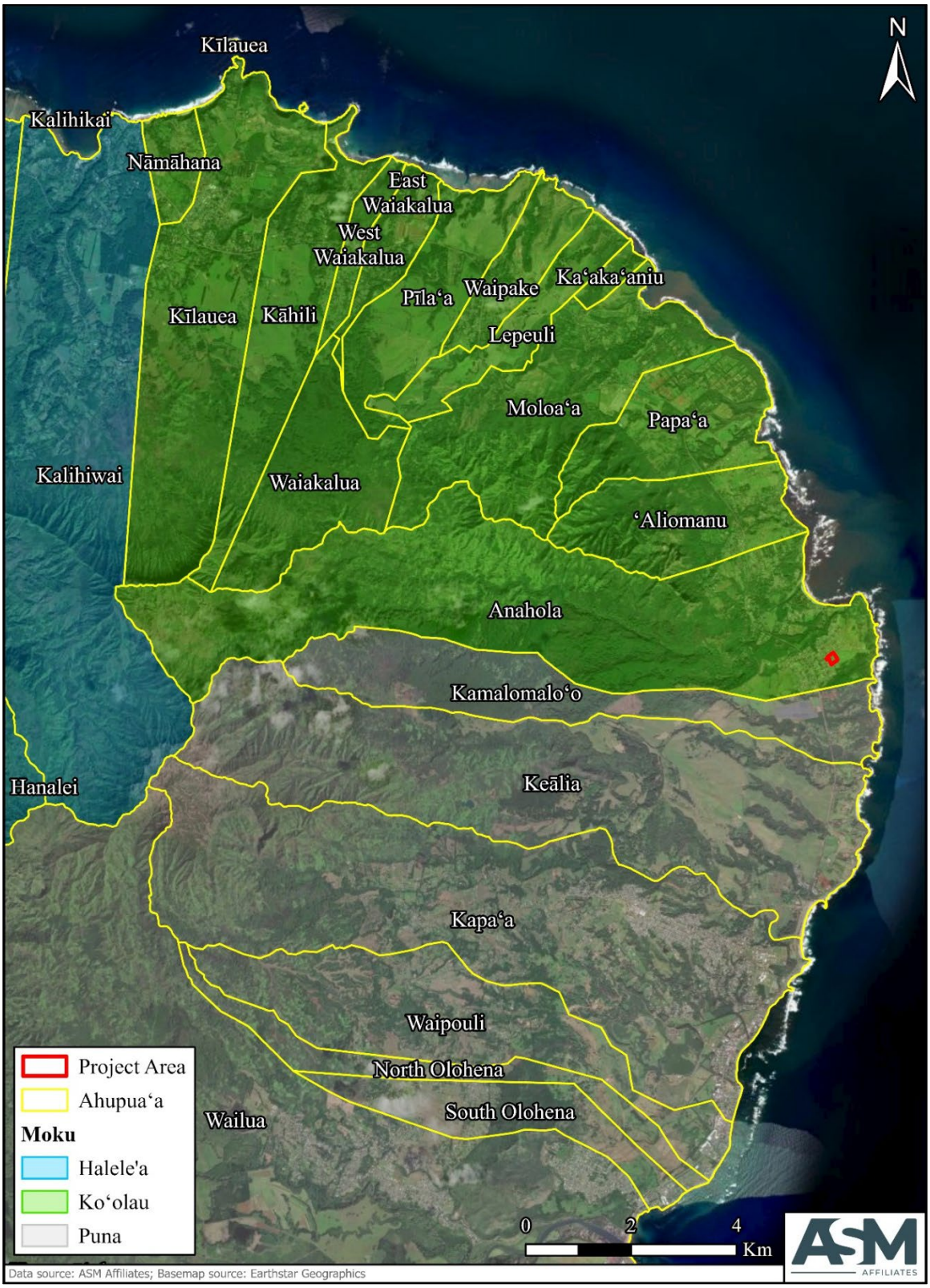


Figure 8. Location of the project area within traditional Hawaiian land divisions.

Pre-Contact

Paleoenvironmental and archaeological research suggests that settlement of the Hawaiian Islands occurred between A.D. 940 and 1130, with the likeliest range being between A.D. 1000 and 1100 (Athens et al. 2014; see also Kirch 2011). The initial settlers were most likely drawn first to the fertile windward valleys, and only periodically visited leeward areas, where excellent fishing and arable drylands offered an attractive subsistence base. These communities then later spread to other areas as local populations increased over the following few hundred years.

Early sources record a large, prosperous population occupying the Anahola region at the time of European contact in 1778. In part, this was due to the abundant water provided by the Anahola River, the largest river in the Kawaihau District, which allowed for the development of wetland agriculture within its vicinity. Terraces are recorded upstream along the Anahola River, while the lower uplands had loʻi (irrigated agricultural systems) located two to four miles inland along the Anahola River and Kaʻalua Stream (Handy et al. 1991:423). The delta of the river was also terraced. While early voyagers note the extensive ʻulu (breadfruit, *Artocarpus altilis*) planting on the southern and leeward sides of Kauaʻi more often than the windward side, Keahi Luahine, a Native Hawaiian kumu hula (teacher) who danced in the court of King Kalākaua, observed that there were also many breadfruit trees in Anahola (Handy et al. 1991:152). Compared to other staple foods such as taro or sweet potato, breadfruit was largely secondary as a staple in the diet of Native Hawaiians. However, Captain James Cook observed the abundance of breadfruit produced by trees in Kauaʻi saying, "breadfruit thrived here, not in such abundance, but produced double the quantity of fruit that they do on the plains of Otahite" (Cook and King 1784:120).

Significant Places and Place Names

Place names are often suggestive of a location's meaning, value, and significance. The Native Hawaiian names of places can inform the cultural context of traditional Hawaiian land use and provide elements of this context that may not be available from archaeological investigations. Kikiloi (2010:75) asserts that the recovery of traditional place names "help[s] to transform once-empty geographic spaces into cultural places enriched with meaning and significance." As such, researching place names helps provide a deeper, richer cultural context to any project area.

The current project area is situated in the ahupuaʻa of Anahola, located within the district of Kawaihau on the northeast coast of Kauaʻi. Today, while Anahola is located within the district of Kawaihau, its traditional moku was Koʻolau, which was later changed to Anahola with the same boundaries (King 1935). Koʻolau translates to windward, a common designation for the side of the island that faces the trade winds (Pukui et al. 1974:117; Wichman 1998). The origin of Kawaihau District is found in a 1935 publication written by the Principal Engineer (Robert King) of the Survey Department of the Territory of Hawaii, which outlines the evolution of the districts of the Hawaiian Islands. Per King, at the time of the Māhele (ca. 1848), Kauaʻi was divided into five districts: "Kona, Puna, Koolau, Halelea, and Napali" (King 1935:215). Pukui and colleagues (1974:193) also mention that portions of the Kawaihau District were "sometimes called Puna." Then, in 1859, an act of the legislature divided the Hawaiian Islands into districts "for taxation, educational and judicial purposes" and as a result, Kauaʻi was divided as follows:

> 1. From Nualolo to Hanapepe, inclusive, to be styled the Waimea district; 2. From Wahiawa to Mahaulepu, inclusive, to be styled the Koloa district; 3. From Kipu to Kamalomalo, inclusive, to be styled the Lihue district; 4. From Anahola to Kilauea, inclusive, to be styled the Anahola district; 5. From Kalihiwai to Honopu, inclusive, to be styled the Hanalei district. (King 1935:216).

The names and boundaries of the districts remained the same until 1878, at which time the Līhuʻe (formally Puna Moko) and Anahola districts were subdivided, "reducing Līhuʻe district about a third, and adding to what was then known as Anahola district the ahupuaʻa of Olohena, Waipouli, Kapaa, Kealia, and

Kamalomalo," which resulted in the creation of the Kawaihau District; "from Waipouli to Kilauea, inclusive" (King 1935:216). Andy Bushnell of The Honolulu Star Advertiser (2014; also see Taylor 1949; Pukui et al. 1974:98) recounts the origins of the naming of Kawaihau District. The Prince Leleiohoku's glee club, called Hui Kawaihau or the "ice water club, " named to honor an American woman and friend of the King who drank only ice water as opposed to the members of the choral group, and who supposedly rebuffed the King's advances, and thus was considered "ice cold." In 1877, following the growth of the sugarcane industry, the members of Hui Kawaihau were convinced by the King to move from Honolulu to Kauaʻi with their families to pursue sugarcane cultivation. They settled above Kapaʻa, and established a mill and surrounding town under the tutelage and financial support of Captain James Makee, a sugar planter from Maui and the Makee Sugar Company. The Hui Kawaihau ultimately failed at farming as the "drinking, dancing and the lives of urban courtiers did not mesh well with farming on Kauai," and the last members of the former choral society gave up the enterprise in 1881 (Bushnell 2014). However, despite the failure of their plantation, the town of Kapaʻa flourished around the mill they established. Ultimately, in 1877, King Kalākaua established the Kawaihau District as including the land between the Wailua River and Moloaʻa Valley (King 1935).

The districts of Kauaʻi again underwent additional minor changes in 1886 when Lepeuli, Waipake, and Pilaʻa of Hanalei District were added to the Kawaihau District, and in 1887, Kawaihau was again adjusted to include the lands from Wailua to Kealaakaʻiole, which more or less restored the district boundaries to how they were in 1880. The district's boundaries remained unchanged until 1921, when "a slight amendment was made to the boundary between Lihue and Kawaihau districts" (King 1935:221) and the Wailua River was established as southern boundary of the district.

Regarding the translation of Anahola, Pukui et al. (1974) does not provide a translation. The Hawaiian Dictionary by Pukui and Elbert (Pukui and Elbert 1986:24) defines Anahola as hourglass; however, the name appears to pre-date European arrivals to Kauaʻi and therefore, there are no clear connections between the translation and the name of the ahupuaʻa. Frederick Wichman, a Kauaʻi historian, attributes the naming of the ahupuaʻa to a moʻo, a lizard kupua (Demigod or culture hero, especially a supernatural being possessing several forms) who transformed into a man on land and a merman in the sea (Wichman 1998:90).

The following map and list (Table 1) provides a summary of the key place names in the project area vicinity.

Table 1. List of significant places within and around the project area

Place Name	*Place Type*	*Meaning*	*Source(s)*
Kawaihau	District	Lit. "the ice water"	Pukui et al. (1974:98)
Koʻolau	Moku	Lit. "windward"	Pukui et al. (1974:117)
Anahola	Ahupuaʻa	Lit. "hourglass"	Pukui and Elbert (1986:24)

Deities, Legends, and Traditional Stories

Very few moʻolelo (stories) and oli (chants) that refer to Anahola directly were found in the course of this study. Those that do discuss Anahola tend to focus on the prominent features of the landscapes within the ahupuaʻa, especially Kalalea, a mountain in the ahupuaʻa, and a hole in this mountain which one song refers to as Konanae (Monahan et al. 2018:39). In 1981, a landslide closed the hole in Kalalea and while reporting on the story, Jan Ten-Bruggencate (1981:1) of The Honolulu Advertiser, recounts the multiple moʻolelo

about the origin of the hole. One story tells how Hulu, a supernatural bird who can transform between a bird and a man, wanted to look down on Anahola while standing on the mauka side of the mountain. Thus, he used his beak to poke a hole in the mountain which allowed him to see the ocean. Another moʻolelo recalls how Konanae was created when Kamehameha, frustrated with his failed attempts to conquer Kauaʻi hurled a spear from Oʻahu which crashed into Kalalea. A third moʻolelo recalls the Kauaʻi hero, Kawelo, as the spear thrower who created the hole during battle with Kauahoa, a giant and the strongest man on Kauaʻi (see also Dickey 1915:4).

In addition to these moʻolelo, several mele (songs) also contain references to Kalalea in Anahola. Monahan and colleagues (2018:39) recite a mele, composed by Jeremiah Kaialoa, Sr. and entitled Anahola, recalls features of the landscape including Kalalea, Konanae, and Amu, the wind in Anahola:

Hanohano Kalalea kau mai i luna	Majestic Kalalea rises above
ʻO ka pali kaulana aʻo Anahola	The famous cliff of Anahola
ʻAlawa iho ʻoe iā Konanae	You glance at Konanae
ʻO ka hoapili like o kuʻu milimili	The beloved close companion
I laila hoʻi au ʻike ihola	I was there and I saw
Nā kaula likini mōliolio	The rigging lines pulled tautly
Huli aku nānā iā Amu	Turn and look at Amu
I ka makani ʻalo ʻehu hele ulūlu	The wind that blows fiercely
Haʻina ʻia mai ana ka puana	The story be told
ʻO ka pali kaulana aʻo Anahola	Of the famous cliff of Anahola

In another mele, composed by Kealiʻikuaʻāina Kahanu & Kaleialoha Williams, also features Kalalea:

Kiʻekiʻe Kalaleaʻa i ka makani	Kalalea stands majestically in the wind
ʻO ka pali kaulana o Anahola	Famed cliff of Anahola
Noho iho e ka ʻohu noe i nā pali	The mist rests upon the cliffs
A he nani maoli nō mai ʻō a ʻō	Simply exquisite from end to end
A ke aku la e ʻike	I yearn to see
I ke kai nehe aʻi Hālaulani	The rustling sea at Hālaulani
ʻO ka pā kolonahe a ka makani	The gentle breeze
I laila māua me kuʻu aloha	That's where I am with my sweetheart

Early Historic (1778–1847)

The island of Kauaʻi was the first of the Hawaiian Islands to be reached by Europeans, which occurred in 1778 when Captain James Cook's ships the Discovery and the Resolution anchored at Waimea. In the years leading up to the first contact with Europeans, the Hawaiian Islands were under the control of various mōʻī. These high-ranking chiefs acted as kings or sovereigns of the different moku and in some cases ruled entire islands. Inter-island and intra-island warfare resulted in tremendous loss of life and power shifts across the island chain. A decade after Hawaiʻi's first contact with the Western world, Hawaiians began to acquire firearms and cannons, which resulted in even greater casualties (Hommon 2013).

In 1790, Kamehameha I was still battling for complete control of Hawaiʻi Island. During this time, he invaded Maui, Lānaʻi, and Molokaʻi, wresting control from Kahekili, then king of Maui and Oʻahu. In 1791, Kahekili's half-brother Kaʻeo (Kaʻeokulani) was king of Kauaʻi and joined Kahekili in successfully reclaiming the islands of Maui, Lānaʻi, and Molokaʻi. Later that same year, Kaʻeo and Kahekili tried to invade the island of Hawaiʻi and were defeated by Kamehameha in a sea battle known as "the battle of the red-mouthed guns" (Joesting 1984:55). Shortly thereafter, Kamehameha was able to unite the island of Hawaiʻi under his rule, upon the sacrificial death of his greatest rival Keōua, the high chief of Kaʻū. Kahekili died on Maui in 1794. Soon after, Kaʻeo stopped in Oʻahu on his way back to Kauaʻi and was killed at the hands of his own forces and foreign reinforcements as he attempted to suppress a rebellion. With Kaʻeo and Kahekili gone, Kamehameha was able to conquer Maui, Molokaʻi, Lānaʻi and Oʻahu by October of 1795, and set his sights on the last holdouts: Kauaʻi and Niʻihau. At this time, the island of Kauaʻi was host to its own civil war, which had erupted upon the death of Kaʻeo because his son Keawe "decided to ignore his father's wishes that Kaumualiʻi become king" (Joesting 1984:58). As a result of this feud, the brothers fought bitterly and by July of 1796, Keawe successfully defeated Kaumualiʻi. Rather than kill Kaumualiʻi, Keawe kept him under house arrest, but Keawe died soon after taking him prisoner. As a result, Kauaʻi and Niʻihau came under the rule of Kaumualiʻi, a mere teenager at the time.

In April 1796, while Kaumualiʻi was still his brother's prisoner, Kamehameha I had mounted a failed invasion of Kauaʻi. Kamehameha I and his troops fell prey to the strong currents and dangerous winds of the Kaieie Waho channel (between Oʻahu and Kauaʻi) and were forced to turn back to Oʻahu before they even reached their target. About eight years later, Kamehameha I prepared for a second invasion of Kauaʻi. However, an epidemic swept through Oʻahu, which depleted his ranks and claimed the lives of his most trusted advisors before they had a chance to set sail across the channel, thereby foiling another invasion attempt (Joesting 1984). Kamehameha I endured five years of fruitless negotiations and Kaumualiʻi finally agreed to meet Kamehameha face to face in Honolulu in 1810. As a result of this meeting, Kaumualiʻi retained control of the Kauaʻi by pledging his allegiance to Kamehameha I; although Kauaʻi had officially become part of Kamehameha's kingdom.

This arrangement lasted until a few years after the death of Kamehameha I (c. 1819). In 1821, Kamehameha's son Liholiho (Kamehameha II) kidnapped Kaumualiʻi from Kauaʻi and took him to Oʻahu. Within days, Kaumualiʻi was forced to marry Kamehameha I's widow Kaʻahumanu. A few days after that, Kaʻahumanu also took Kaumualiʻi's son Kealiʻiahonui as her husband, thereby sealing the alliance between the leeward and windward islands (Joesting 1984). Kaumualiʻi, the last independent king of Kauaʻi, died in 1824 in Honolulu, having never returned to Kauaʻi after Liholiho lured him away (Donohugh 2001). According to most accounts, Kaumualiʻi was remembered favorably by kamaʻāina and foreigners alike. Upon Kaumualiʻi's death, Kauaʻi became divided over whether to be loyal to Kamehameha II and the windward chiefs who had taken it upon themselves to fill in for the late king of Kauaʻi; or pursue the independence they had enjoyed in the early days under Kaumualiʻi's rule (Donohugh 2001). After Kaumualiʻi's death, Keʻeaumoku, the first appointed governor, died shortly after his appointment. Keʻeaumoku was replaced by Kahalaia (Joesting 1984). However, as a result of the mounting tensions

throughout Kauaʻi, Kaʻahumanu's cousin Kalanimoku, the prime minister and treasurer of the kingdom, ventured to Waimea, Kauaʻi on August 1, 1824, to diffuse the situation (Del Piano 2009).

In an attempt to reclaim sovereignty for Kauaʻi and Niʻihau, on August 8, 1824, a small group of rebels that included Kaumualiʻi's son, George (Humehume), mounted a failed uprising against the Hawaiian presence at the Pāʻulaʻula in Waimea (Del Piano 2009; Joesting 1984). Prince George and the other insurgents were forced to retreat and sought refuge in Hanapēpē Valley. In response, some Kauaʻi natives armed themselves to fight the rebels and Kalanimoku called in reinforcements from Oʻahu and Maui. On August 20, 1824, experienced troops armed with muskets arrived in Kauaʻi and defeated Humehume and his small group of rebel supporters in the battle of Hanapēpē-Wahiawa. The rebels who survived the battle, fled; however, many of them were later caught and held captive. Humehume was among these men and was brought before Kalanimoku, who spared the prince's life (Del Piano 2009). The repercussions of this decisive battle resulted in the realization of Kamehameha I's aspirations for the unification of all the Hawaiian Islands under one rule, albeit five years after his death.

Various historic accounts of the battle of Hanapēpē-Wahiawa and its aftermath describe the extreme brutality meted out by the invaders, which included violent acts against unarmed women and children (Joesting 1984). The invaders looted the island, stripped the chiefs of their lands, and deported them to Hawaiʻi, Oʻahu, and Maui. Kaʻahumanu continued to influence Hawaiian history during this time. She had assumed control over the Hawaiian Kingdom since 1823 when her son Liholiho had set sail for England, and upon notification of Liholiho's death in 1825, she became the self-appointed regent of Hawaiʻi. After Kaumualiʻi's death, Kaʻahumanu redistributed many of the Kauaʻi chiefs' lands to members of the royal family (descendants of Kamehameha) or gave them out as rewards to favored court advisors and proven warriors, all of whom acted as absentee landlords because they resided on other islands (Joesting 1984). In his history of Kauaʻi, Joesting (1984) opines that the motives for these vengeful attacks upon Kauaʻi after Kaumualiʻi's death had been building for generations. Some of the windward island rulers resented the power inherent in the birthright of the kings of Kauaʻi and likely held grudges from earlier invasions of the windward islands; while others may have felt that they had unfinished business after Kamehameha I's two failed invasion attempts. In addition, some of the windward fighters may have gone to Kauaʻi in an effort to root out the missionary presence that Kaumualiʻi had so warmly welcomed there.

The Māhele and Land Commission Awards (1848–1851)

By the mid-1800s, the ever-growing population of Westerners in the Hawaiian Islands forced political, socioeconomic, and demographic changes that promoted the establishment of a Euro-American style of land ownership (Kameʻeleihiwa 1992:169–170, 176; Kuykendall 1938:145). The establishment of private land ownership, during a process called the Māhele, was one of these significant changes.
Native tenants on the lands that were initially divided up among the Crown, Konohiki (head manager of an ahupuaʻa), and Government could claim, and acquire title to, the kuleana (land in which one has a rightful interest) parcels that they actively worked or lived on. The Board of Commissioners oversaw the program and administered the kuleana as Land Commission Awards (LCAs). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent, after which they could take legal possession of the property (Chinen 1961:16).

In conjunction with the Māhele, the King also authorized the issuance of Royal Patent Grants to purchase tracts of Government land larger than those generally available through the Land Commission. Unlike in the kuleana claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about geographical features of the grant lands, and describe boundary markers, such as rock piles and vegetation, but they generally do not say anything about improvements to the land or land use.

As a result of the Māhele, Anahola Ahupuaʻa was given to William Lunalilo. However, he relinquished his interest in the land to Kamehameha III and as a result, Anahola became Crown Land. Subsequently, 67 Kuleana awards, including a total of 105 parcels, were given within Anahola Ahupuaʻa. There are no LCAw located within or near the footprint of the current project area (Office of Hawaiian Affairs 2018).

Land Grants, Land Use, and Changes in Tenure in the Vicinity of the Study Area (1850-1863)

In conjunction with the Māhele, the King also authorized the issuance of Royal Patent Grants to purchase tracts of Government land larger than those generally available through the Land Commission. The process for applications was clarified by the "Enabling Act," which was ratified on August 6, 1850. The Act resolved that portions of the Government Lands established during the Māhele of 1848 should be set aside and sold as grants ranging in size from one to fifty acres at a cost of fifty cents per acre. The stated goal of this program was to enable native tenants, many of whom were not awarded kuleana parcels during the Māhele, to purchase lands of their own. Despite the stated goal of the land grant program, this provided the mechanism that allowed many foreigners to acquire large tracts of the Government Lands. Unlike in the kuleana claims, where claimants stated their use of the land, the grant records are silent regarding the grantees' intended use. The Royal Patent deeds and survey notes do contain some limited information about geographical features of the grant lands, and describe boundary markers, such as rock piles and vegetation, but they generally do not say anything about improvements to the land or land use. Fifty-two of these Royal Patent Grants were purchased within Anahola Ahupuaʻa. The current project area is not included within or near any of these grant parcels (Office of Hawaiian Affairs 2018).

The Plantation Era in Anahola

The latter half of the 19th century resulted in significant land-use changes in Anahola Ahupuaʻa and the greater Koʻolau region as people moved away from traditional land use practices. In 1849, William Dewitt Alexander described the Anahola Valley as "chequered with kalo patches, and studded with houses" and as having an "abundance of water" (Alexander 1933:123 in Dixon et al. 2005). However, only 16 years later in 1965, William T. Brigham described Anahola as "abrupt in places and very red from the soil" and "few trees except the pandanus were seen" (Lydgate 1991 in Dixon et al. 2005). Dixon et al (2005) attribute these changes to the effects of deforestation caused by non-traditional agricultural practices. Thus, following the Māhele much of the land in the general area appears to have been transformed by the introduction and subsequential boom of commercial agricultural, especially that of sugarcane.

Several sugarcane companies began planting along the eastern coast of Kauaʻi. Lihue Plantation Company was originally established on 3,000 acres under the name Henry A. Peirce & Co. in 1849 by Charles Reed Bishop, Judge William L. Lee, and Henry A. Peirce, and constructed a mill in Nawiliwili, located on the southeast coast of Kauaʻi (Saito and Campbell 1987). In 1859, a new partnership resulted in a name change to Lihue Plantation Company and, in 1866, 300 acres at Ahukini were added to the cane lands. In 1870, under the management of Paul Isenberg, Lihue Plantation purchased 17,000 acres at Hanamāʻulu and established Hanamaulu Plantation with its own mill under the management of Albert Spencer Wilcox (Dorrance and Morgan 2000). In 1878, Lihue Plantation leased another 30,000 acres of land located at Wailua, at which time Paul's brother, Carl Isenberg, took over management of the plantation and instituted a reforestation program therein (Saito and Campbell 1987).

Around this time (ca. 1877), the Makee Sugar Company was established in Kapaʻa by Captain James Makee by order of King Kalākaua and inefficiently run by Hui Kawaihau. Kalākaua and the members of Hui Kawaihau purchased the Ernest Krull sugar estate and by 1889, 1,030 workers at Makee Sugar Company produced 5,000 tons of sugar (Saito and Campbell 1987). Makee's son-in-law, Colonel Z. S. Spalding, had purchased lands at Keālia and set up a mill there. Upon his father-in-law's death, Spalding took over Makee Sugar Company, merged his Makee's mill equipment with that of Keālia and was the first manager to institute 24-hour harvesting and milling in Hawaiʻi (Saito and Campbell 1987). In 1922, American Factors

(formerly Hackfeld & Co.) bought controlling interest in Lihue Plantation, and in 1933, Lihue Plantation merged with Makee Sugar Company (Sommer 2000). Thus, in 1933, "the properties of Lihue Plantation included Makee Plantation, Ahukini Railway Co., Nawiliwili Transportation Co., East Kauai Water Co., Princeville Ranch, Waiahi Electric Co., and pineapple lands leased to Hawaiian canneries" (Saito and Campbell 1987:2).

Lands in Anahola were leased by both Makee Sugar Company and later, the Lihue Sugar Company. However, records suggest that commercial sugarcane cultivation was not introduced into Anahola until the last years of the 19th century. In 1899, the Hawaiian Star reported that Anahola was home to many homesteaders in the last years of the 19th century and had been for years. However, "little cane was grown there until the last year or two," when the Makee Sugar Company expanded into Anahola (The Hawaiian Star 1899). The growth of the Makee Sugar Company resulted in strains on the harbors at Kapaʻa, which was the primary landing port for the company. Furthermore, Kapaʻa Harbor was considered a difficult and dangerous landing, which often resulted in ships waiting for poor weather to clear near Anahola Bay, just north of Kapaʻa. Consequently, in 1899, George Fairchild, the manager of the Makee Sugar Company, instigated the building of a new harbor in Anahola, a project which newspapers believed would create one of the "best and safest harbors in the Islands" (The Hawaiian Star 1899:1). This new harbor was located north of the current project area.

In 1922, American Factors (formerly Hackfeld & Co.) bought controlling interest in Lihue Plantation, and in 1933, Lihue Plantation merged with Makee Sugar Company (Sommer 2000). At the time of this merger, "the properties of Lihue Plantation included Makee Plantation, Ahukini Railway Co., Nawiliwili Transportation Co., East Kauai Water Co., Princeville Ranch, Waiahi Electric Co., and pineapple lands leased to Hawaiian canneries" (Saito and Campbell 1987:2). Thus, by 1990, only five of the 31 plantations that formerly existed on Kauaʻi ca. 1877 remained in operation (Dorrance and Morgan 2000) and Lihue Plantation, which was then owned by Amfac/JMB, continued in operation until 2000 (Sommer 2000). Lihue Plantation leased land in Anahola, including near the project area until at least the 1950s, when the government established new homestead plots in the area (HTS Plat 3003-C). In November of 2000, Amfac/JMB put 17,000 acres of former Lihue Plantation land up for sale and the remaining 6,000 acres that were still planted in cane produced their last harvest after 150 years of operation in east Kauaʻi.

In addition to the cultivation of sugarcane, the commercial rice industry also came to Anahola in the early 20th century. By the early 20th century, much of the traditional loʻi fields and terraces that had previously characterized the Anahola landscape had been converted into rice fields (Char 1979). Chinese rice markets boomed until the 1930s, when they saw a dramatic decline due to rising costs of production (Dixon et al. 2005). Commercial pineapple production also emerged in Anahola, but, like rice and sugarcane, the industry declined in the 1930s.

Homesteading

Homesteading began within Anahola in the 1950s which served to provide opportunities for Native Hawaiians to lease land on residential and agricultural lots. The first homestead in Anahola was leased in 1957, and in 1987, a development plan for the homesteading community that, "envisioned the region as a contemporary ahupuaʻa providing a mixture of land uses for cultural, homesteading, agricultural, pastoral, income-generating and public purposes" (Hawaiian Home Lands 2022:27). As of 2022, 577 homestead leases have been awarded within Anahola, including 531 residential lots and 46 agricultural. Consequently, Anahola is the largest homestead community on Kauaʻi Island (Hawaiian Home Lands 2022:22).

Residential Development

The project area is within a portion of Hawaiian Home Lands. Most of the homes surrounding the school were constructed in the late 1970s, although homes nearest Kūhiō Highway were built in the 1950s and new homes are currently being constructed east of the project area.

PRIOR ARCHAEOLOGICAL STUDIES

One prior archaeological study has been conducted within a portion of the footprint of the current project area (Figure 9; Table 2), plus one island-wide survey. The earliest studies in Anahola were relatively cursory compared to the studies of recent decades, in part because they aimed to cover the entire island or a large region. They also often focused on surface features, rather than undertaking test excavations to identify possible subsurface features. Table 3 includes the numerous sites identified by Bennett (1931).

Table 2. Prior archaeological studies conducted within 500 m. of the project area

Year	*Author(s)*	*Type of Study*	*Summary of Results*
1931	Bennett	Island-wide survey	Identified SIHP Site # 50-30-04-0113 through -0117
2004	Monahan and Powell	Archaeological Monitoring	No historic properties identified

Bennett (1931) conducted early archaeological research on Kauaʻi. He recorded five sites in Anahola Ahupuaʻa, all north and west of the current study area, that include: SIHP Site # 50-30-04-0113, Aikanaka Heiau at Anahola Point on the south shore of Anahola Bay; SIHP Site # 50-30-04-0114, Paeaea Heiau at the back of Anahola Bay; SIHP Site # 50-30-04-0115, Kahua Heiau on the edge of the north bluff of Anahola Valley; SIHP Site # 50-30-04-0116, dune burials in the sands around Anahola Bay; and SIHP Site # 50-30-04-0117, two loʻi inland within Anahola Valley.

As previously mentioned, only one archaeological study was conducted within the westernmost portion of the project area, along Pahale Road. In 2004, archaeologists from Scientific Consultant Services, Inc. conducted archaeological monitoring in support of the installation of underground fiber optic duct lines on either side of Kuhio Highway (Monahan and Powell 2004). No cultural materials or sandy deposits were identified during the monitoring effort.



Figure 9. Locations of previous archaeological investigations within 500 m of the project area.

Table 3. Historic properties recorded by Bennett (1931:129) in the broader vicinity of the project area

Bennett's Site Number	*Summary of Results*
113	Aikanaka Heiau, small heiau located at Anahola Point near end of bluff
114	Paeaea Heiau, small and round heiau located inland from government road on the north side of the valley
115	Kuhua Heiau, on the edge of the north bluff of Anahola Valley
116	Dune burials, various locations around Anahola Bay
117	No historic properties identified

HISTORIC PROPERTY TYPES EXPECTED WITHIN THE PROJECT AREA

The project area and surrounding area have been subject to intense disturbance, particularly related to sugarcane plantation operations starting in the late 1800s until construction of the school that exists today. This means that, although possible, traditional Hawaiian artifacts, deposits, features, or sites are not likely to be observed, at least not in their primary archaeological contexts. Historic artifacts, features, or sites are more likely to be present within the project area. For instance, remnants of sugarcane infrastructure such as roads, ditches, flumes, or pipes, may be present.

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3. FIELD INSPECTION METHODS

On December 23, 2025, ASM conducted a field inspection of the proposed project area. Fieldwork was conducted by Kent Manchen, MA, under the direct supervision of Nick Belluzzo, MA, who served as the Principal Investigator. The ground surface of the entire project area was visually inspected utilizing north/south pedestrian transects, maintaining 10-meter spacing intervals. Representative photographs were taken throughout the project area.

Using EOS Arrow 100 Global Navigation Satellite System (GNSS) receivers—Global Positioning System (GPS) receivers—connected to handheld tablet computers running ESRI's Collector Application, the field crew plotted the locations of any previous land disturbance, conspicuous landforms, vegetation, isolated artifacts, and historic properties observed. No isolated artifacts or historic properties were observed during the field inspection. Representative photographs of the project area were taken throughout the field inspection.

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4. FIELD INSPECTION RESULTS

No historic properties were identified within the project area.

LAND DISTURBANCE

The entirety of the project area was previously graded (Figures 10, 11, 12, 13, and 14). Approximately sixty percent (60%) of the project area is cleared of vegetation and appears to be regularly maintained. The cleared areas are located along the western, northern, and the northern two-thirds of the eastern boundaries of the project area (see Figures 12, 13, and 14). Approximately fourty percent (40%) of the project area is overgrown guinea grass (*Megathyrsus maximus*) and koa haole (*Leucaena leucocephala*), which includes the southern one-third of the eastern and southern boundaries and the southwest-central portion of the project area (Figures 15, 16, 17, and 18).

The southwest portion of the project area, immediately east of the western boundary, is a large fenced-off area that previously held horses (see Figures 17 and 18). In the northwest corner of the fenced-off area is a small garden growing mai‘a (banana; *Musa acuminata*) (Figure 19).

A large depression was observed at the center of the project area (Figure 20). A worker at the school had heard that some form of ground disturbance of unknown purpose had occurred prior to the current field inspection and the soil had been moved out of the project area and into the nearby neighborhood.

The northern and northeastern portion of the project area feature numerous structures including buildings, a basketball court, a wood gazebo, shipping containers, and fiberglass tanks (Figures 21 and 22). Modern trash, including plastic chairs, plastic bags, and various scrap metal, was observed (see Figure 23). No artifacts nor evidence of previous plantation infrastructure was observed, and the level of grading suggests the potential for subsurface archaeological deposits is unlikely.



Figure 10. Graded ground surface in east-central portion of project area. View to the northeast.



Figure 11. Graded ground surface in the eastern portion of the project area. View to the southwest.



Figure 12. Graded ground surface at the easement to Pahale Road. View to the southwest.



Figure 13. Graded ground surface at the northeast corner of the project area. View to the south.



Figure 14. Graded and cleared ground surface along the northern two-thirds of the eastern boundary. View to the northwest.



Figure 15. Overgrown portion of the eastern boundary of the project area. View to the northwest.



Figure 16. Overgrown portion of the southern boundary with the drainage ditch at the center of the photograph. View to the east.



Figure 17. Overgrown portion of the southwest-central portion of the project area. View to the south.



Figure 18. Overgrown portion of the southwest-central portion of the project area. View to the southeast.



Figure 19. Small garden at the northwest corner of the overgrown portion located in the southwest-central portion of the project area. View to the northwest.



Figure 20. Large depression from previous ground disturbance in the central portion of the project area. View to the northeast.



Figure 21. Representative photograph of existing structures in project area. View to the northeast.



Figure 22. Representative photograph of existing structures in project area. View to the north.



Figure 23. Representative photograph of modern trash in the project area. View to the northwest.

5. SUMMARY AND RECOMMENDATIONS

No historic properties were identified during the surface field inspection of the project area. Therefore, an effect determination of "No historic properties affected" pursuant to HAR §13-275-7 is recommended for the proposed development of Kanuikapono Public Charter School's Master Plan Update on a portion of TMK (4) 4-8-022:089.

The proposed projects of the KCPS MPU consist of additional classrooms, locker rooms, restrooms, a new roof over the existing play court, a barn, photovoltaic (PV) panels over the current parking lot, a secured enclosure for school vehicles, a contemporary hale over a hula pā (platform for performing hula), and a papakū muliwai (streambed) with a pedestrian bridge. The proposed Pre-K Facility will feature four new classrooms, an outdoor piko (central) gathering area, outdoor learning environments, and administrative spaces with additional amenities. Proposed infrastructure improvements associated with the Pre-K Facility include extension of the existing waterlines along Laula Street, extension of the existing sewer line on Holoikalapa Street, and construction of new underground electrical and telecom lines (Figure 4). The proposed project would also include ground disturbance for construction of paved access paths and parking areas.

In the unlikely event that any historic properties are encountered during ground-disturbing activities associated with this proposed development, such activities must be halted and DLNR-SHPD contacted immediately.

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APPENDIX A: MOU (DRAFT) BETWEEN SHPD, DLNR, & HISFA

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE STATE OF HAWAI'I DEPARTMENT OF LAND AND NATURAL RESOURCES
(DLNR), STATE HISTORIC PRESERVATION DIVISION (SHPD)
AND
THE STATE HAWAI'I SCHOOL FACILITIES AUTHORITY (HISFA)

This Memorandum of Understanding (MOU) is entered into by and between the **Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD)** and the **Hawai'i School Facilities Authority (HISFA)** for the purpose of ensuring compliance with **HRS Chapter 6E** in relation to the establishment of **pre-kindergarten classrooms** under the "Ready Keiki" program, and to approve projects listed in the attached spreadsheet (Attachment 1) along with future projects, contingent upon specified conditions.

I. PURPOSE

The purpose of this MOU is to establish a framework for approving existing and future pre-kindergarten classroom projects listed in the attached spreadsheet, with the necessary conditions to ensure compliance with **HRS Chapter 6E**, Hawaii's Historic Preservation Law. The projects are approved subject to the appropriate assessment of cultural and historical impacts and the adoption of measures to mitigate any potential adverse effects. Generally, due to the nature of the proposed work across the program, significant effects to historic properties are not anticipated.

II. BACKGROUND

The "Ready Keiki" program seeks to provide expanded access to pre-kindergarten education throughout Hawai'i. This has led to a need to adapt and/or retrofit or construct minor accessory improvements to existing educational facilities at various schools to better accommodate the needs of the program. These activities are generally minor, primarily involves interior renovations of existing structures, and require minimal ground disturbance for play areas and fencing. Attachment 2 includes a description of the types of improvements proposed. Nonetheless, the program and projects require compliance with HRS Chapter 6E. This MOU outlines the approval of these types of projects.

III. APPROVED PROJECTS

The projects listed in the attached spreadsheet (Attachment 1) are pre-approved for implementation, contingent upon the following conditions outlined in Section IV. It should be noted that construction for the majority of these projects has already been completed and are being considered for "after-the-fact" approval under this MOU.

Future projects arising that are generally consistent with the work descriptions included in Attachment 2 would be submitted to SHPD in accordance with this MOU. These future projects included under this MOU would consist of minor improvements that are exempt from preparing an Environmental Assessment under HRS Chapter 343 and HAR Title 11-200.1 and are typically covered under HISFA's exemption list.

IV. COORDINATION AND TIMELINE

The Parties agree to engage in regular communication and coordination to ensure that all approved projects and future projects proceed in compliance with HRS Chapter 6E. The following actions will facilitate this process:

1. **Establish HICRIS File for HISFA Projects and Reporting**:
    a. HISFA will coordinate with SHPD to create a master project file under this MOU in the SHPDs Hawai'i Cultural Resource Information System (HICRIS).
    b. All reporting required under the MOU shall be submitted via this HICRIS file created.
2. **Annual Meetings**:
    - SHPD and HISFA will convene annually to review the progress of the approved and future projects, and discuss any issues related to historic preservation compliance.
3. **Notification of SHPD Determinations:**
    - SHPD will notify HISFA of its determinations and any additional requirements, when required, for each project within 14 days of receiving a completed HICRIS submission.

V. CONDITIONS FOR APPROVAL

Each project shall adhere to the following parameters to comply with HRS Chapter 6E:

1. **Archaeological and Cultural Review**:
   a. Projects that involve ground disturbance in areas identified as being outside of areas potentially having archaeological or cultural significance concerns (based on the Tax Map Key (TMK) and soil-type listed) need no further work.
      - Information documenting the results of research efforts and assessments of this condition will be provided to SHPD as a memo to the project HICRIS file.
   b. Projects that involve ground disturbance in areas identified as potentially having archaeological or cultural significance (based on the TMK and soil-type listed), should conduct a pedestrian survey by an archaeologist for the purpose of identifying surface sites or features.
      1) If surface sites and/or features are identified, HISFA will consult with SHPD to identify additional investigations needed and/or minimization or mitigative measures.
      2) If no surface sites and/or features are identified, the project may proceed, and the results of the pedestrian survey will be provided to SHPD within 30 days as a field letter submitted into the project HICRIS file.
2. **Preservation of Historic Buildings and Structures**:
   a. Projects that involve school buildings which are considered historic (e.g., those over 50 years of age from completion) will have a "Reconnaissance Level Survey – Survey Form" identified as Attachment 3 completed and submitted to SHPD under this MOU's HICRIS file only if exterior renovations are planned.
      - Interior renovations or repair work would not change the character of school buildings and would thus not trigger the need for a Reconnaissance Level Survey – Survey Form to be completed.
   b. If the results of the completed RLS Survey Form determine that the school's building(s) affected by project exterior improvements is not eligible for listing on the Hawai'i Register of Historic Places, the project may proceed.

c. If the completed RLS Survey Form results determine that the school's building(s) being affected are eligible for listing on the Hawai'i Register of Historic Places, the following will be conducted.

1) An assessment would be conducted to determine if exterior renovation improvements would not significantly impact the building's character or historic significance.

2) This assessment would be conducted by a person or persons with qualifications that meet the Secretary of the Interior's Professional Qualifications for Architectural History, Architecture, or Historic Architecture per 36 CFR, Part 61.

3) HISFA will consult with SHPD on necessary minimization and/or mitigative measures that should be implemented.

3. **SHPD Review Submission**:

a. The currently identified projects covered by this MOU are identified in the spreadsheet included as Attachment 1.

b. Future projects that have not yet been submitted for review would comply with submittal requirements identified in previous sections of this MOU.

c. HISFA must submit to SHPD via HICRIS documentation to provide an annual reporting of projects implemented under this MOU.

d. For those projects that have already commenced or been completed, the appropriate documentation indicated under this MOU shall be submitted into the MOU's HICRIS project file created within 30 days.

- If additional time is required to submit this documentation, HISFA will provide an explanation for the additional time required.

4. **Mitigation Measures**:

a. If significant archaeological or cultural resources are present at a project site, appropriate mitigation measures will be developed and implemented. This may include an archaeological monitoring plan, data recovery, preservation in place, or relocation of resources.

- HISFA will develop proposed mitigation measures for review and acceptance by SHPD prior to the start of construction.

b. If significant historic architectural building characteristics are significantly impacted by improvements, appropriate mitigation measures will be developed and implemented in consultation with SHPD prior to the start of construction.

5. **Monitoring During Construction**:
   a. For sites where significant historical or cultural resources are expected, archaeological monitoring will be required during construction activities.
   b. Express reporting requirements would be fulfilled by the firm completing the monitoring and should be summarized in the annual report.

VI. DURATION AND TERMINATION

This MOU shall remain in effect for the duration of the "Ready Keiki" program, unless terminated by either Party upon 30 days written notice.

VII. REPORTING

Each calendar year following the execution of this MOU until it expires or is terminated, HISFA shall provide all parties to this MOU a summary report detailing work undertaken pursuant to its terms. The summary report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received.

VIII. AMENDMENTS

This MOU may be amended or modified by mutual agreement of the Parties in writing.

IX. SIGNATURES

State of Hawaii Department of Land and Natural Resources, State Historic Preservation Division (SHPD):

_____

Name: _____

Title: _____

Date: _____

State of Hawai‘i, Hawai‘i School Facilities Authority (HISFA):

_____

Name:

Title:

Date:

ATTACHMENT 1 – SPREADSHEET OF PRE-APPROVED PRE-KINDERGARTEN PROJECTS

ATTACHMENT 1

Spreadsheet of

Pre-Approved Pre-Kindergarten Projects

1

Internal ID Number	School Name	Island	Judicial District	Ahupuaa	Address	TMK	Building Classroom	Total APE in SF	Class (Class+Restrooms) SF	Outdoor Area	Asbuilt Year	Age of Bldg	Soils	Construction Work Description	Construction Status	SHPD Submittal: HICRIS #	SHPD Review Status	Assessment Evaluation	Evaluation Priority
13	Haiku Elementary School	Maui	MAKAWAO	Pa'uwela	105 Pauwela Rd, Haiku, HI 96708	2-7-008: 098	E104	1,884	1,044	840	1971	53	HaB Haiku Silty Clay, 3 to 7% slopes	Demolish interior of classroom to prepare for PreK conversion (e.g., removing flooring, cabinetry, preparing walls, and removal of accessory fixtures, etc.). Improve classroom interior to meet ADA requirements that include repairing and painting walls, improve flooring, elecrical outlets improvements, cabinetry, lighting, etc. Clean and repair bathrooms (boys/girls). Prepare play area removing unnecessary items and provide a 4-foot high chain link fence with gates to secure play area.	Completed 1-24-24	NOT SUBMITTED	N/A		
14	Haha'ione Elementary School	Oahu	HONOLULU	Maunalua	595 Pepeekeo St, Honolulu, HI 96825	3-9-038: 001	H103	2,158	1,353	805	1971	53	Kfb Kaloko Clay, noncalcareous variant	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 12-15-23	NOT SUBMITTED	N/A		
15	Aina Haina Elementary School	Oahu	HONOLULU	Waiklkī	801 W Hind Dr, Honolulu, HI 96821	3-6-011: 009	A101	4,618	1,268	3,350	1950	74	CR Coral Outcrop	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-12-24	NOT SUBMITTED	N/A		
16	Ala Wai Elementary School	Oahu	HONOLULU	Waiklkī	503 Kamoku St, Honolulu, HI 96826	2-7-036: 007	D28	6,873	873	6,000	1957	67	FL Fill Land, Mixed	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
17	Prince Jonah Kūhiō Elementary School	Oahu	HONOLULU	Waiklkī	2759 S King St, Honolulu, HI 96826	2-7-027: 022	B1	5,950	1,400	4,550	1950	74	MIA Makiki Stony Clay Loam, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
19	Pearl City Elementary School	Oahu	EWA	Mānana	1090 Waimano Home Rd, Pearl City, HI 96782	9-7-024: 002	L26	8,160	960	7,200	1955	69	MuB Molokai Silty Clay Loam, 3 to7% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 4-22-24	NOT SUBMITTED	N/A		
20	Wai'anae Elementary School	Oahu	WAIANAE	Wai'anae	85-220 McArthur St, Waianae, HI 96792	8-5-001: 067	B22	4,980	1,950	3,030	1965	59	PsA Pulehu Clay Loam, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-1-24	NOT SUBMITTED	N/A		
21	Nanakuli Elementary School	Oahu	WAIANAE	Nānākuli	89-778 Haleakala Avenue, Waianae, Hawai 96792	8-9-007: 009	B106, B107	6,302	960	5,342	1979	45	LPE Lualualei Extremely Stony Clay, 3 to 35% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 12-31-23	LBKYWF4966PE	APPROVED		
22	Kainalu Elementary School	Oahu	KOOLAUPOKO	Kailua	165 Kaiholu St, Kailua, HI 96734	4-3-076: 015	F16	9,180	2,600	6,580	1953	71	JaC Jaucas Sand, 0 to 15% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-26-24	NOT SUBMITTED	N/A		
23	Reverend Benjamin Parker Elementary School	Oahu	KOOLAUPOKO	Kāne'ohe	45-259 Waikalua Rd, Kaneohe, HI 96744	4-5-017: 001	A1, A2	22,710	5,200	17,510	1968	56	LoB Lolekaa Silty Clay, 3 to 8% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-30-24	NOT SUBMITTED	N/A		
25	Ho'okena Elementary School	Hawai'i	SOUTH KONA	Kauhakō	86-4355 Mamalahoa Hwy, Captain Cook, HI 96704	8-6-010: 009	P3	2,708	808	1,900	1969	55	243 Waiaha Medial Silt Loam, 10 to 20% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-30-24	NOT SUBMITTED	N/A		
26	Solomon Elementary School	Oahu	WAHIAWA	Wai'anae	211 Carpenter St, Wahiawa, HI 96786	7-7-001: 007	B105, B107	16,310	2,310	14,000	2017	7	KyA Kunia Silty Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-5-24	NOT SUBMITTED	N/A		
27	Noelani Elementary School	Oahu	HONOLULU	Waiklkī	2655 Woodlawn Dr, Honolulu, HI 96822	2-9-023: 032	P2	4,920	1,300	3,620	1997	27	MIA Makiki Stony Clay Loam, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
28	Lanakila Elementary School	Oahu	HONOLULU	Honolulu	717 N Kuakini St, Honolulu, HI 96817	1-7-042: 001	A5, A6	7,429	2,229	5,200	1956	68	KaB Kaena Clay, 2 to 6% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
29	Mauka Lani Elementary School	Oahu	EWA	Honouliuli	92-1300 Panana St, Kapolei, HI 96707	9-2-019: 022	P13	4,150	1,950	2,200	1994	30	rSY Stony Steep Land	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 5-17-24	NOT SUBMITTED	N/A		
30	Kapa'a Elementary School	Kauai	KAWAIHAU	Kapa'a	4886 Kawaihau Rd, Kapa'a, HI 96746	4-6-014: 031	I-3, I-4	12,048	2,048	10,000	1965	59	LhB Lihue Silty Clay, 0 to 8% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-31-24	NOT SUBMITTED	N/A		
31	Wailuku Elementary School	Maui	WAILUKU	Wailuku	355 S High St, Wailuku, HI 96793	3-4-007: 001	G21	3,018	1,398	1,620	1955	69	WvB Wailuku Silty Clay, 3 to 7 % slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-25-24	NOT SUBMITTED	N/A		
32	Kihei Elementary School	Maui	MAKAWAO	Waiohuli	250 E Lipoa St, Kihei, HI 96753	2-2-002: 043	D101	6,700	1,020	5,680	1976	48	HsA Hulehu Clay Loam, 0 to 3% slopes; WD2 Waiakoa Extremely Stony Silty Clay Loam, 0 to 25%	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
33	Maunaloa Elementary School	Molokai	MOLOKAI	Kaluako'i	128 Maunaloa Rd, Maunaloa, HI 96770	5-1-002: 003	Rm 5	8,200	2,200	6,000	1970	54	LaC Lahaina Silty Clay, 7 to 15% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-31-24	NOT SUBMITTED	N/A		
34	Kahala Elementary School	Oahu	HONOLULU	Waiklkī	4559 Kilauea Ave, Honolulu, HI 96816	3-5-011: 027	A3 & A4	12,064	2,064	10,000	1957	67	MuU Molokai Silty Clay Loam, / to 15% slopes; WkA Waialua Silty Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
35	Na'alehu Elementary School	Hawaii	KAU	Kāwala	95-5545 Mamalahoa Hwy, Naalehu, HI 96772	9-5-009: 006	Rm 15, 20, 22	4,836	2,536	2,300	1928	96	521 Naalehu medial silty clay loam, 3 to 10% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-30-24	NOT SUBMITTED	N/A		
36	Blanche Pope Elementary School	Oahu	KOOLAUPOKO	Waimānalo	41-133 Huli St, Waimanalo, HI 96795	4-1-031: 040	B105	4,014	1,354	2,660	1968	56	HeA Haleiwa Silty Clay, 0 to 2% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-17-24	NOT SUBMITTED	N/A		
37	Nānākapono Elementary School	Oahu	WAIANAE	Nānākuli	89-153 Mano Ave, Waianae, HI 96792	8-9-002: 065	F101	9,700	3,400	6,300	2000	24	CR Coral Outcrop	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-30-24	NOT SUBMITTED	N/A		
38	Kauluwela Elementary School	Oahu	HONOLULU	Honolulu	1486 Aala St, Honolulu, HI 96817	1-7-023: 041	Bldg D	2,960	860	2,100	1937	87	KaB Kaena Clay, 2 to 6% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	NOT SUBMITTED	N/A		
39	Wai'alae Elementary Public Charter School	Oahu	HONOLULU	Waiklkī	1045 19th Ave, Honolulu, HI 96816	3-2-045: 003	A1, A2, A3	2,375	2,375	0	1964	60	MuC Molokai Silty Clay Loam, 7 to 15% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 12/31/2024	NOT SUBMITTED	N/A		
40	Honowai Elementary School	Oahu	EWA	Hō'ae'ae	94-600 Honowai St, Waipahu, HI 96797	9-4-053: 117	A3	3,032	1,109	1,923	1967	57	MuB Molokai Silty Clay Loam, 3 to 7% slopes; MuC Molokai Silty Clay Loam, 7 to 15% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-3-24	NOT SUBMITTED	N/A		
41	Koko Head Elementary School	Oahu	HONOLULU	Maunalua	189 Lunalilo Home Rd, Honolulu, HI 96825	3-9-022: 037	P2	2,704	1,814	890	1966	58	KsB Koko Silt Loam, 2 to 6% slopes; WkA Waialua Silty Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-19-24	E73EX4497CBX	APPROVED		
42	'Iliahi Elementary School	Oahu	WAHIAWA	Wai'anae	2035 California Ave, Wahiawa, HI 96786	7-5-027: 002	C6	1,814	1,814	0	1964	60	LeB Leilehua Silty Clay, 2 to 6% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
43	Pa'aulo Elementary & Intermediate School	Hawaii	HAMAKUA	Hauola	43-1497 Hauola Rd, Paauilo, HI 96776	4-3-003: 024	P2	2,898	798	2,100	1947	77	952 Ookala Medial Silty Clay Loam, 10 to 20% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
44	Leihoku Elementary School	Oahu	WAIANAE	Wai'anae	86-285 Leihoku St, Waianae, HI 96792	8-6-001: 054	G102, G103	5,360	3,360	2,000	1997	27	MnC Mamala Stony Silty Clay Loam, 0 to 12% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-18-24	NOT SUBMITTED	N/A		
46	Kahakai Elementary School	Hawaii	NORTH KONA	Puapua'a 2	76-147 Royal Poinciana Dr, Kailua-Kona, HI 96740	7-5-020: 077	B103	17,451	1,551	15,900	1982	42	120 Punaluu Highly Decomposed Plant Material, 2 to 10% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-30-24	NOT SUBMITTED	N/A		
48	Pearl Harbor Kai Elementary School	Oahu	EWA	Hālawa	1 C Ave, Honolulu, HI 96818	9-9-001: 012	I31, I32	10,950	2,250	8,700	1967	57	FL Fill Land, Mixed	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
49	Red Hill Elementary School	Oahu	HONOLULU	Moanalua	1265 Ala Kula Pl, Honolulu, HI 96819	1-1-012: 028	P3	6,756	756	6,000	1985	39	MpO2 Manana Silty Clay, 12 to 25% slopes, eroded	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
51	Aiva Scott Elementary School	Oahu	EWA	Kalauao	98-1230 Moanalua Rd, Aiea, HI 96701	9-8-029: 002	A6	2,925	885	2,040	1954	70	LaA Lahaina Silty Clay, 0 to 3% slopes; LaC Lahaina Silty Clay, 7 to 15% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
53	Ka'ala Elementary School	Oahu	WAHIAWA	Wai'anae	130 California Ave, Wahiawa, HI 96786	7-3-019: 013	A15	22,087	1,087	21,000	1957	67	WaA Wahiawa Silty Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-15-24	NOT SUBMITTED	N/A		
54	Princess Nāhi'ena'ena Elementary School	Maui	LAHAINA	Pana'ewa	816 S Nihau St, Lahaina, HI 96761	4-6-018: 013	E105	3,172	935	2,237	1990	34	WxB Wainee Very Stony Silty Clay, 3 to 7% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 7-24-24	NOT SUBMITTED	N/A		
55	Lāna'i High & Elementary School	Lanai	LANAI	Kamoku	555 Fraser Ave, Lanai City, HI 96763	4-9-014: 003	P2	812	812	0	1998	26	WoA Waihuna Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Haiku Elementary School.	Completed 12-31-24	NOT SUBMITTED	N/A		
57	Kahala Elementary School	Oahu	HONOLULU	Waiklkī	4559 Kilauea Ave, Honolulu, HI 96816	3-5-011:027	A5, A6	22,950	1,800	21,150	1954	71	WkA Waialua Silty Clay, 0 to 3% slopes; MuC Molokai Silty Clay Loam, 7 to 15% slopes.	Demolish interior of classroom to prepare for PreK conversion (e.g., removing flooring, cabinetry, preparing walls, and removal of accessory fixtures, etc.). Improve classroom interiors and outdoor areas to meet ADA requirements that include repairing and painting walls, improve flooring, elecrical outlets improvements, cabinetry, lighting, concrete work etc. Clean and repair bathrooms (boys/girls). Prepare play area removing unnecessary items and provide a 4-foot high chain link fence with gates to secure play area.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 0.5 miles away from the shoreline. Property disturbed with school campus consisting of extensive buildings, improved pathways, and grassed lawns with landscaped trees. Waialua and Molokai soil series have a lower potential for encountering subsurface resources.	**Lower Archaeological Significance (NFW); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**

Internal ID Number	School Name	Island	Judicial District	Ahupuaa	Address	TMK	Building Classroom	Total APE in SF	Class (Classrooms) SF	Outdoor Area	Asbuilt Year	Age of Bldg	Soils	Construction Work Description	Construction Status	SHPD Submittal: HICRIS #	SHPD Review Status	Assessment Evaluation	Evaluation Priority
58	Maunawili Elementary School	Oahu	KOOLAUPOKO	Kailua	1480 Ulupii St, Kailua, HI 96734	4-2-043: 001, 4-2-043: 002	A12	20,830	839	19,991	1958	67	PdB Pohakupu Silty Clay Loam, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 1.9 miles away from the shoreline. Property was previously disturbed with the school campus consisting of several buildings, improved pathways, a parking lot, playgrounds, sports courts, and grassed lawns with landscaped trees. Paved and grassed areas have a lower potential for encountering subsurface resources.	**Lower Archeological Significance (NPW); Buildings >50 Years Old (RLS Survey) Form) Only for Exterior Renovations**
59	Mā lii Elementary School	Oahu	WAIANAE	Waianae	87-360 Kulaaupuni St, Waianae, HI 96792	8-7-004: 042	A6	2,573	916	1,657	1962	63	MtB Mokuleia Clay, 0 to 2% slopes; KmaB Keaau Silty Clay, 2 to 6 percent slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located relatively close to shoreline (0.33 miles away) and within Waianae coastal area. Waialua soils cover majority of the school where sandy soils with higher potential for subsurface resources.	**Higher Archeological Significance (Pedestrian Survey); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
60	Barbers Point Elementary School	Oahu	EWA	Honouliuli	3001 Boxer Rd, Kapolei, HI 96707	9-1-013: 003	F8	6,905	861	6,044	1953	72	CrB Coral Outcrop, 3 to 20% slopes; MnC Mamala Cobbly Silty Clay Loam, 0 to 12% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 1.5 miles away from the shoreline. Coral Outcrop and Mamala soils have sandy soils with higher potential for subsurface resources.	**Higher Archeological Significance (Pedestrian Survey); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
61	Kalihi Elementary School	Oahu	HONOLULU	Kalihi	2451 Kuli Kolea Dr, Honolulu, HI 96819	1-4-007: 002	B2	3,641	955	2,686	1956	69	LuD Lolekaa Silty Clay, 15 to 25% slopes; LuF Lolekaa Silty Clay, 40 to 70% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 2.5 miles away from the shoreline. Property was previously disturbed with the school campus consisting of several buildings, parking lots and roadways, improved pathways, and grassed lawns with landscaped trees. Lolekaa soil series have a lower potential for encountering subsurface resources.	**Lower Archeological Significance (NPW); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
62	Hana High & Elementary School	Maui	HANA	Wākiu	4111 Hana Hwy, Hana, HI 96713	1-3-009: 008	L-103	3,718	1,540	2,178	2016	9	HrKC Hana Silty Clay Loam, 3 to 15% slopes; rRO Rock Outcrop, Very Stony; HtD Highly Decomposed Plant Material, 3 to 20% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located about 0.34 miles away from the shoreline and within Makahiki coastal area. Property was previously disturbed with the school campus consisting of extensive buildings, parking lots and roadways, flat, and grassed lawns with landscaped trees. Hana and Makena soil series consist of soil (2" to 42" thick) overlying cinder, and Lahaina soil series are sandy soils. Site thus has a lower potential for encountering subsurface resources.	**Lower Archeological Significance (NPW); Buildings >50 Years Old**
63	Hauʻula Elementary School	Oahu	KOOLAUPOKO	Hauʻula	54-046 Kamehameha Hwy, Hauula, HI 96717	5-4-009: 004, 5-4-009: 028	B8, B9	4,770	2,105	2,665	1956	69	MaA Makaleia Loam, 0 to 2% slopes; KsbS Kawaihapai Stony Clay Loam, 2 to 15% slopes; MuC Munoz Silty Clay, 2 to 8% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located very close to shoreline (0.02 miles away) and within Makaleia coastal area. Makaleia, Kawaihapai, and Marsh are sandy soils with higher potential for subsurface resources.	**Higher Archeological Significance (Pedestrian Survey); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
64	Helemano Elementary School	Oahu	WAHIAWA	Kamananui	1001 Ihi'ihi Ave, Wahiawa, HI 96786	7-1-002: 017	D3	7,784	1,492	6,292	1955	70	KuB Kolekole Silty Clay Loam, 1 to 8% slopes, MoC Manana Silty Clay Loam, 8 to 15% slopes; and MuC Molokaʻi Silty Clay, 3 to 90% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 7 miles away from the shoreline. Property was previously disturbed with the school campus consisting of several buildings, parking lots and roadways, improved pathways, and grassed lawns with landscaped trees. Kolekole, Manana, and Helemano soil series have a lower potential for encountering subsurface resources.	**Lower Archeological Significance (NPW); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
65	Lāna'i High & Elementary School	Lanai	LANAI	Kamoku	555 Fraser Ave, Lanai City, HI 96763	4-9-014: 003, 4-9-014: 002	P2	7,051	1,190	5,861	1998	27	WoA Waiʻhuna Clay, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located over 4.3 miles away from the shoreline. Property was previously disturbed with the school campus consisting of many buildings, parking lots and roadways, improved pathways, and grassed lawns with landscaped trees. Although the Waiʻhuna soil series contains variegated saprolite, this soil is relatively flat and should have a high level of disturbance result in a lower likelihood of encountering subsurface resources here.	**Lower Archeological Significance (NPW); Buildings >50 Years Old**
66	Lunalilo Elementary School	Oahu	HONOLULU	Waikīkī	810 Pumehana St, Honolulu, HI 96826	2-3-030: 095, 2-3-030: 052, 2-3-030: 055	B4, B5	7,692	1,802	5,890	1964	61	FL Fill Land, Mixed, 0 to 3% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located relatively close to shoreline (0.7 miles away) just inlaude of the Waikiki shoreline. Property was previously disturbed with the school campus consisting of several buildings, parking lots, improved pathways, and grassed lawns with landscaped trees. The school is located on Fill Land which have a lower potential for encountering subsurface resources.	**Lower Archeological Significance (NPW); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**
67	Mākaha Elementary School	Oahu	WAIANAE	Mākaha	84-200 Alā Nāiuao Pl, Waianae, HI 96792	8-4-025: 010	K5	20,052	900	19,812	1961	64	WoA Waialua Silty Clay, 0 to 3% slopes; EkaA Ewa Stony Silty Clay, 0 to 2% slopes	Demolition and repairs along with play area improvements are generally the same as that described for Kahala Elementary School.	Target 12-31-25	NOT SUBMITTED	N/A	School located relatively close to shoreline (0.33 miles away) and within Makaha coastal area. Waialua soils cover majority of the school where sandy soils with higher potential for subsurface resources. Its proximity to the shoreline and the presence of Ewa soils, which contain sand grains, increase the potential for subsurface resources.	**Higher Archeological Significance (Pedestrian Survey); Buildings >50 Years Old (RLS Survey Form) Only for Exterior Renovations**

Appendix D:

Traffic Impact Analysis Report

KANUIKAPONO PUBLIC CHARTER SCHOOL
MASTER PLAN AND PRE-KINDERGARTEN FACILITY

Traffic Impact Analysis Report

ANAHOLA, KAUAI, HAWAII

March 2026

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1 Introduction

1.1 Purpose

The purpose of this traffic impact analysis report (TIAR) is to evaluate existing traffic patterns within the local traffic roadway network, as well as the projected impacts to the local traffic roadway network from the proposed Kanuikapono Public Charter School (KPCS) Master Plan, including the expansion of the existing KPCS campus and proposed Pre-Kindergarten Facility by the Hawaii School Facilities Authority.

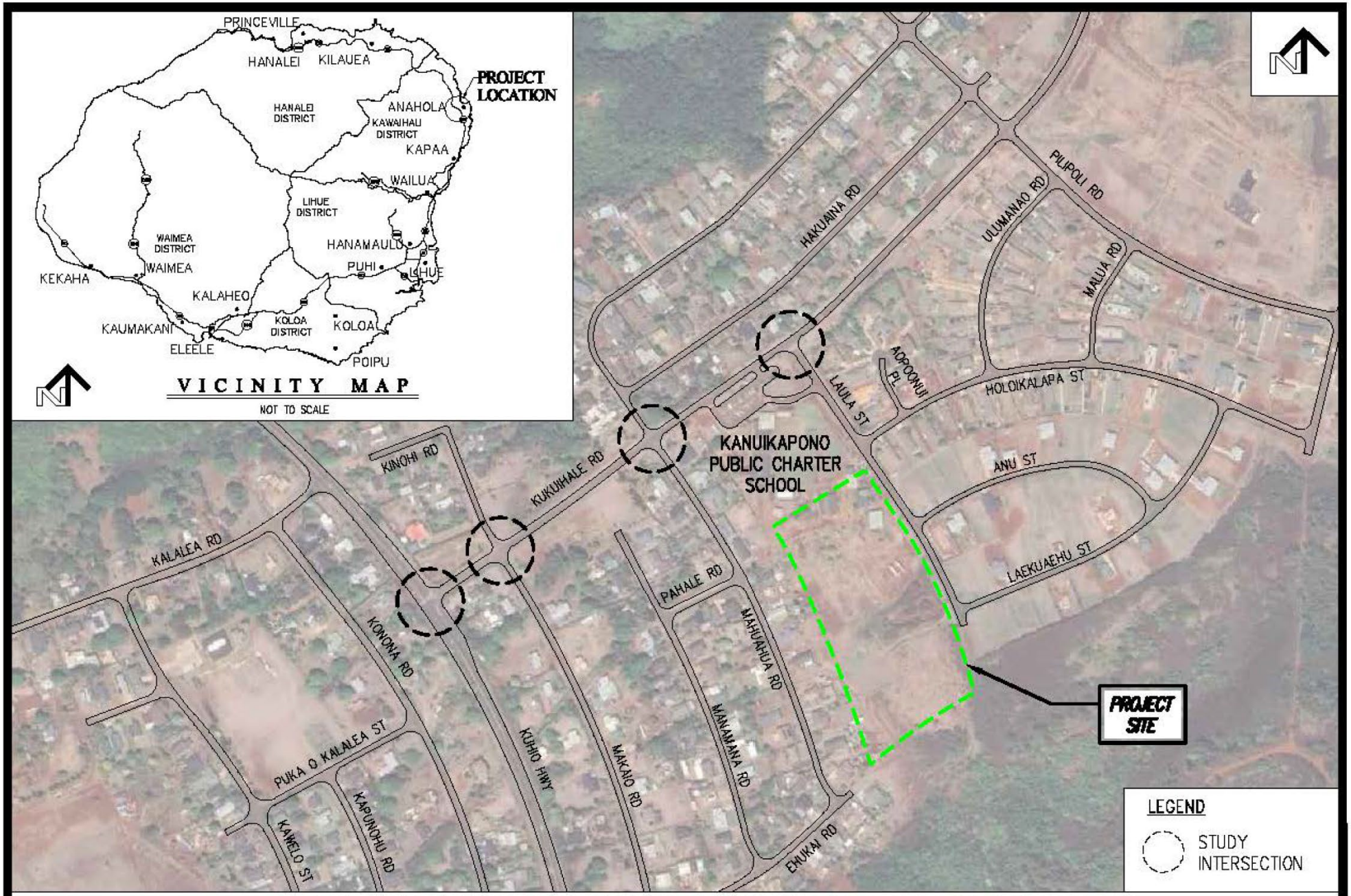
This TIAR presents the results from analyses performed to determine the existing traffic conditions and future traffic conditions with the implementation of the proposed project, and future traffic growth. For the purpose of this TIAR, the proposed expansion of the KPCS campus is expected to serve KPCS students, and is thus not expected to generate additional external trips to the project site. Therefore, only the proposed pre-kindergarten facility is expected to generate external trips to the project site. The proposed pre-kindergarten facility is expected to open in the Fall of 2028. The year 2029 is used as the planning horizon, and reflects traffic conditions after a full year of operation. The three traffic scenarios evaluated as part of this study are:

- Existing Traffic Conditions
- Future without Project Conditions (Year 2029)
- Future with Project Conditions (Year 2029)

1.2 Project Location

The project site is located in the Anahola area on the island of Kauai, adjacent to the Department of Hawaiian Home Lands (DHHL) Piilani Mai Ke Kai Subdivision. The location of this project is shown in Figure 1.1. The project site is bordered by Kukuihale Road to the north, Laula Street to the east, existing residential developments to the west, and undeveloped land to the south. Traffic data and field observations were collected at four intersections. The four intersections evaluated are listed below:

1. Kuhio Highway and Kukuihale Road
2. Kukuihale Road and Makaio Road
3. Kukuihale Road and Mahuahua Road
4. Kukuihale Road and Laula Street



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LOCATION MAP

FIGURE 1.1

Project Description

The KPCS Master Plan proposes the expansion of the existing KPCS campus by approximately 7.5 acres for a total of 10.5 acres and proposes the construction of a pre-kindergarten facility adjacent to the expanded KPCS campus. The expanded campus includes a gathering space, barn, kitchen/locker room, greenhouse, amphitheater, gardens, and study centers meant to serve KPCS students.

The new pre-kindergarten facility includes four new classrooms, administrative spaces, along with additional amenities, including an outdoor piko gathering area, and outdoor learning environments. There will also be on-site parking and a designated drop-off area.

The four classrooms would each have a capacity to house 20 students, 2 teachers, and 1-2 family volunteer(s). The new parking lot will consist of thirteen stalls dedicated to staff and visitors. The planned operating hours will be 7:30 AM to 4:30 PM. Access to the parking lot will be provided via a driveway off Laula Street near the intersection of Laula Street and Laekuaehu Street.

Figure 1.2 and Figure 1.3 show the conceptual plan for expansion of the KPCS campus and the proposed Pre-Kindergarten Facility, respectively. The proposed Pre-Kindergarten facility site plan was updated to provide site access via Laula Street, instead of the future Ehukai Road Extension. The updated site access is reflected in Figure 1.3.

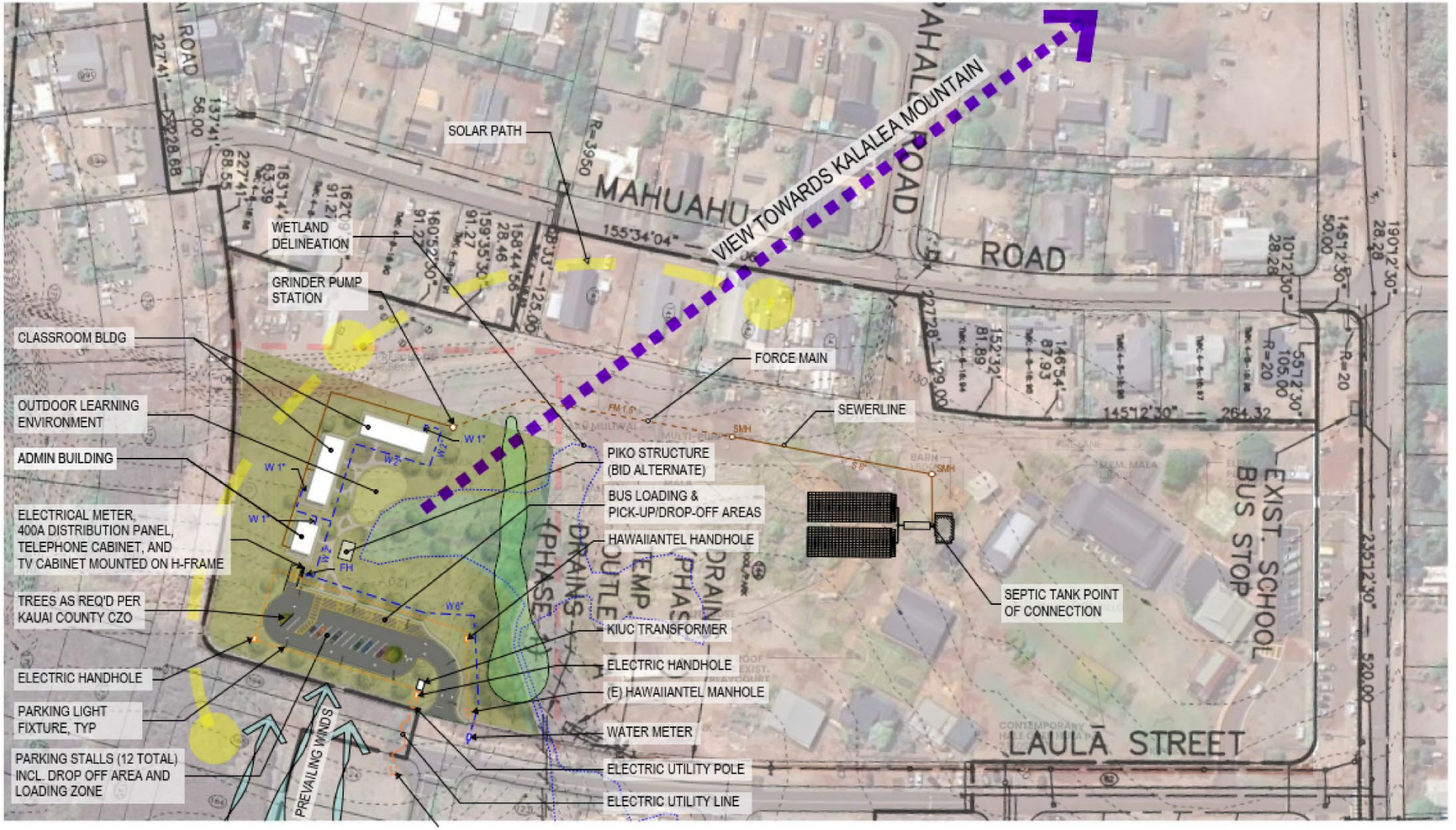


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KANUIKAPONO PUBLIC CHARTER SCHOOL MASTER PLAN

FIGURE
1.2



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KANUIKAPONO PRE-KINDERGARTEN FACILITY CONCEPTUAL PLAN

FIGURE 1.3

2 Existing Conditions

2.1 Existing Traffic Network

Regional access to the study project site is provided by Kuhio Highway (Route 56). Other streets in the vicinity of the project site include Kukuihale Road, Makaio Road, Mahuahua Road, and Laula Street. Makaio Road, Mahuahua Road, and Laula Street are local roads, providing access to the nearby residential homes. Kukuihale Road operates as a collector road that connects these local roads to Kuhio Highway.

2.2 Roadway Conditions

2.2.1 Kuhio Highway

Kuhio Highway is a two-lane, two-way State-owned roadway generally oriented in the north-south direction. Kuhio Highway serves regional traffic, connecting Lihue to the north side of Kauai, as well as regional traffic to and from the Anahola community. The posted speed limit along Kuhio Highway is 35 miles per hour (mph). Kuhio Highway in the vicinity of the study area has paved shoulders which allow for pedestrian and bicycle travel.

2.2.2 Kukuihale Road

Kukuihale Road is a two-lane, two-way county-owned roadway generally oriented in the east-west direction. Kukuihale Road spans between Kuhio Highway and Anahola Beach Park to the east, and serves as the primary connector for the surrounding neighborhood to Kuhio Highway. The posted speed limit along Kukuihale Road is 25 mph. There are grassed shoulders along Kukuihale Road. These shoulders are within the county's right-of-way, and serve as informal pedestrian walking paths or vehicle parking areas. There are no pedestrian facilities or bicycle facilities along Kukuihale Road.

The KPCS is a public K-12 school along Kukuihale Road. The school day begins at 7:50 AM, and ends at 2:00 PM (1:15 PM on Wednesdays). Pick-up and drop-off operations from the school increase traffic volumes along Kukuihale Road during the 7:00 AM to 8:00 AM hour, and 2:00 PM to 3:00 PM hour (1:00 PM to 2:00 PM hour on Wednesday). KPCS also operates multiple shuttles that pick-up and drop-off students across the east and north sides of Kauai. During the 2025 to 2026 school year, KPCS operated one shuttle for the Anahola area, and one shuttle for the north shore area from Anahola to Haena.

2.2.3 Makaio Road

Makaio Road is a two-way, two-lane county-owned roadway generally oriented in the north-south direction. Makaio Road connects nearby residences to Kukuihale Road. The posted speed limit along Makaio Road is 25 mph. There are grassed shoulders along Makaio Road which serve as

informal walking paths or vehicle parking areas, similar to Kukuihale Road. There are no pedestrian facilities or bicycle facilities along Makaio Road.

2.2.4 Mahuahua Road

Mahuahua Road is a two-way, two-lane county-owned roadway generally oriented in the north-south direction. Mahuahua Road connects nearby residences to Kukuihale Road. The posted speed limit along Mahuahua Road is 25 mph. There are grassed shoulders along Mahuahua Road which serve as informal walking paths or vehicle parking areas, similar to Kukuihale Road. There are no pedestrian facilities or bicycle facilities along Mahuahua Road

2.2.5 Laula Street

Laula Street is a two-lane, two-way DHHL-owned roadway generally oriented in the north-south direction. Laula Street connects the Piilani Mai Ke Kai Subdivision and Kukuihale Road. The posted speed limit along Laula Street is 25 mph. There are grassed shoulders along Laula Street which serve as informal walking paths or vehicle parking areas, similar to Kukuihale Road. There are no pedestrian facilities or bicycle facilities along Laula Street.

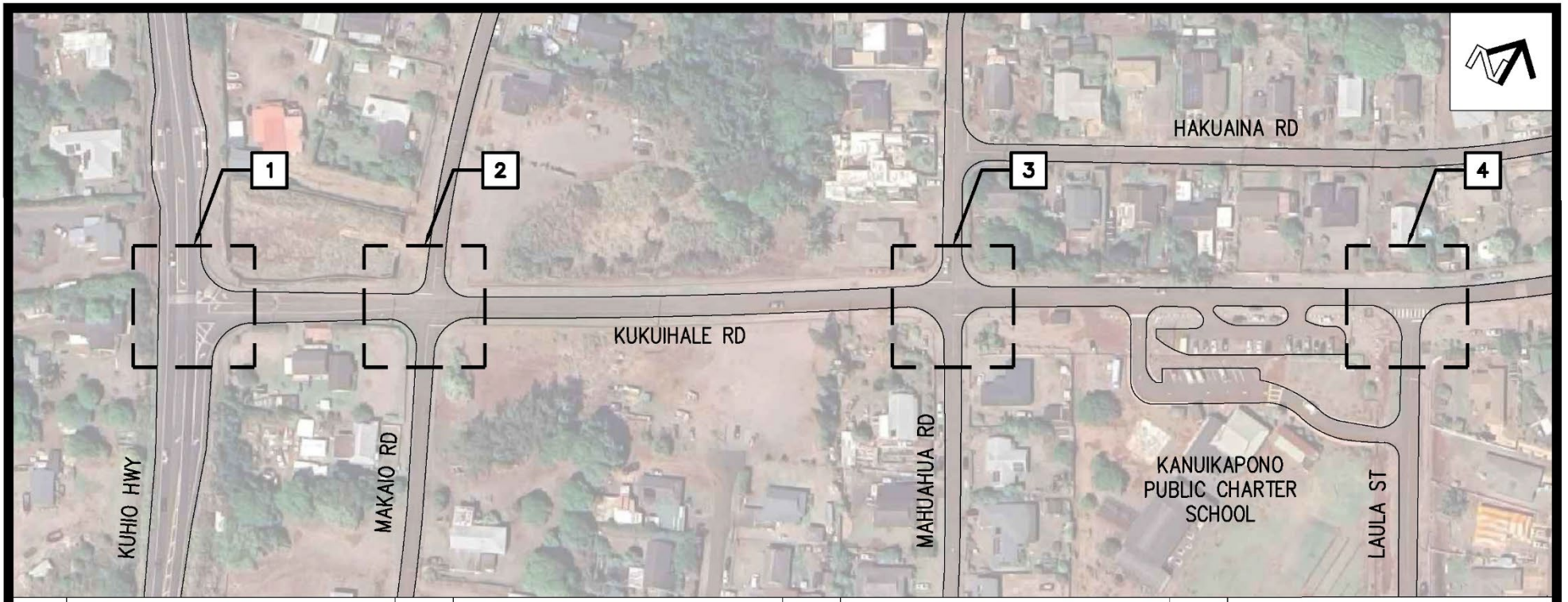
2.3 Intersection Conditions

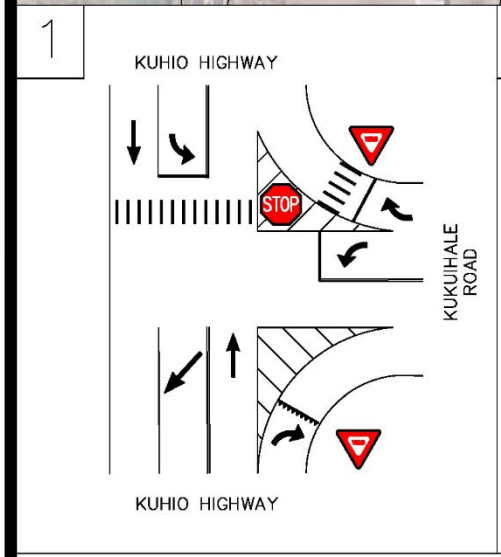
The lane configuration for each intersection are shown in Figure 2.1. The section below will discuss the existing lane configuration for the four intersections included in this TIAR.

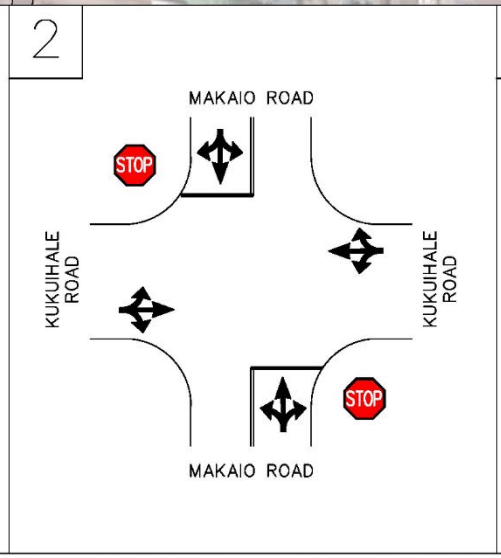
2.3.1 Kuhio Highway and Kukuihale Road

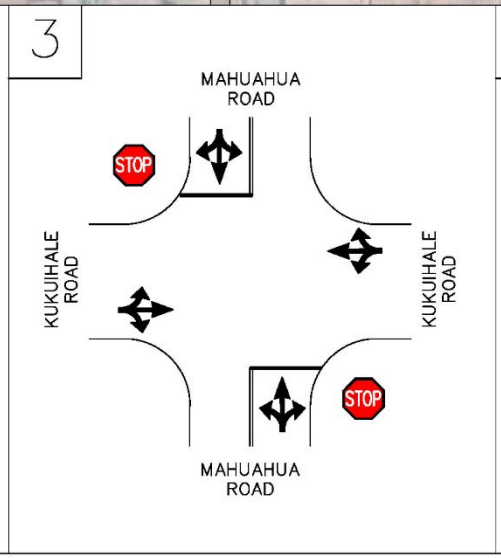
Kukuihale Road and Kuhio Highway intersect to form a T-intersection in which the westbound approach Kukuihale Road is stop-controlled. The northbound approach along Kuhio Highway has one through lane and an exclusive right-turn lane. The southbound approach along Kuhio Highway has one through lane and an exclusive left-turn lane. The westbound approach of Kukuihale Road has an exclusive left-turn lane and exclusive right-turn lane. There is an existing refuge lane downstream of the westbound left-turn movement. This refuge lane allows drivers to complete the westbound left-turn movement in two stages, in which drivers first wait for gaps in the northbound direction of traffic before turning into the refuge lane. Left-turning vehicles could then wait for a gap in the southbound direction of traffic before merging with southbound through traffic.

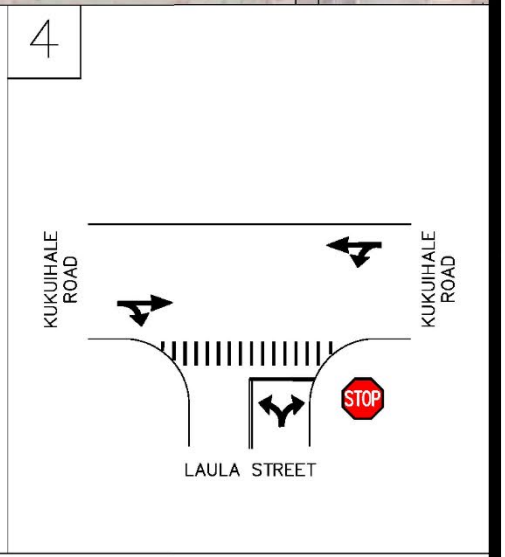
There are bus stops in the northbound and southbound direction in the vicinity of the intersection. There is a marked crosswalk on the southbound approach of this intersection, with rectangular rapid flashing beacons (RRFBs) to notify drivers of pedestrians crossing in the crosswalk. These marked crosswalks connect pedestrians traveling to and from the bus stops, and to adjacent residential areas to the east and west.











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EXISTING (2025) LANE CONFIGURATIONS

FIGURE 2.1

2.3.2 Kukuihale Road and Makaio Road

Kukuihale Road and Makaio Road intersect to form a four-way intersection in which the minor street of Makaio Road is stop-controlled. Each approach of the intersection consists of one lane for all movements. There are no pedestrian facilities at this intersection.

2.3.3 Kukuihale Road and Mahuahua Road

Kukuihale Road and Mahuahua Road intersect to form a four-way intersection in which the minor street of Mahuahua Road is stop-controlled. Each approach of the intersection consists of one lane for all movements. There are no pedestrian facilities at this intersection.

2.3.4 Kukuihale Road and Laula Street

Kukuihale Road and Laula Street intersect to form a T-intersection in which the northbound approach of Laula Street is stop-controlled. Each approach of the intersection has one lane for all movements. There is a marked crosswalk on the northbound approach of this intersection.

2.4 Existing (2025) Conditions Traffic Volume

The traffic data was collected on May 6, 2025, during a weekday from 6:30 AM to 9:00 AM and 2:00 PM to 5:00 PM. The AM and PM peak hour turning movement volumes are shown in Figure 2.2. Detailed traffic volume data for all intersections are included in Appendix A.

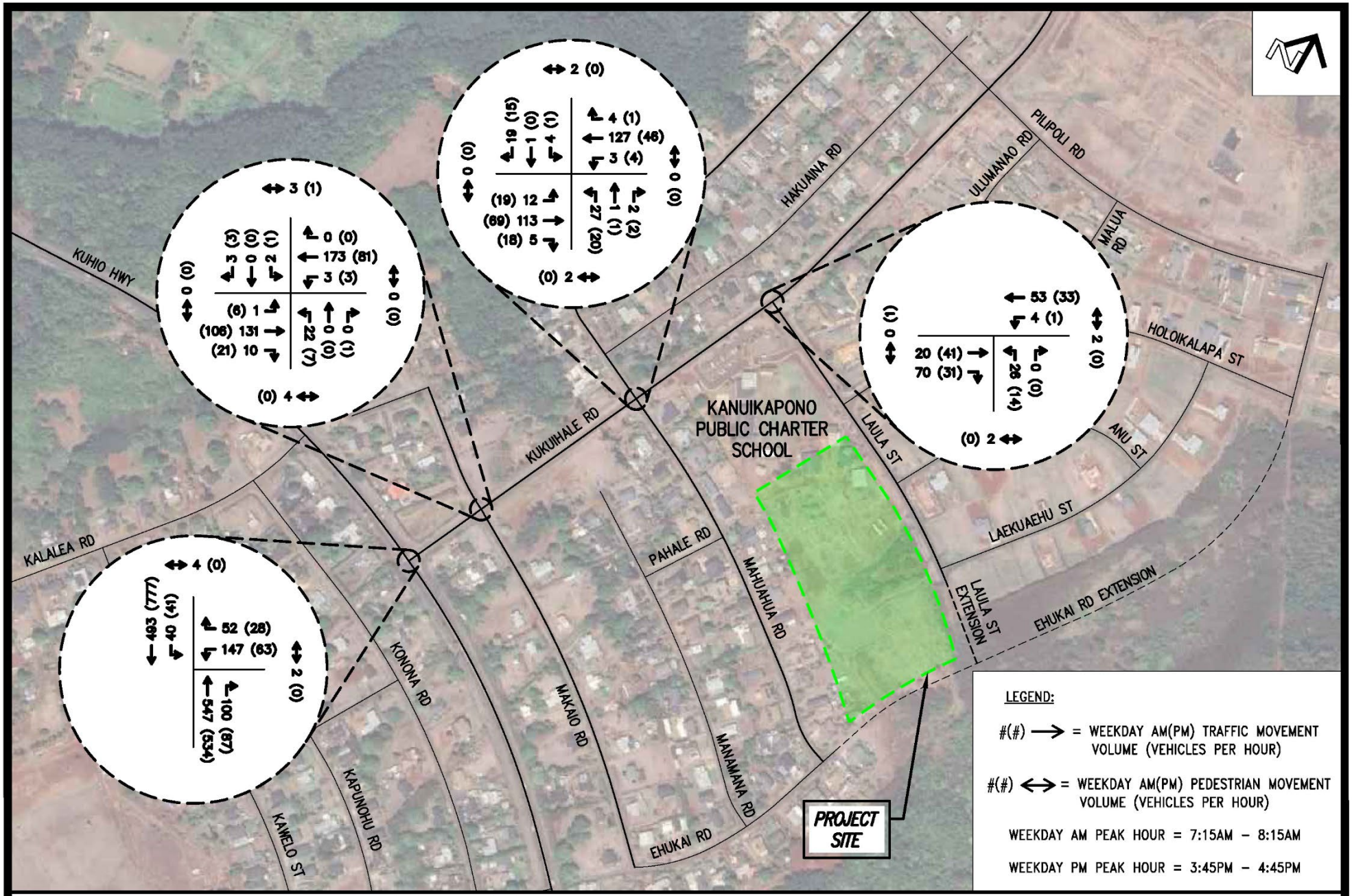
2.5 Existing (2025) Conditions Analysis

2.5.1 Highway Capacity Analysis Methodology

The traffic analysis in this TIAR was conducted based upon procedures presented in the Highway Capacity Manual (HCM), published by the Transportation Research Board. The HCM defines Level of Service (LOS) as “a quantitative stratification of a performance measure or measures representing the quality of service.” Levels of Service are defined by LOS “A” to LOS “F”, with LOS “A” representing free flow un-congested traffic conditions, and LOS “F” representing unacceptable or congested traffic conditions.

Volume-to-capacity ratio (v/c) ratio is another measure defined in the HCM that compares a roadway’s traffic demand to its capacity. A v/c ratio that exceeds 1.00 indicates that more vehicles demand to use a roadway than can be accommodated.

The traffic analysis in this TIAR utilizes measures like LOS and v/c ratio to determine and compare traffic operations of the study intersections under existing conditions and future conditions during the peak periods of traffic.



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EXISTING (2025) AM AND PM PEAK HOUR VOLUMES

FIGURE 2.2

Traffic analysis for the study intersections was performed using Synchro, a traffic analysis software that develops reports of the intersection and approach LOS and v/c ratio based on methods described in the Highway Capacity Manual 7th Edition (HCM).

Table 2.1 shows the LOS criteria for an unsignalized intersection using HCM methodologies.

Table 2.1: Level of Service Criteria for Unsignalized Intersection

Control Delay (s/veh)			Level of Service
0-10	and	v/c ≤ 1.0	A
>10-15	and	v/c ≤ 1.0	B
>15-25	and	v/c ≤ 1.0	C
>25-35	and	v/c ≤ 1.0	D
>35-50	and	v/c ≤ 1.0	E
>50	or	v/c > 1.0	F

Source: Highway Capacity Manual 7th Edition, Transportation Research Board

2.5.2 Intersection Operations

Table 2.2 provides a summary of the traffic operations at the study intersections along Kukuihale Road under existing conditions. Detailed intersection data reports for the existing traffic operations are included in Appendix B.

At the unsignalized intersection of Kuhio Highway and Kukuihale Road, the westbound left-turn movement operates at LOS C during the AM and PM peak hours, while the westbound right-turn movement operates at LOS B during the AM and PM peak hours. The southbound left-turn movement from Kuhio Highway operates at LOS A during the AM and PM peak hours.

At the unsignalized intersection of Kukuihale Road and Makaio Road, the northbound approach operates at LOS B during the AM and PM peak hours, while the southbound approaches of Makaio Road operates at LOS B during the AM peak hour, and LOS A during the PM peak hour.

At the unsignalized intersection of Kukuihale Road and Mahuahua Road, the northbound approach of Mahuahua Road operates at LOS B during the AM and PM peak hours, while the southbound approach of Mahuahua Road operates at LOS A during the AM and PM peak hours.

At the unsignalized intersection of Kukuihale Road and Laula Street, the northbound approach of Laula Street operates at LOS A during the AM and PM peak hours.

Table 2.2: Traffic Operations Under Existing (2025) Conditions

	N-S Street	E-W Street	Approach Movement	AM Peak Hour			PM Peak Hour		
				Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
1	Kuhio Highway (Route 56)	Kukuihale Road	SB Left	9	0.05	A	9	0.04	A
			WB Left	21	0.42	C	19	0.21	C
			WB Right	13	0.12	B	12	0.06	B
2	Makaio Road	Kukuihale Road	NB L/T/R	12	0.05	B	11	0.02	B
			SB L/T/R	11	0.01	B	10	0.01	A
3	Mahuahua Road	Kukuihale Road	NB L/T/R	12	0.08	B	11	0.05	B
			SB L/T/R	10	0.04	A	9	0.03	A
4	Laula Street	Kukuihale Road	NB L/T/R	10	0.05	A	10	0.03	A

3 Future (2029) Without Project Conditions

The proposed pre-kindergarten facility is expected to open in the Fall of 2028. For the purpose of this TIAR, the year 2029 is used as the planning horizon, and reflects traffic conditions after a full year of operation.

3.1 Geometric Configuration

The roadway and lane configuration for Future (2029) Without Project conditions will be similar to the Existing (2025) roadway and intersection lane configuration.

3.2 Traffic Volume

Future (2029) Without Project volumes will include background regional growth and trips generated by future surrounding developments.

3.2.1 Background Growth

The Future Without Project conditions were projected for four years (from existing year 2025 to future year 2029). The Federal-Aid Highways 2035 Transportation Plan for the District of Kauai, is a long-range transportation plan prepared for the State Department of Transportation (DOT) that forecasts travel demand for Kauai based on socio-economic data. The transportation plan projects an annual growth rate of 0.7% per year for vehicle trips in East Kauai.

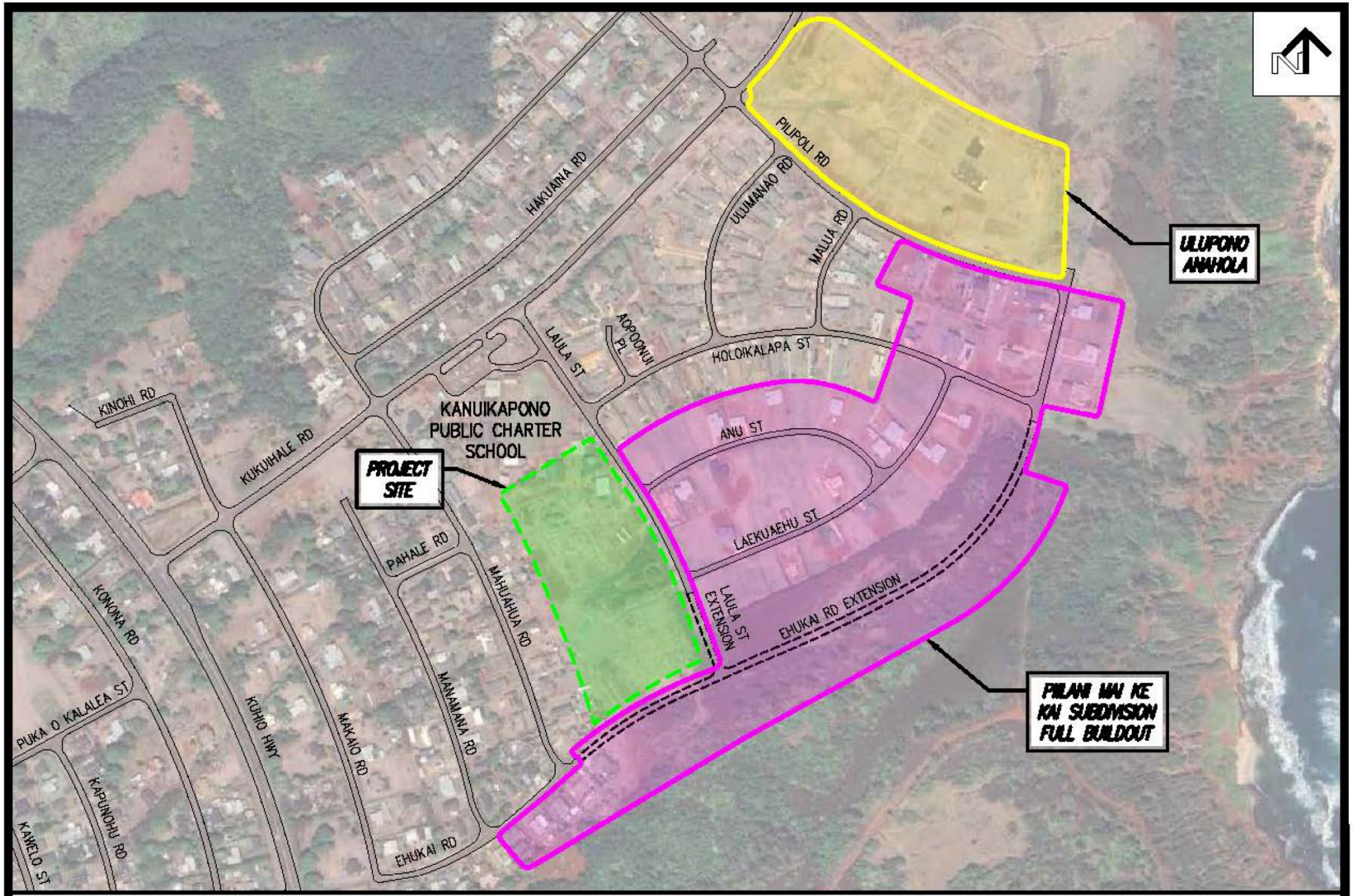
An annual growth rate of 1.0% was used to conservatively estimate background regional traffic growth. A growth rate of 1.0% per year over four years (totaling 4%) was applied to the traffic volumes along Kuhio Highway.

3.2.2 Surrounding Development Growth

The Future Without Project conditions also include trips generated by planned future developments in the surrounding area. Figure 3.1 shows the location of planned developments in the vicinity of the project site that are expected to increase traffic volumes at the study intersections. A description of each planned future development included in the Future Without Project conditions is listed in the following subsections.

3.2.2.1 Piilani Mai Ke Kai Subdivision

The Piilani Mai Ke Kai Subdivision is a DHHL development located adjacent to the project site and consists of 173 single-family homes divided into three separate phases of construction. Phase I and Phase II of the Piilani Mai Ke Kai Subdivision include a total of 80 single-family homes and 51 single-family homes, respectively, in parcels east of the project site. Phase III of the project includes a total of 42 single-family homes south of the project site, and the extension of Laula Street and Ehukai Road, bordering the project site.



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SURROUNDING DEVELOPMENTS

FIGURE 3.1

At the time of data collection for this TIAR, approximately 82 single-family homes has been constructed east of the project site, as part of Phase I and Phase II of the subdivision project (71 homes constructed under Phase I, and 11 homes constructed under Phase II), while the construction of the Phase III lots and road extension has not yet been started. The Future Conditions analyses conservatively assume the construction of the entire project has been completed and is fully occupied, including 91 single-family homes remaining to be built and occupied within the subdivision.

The ITE Trip Generation Manual, 12th Edition was reference to forecast the estimated number of trips that will be generated by the full build-out of the Piilani Mai Ke Kai Subdivision. The trips generated reflect the expected increase in traffic volumes resulting from 91 single-family homes remaining to be built in the subdivision. These generated trips were distributed to Mahuahua Road or Laula Street, based on proximity. Trips generated by the remaining 91 homes in this development are shown in Table 3.1 and will be included in the Future (2029) Without Project traffic volumes.

Table 3.1: AM and PM Peak Hour Project Related Trips for Piilani Mai Ke Kai

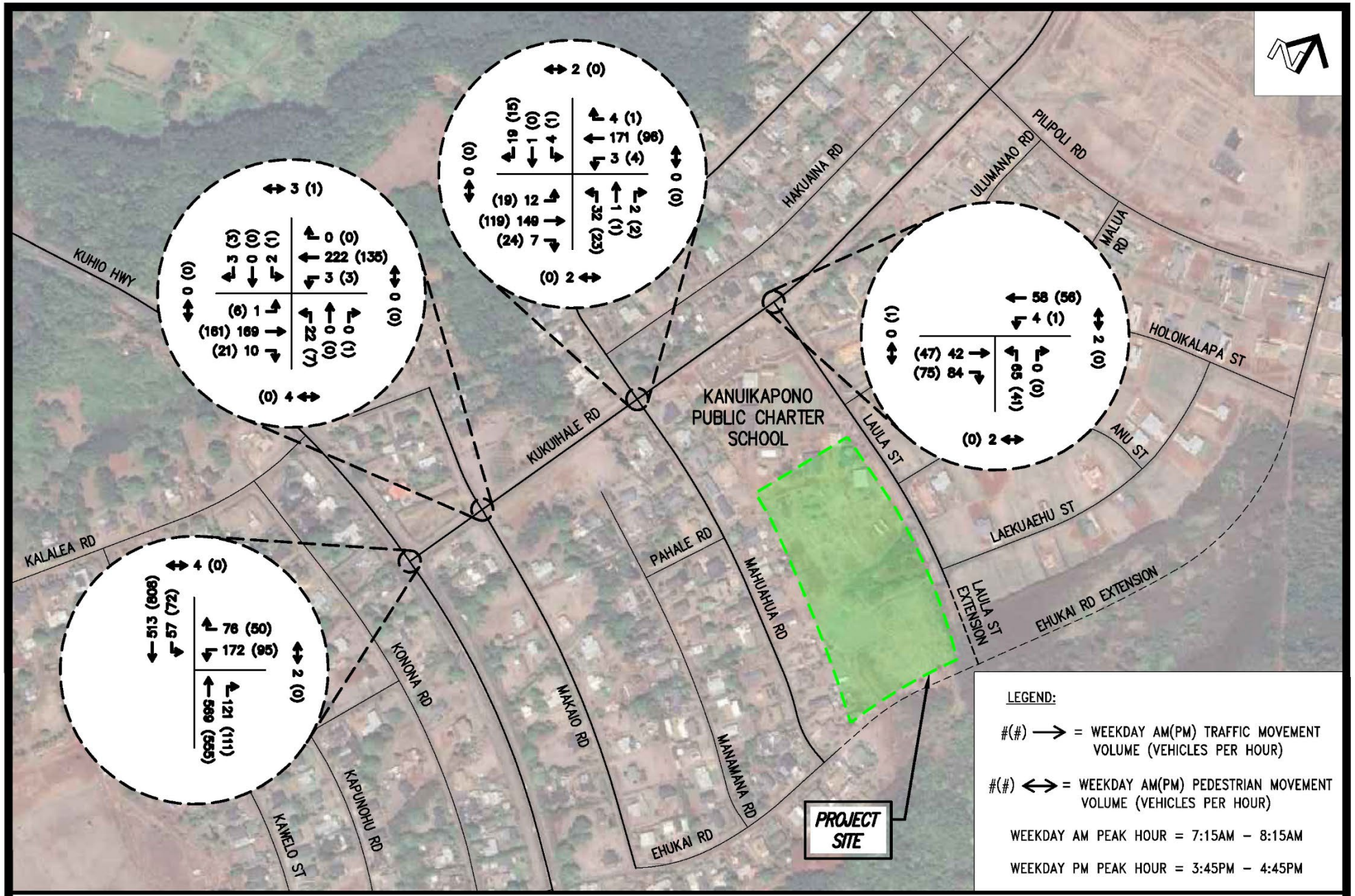
Land Use (Code)	Dwelling Units	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Housing (210)[1]	91	18	49	67	55	34	89
[1]- AM Equation: T=0.67(X)+5.59; PM Equation: Ln(T)=0.92Ln(X)+0.33; X=Dwelling Units; T=Trips							

3.2.2.2 Ulupono Anahola Development

The Ulupono Anahola Development is a planned development approximately 1,500 feet east of the proposed project, and would be adjacent to the intersection of Kukuihale Road and Pilipoli Road. The Ulupono Anahola Development entails a 10-acre youth training center which includes community gardens as well as food storage and processing areas. According to the TIAR completed for the Ulupono Anahola Development in March 2022, 20 directional trips are expected to be generated during the weekday AM and PM peak hours. These trips are expected to utilize Kukuihale Road, and were distributed at the intersection of Kuhio Highway and Kukuihale Road, based on the existing distribution of traffic at the intersection.

3.2.3 Future (2029) Without Project Volume

Trips generated from the projected background growth and planned developments in the surrounding area were added to comprise the Future Without Project Conditions. Figure 3.2 shows the Future (2029) Without Project volumes for the AM and PM peak hours.



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FUTURE (2029) WITHOUT PROJECT AM AND PM PEAK HOUR VOLUMES

FIGURE 3.2

3.3 Future (2029) Without Project Analysis

Table 3.2 and Figure 3.3 provide a summary of the traffic operations at the study intersections along Kukuihale Road, under Future (2029) Without Project Conditions. Detailed intersection data reports for the projected traffic conditions are included in Appendix C.

At the unsignalized intersection of Kuhio Highway and Kukuihale Road, the westbound left-turn movement is expected to operate at LOS D during the AM peak hour, and LOS C during the PM peak hour. The westbound right-turn movement is expected to operate at LOS B during the AM and PM peak hours. The southbound left-turn movement from Kuhio Highway is expected to operate at LOS A during the AM and PM peak hours.

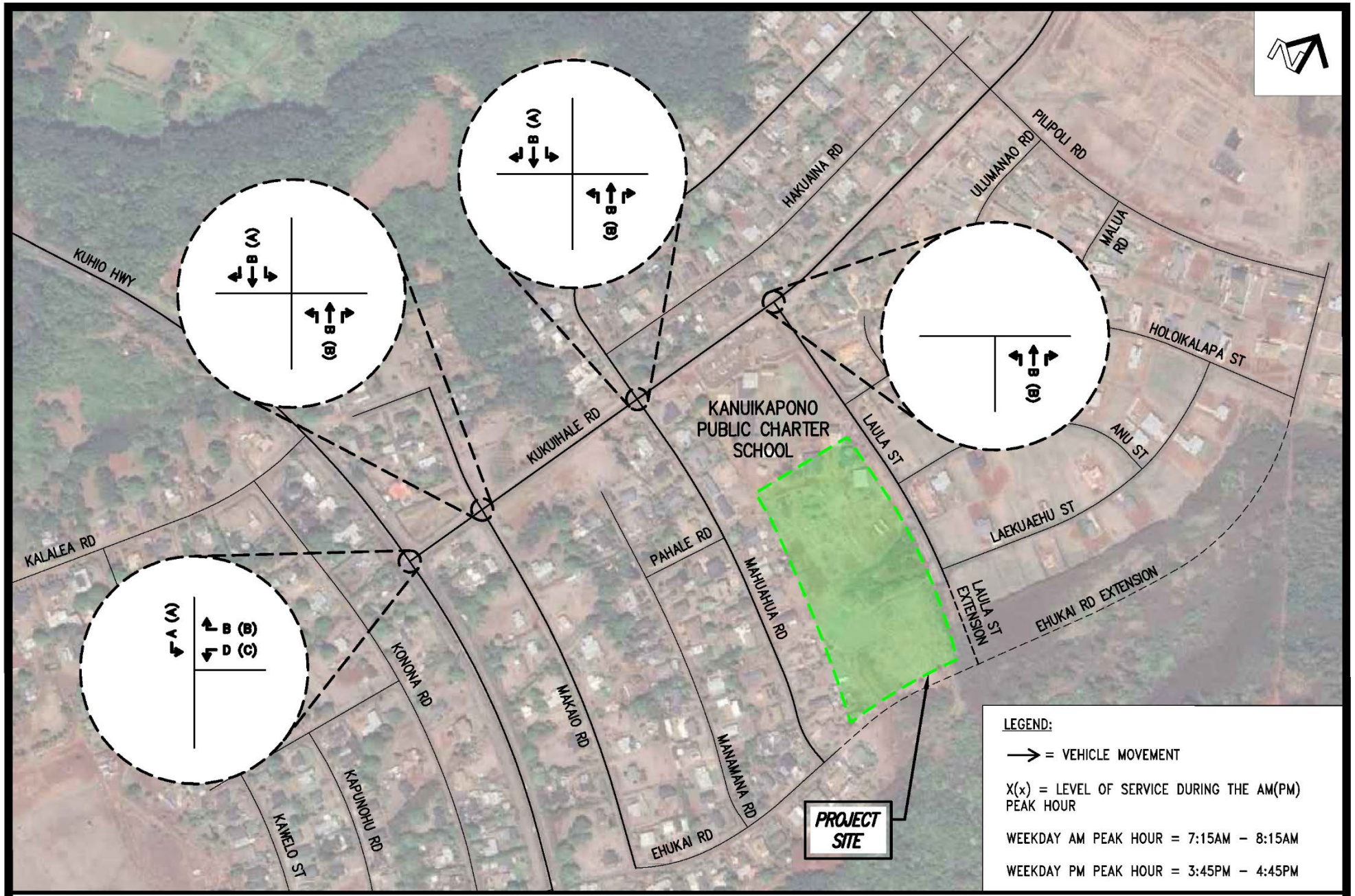
At the unsignalized intersection of Kukuihale Road and Makaio Road, the northbound approach of Makaio Road is expected to operate at LOS B during the AM and PM peak hours. The southbound approach is expected to operate at LOS B during the AM peak hour, and LOS A during the PM peak hour.

At the unsignalized intersection of Kukuihale Road and Mahuahua Road, the northbound approach of Mahuahua Road is expected to operate at LOS B during the AM and PM peak hours. The southbound approach is expected to operate at LOS B during the AM peak hour, and LOS A during the PM peak hour.

At the unsignalized intersection of Kukuihale Road and Laula Street, the northbound approach of Laula Street is expected to operate at LOS B during the AM and PM peak hours.

Table 3.2: Expected Traffic Operations Under Future (2029) Without Project Conditions

	N-S Street	E-W Street	Approach Movement	AM Peak Hour			PM Peak Hour		
				Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
1	Kuhio Highway (Route 56)	Kukuihale Road	SB Left	9	0.07	A	9	0.08	A
			WB Left	26	0.53	D	25	0.35	C
			WB Right	14	0.18	B	13	0.10	B
2	Makaio Road	Kukuihale Road	NB L/T/R	13	0.06	B	12	0.02	B
			SB L/T/R	11	0.01	B	10	0.01	A
3	Mahuahua Road	Kukuihale Road	NB L/T/R	14	0.11	B	12	0.07	B
			SB L/T/R	11	0.05	B	9	0.03	A
4	Laula Street	Kukuihale Road	NB L/T/R	11	0.13	B	10	0.10	B



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FUTURE (2029) WITHOUT PROJECT AM AND PM PEAK HOUR LOS

FIGURE 3.3

4 Future (2029) With Project Conditions

4.1 Geometric Configuration

With the proposed project, the lane configuration of the study intersections will remain similar to existing conditions.

4.2 Traffic Volume

4.2.1 Project Trip Generation

The proposed expansion of the existing KPCS campus is expected to serve KPCS students with additional gathering areas, classrooms, and learning areas. As such, the proposed expansion of the KPCS campus is not expected to generate additional external trips to the project site. Therefore, only the proposed pre-kindergarten facility is projected to generate external trips to the project site.

The ITE Trip Generation Manual, 12th Edition was referenced to forecast the estimated number of trips that will be generated by the proposed pre-kindergarten facility. The trip generation land use for the proposed pre-kindergarten facility was a Day Care Center. The ITE Trip Generation Manual describes the day care center land use as a facility where care for preschool children is provided, normally during daytime hours, and generally includes classrooms, offices, eating areas, and playgrounds.

Some students attending the proposed pre-kindergarten facility are expected to have family and siblings that already attend the adjacent KPCS. These families are expected to drop-off both KPCS students and pre-kindergarten students simultaneously, thus not generating an additional vehicle trip. However, for the purpose of this TIAR, all trips are conservatively assumed to be vehicle trips generated from outside the surrounding area that enter and exit Kukuihale Road via Kuhio Highway. Project generated trips are shown in Table 4.1.

Table 4.1: AM and PM Peak Hour Project Related Trips

Land Use (Code)	Students	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Day Care Center (565) [1]	80	32	29	61	29	32	61
[1]- AM Equation: T=0.65(X)+8.90; PM Equation: T=0.66(X)+12.86; X=Students; T=Trips							

4.2.2 Project Trip Distribution

Vehicle trips were assigned to the study intersections based on existing traffic patterns and traffic volume distributions at the study intersections. All vehicle trips were assumed to be new trips, and enter and exit the study area via the intersection of Kuhio Highway and Kukuihale Road. All vehicle trips were assigned to turn onto Laula Street from Kukuihale Road, to access the proposed pre-kindergarten facility. Likewise, vehicle trips exiting the proposed pre-kindergarten facility were assigned to turn onto Kukuihale Road from Laula Street, to then access Kuhio Highway. Figure 4.1 shows the distribution of project-related trips during the AM and PM peak hours.

4.2.3 Future (2029) With Project Volume

The estimated number of trips generated by the proposed project was incorporated into the projected Future (2029) Without Project traffic volumes to model Future (2029) With Project traffic volumes. Figure 4.2 shows the Future (2029) With Project volumes during the AM and PM peak hours.

4.3 Future (2029) With Project Analysis

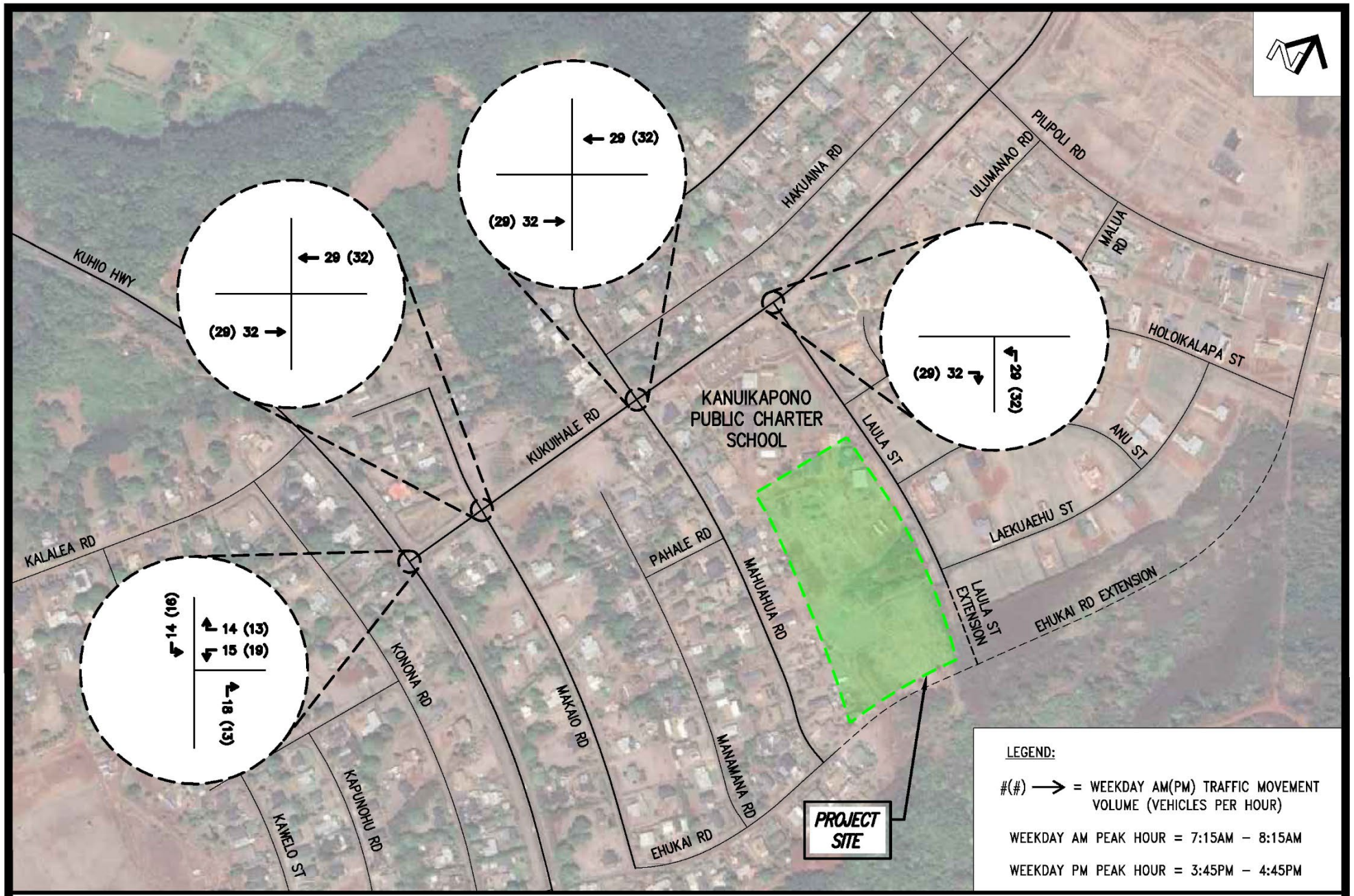
Table 4.2 and Figure 4.3 provide a summary of the traffic operations at the study intersections along Kukuihale Road, under Future (2029) With Project Conditions. Detailed intersection data reports for the projected traffic conditions are included in Appendix D.

At the unsignalized intersection of Kuhio Highway and Kukuihale Road, the westbound left-turn movement is expected to operate at LOS D during the AM and PM peak hours. The westbound right-turn movement is expected to operate at LOS B during the AM and PM peak hours. The southbound left-turn movement from Kuhio Highway is expected to operate at LOS A during the AM and PM peak hours.

At the unsignalized intersection of Kukuihale Road and Makaio Road, the northbound approach is expected to operate at LOS B during the AM and PM peak hours. The southbound approach of Makaio Road is expected to operate at LOS B during the AM and PM peak hours.

At the unsignalized intersection of Kukuihale Road and Mahuahua Road, the northbound approach of Mahuahua Road is expected to operate at LOS B during the AM and PM peak hours. The southbound approach is expected to operate at LOS B during the AM peak hour, and LOS A during the PM peak hour.

At the unsignalized intersection of Kukuihale Road and Laula Street, the northbound approach of Laula Street is expected to operate at LOS B during the AM and PM peak hours.

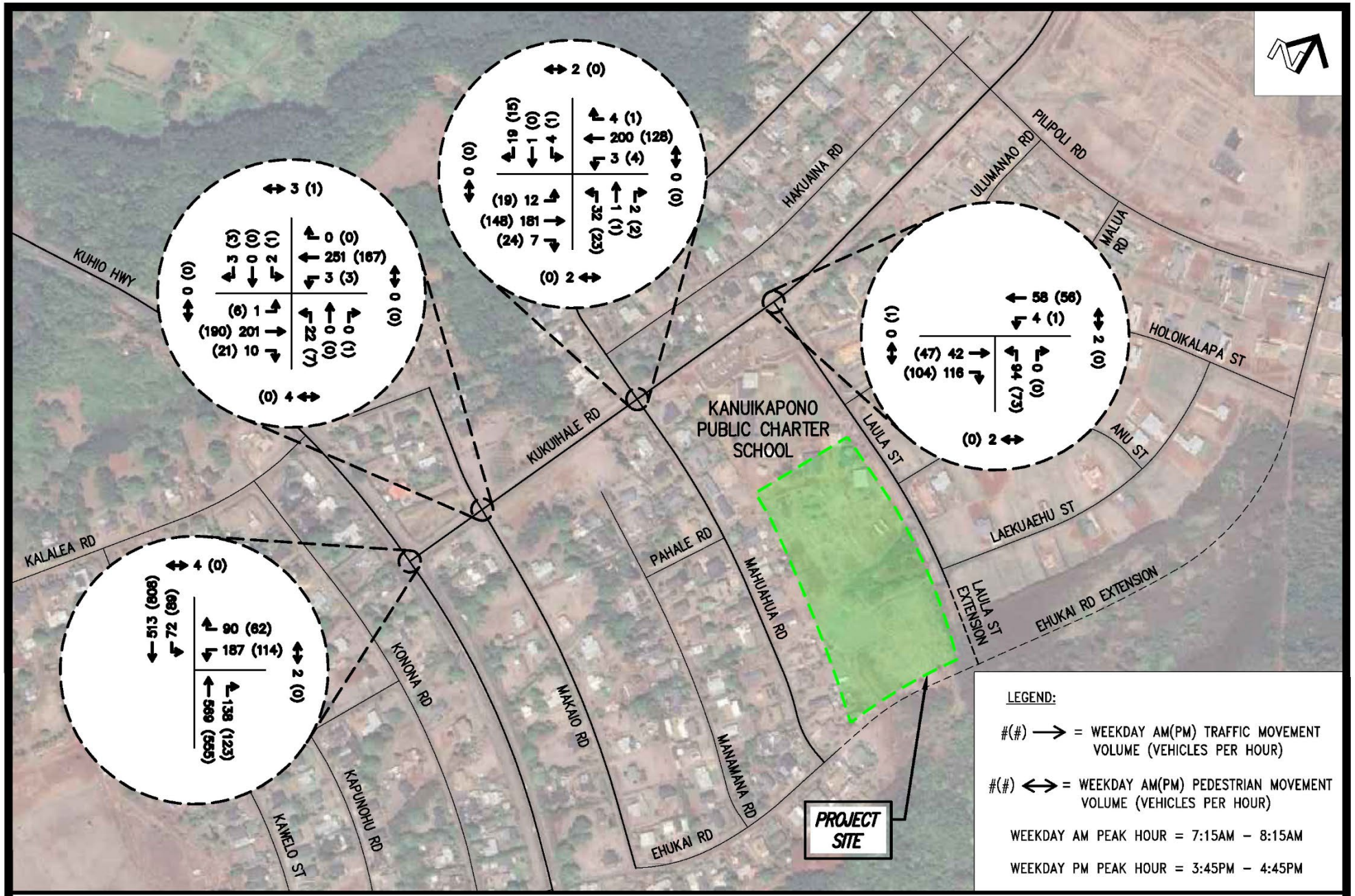


KANUIKAPONO PUBLIC CHARTER SCHOOL MASTER PLAN AND PRE-KINDERGARTEN FACILITY

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PROJECT TRIP DISTRIBUTION AM AND PM PEAK HOURS

FIGURE 4.1

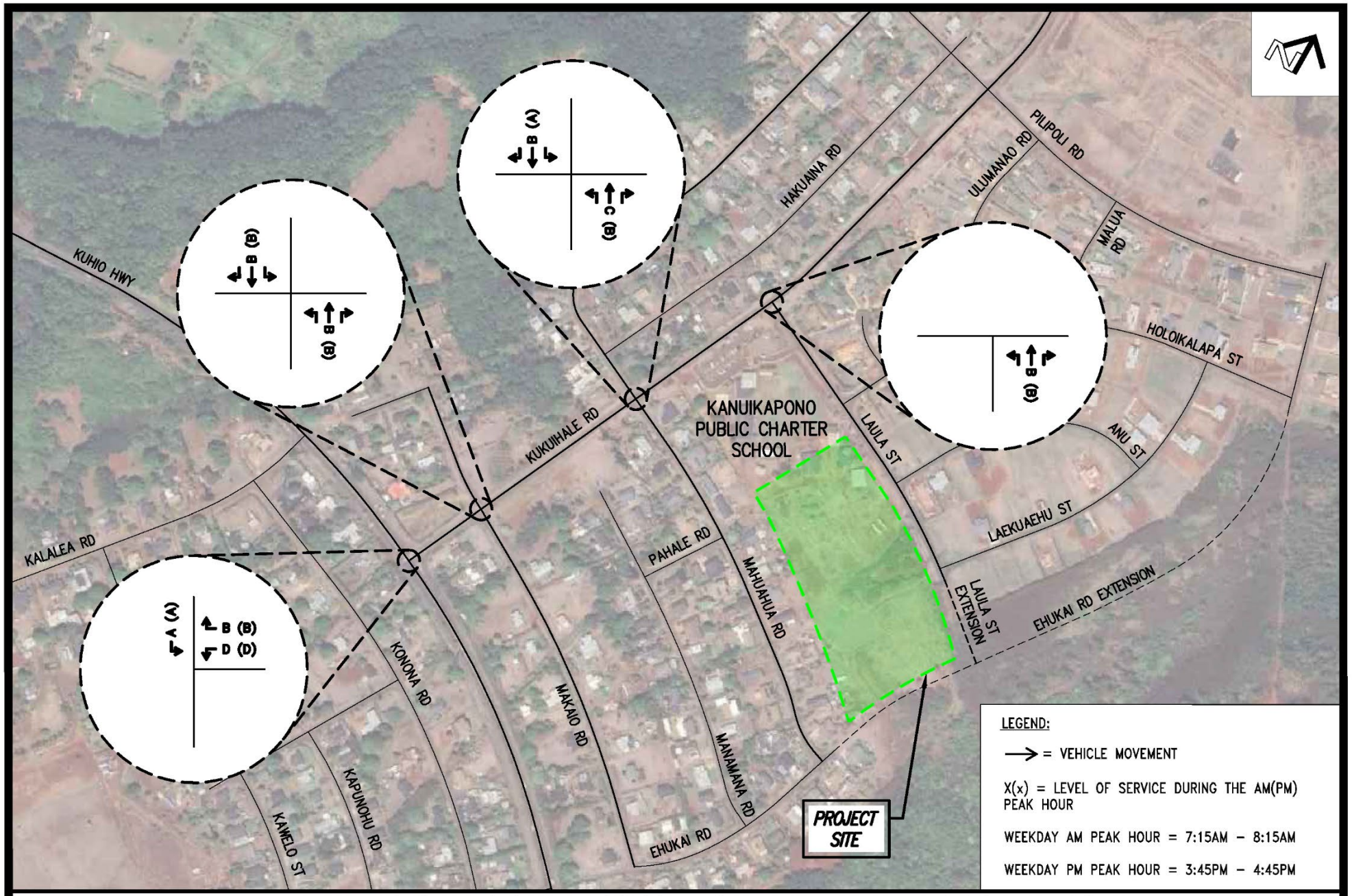


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FUTURE (2029) WITH PROJECT AM AND PM PEAK HOUR VOLUMES

FIGURE 4.2



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FUTURE (2029) WITH PROJECT AM AND PM PEAK HOUR LOS

FIGURE 4.3

Table 4.2: Expected Traffic Operations Under Future (2029) With Project Conditions

	N-S Street	E-W Street	Approach Movement	AM Peak Hour			PM Peak Hour		
				Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
1	Kuhio Highway (Route 56)	Kukuihale Road	SB Left	9	0.09	A	9	0.10	A
			WB Left	30	0.60	D	29	0.45	D
			WB Right	15	0.21	B	13	0.13	B
2	Makaio Road	Kukuihale Road	NB L/T/R	15	0.07	B	13	0.02	B
			SB L/T/R	12	0.01	B	11	0.01	B
3	Mahuahua Road	Kukuihale Road	NB L/T/R	15	0.12	B	13	0.08	B
			SB L/T/R	11	0.05	B	10	0.03	A
4	Laula Street	Kukuihale Road	NB L/T/R	11	0.18	B	11	0.18	B

Table 4.3 shows a comparison of LOS between existing conditions, Future (2029) Without Project conditions, and Future (2029) With Project conditions.

Table 4.3: Comparison of Traffic Operations Under Existing and Future (2029) Conditions

	N-S Street	E-W Street	Approach Movement	AM Peak Hour			PM Peak Hour		
				Exist	Future W/o Proj	Future W/ Proj	Exist	Future W/o Proj	Future W/ Proj
1	Kuhio Highway (Route 56)	Kukuihale Road	SB Left	A	A	A	A	A	A
			WB Left	C	D	D	C	C	D
			WB Right	B	B	B	B	B	B
2	Makaio Road	Kukuihale Road	NB L/T/R	B	B	B	B	B	B
			SB L/T/R	B	B	B	A	A	B
3	Mahuahua Road	Kukuihale Road	NB L/T/R	B	B	B	B	B	B
			SB L/T/R	A	B	B	A	A	A
4	Laula Street	Kukuihale Road	NB L/T/R	A	B	B	A	B	B

Under the Future (2029) With Project conditions, turning movements at the intersection of Kuhio Highway and Kukuihale Road are expected to operate similar to Future (2029) Without Project conditions during the AM peak hour. During the PM peak hour, the southbound left-turn and westbound right-turn movements are expected to operate similar to existing conditions. The westbound left-turn movement is expected to operate at LOS D, compared to the expected LOS C under Future (2029) Without Project conditions.

At the intersection of Kukuihale Road and Makaio Road, during the PM peak hour, the southbound approach of Makaio Road is expected to operate at LOS B, compared to the expected LOS A under Future (2029) Without Project conditions. All movements are expected to operate similar to existing and Future (2029) Without Project Conditions.

At the intersection of Kukuihale Road and Mahuahua Road, all movements are expected to operate similar to Future (2029) Without Project Conditions.

At the intersection of Kukuihale Road and Laula Street, all movements are expected to operate similar to Future (2029) Without Project Conditions.

5 Multimodal Evaluation

This section provides an assessment of multimodal access in the vicinity of the project site. As mentioned previously, the proposed expansion of the existing KPCS campus is not expected to generate additional external trips to the project site. Therefore, this portion of the TIAR focuses on a multimodal evaluation for trips related to the proposed pre-kindergarten facility.

Due to the nature of the proposed pre-kindergarten facility, all trips generated by the pre-kindergarten facility are assumed to be vehicle trips. However few users, if any, may choose alternative modes of travel to the project site.

5.1 Pedestrian Facilities

The proposed pre-kindergarten facility is expected to generate a limited number of pedestrian trips from the surrounding neighborhood. The surrounding roadway network consists of rural, low-volume local streets with no existing pedestrian facilities. Users walking to the project site are expected to use the grassed shoulders of the local roadway network, similar to existing conditions. Although few, if any, pedestrian trips are anticipated, it is recommended that the grassed shoulders fronting the project site are cleared and leveled to support informal pedestrian activity, similar to the existing grassed shoulders of the surrounding roadway network.

The internal site layout will include walkways and a designated drop-off area to facilitate safe pedestrian movement between parked vehicles and school buildings. These on-site accommodations are expected to adequately address pedestrian safety and circulation needs associated with the facility.

5.2 Bicycle Facilities

Similar to pedestrians, the proposed pre-kindergarten facility is expected to generate a limited number of bicycle trips from the surrounding neighborhood. The surrounding roadway network consists of rural, low-volume local streets with no existing bicycle facilities. Bicyclists traveling to the project site are expected to share the roadway with motorists. Given the nature of the proposed pre-kindergarten facility, any bicycle trips to the project site are expected to be limited primarily to staff or guardians. No modifications for the existing transportation system are recommended to address project-related bicycle trips.

5.3 Transit Facilities

The nearest public transit service is provided by the Kauai Bus, with stops located near the intersection of Kuhio Highway and Kukuihale Road. These bus stops are served by Kauai Bus Route 500, which runs between Lihue and Hanalei. While staff or guardians may choose to use transit, the project is not expected to generate significant transit demand. Any additional transit

demand should be accommodated by the existing bus service. No modifications for the existing transportation system are recommended to address project-related transit trips.

6 Project Impacts/Recommendations

This TIAR was prepared to evaluate the proposed KPCS Master Plan, which includes the expansion of the existing KPCS campus, and the proposed pre-kindergarten facility by the Hawaii School Facilities Authority in Anahola, Kauai.

The analysis determined that the turning movements for the intersections of Kukuihale Road and Makaio Road, Kukuihale Road and Mahuahua Road, and Kukui Hale Road and Laula Street are expected to operate at LOS B or better during the AM and PM peak hours. At the intersection of Kuhio Highway and Kukuihale Road, delay is expected to slightly increase for the westbound left-turn movement.

The westbound left-turn movement currently operates at LOS C during the AM and PM peak hours. Under Future (2029) Without Project conditions, the movement is expected to operate at LOS D during the AM peak hour, and LOS C during the PM peak hour. Under Future (2029) With Project conditions, the movement is expected to operate at LOS D during both AM and PM peak hours.

The multimodal analysis found that the proposed project will have no significant impact to any existing pedestrian, bicycle, or transit facilities. Therefore, the proposed project is not expected to have significant impact on the local traffic roadway network.

Recommendations:

1. Clear and level the existing shoulders fronting the project site to allow for informal pedestrian travel to the project site.

Appendix A

Traffic Counts

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Honolulu, Hawaii, United States 96813
(808) 531-4252 x1040 jwolfgramm@cpe-hawaii.com

Count Name: Kuhio Hwy/Kukuihale Rd
Site Code:
Start Date: 05/06/2025

Turning Movement Data

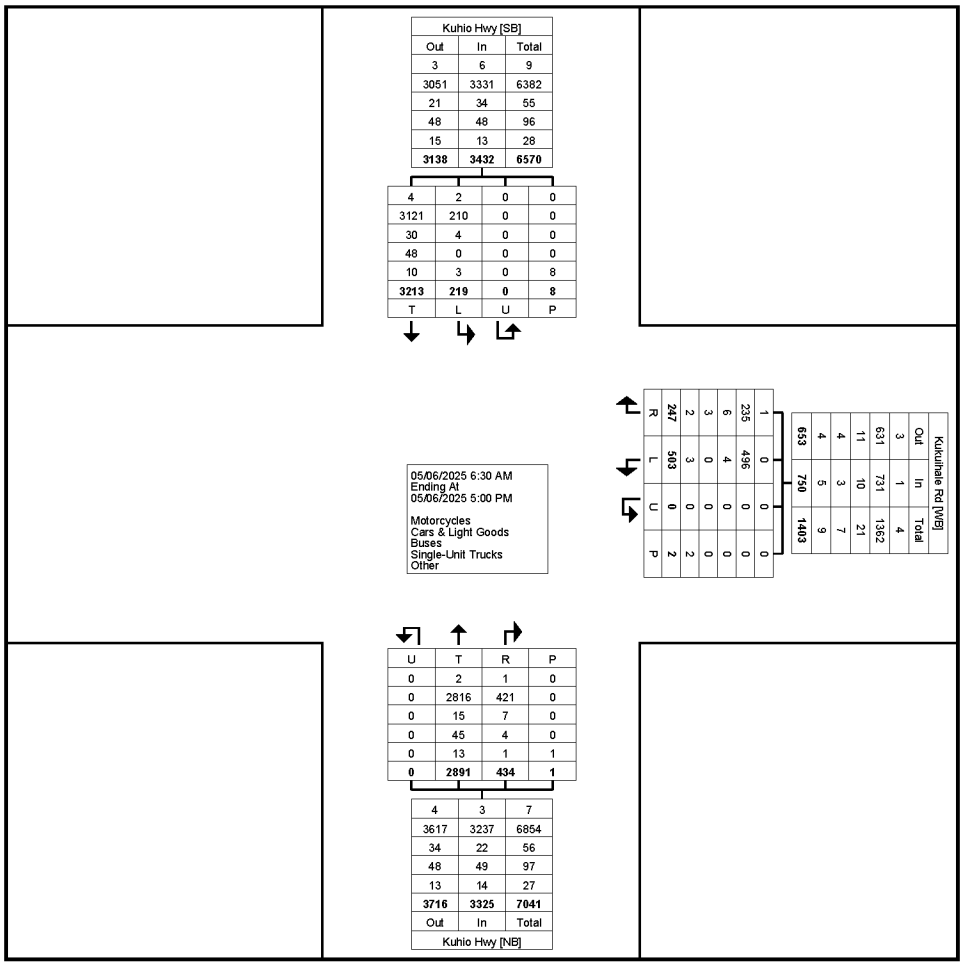
Start Time	Kuhio Hwy Southbound					Kukuihale Rd Westbound					Kuhio Hwy Northbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
6:30 AM	90	1	0	1	91	11	28	0	0	39	7	110	0	0	117	247
6:45 AM	80	5	0	0	85	6	28	0	0	34	6	144	0	0	150	269
Hourly Total	170	6	0	1	176	17	56	0	0	73	13	254	0	0	267	516
7:00 AM	98	7	0	0	105	10	39	0	0	49	19	113	0	0	132	286
7:15 AM	127	4	0	1	131	9	33	0	1	42	15	131	0	0	146	319
7:30 AM	124	13	0	3	137	12	34	0	1	46	25	129	0	0	154	337
7:45 AM	134	12	0	0	146	13	46	0	0	59	39	141	0	0	180	385
Hourly Total	483	36	0	4	519	44	152	0	2	196	98	514	0	0	612	1327
8:00 AM	108	11	0	0	119	18	34	0	0	52	21	146	0	0	167	338
8:15 AM	133	3	0	0	136	9	15	0	0	24	13	139	0	0	152	312
8:30 AM	108	4	0	0	112	17	15	0	0	32	15	169	0	0	184	328
8:45 AM	129	6	0	0	135	15	15	0	0	30	11	130	0	0	141	306
Hourly Total	478	24	0	0	502	59	79	0	0	138	60	584	0	0	644	1284
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	136	14	0	0	150	7	21	0	0	28	22	119	0	0	141	319
2:15 PM	150	17	0	0	167	9	16	0	0	25	30	117	0	0	147	339
2:30 PM	159	14	0	0	173	9	17	0	0	26	35	137	0	0	172	371
2:45 PM	150	25	0	0	175	32	41	0	0	73	22	120	0	1	142	390
Hourly Total	595	70	0	0	665	57	95	0	0	152	109	493	0	1	602	1419
3:00 PM	161	14	0	0	175	13	22	0	0	35	18	142	0	0	160	370
3:15 PM	177	11	0	3	188	12	17	0	0	29	12	128	0	0	140	357
3:30 PM	193	8	0	0	201	6	9	0	0	15	12	124	0	0	136	352
3:45 PM	213	12	0	0	225	8	23	0	0	31	30	118	0	0	148	404
Hourly Total	744	45	0	3	789	39	71	0	0	110	72	512	0	0	584	1483
4:00 PM	176	10	0	0	186	7	14	0	0	21	17	139	0	0	156	363
4:15 PM	204	7	0	0	211	8	14	0	0	22	23	145	0	0	168	401
4:30 PM	184	12	0	0	196	5	12	0	0	17	17	132	0	0	149	362
4:45 PM	179	9	0	0	188	11	10	0	0	21	25	118	0	0	143	352
Hourly Total	743	38	0	0	781	31	50	0	0	81	82	534	0	0	616	1478
Grand Total	3213	219	0	8	3432	247	503	0	2	750	434	2891	0	1	3325	7507
Approach %	93.6	6.4	0.0	-	-	32.9	67.1	0.0	-	-	13.1	86.9	0.0	-	-	-
Total %	42.8	2.9	0.0	-	45.7	3.3	6.7	0.0	-	10.0	5.8	38.5	0.0	-	44.3	-
Motorcycles	4	2	0	-	6	1	0	0	-	1	1	2	0	-	3	10
% Motorcycles	0.1	0.9	-	-	0.2	0.4	0.0	-	-	0.1	0.2	0.1	-	-	0.1	0.1
Cars & Light Goods	3121	210	0	-	3331	235	496	0	-	731	421	2816	0	-	3237	7299
% Cars & Light Goods	97.1	95.9	-	-	97.1	95.1	98.6	-	-	97.5	97.0	97.4	-	-	97.4	97.2
Buses	30	4	0	-	34	6	4	0	-	10	7	15	0	-	22	66
% Buses	0.9	1.8	-	-	1.0	2.4	0.8	-	-	1.3	1.6	0.5	-	-	0.7	0.9
Single-Unit Trucks	48	0	0	-	48	3	0	0	-	3	4	45	0	-	49	100

% Single-Unit Trucks	1.5	0.0	-	-	1.4	1.2	0.0	-	-	0.4	0.9	1.6	-	-	1.5	1.3
Articulated Trucks	9	2	0	-	11	0	1	0	-	1	1	11	0	-	12	24
% Articulated Trucks	0.3	0.9	-	-	0.3	0.0	0.2	-	-	0.1	0.2	0.4	-	-	0.4	0.3
Bicycles on Road	1	1	0	-	2	2	2	0	-	4	0	2	0	-	2	8
% Bicycles on Road	0.0	0.5	-	-	0.1	0.8	0.4	-	-	0.5	0.0	0.1	-	-	0.1	0.1
Pedestrians	-	-	-	8	-	-	-	-	2	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Community Planning and Engineering, Inc.
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Honolulu, Hawaii, United States 96813
(808) 531-4252 x1040 jwolfgramm@cpe-hawaii.com

Count Name: Kuhio Hwy/Kukuihale Rd
Site Code:
Start Date: 05/06/2025



Turning Movement Data Plot

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Count Name: Kuhio Hwy/Kukuihale Rd
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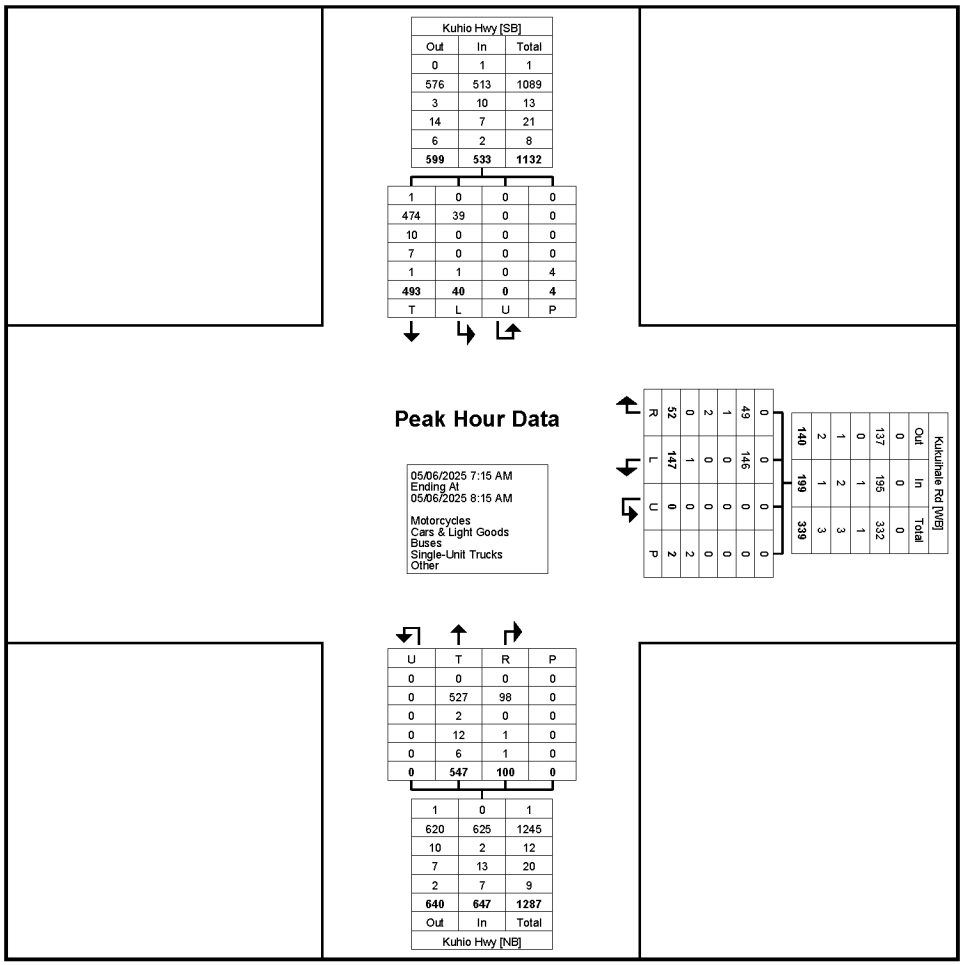
Turning Movement Peak Hour Data (7:15 AM)

Start Time	Kuhio Hwy Southbound					Kukuihale Rd Westbound					Kuhio Hwy Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:15 AM	127	4	0	1	131	9	33	0	1	42	15	131	0	0	146	319
7:30 AM	124	13	0	3	137	12	34	0	1	46	25	129	0	0	154	337
7:45 AM	134	12	0	0	146	13	46	0	0	59	39	141	0	0	180	385
8:00 AM	108	11	0	0	119	18	34	0	0	52	21	146	0	0	167	338
Total	493	40	0	4	533	52	147	0	2	199	100	547	0	0	647	1379
Approach %	92.5	7.5	0.0	-	-	26.1	73.9	0.0	-	-	15.5	84.5	0.0	-	-	-
Total %	35.8	2.9	0.0	-	38.7	3.8	10.7	0.0	-	14.4	7.3	39.7	0.0	-	46.9	-
PHF	0.920	0.769	0.000	-	0.913	0.722	0.799	0.000	-	0.843	0.641	0.937	0.000	-	0.899	0.895
Motorcycles	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	0.2	0.0	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Cars & Light Goods	474	39	0	-	513	49	146	0	-	195	98	527	0	-	625	1333
% Cars & Light Goods	96.1	97.5	-	-	96.2	94.2	99.3	-	-	98.0	98.0	96.3	-	-	96.6	96.7
Buses	10	0	0	-	10	1	0	0	-	1	0	2	0	-	2	13
% Buses	2.0	0.0	-	-	1.9	1.9	0.0	-	-	0.5	0.0	0.4	-	-	0.3	0.9
Single-Unit Trucks	7	0	0	-	7	2	0	0	-	2	1	12	0	-	13	22
% Single-Unit Trucks	1.4	0.0	-	-	1.3	3.8	0.0	-	-	1.0	1.0	2.2	-	-	2.0	1.6
Articulated Trucks	1	0	0	-	1	0	1	0	-	1	1	6	0	-	7	9
% Articulated Trucks	0.2	0.0	-	-	0.2	0.0	0.7	-	-	0.5	1.0	1.1	-	-	1.1	0.7
Bicycles on Road	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Bicycles on Road	0.0	2.5	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Pedestrians	-	-	-	4	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

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Count Name: Kuhio Hwy/Kukuihale Rd
Site Code:
Start Date: 05/06/2025



Turning Movement Peak Hour Data Plot (7:15 AM)

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Count Name: Kuhio Hwy/Kukuihale Rd
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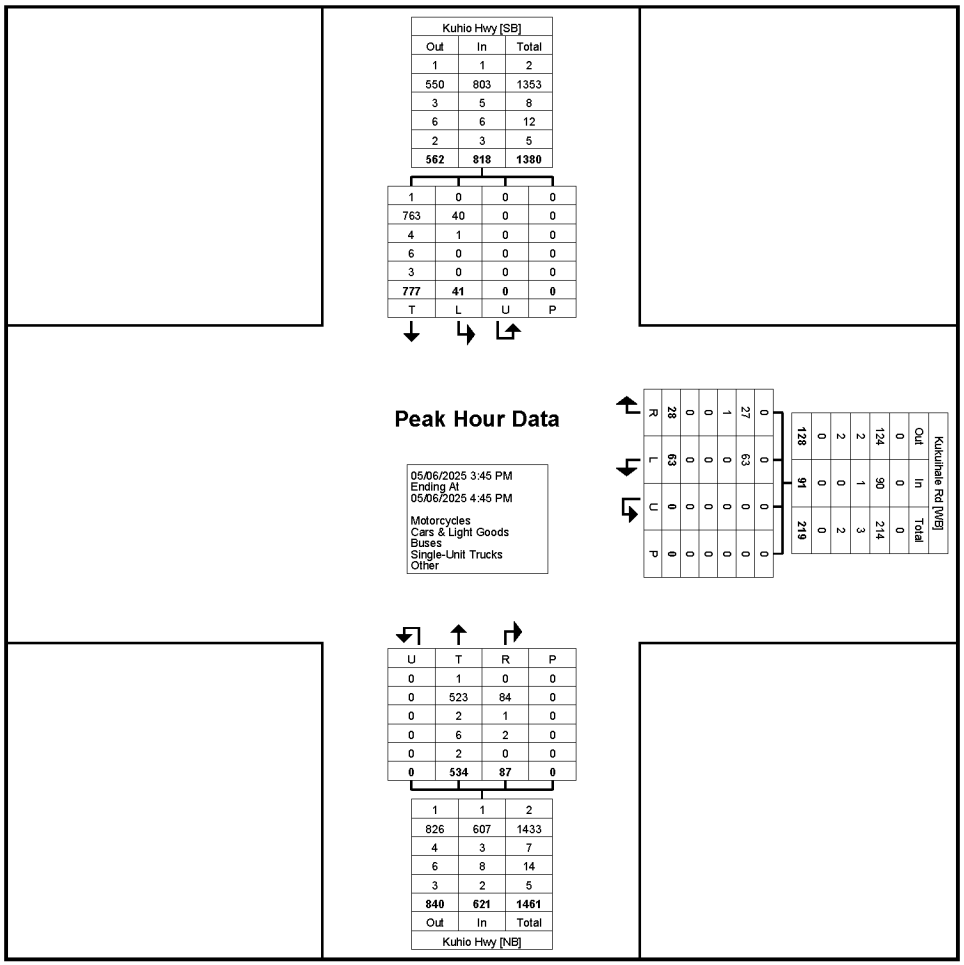
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Kuhio Hwy Southbound					Kukuihale Rd Westbound					Kuhio Hwy Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
3:45 PM	213	12	0	0	225	8	23	0	0	31	30	118	0	0	148	404
4:00 PM	176	10	0	0	186	7	14	0	0	21	17	139	0	0	156	363
4:15 PM	204	7	0	0	211	8	14	0	0	22	23	145	0	0	168	401
4:30 PM	184	12	0	0	196	5	12	0	0	17	17	132	0	0	149	362
Total	777	41	0	0	818	28	63	0	0	91	87	534	0	0	621	1530
Approach %	95.0	5.0	0.0	-	-	30.8	69.2	0.0	-	-	14.0	86.0	0.0	-	-	-
Total %	50.8	2.7	0.0	-	53.5	1.8	4.1	0.0	-	5.9	5.7	34.9	0.0	-	40.6	-
PHF	0.912	0.854	0.000	-	0.909	0.875	0.685	0.000	-	0.734	0.725	0.921	0.000	-	0.924	0.947
Motorcycles	1	0	0	-	1	0	0	0	-	0	0	1	0	-	1	2
% Motorcycles	0.1	0.0	-	-	0.1	0.0	0.0	-	-	0.0	0.0	0.2	-	-	0.2	0.1
Cars & Light Goods	763	40	0	-	803	27	63	0	-	90	84	523	0	-	607	1500
% Cars & Light Goods	98.2	97.6	-	-	98.2	96.4	100.0	-	-	98.9	96.6	97.9	-	-	97.7	98.0
Buses	4	1	0	-	5	1	0	0	-	1	1	2	0	-	3	9
% Buses	0.5	2.4	-	-	0.6	3.6	0.0	-	-	1.1	1.1	0.4	-	-	0.5	0.6
Single-Unit Trucks	6	0	0	-	6	0	0	0	-	0	2	6	0	-	8	14
% Single-Unit Trucks	0.8	0.0	-	-	0.7	0.0	0.0	-	-	0.0	2.3	1.1	-	-	1.3	0.9
Articulated Trucks	3	0	0	-	3	0	0	0	-	0	0	1	0	-	1	4
% Articulated Trucks	0.4	0.0	-	-	0.4	0.0	0.0	-	-	0.0	0.0	0.2	-	-	0.2	0.3
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.2	-	-	0.2	0.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Site Code:
Start Date: 05/06/2025



Turning Movement Peak Hour Data Plot (3:45 PM)

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Honolulu, Hawaii, United States 96813
(808) 531-4252 x1040 jwolfgramm@cpe-hawaii.com

Count Name: Kukuihale Rd/Makaio Rd
Site Code:
Start Date: 05/06/2025

Turning Movement Data

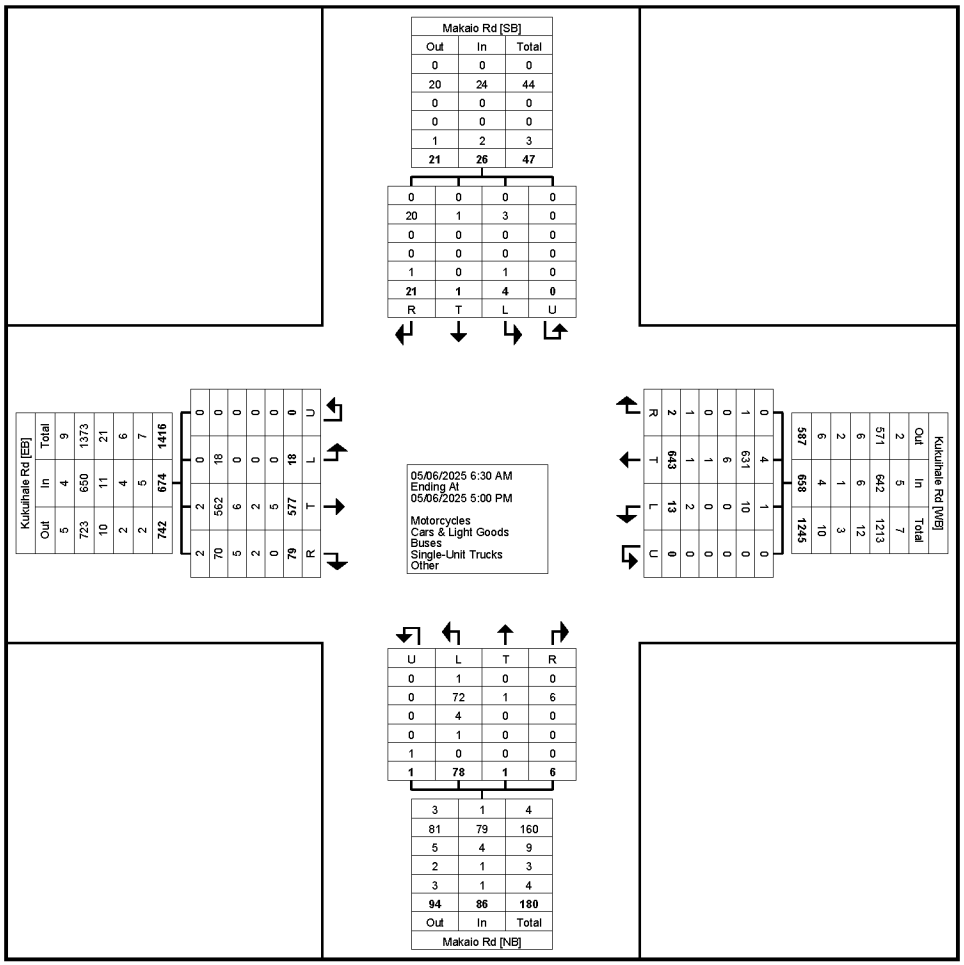
Start Time	Makaio Rd Southbound					Kukuihale Rd Westbound					Makaio Rd Northbound					Kukuihale Rd Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
6:30 AM	2	0	0	0	2	0	22	1	0	23	0	0	11	0	11	0	7	1	0	8	44
6:45 AM	1	0	0	0	1	0	34	0	0	34	0	0	4	0	4	2	9	0	0	11	50
Hourly Total	3	0	0	0	3	0	56	1	0	57	0	0	15	0	15	2	16	1	0	19	94
7:00 AM	0	0	0	0	0	0	43	1	0	44	0	0	4	0	4	6	19	1	0	26	74
7:15 AM	1	0	0	0	1	0	35	0	0	35	0	0	7	1	8	5	14	0	0	19	63
7:30 AM	0	0	0	0	0	0	38	0	0	38	0	0	6	0	6	1	36	1	0	38	82
7:45 AM	1	0	1	0	2	0	53	1	0	54	0	0	4	0	4	2	51	0	0	53	113
Hourly Total	2	0	1	0	3	0	169	2	0	171	0	0	21	1	22	14	120	2	0	136	332
8:00 AM	1	0	1	0	2	0	47	2	0	49	0	0	5	0	5	2	30	0	0	32	88
8:15 AM	2	0	0	0	2	0	19	0	0	19	0	0	1	0	1	0	15	1	0	16	38
8:30 AM	0	0	0	0	0	0	28	0	0	28	0	0	4	0	4	3	15	0	0	18	50
8:45 AM	2	0	0	0	2	0	27	1	0	28	0	0	1	0	1	1	17	0	0	18	49
Hourly Total	5	0	1	0	6	0	121	3	0	124	0	0	11	0	11	6	77	1	0	84	225
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	2	0	0	0	2	1	23	1	0	25	1	1	4	0	6	5	28	0	0	33	66
2:15 PM	1	0	1	0	2	0	19	0	0	19	1	0	5	0	6	9	38	1	0	48	75
2:30 PM	2	0	0	0	2	0	22	0	0	22	0	0	2	0	2	4	46	1	0	51	77
2:45 PM	1	0	0	0	1	1	68	0	0	69	1	0	1	0	2	2	51	3	0	56	128
Hourly Total	6	0	1	0	7	2	132	1	0	135	3	1	12	0	16	20	163	5	0	188	346
3:00 PM	0	0	0	0	0	0	27	2	0	29	0	0	5	0	5	6	26	0	0	32	66
3:15 PM	1	0	0	0	1	0	25	1	0	26	0	0	3	0	3	5	15	2	0	22	52
3:30 PM	0	1	0	0	1	0	14	0	0	14	1	0	2	0	3	2	19	0	0	21	39
3:45 PM	2	0	0	0	2	0	30	0	0	30	0	0	1	0	1	5	36	2	0	43	76
Hourly Total	3	1	0	0	4	0	96	3	0	99	1	0	11	0	12	18	96	4	0	118	233
4:00 PM	1	0	0	0	1	0	17	2	0	19	0	0	2	0	2	6	23	2	0	31	53
4:15 PM	0	0	0	0	0	0	20	0	0	20	1	0	1	0	2	9	21	2	0	32	54
4:30 PM	0	0	1	0	1	0	14	1	0	15	0	0	3	0	3	1	26	0	0	27	46
4:45 PM	1	0	0	0	1	0	18	0	0	18	1	0	2	0	3	3	35	1	0	39	61
Hourly Total	2	0	1	0	3	0	69	3	0	72	2	0	8	0	10	19	105	5	0	129	214
Grand Total	21	1	4	0	26	2	643	13	0	658	6	1	78	1	86	79	577	18	0	674	1444
Approach %	80.8	3.8	15.4	0.0	-	0.3	97.7	2.0	0.0	-	7.0	1.2	90.7	1.2	-	11.7	85.6	2.7	0.0	-	-
Total %	1.5	0.1	0.3	0.0	1.8	0.1	44.5	0.9	0.0	45.6	0.4	0.1	5.4	0.1	6.0	5.5	40.0	1.2	0.0	46.7	-
Motorcycles	0	0	0	0	0	0	4	1	0	5	0	0	1	0	1	2	2	0	0	4	10
% Motorcycles	0.0	0.0	0.0	-	0.0	0.0	0.6	7.7	-	0.8	0.0	0.0	1.3	0.0	1.2	2.5	0.3	0.0	-	0.6	0.7
Cars & Light Goods	20	1	3	0	24	1	631	10	0	642	6	1	72	0	79	70	562	18	0	650	1395
% Cars & Light Goods	95.2	100.0	75.0	-	92.3	50.0	98.1	76.9	-	97.6	100.0	100.0	92.3	0.0	91.9	88.6	97.4	100.0	-	96.4	96.6
Buses	0	0	0	0	0	0	6	0	0	6	0	0	4	0	4	5	6	0	0	11	21
% Buses	0.0	0.0	0.0	-	0.0	0.0	0.9	0.0	-	0.9	0.0	0.0	5.1	0.0	4.7	6.3	1.0	0.0	-	1.6	1.5
Single-Unit Trucks	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2	2	0	0	4	6

% Single-Unit Trucks	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	1.3	0.0	1.2	2.5	0.3	0.0	-	0.6	0.4
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-	0.1	0.1
Bicycles on Road	1	0	1	0	2	1	0	2	0	3	0	0	0	1	1	0	4	0	0	4	10
% Bicycles on Road	4.8	0.0	25.0	-	7.7	50.0	0.0	15.4	-	0.5	0.0	0.0	0.0	100.0	1.2	0.0	0.7	0.0	-	0.6	0.7

Community Planning and Engineering, Inc.
1286 Queen Emma St.

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(808) 531-4252 x1040 jwolfgramm@cpe-hawaii.com

Count Name: Kukuihale Rd/Makaio Rd
Site Code:
Start Date: 05/06/2025



Turning Movement Data Plot

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Count Name: Kukuihale Rd/Makaio Rd
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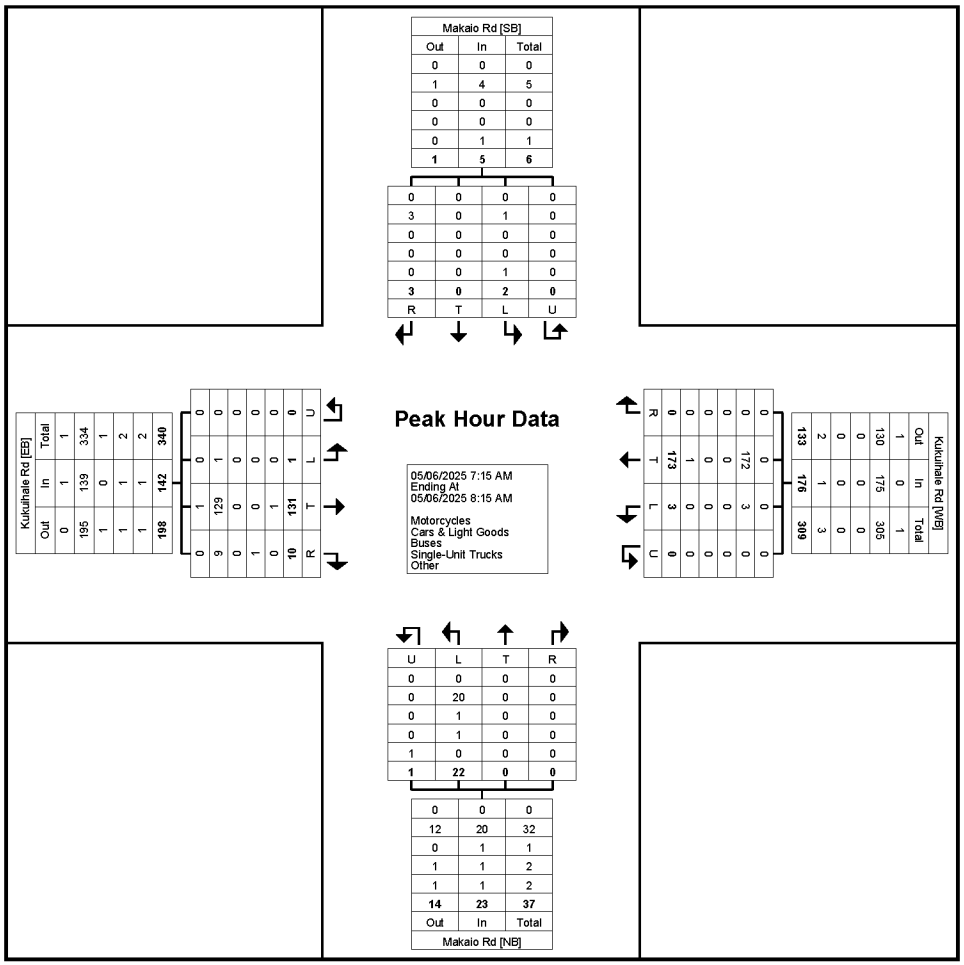
Turning Movement Peak Hour Data (7:15 AM)

Start Time	Makaio Rd Southbound					Kukuihale Rd Westbound					Makaio Rd Northbound					Kukuihale Rd Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:15 AM	1	0	0	0	1	0	35	0	0	35	0	0	7	1	8	5	14	0	0	19	63
7:30 AM	0	0	0	0	0	0	38	0	0	38	0	0	6	0	6	1	36	1	0	38	82
7:45 AM	1	0	1	0	2	0	53	1	0	54	0	0	4	0	4	2	51	0	0	53	113
8:00 AM	1	0	1	0	2	0	47	2	0	49	0	0	5	0	5	2	30	0	0	32	88
Total	3	0	2	0	5	0	173	3	0	176	0	0	22	1	23	10	131	1	0	142	346
Approach %	60.0	0.0	40.0	0.0	-	0.0	98.3	1.7	0.0	-	0.0	0.0	95.7	4.3	-	7.0	92.3	0.7	0.0	-	-
Total %	0.9	0.0	0.6	0.0	1.4	0.0	50.0	0.9	0.0	50.9	0.0	0.0	6.4	0.3	6.6	2.9	37.9	0.3	0.0	41.0	-
PHF	0.750	0.000	0.500	0.000	0.625	0.000	0.816	0.375	0.000	0.815	0.000	0.000	0.786	0.250	0.719	0.500	0.642	0.250	0.000	0.670	0.765
Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Motorcycles	0.0	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	0.8	0.0	-	0.7	0.3
Cars & Light Goods	3	0	1	0	4	0	172	3	0	175	0	0	20	0	20	9	129	1	0	139	338
% Cars & Light Goods	100.0	-	50.0	-	80.0	-	99.4	100.0	-	99.4	-	-	90.9	0.0	87.0	90.0	98.5	100.0	-	97.9	97.7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Buses	0.0	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	4.5	0.0	4.3	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2
% Single-Unit Trucks	0.0	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	4.5	0.0	4.3	10.0	0.0	0.0	-	0.7	0.6
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Articulated Trucks	0.0	-	0.0	-	0.0	-	0.6	0.0	-	0.6	-	-	0.0	0.0	0.0	0.0	0.8	0.0	-	0.7	0.6
Bicycles on Road	0	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
% Bicycles on Road	0.0	-	50.0	-	20.0	-	0.0	0.0	-	0.0	-	-	0.0	100.0	4.3	0.0	0.0	0.0	-	0.0	0.6

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Count Name: Kukuihale Rd/Makaio Rd
Site Code:
Start Date: 05/06/2025



Turning Movement Peak Hour Data Plot (7:15 AM)

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Count Name: Kukuihale Rd/Makaio Rd
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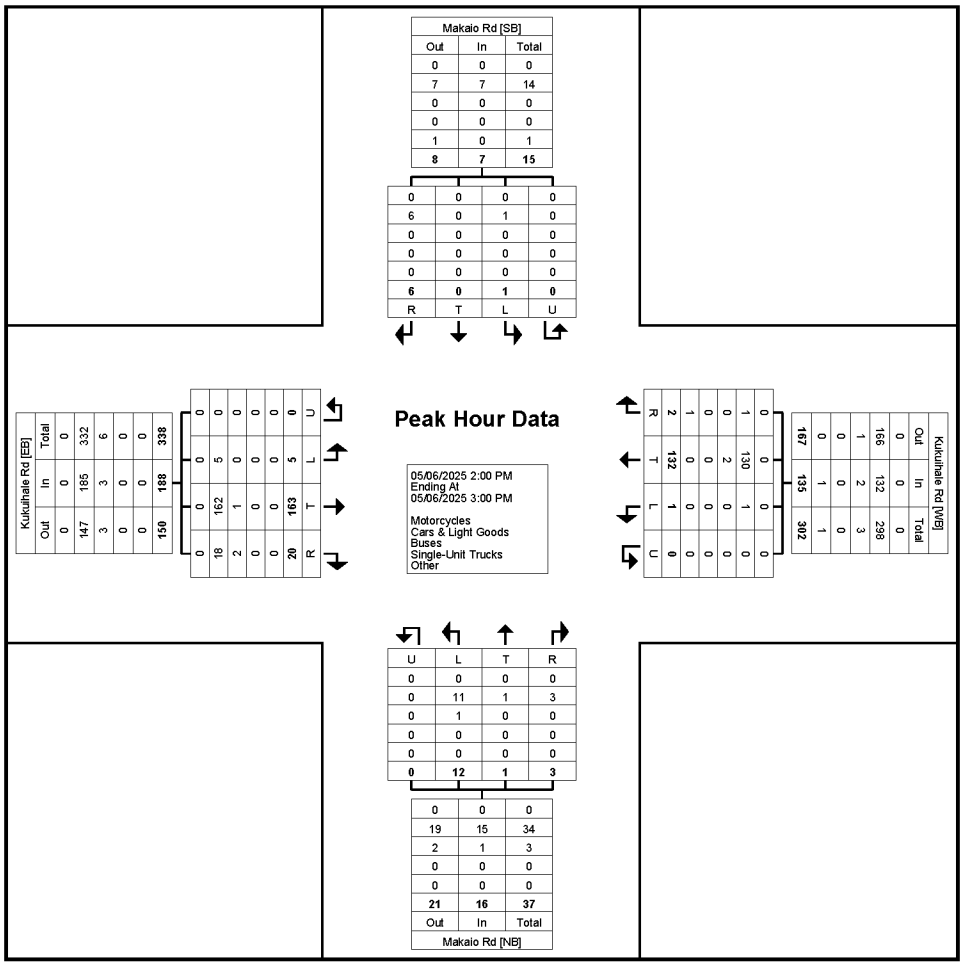
Turning Movement Peak Hour Data (2:00 PM)

Start Time	Makaio Rd Southbound					Kukuihale Rd Westbound					Makaio Rd Northbound					Kukuihale Rd Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
2:00 PM	2	0	0	0	2	1	23	1	0	25	1	1	4	0	6	5	28	0	0	33	66
2:15 PM	1	0	1	0	2	0	19	0	0	19	1	0	5	0	6	9	38	1	0	48	75
2:30 PM	2	0	0	0	2	0	22	0	0	22	0	0	2	0	2	4	46	1	0	51	77
2:45 PM	1	0	0	0	1	1	68	0	0	69	1	0	1	0	2	2	51	3	0	56	128
Total	6	0	1	0	7	2	132	1	0	135	3	1	12	0	16	20	163	5	0	188	346
Approach %	85.7	0.0	14.3	0.0	-	1.5	97.8	0.7	0.0	-	18.8	6.3	75.0	0.0	-	10.6	86.7	2.7	0.0	-	-
Total %	1.7	0.0	0.3	0.0	2.0	0.6	38.2	0.3	0.0	39.0	0.9	0.3	3.5	0.0	4.6	5.8	47.1	1.4	0.0	54.3	-
PHF	0.750	0.000	0.250	0.000	0.875	0.500	0.485	0.250	0.000	0.489	0.750	0.250	0.600	0.000	0.667	0.556	0.799	0.417	0.000	0.839	0.676
Motorcycles	0	0	0	0	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	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	6	0	1	0	7	1	130	1	0	132	3	1	11	0	15	18	162	5	0	185	339
% Cars & Light Goods	100.0	-	100.0	-	100.0	50.0	98.5	100.0	-	97.8	100.0	100.0	91.7	-	93.8	90.0	99.4	100.0	-	98.4	98.0
Buses	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	2	1	0	0	3	6
% Buses	0.0	-	0.0	-	0.0	0.0	1.5	0.0	-	1.5	0.0	0.0	8.3	-	6.3	10.0	0.6	0.0	-	1.6	1.7
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single-Unit Trucks	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	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	0	0	0	0
% Articulated Trucks	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	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	1	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0.0	-	0.0	-	0.0	50.0	0.0	0.0	-	0.7	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.3

Community Planning and Engineering, Inc.
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Count Name: Kukuihale Rd/Makaio Rd
Site Code:
Start Date: 05/06/2025



Turning Movement Peak Hour Data Plot (2:00 PM)

Community Planning and Engineering, Inc.

1286 Queen Emma Street
Honolulu, HI 96813

COUNTER: LK
WEATHER: CLEAR
SERIAL NO.: TU-3041

File Name : KUK_MAH AM
Site Code : 00000003
Start Date : 5/6/2025
Page No : 1

Groups Printed- Unshifted

	Mahuahua Road SB					Kukuihale Road WB					Mahuahua Road NB					Kukuihale Road EB					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30 AM	5	0	0	0	5	0	10	0	0	10	1	0	5	0	6	1	4	3	1	9	30
06:45 AM	9	0	0	0	9	1	18	0	0	19	0	0	7	0	7	3	4	1	0	8	43
Total	14	0	0	0	14	1	28	0	0	29	1	0	12	0	13	4	8	4	1	17	73
07:00 AM	13	0	1	1	15	1	20	0	0	21	3	0	9	0	12	3	11	5	0	19	67
07:15 AM	6	0	1	2	9	0	24	1	0	25	0	0	4	0	4	1	12	2	0	15	53
07:30 AM	6	1	1	0	8	2	24	1	0	27	1	0	7	1	9	2	27	3	0	32	76
07:45 AM	2	0	2	0	4	1	46	1	0	48	1	0	7	1	9	1	49	2	0	52	113
Total	27	1	5	3	36	4	114	3	0	121	5	0	27	2	34	7	99	12	0	118	309
08:00 AM	5	0	0	0	5	1	33	0	0	34	0	1	9	0	10	1	25	5	0	31	80
08:15 AM	4	0	0	0	4	0	13	0	0	13	0	0	2	0	2	3	12	1	0	16	35
08:30 AM	10	0	0	0	10	0	14	0	0	14	0	0	5	0	5	3	9	2	1	15	44
08:45 AM	2	0	0	0	2	0	22	1	0	23	0	0	3	0	3	0	13	4	0	17	45
Total	21	0	0	0	21	1	82	1	0	84	0	1	19	0	20	7	59	12	1	79	204
Grand Total	62	1	5	3	71	6	224	4	0	234	6	1	58	2	67	18	166	28	2	214	586
Apprch %	87.3	1.4	7	4.2		2.6	95.7	1.7	0		9	1.5	86.6	3		8.4	77.6	13.1	0.9		
Total %	10.6	0.2	0.9	0.5	12.1	1	38.2	0.7	0	39.9	1	0.2	9.9	0.3	11.4	3.1	28.3	4.8	0.3	36.5	

	Mahuahua Road SB				Kukuihale Road WB				Mahuahua Road NB				Kukuihale Road EB				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**6**	0	1	7	0	24	**1**	25	0	0	4	4	1	12	2	15	51
07:30 AM	6	**1**	1	**8**	**2**	24	1	27	**1**	0	7	8	**2**	27	3	32	75
07:45 AM	2	0	**2**	4	1	**46**	1	**48**	1	0	7	8	1	**49**	2	**52**	**112**
08:00 AM	5	0	0	5	1	33	0	34	0	**1**	**9**	**10**	1	25	**5**	31	80
Total Volume	19	1	4	24	4	127	3	134	2	1	27	30	5	113	12	130	318
% App. Total	79.2	4.2	16.7		3	94.8	2.2		6.7	3.3	90		3.8	86.9	9.2		
PHF	.792	.250	.500	.750	.500	.690	.750	.698	.500	.250	.750	.750	.625	.577	.600	.625	.710

Community Planning and Engineering, Inc.

1286 Queen Emma Street
Honolulu, HI 96813

COUNTER: LK
WEATHER: CLEAR
SERIAL NO.: TU-3040

File Name : KUK_MAH PM
Site Code : 00000003
Start Date : 5/6/2025
Page No : 1

Groups Printed- Unshifted

	Mahuahua Road SB					Kukuihale Road WB					Mahuahua Road NB					Kukuihale Road EB					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	3	0	0	0	3	0	13	0	0	13	0	0	7	0	7	4	15	7	0	26	49
02:15 PM	1	0	1	0	2	0	13	0	0	13	0	0	4	1	5	9	27	7	0	43	63
02:30 PM	2	0	1	0	3	0	19	1	0	20	1	1	1	0	3	5	36	7	0	48	74
02:45 PM	2	1	0	0	3	2	66	0	0	68	0	0	1	0	1	10	33	7	0	50	122
Total	8	1	2	0	11	2	111	1	0	114	1	1	13	1	16	28	111	28	0	167	308
03:00 PM	2	0	0	0	2	0	19	2	0	21	1	1	5	4	11	5	12	5	0	22	56
03:15 PM	1	0	0	0	1	0	20	0	0	20	1	0	4	0	5	2	10	4	0	16	42
03:30 PM	2	0	0	0	2	0	7	0	0	7	2	0	5	0	7	8	8	5	1	22	38
03:45 PM	5	0	0	0	5	0	24	2	0	26	2	1	3	0	6	6	23	7	0	36	73
Total	10	0	0	0	10	0	70	4	0	74	6	2	17	4	29	21	53	21	1	96	209
04:00 PM	4	0	0	0	4	0	9	1	0	10	0	0	4	0	4	6	14	5	0	25	43
04:15 PM	2	0	0	0	2	0	8	1	0	9	0	0	8	0	8	3	11	3	0	17	36
04:30 PM	4	0	1	0	5	1	5	0	0	6	0	0	5	0	5	3	21	4	0	28	44
04:45 PM	5	0	0	0	5	0	10	2	0	12	2	0	1	0	3	4	19	9	0	32	52
Total	15	0	1	0	16	1	32	4	0	37	2	0	18	0	20	16	65	21	0	102	175
Grand Total	33	1	3	0	37	3	213	9	0	225	9	3	48	5	65	65	229	70	1	365	692
Apprch %	89.2	2.7	8.1	0		1.3	94.7	4	0		13.8	4.6	73.8	7.7		17.8	62.7	19.2	0.3		
Total %	4.8	0.1	0.4	0	5.3	0.4	30.8	1.3	0	32.5	1.3	0.4	6.9	0.7	9.4	9.4	33.1	10.1	0.1	52.7	

	Mahuahua Road SB				Kukuihale Road WB				Mahuahua Road NB				Kukuihale Road EB				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	1	0	**1**	2	0	13	0	13	0	0	4	4	9	27	**7**	43	62
02:30 PM	**2**	0	1	**3**	0	19	1	20	**1**	**1**	1	3	5	**36**	7	48	74
02:45 PM	2	**1**	0	3	**2**	**66**	0	**68**	0	0	1	1	**10**	33	7	**50**	**122**
03:00 PM	2	0	0	2	0	19	**2**	21	1	1	**5**	**7**	5	12	5	22	52
Total Volume	7	1	2	10	2	117	3	122	2	2	11	15	29	108	26	163	310
% App. Total	70	10	20		1.6	95.9	2.5		13.3	13.3	73.3		17.8	66.3	16		
PHF	.875	.250	.500	.833	.250	.443	.375	.449	.500	.500	.550	.536	.725	.750	.929	.815	.635

Community Planning and Engineering, Inc.

1286 Queen Emma Street
Honolulu, HI 96813

COUNTER: JR
WEATHER: CLEAR
SERIAL NO.: TU-3040

File Name : KUK_LAU AM
Site Code : 00000004
Start Date : 5/6/2025
Page No : 1

Groups Printed- Unshifted

	Opp. Laula Street SB		Kukuihale Road WB					Laulua Street NB					Kukuihale Road EB					
Start Time	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30 AM	0	0	0	4	0	0	4	0	0	4	0	4	3	3	0	0	6	14
06:45 AM	0	0	0	12	0	0	12	0	0	9	0	9	2	1	0	0	3	24
Total	0	0	0	16	0	0	16	0	0	13	0	13	5	4	0	0	9	38
07:00 AM	2	2	0	11	0	0	11	0	0	10	0	10	6	6	0	0	12	35
07:15 AM	2	2	0	14	1	0	15	0	0	9	0	9	8	6	0	0	14	40
07:30 AM	0	0	0	8	1	0	9	0	0	5	0	5	14	5	1	0	20	34
07:45 AM	0	0	0	17	2	0	19	0	0	9	2	11	32	4	0	0	36	66
Total	4	4	0	50	4	0	54	0	0	33	2	35	60	21	1	0	82	175
08:00 AM	0	0	0	14	0	2	16	0	0	3	0	3	16	5	0	0	21	40
08:15 AM	0	0	0	3	0	0	3	0	0	5	0	5	6	4	0	0	10	18
08:30 AM	0	0	0	11	0	0	11	0	0	3	0	3	7	5	0	0	12	26
08:45 AM	0	0	0	8	0	0	8	0	0	7	1	8	8	4	0	0	12	28
Total	0	0	0	36	0	2	38	0	0	18	1	19	37	18	0	0	55	112
Grand Total	4	4	0	102	4	2	108	0	0	64	3	67	102	43	1	0	146	325
Apprch %	100		0	94.4	3.7	1.9		0	0	95.5	4.5		69.9	29.5	0.7	0		
Total %	1.2	1.2	0	31.4	1.2	0.6	33.2	0	0	19.7	0.9	20.6	31.4	13.2	0.3	0	44.9	

	SB	Kukuihale Road WB				Laulua Street NB				Kukuihale Road EB				
Start Time	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 07:15 AM														
07:15 AM	0	0	14	1	15	0	0	**9**	**9**	8	**6**	0	14	38
07:30 AM	0	0	8	1	9	0	0	5	5	14	5	**1**	20	34
07:45 AM	0	0	**17**	**2**	**19**	0	0	9	9	**32**	4	0	**36**	**64**
08:00 AM	0	0	14	0	14	0	0	3	3	16	5	0	21	38
Total Volume	0	0	53	4	57	0	0	26	26	70	20	1	91	174
% App. Total		0	93	7		0	0	100		76.9	22	1.1		
PHF	.000	.000	.779	.500	.750	.000	.000	.722	.722	.547	.833	.250	.632	.680

Community Planning and Engineering, Inc.

1286 Queen Emma Street
Honolulu, HI 96813

COUNTER: JR
WEATHER: CLEAR
SERIAL NO.: TU-3041

File Name : KUK_LAU PM
Site Code : 00000004
Start Date : 5/6/2025
Page No : 1

Groups Printed- Unshifted

	Opp. Laula Street SB					Kukuihale Road WB					Laulua Street NB					Kukuihale Road EB					
Start Time				Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	8	1	0	9	0	0	5	0	5	6	9	0	0	15	29
02:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	6	1	7	16	7	0	0	23	35
02:30 PM	0	0	0	0	0	0	11	1	1	13	2	0	9	0	11	18	10	0	0	28	52
02:45 PM	0	0	0	0	0	0	17	0	2	19	0	0	9	0	9	25	14	0	0	39	67
Total	0	0	0	0	0	0	41	2	3	46	2	0	29	1	32	65	40	0	0	105	183
03:00 PM	0	0	0	1	1	0	14	0	0	14	0	0	4	0	4	4	10	0	0	14	33
03:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	5	0	5	5	6	0	0	11	25
03:30 PM	0	0	0	0	0	0	5	1	0	6	0	0	1	0	1	2	8	0	0	10	17
03:45 PM	0	0	0	0	0	0	16	1	0	17	0	0	9	0	9	12	15	0	0	27	53
Total	0	0	0	1	1	0	44	2	0	46	0	0	19	0	19	23	39	0	0	62	128
04:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	5	8	0	0	13	20
04:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	6	6	0	0	12	21
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	3	0	3	8	12	0	1	21	27
04:45 PM	0	0	0	0	0	0	8	0	0	8	1	0	3	0	4	9	13	0	0	22	34
Total	0	0	0	0	0	0	25	0	0	25	1	0	8	0	9	28	39	0	1	68	102
Grand Total	0	0	0	1	1	0	110	4	3	117	3	0	56	1	60	116	118	0	1	235	413
Apprch %	0	0	0	100		0	94	3.4	2.6		5	0	93.3	1.7		49.4	50.2	0	0.4		
Total %	0	0	0	0.2	0.2	0	26.6	1	0.7	28.3	0.7	0	13.6	0.2	14.5	28.1	28.6	0	0.2	56.9	

	Opp. Laula Street SB				Kukuihale Road WB				Laulua Street NB				Kukuihale Road EB				
Start Time				App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	0	0	0	0	0	5	0	5	0	0	6	6	16	7	0	23	34
02:30 PM	0	0	0	0	0	11	**1**	12	**2**	0	**9**	**11**	18	10	0	28	51
02:45 PM	0	0	0	0	0	**17**	0	**17**	0	0	9	9	**25**	**14**	0	**39**	**65**
03:00 PM	0	0	0	0	0	14	0	14	0	0	4	4	4	10	0	14	32
Total Volume	0	0	0	0	0	47	1	48	2	0	28	30	63	41	0	104	182
% App. Total	0	0	0		0	97.9	2.1		6.7	0	93.3		60.6	39.4	0		
PHF	.000	.000	.000	.000	.000	.691	.250	.706	.250	.000	.778	.682	.630	.732	.000	.667	.700

Appendix B

Analysis Reports – Existing (2025) Conditions

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	147	52	547	100	40	493
Future Vol, veh/h	147	52	547	100	40	493
Conflicting Peds, #/hr	0	4	0	2	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	58	608	111	44	548

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1250	618	0	0	614	0
Stage 1	614	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	191	489	-	-	966	-
Stage 1	540	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	181	485	-	-	960	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	19.05	0	0.67
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	385	485	960	-
HCM Lane V/C Ratio	-	-	0.424	0.119	0.046	-
HCM Control Delay (s/veh)	-	-	21	13.4	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	2.1	0.4	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	131	10	3	173	0	22	0	0	2	0	3
Future Vol, veh/h	1	131	10	3	173	0	22	0	0	2	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	170	13	4	225	0	29	0	0	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	183	0	0	412	412	177	405	418	225
Stage 1	-	-	-	-	-	-	179	179	-	232	232	-
Stage 2	-	-	-	-	-	-	232	232	-	173	186	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1344	-	-	1392	-	-	551	530	866	556	526	815
Stage 1	-	-	-	-	-	-	823	751	-	770	712	-
Stage 2	-	-	-	-	-	-	770	712	-	829	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1344	-	-	1392	-	-	546	528	866	554	524	815
Mov Cap-2 Maneuver	-	-	-	-	-	-	546	528	-	554	524	-
Stage 1	-	-	-	-	-	-	822	750	-	768	710	-
Stage 2	-	-	-	-	-	-	764	710	-	828	745	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05	0.13	11.96	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	546	12	-	-	31	-	-	685
HCM Lane V/C Ratio	0.052	0.001	-	-	0.003	-	-	0.009
HCM Control Delay (s/veh)	12	7.7	0	-	7.6	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	113	5	3	127	4	27	1	2	4	1	19
Future Vol, veh/h	12	113	5	3	127	4	27	1	2	4	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	159	7	4	179	6	38	1	3	6	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	185	0	0	166	0	0	385	389	163	384	390	182
Stage 1	-	-	-	-	-	-	196	196	-	190	190	-
Stage 2	-	-	-	-	-	-	188	193	-	194	200	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1390	-	-	1412	-	-	574	546	882	574	545	861
Stage 1	-	-	-	-	-	-	805	738	-	812	743	-
Stage 2	-	-	-	-	-	-	814	741	-	808	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1390	-	-	1412	-	-	545	537	882	562	536	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	545	537	-	562	536	-
Stage 1	-	-	-	-	-	-	795	728	-	809	740	-
Stage 2	-	-	-	-	-	-	784	738	-	793	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.7	0.17	11.96	9.87
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	559	165	-	-	40	-	-	773
HCM Lane V/C Ratio	0.076	0.012	-	-	0.003	-	-	0.044
HCM Control Delay (s/veh)	12	7.6	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	20	70	4	53	26	0
Future Vol, veh/h	20	70	4	53	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	103	6	78	38	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	171	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1453	-	820	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1453	-	816	979
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	930	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.53	9.63
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	816	-	-	126	-
HCM Lane V/C Ratio	0.047	-	-	0.004	-
HCM Control Delay (s/veh)	9.6	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	28	534	87	41	777
Future Vol, veh/h	63	28	534	87	41	777
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	29	562	92	43	818

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1466	562	0	0	562	0
Stage 1	562	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	141	526	-	-	1009	-
Stage 1	571	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	135	526	-	-	1009	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	378	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	17.02	0	0.44
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	320	526	1009	-
HCM Lane V/C Ratio	-	-	0.207	0.056	0.043	-
HCM Control Delay (s/veh)	-	-	19.1	12.2	8.7	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	106	21	3	81	0	7	0	1	1	0	3
Future Vol, veh/h	6	106	21	3	81	0	7	0	1	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	141	28	4	108	0	9	0	1	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	108	0	0	169	0	0	287	287	155	273	301	108
Stage 1	-	-	-	-	-	-	171	171	-	116	116	-
Stage 2	-	-	-	-	-	-	116	116	-	157	185	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1483	-	-	1408	-	-	665	622	890	679	611	946
Stage 1	-	-	-	-	-	-	831	757	-	889	800	-
Stage 2	-	-	-	-	-	-	889	800	-	845	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1483	-	-	1408	-	-	656	617	890	672	606	946
Mov Cap-2 Maneuver	-	-	-	-	-	-	656	617	-	672	606	-
Stage 1	-	-	-	-	-	-	826	752	-	886	797	-
Stage 2	-	-	-	-	-	-	882	797	-	839	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.34	0.27	10.39	9.22
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	678	79	-	-	64	-	-	858
HCM Lane V/C Ratio	0.016	0.005	-	-	0.003	-	-	0.006
HCM Control Delay (s/veh)	10.4	7.4	0	-	7.6	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	69	18	4	46	1	20	1	2	1	0	15
Future Vol, veh/h	19	69	18	4	46	1	20	1	2	1	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	103	27	6	69	1	30	1	3	1	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	70	0	0	130	0	0	254	255	116	242	268	69
Stage 1	-	-	-	-	-	-	173	173	-	81	81	-
Stage 2	-	-	-	-	-	-	81	82	-	160	187	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1530	-	-	1456	-	-	700	649	936	712	638	993
Stage 1	-	-	-	-	-	-	829	756	-	927	827	-
Stage 2	-	-	-	-	-	-	928	827	-	842	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1530	-	-	1456	-	-	667	633	936	691	623	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	633	-	691	623	-
Stage 1	-	-	-	-	-	-	812	740	-	923	824	-
Stage 2	-	-	-	-	-	-	903	823	-	821	731	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.33	0.59	10.55	8.82
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	683	310	-	-	141	-	-	967
HCM Lane V/C Ratio	0.05	0.019	-	-	0.004	-	-	0.025
HCM Control Delay (s/veh)	10.6	7.4	0	-	7.5	0	-	8.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	31	1	33	14	0
Future Vol, veh/h	41	31	1	33	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	54	2	58	25	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	161	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1460	-	830	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1460	-	829	957
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.22	9.47
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	829	-	-	53	-
HCM Lane V/C Ratio	0.03	-	-	0.001	-
HCM Control Delay (s/veh)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Appendix C

Analysis Reports – Future (2029) Without Project Conditions

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	172	76	569	121	57	513
Future Vol, veh/h	172	76	569	121	57	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	84	632	134	63	570

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1329	632	0	0	632	0
Stage 1	632	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 171	480	-	-	950	-
Stage 1	530	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 159	480	-	-	950	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	461	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	22.11	0	0.91
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	361	480	950	-
HCM Lane V/C Ratio	-	-	0.529	0.176	0.067	-
HCM Control Delay (s/veh)	-	-	25.6	14.1	9.1	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	3	0.6	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	169	10	3	222	0	22	0	0	2	0	3
Future Vol, veh/h	1	169	10	3	222	0	22	0	0	2	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	219	13	4	288	0	29	0	0	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	288	0	0	232	0	0	525	525	226	518	531	288
Stage 1	-	-	-	-	-	-	229	229	-	296	296	-
Stage 2	-	-	-	-	-	-	296	296	-	222	235	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1274	-	-	1335	-	-	463	458	813	468	454	751
Stage 1	-	-	-	-	-	-	774	715	-	712	668	-
Stage 2	-	-	-	-	-	-	712	668	-	780	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1274	-	-	1335	-	-	459	456	813	466	452	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	459	456	-	466	452	-
Stage 1	-	-	-	-	-	-	773	714	-	710	666	-
Stage 2	-	-	-	-	-	-	706	666	-	779	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04	0.1	13.37	11.03
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	459	10	-	-	24	-	-	603
HCM Lane V/C Ratio	0.062	0.001	-	-	0.003	-	-	0.011
HCM Control Delay (s/veh)	13.4	7.8	0	-	7.7	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	149	7	3	171	4	32	1	2	4	1	19
Future Vol, veh/h	12	149	7	3	171	4	32	1	2	4	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	210	10	4	241	6	45	1	3	6	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	246	0	0	220	0	0	499	504	215	496	506	244
Stage 1	-	-	-	-	-	-	249	249	-	252	252	-
Stage 2	-	-	-	-	-	-	250	255	-	244	254	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1350	-	-	482	471	825	484	469	795
Stage 1	-	-	-	-	-	-	755	701	-	752	698	-
Stage 2	-	-	-	-	-	-	754	696	-	759	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1350	-	-	456	462	825	472	461	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	462	-	472	461	-
Stage 1	-	-	-	-	-	-	744	691	-	749	696	-
Stage 2	-	-	-	-	-	-	725	694	-	744	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.55	0.13	13.59	10.45
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	468	127	-	-	30	-	-	695
HCM Lane V/C Ratio	0.105	0.013	-	-	0.003	-	-	0.049
HCM Control Delay (s/veh)	13.6	7.8	0	-	7.7	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	42	84	4	58	65	0
Future Vol, veh/h	42	84	4	58	65	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	124	6	85	96	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	185	0	221	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1389	-	768	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1389	-	764	927
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.49	10.38
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	764	-	-	116	-
HCM Lane V/C Ratio	0.125	-	-	0.004	-
HCM Control Delay (s/veh)	10.4	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	50	555	111	72	808
Future Vol, veh/h	95	50	555	111	72	808
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	53	584	117	76	851

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1586	584	0	0	584	0
Stage 1	584	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	119	511	-	-	990	-
Stage 1	557	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	110	511	-	-	990	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	328	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	20.51	0	0.73
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	283	511	990	-
HCM Lane V/C Ratio	-	-	0.354	0.103	0.077	-
HCM Control Delay (s/veh)	-	-	24.5	12.8	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.5	0.3	0.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	161	21	3	135	0	7	0	1	1	0	3
Future Vol, veh/h	6	161	21	3	135	0	7	0	1	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	215	28	4	180	0	9	0	1	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	180	0	0	243	0	0	433	433	229	419	447	180
Stage 1	-	-	-	-	-	-	245	245	-	188	188	-
Stage 2	-	-	-	-	-	-	188	188	-	231	259	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1396	-	-	1324	-	-	533	516	811	545	507	863
Stage 1	-	-	-	-	-	-	759	704	-	814	745	-
Stage 2	-	-	-	-	-	-	814	745	-	772	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1396	-	-	1324	-	-	526	511	811	538	502	863
Mov Cap-2 Maneuver	-	-	-	-	-	-	526	511	-	538	502	-
Stage 1	-	-	-	-	-	-	754	699	-	811	742	-
Stage 2	-	-	-	-	-	-	807	742	-	766	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	0.17	11.68	9.84
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	550	56	-	-	39	-	-	750
HCM Lane V/C Ratio	0.019	0.006	-	-	0.003	-	-	0.007
HCM Control Delay (s/veh)	11.7	7.6	0	-	7.7	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	119	24	4	96	1	23	1	2	1	0	15
Future Vol, veh/h	19	119	24	4	96	1	23	1	2	1	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	178	36	6	143	1	34	1	3	1	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	145	0	0	213	0	0	407	409	196	391	426	144
Stage 1	-	-	-	-	-	-	252	252	-	156	156	-
Stage 2	-	-	-	-	-	-	155	157	-	235	270	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1438	-	-	1357	-	-	554	532	846	568	520	903
Stage 1	-	-	-	-	-	-	752	698	-	846	769	-
Stage 2	-	-	-	-	-	-	847	768	-	768	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1438	-	-	1357	-	-	526	518	846	549	506	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	526	518	-	549	506	-
Stage 1	-	-	-	-	-	-	735	683	-	842	765	-
Stage 2	-	-	-	-	-	-	822	764	-	746	670	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.89	0.3	12.17	9.26
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	541	204	-	-	71	-	-	868
HCM Lane V/C Ratio	0.072	0.02	-	-	0.004	-	-	0.028
HCM Control Delay (s/veh)	12.2	7.6	0	-	7.7	0	-	9.3
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	75	1	56	41	0
Future Vol, veh/h	47	75	1	56	41	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	132	2	98	72	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	214	0	250	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1356	-	739	899
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1356	-	737	899
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.13	10.41
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	737	-	-	32	-
HCM Lane V/C Ratio	0.098	-	-	0.001	-
HCM Control Delay (s/veh)	10.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Appendix D

Analysis Reports – Future (2029) With Project Conditions

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	187	90	569	138	72	513
Future Vol, veh/h	187	90	569	138	72	513
Conflicting Peds, #/hr	0	4	0	2	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	100	632	153	80	570

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1368	642	0	0	638	0
Stage 1	638	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 162	474	-	-	946	-
Stage 1	526	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 147	469	-	-	940	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	25.03	0	1.13
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	345	469	940	-
HCM Lane V/C Ratio	-	-	0.602	0.213	0.085	-
HCM Control Delay (s/veh)	-	-	30	14.7	9.2	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	3.7	0.8	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	201	10	3	251	0	22	0	0	2	0	3
Future Vol, veh/h	1	201	10	3	251	0	22	0	0	2	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	261	13	4	326	0	29	0	0	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	326	0	0	274	0	0	604	604	268	597	610	326
Stage 1	-	-	-	-	-	-	270	270	-	334	334	-
Stage 2	-	-	-	-	-	-	334	334	-	264	277	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1234	-	-	1289	-	-	410	413	771	414	409	715
Stage 1	-	-	-	-	-	-	736	686	-	680	643	-
Stage 2	-	-	-	-	-	-	680	643	-	741	681	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1234	-	-	1289	-	-	406	411	771	412	407	715
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	411	-	412	407	-
Stage 1	-	-	-	-	-	-	735	685	-	677	641	-
Stage 2	-	-	-	-	-	-	674	641	-	741	681	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04	0.09	14.53	11.59
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	406	8	-	-	21	-	-	553
HCM Lane V/C Ratio	0.07	0.001	-	-	0.003	-	-	0.012
HCM Control Delay (s/veh)	14.5	7.9	0	-	7.8	0	-	11.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	181	7	3	200	4	32	1	2	4	1	19
Future Vol, veh/h	12	181	7	3	200	4	32	1	2	4	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	255	10	4	282	6	45	1	3	6	1	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	287	0	0	265	0	0	585	589	260	582	592	285
Stage 1	-	-	-	-	-	-	294	294	-	293	293	-
Stage 2	-	-	-	-	-	-	291	296	-	289	299	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1275	-	-	1299	-	-	423	420	779	424	419	754
Stage 1	-	-	-	-	-	-	715	670	-	715	670	-
Stage 2	-	-	-	-	-	-	717	668	-	718	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1275	-	-	1299	-	-	399	412	779	413	411	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	399	412	-	413	411	-
Stage 1	-	-	-	-	-	-	703	659	-	712	668	-
Stage 2	-	-	-	-	-	-	687	666	-	703	656	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.47	0.11	14.97	10.91
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	410	107	-	-	26	-	-	643
HCM Lane V/C Ratio	0.12	0.013	-	-	0.003	-	-	0.053
HCM Control Delay (s/veh)	15	7.9	0	-	7.8	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	42	116	4	58	94	0
Future Vol, veh/h	42	116	4	58	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	55	50	78	72	92
Heavy Vehicles, %	1	1	0	1	1	0
Mvmt Flow	51	211	8	74	131	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	262	0	246	156
Stage 1	-	-	-	-	156	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.1	-	6.41	6.2
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.3
Pot Cap-1 Maneuver	-	-	1315	-	744	895
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1315	-	739	895
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	930	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.75	10.91
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	175	-
HCM Lane V/C Ratio	0.177	-	-	0.006	-
HCM Control Delay (s/veh)	10.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	114	62	555	123	89	808
Future Vol, veh/h	114	62	555	123	89	808
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	135	0	-	0	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	65	584	129	94	851

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1622	584	0	0	584	0
Stage 1	584	-	-	-	-	-
Stage 2	1038	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 113	511	-	-	990	-
Stage 1	557	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 102	511	-	-	990	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	309	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	23.22	0	0.89
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	269	511	990	-
HCM Lane V/C Ratio	-	-	0.446	0.128	0.095	-
HCM Control Delay (s/veh)	-	-	28.7	13.1	9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	2.2	0.4	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	190	21	3	167	0	7	0	1	1	0	3
Future Vol, veh/h	6	190	21	3	167	0	7	0	1	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	253	28	4	223	0	9	0	1	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	281	0	0	514	514	267	500	528	223
Stage 1	-	-	-	-	-	-	283	283	-	231	231	-
Stage 2	-	-	-	-	-	-	231	231	-	269	297	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1346	-	-	1281	-	-	471	464	771	481	456	817
Stage 1	-	-	-	-	-	-	724	677	-	772	713	-
Stage 2	-	-	-	-	-	-	772	713	-	736	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1281	-	-	464	459	771	475	451	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	464	459	-	475	451	-
Stage 1	-	-	-	-	-	-	719	672	-	769	711	-
Stage 2	-	-	-	-	-	-	766	711	-	730	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.21	0.14	12.54	10.24
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	488	49	-	-	32	-	-	692
HCM Lane V/C Ratio	0.022	0.006	-	-	0.003	-	-	0.008
HCM Control Delay (s/veh)	12.5	7.7	0	-	7.8	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	148	24	4	128	1	23	1	2	1	0	15
Future Vol, veh/h	19	148	24	4	128	1	23	1	2	1	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	221	36	6	191	1	34	1	3	1	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	257	0	0	499	500	239	482	517	192
Stage 1	-	-	-	-	-	-	296	296	-	204	204	-
Stage 2	-	-	-	-	-	-	203	204	-	278	313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1308	-	-	482	473	800	495	462	850
Stage 1	-	-	-	-	-	-	713	669	-	798	733	-
Stage 2	-	-	-	-	-	-	799	732	-	728	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1308	-	-	456	459	800	477	449	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	459	-	477	449	-
Stage 1	-	-	-	-	-	-	696	652	-	794	729	-
Stage 2	-	-	-	-	-	-	774	729	-	706	641	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.76	0.23	13.32	9.58
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	174	-	-	54	-	-	810
HCM Lane V/C Ratio	0.082	0.021	-	-	0.005	-	-	0.029
HCM Control Delay (s/veh)	13.3	7.7	0	-	7.8	0	-	9.6
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	104	1	56	73	0
Future Vol, veh/h	47	104	1	56	73	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	182	2	98	128	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	265	0	275	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1299	-	714	870
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1299	-	713	870
Mov Cap-2 Maneuver	-	-	-	-	713	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.14	11.15
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	32	-
HCM Lane V/C Ratio	0.18	-	-	0.001	-
HCM Control Delay (s/veh)	11.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-